

Jamia Millia Islamia

BBA ENTRANCE EXAM COMPLETE PREPARATION BOOK

For CUET | IPMAT | JMI | AMU | Other BBA Exams

Features

- *Comprehensive Theory*
- *Chapter-wise MCQs*
- *Previous Years' Solved Papers*
- *Time-Saving Tricks & Tips*
- *Based on Latest Exam Pattern*

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2026 Edition

With Updated Syllabus & Sample Tests

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JAMIA MILLIA ISLAMIA ENTRANCE SYLLABUS (ACADEMIC SESSION 2026–27)

BBA (B04), B.Com (Hons.), and B.Com (Hons.) Self-Finance

Section-wise syllabus and marks distribution

- 1) **Accountancy (15 Marks)**
 - Accounting for Partnership Firm
 - Accounting for Companies
 - Analysis of Financial Statements
 - Cash Flow Statement
- 2) **Business Studies (20 Marks)**
 - Nature and Significance of Management
 - Principles of Management
 - Planning, Organising, Staffing, Directing and Controlling
 - Financial Management
 - Financial Markets
 - Marketing Management
 - Consumer Protection
- 3) **Macro Economics & Indian Economic Development (15 Marks)**
 - National Income and Related Aggregates
 - Money and Banking
 - Government Budget and the Economy
 - Balance of Payments
 - Indian Economy (1950–1990)
 - Economic Reforms Since 1991
 - Current Challenges Facing the Indian Economy
 - Rural Development
 - Employment & Unemployment
 - Environment & Sustainable Development Map
- 4) **Business Statistics (10 Marks)**
 - Statistics: What and Why
 - Organization & Presentation of Data
 - Measures of Central Tendency
 - Measures of Dispersion
 - Correlation Analysis
- 5) **Information Practices (10 Marks)**
 - Introduction to Computer
 - Introduction to Internet and Web
 - Networking
 - Hardware & Software
- 6) **Logical Reasoning (10 Marks)**
 - Alphanumeric Series
 - Reasoning Analogies
 - Blood Relations
 - Calendars & Clocks
 - Coding-Decoding
 - Data Sufficiency & Decision-Making
 - Order & Ranking
 - Seating Arrangements
 - Statements & Conclusions (Syllogism)
- 7) **General English (10 Marks)**
 - Comprehension (paragraph and sentence levels)
 - Identification of Common Errors
 - Grammar & Usage
 - Vocabulary: Word Formation, Synonyms, Antonyms & Pairing of Words
 - Sentence Structure and Construction
 - Prepositions.
- 8) **General Awareness (10 Marks)**
 - Indian Economy
 - World Organisations
 - Indian and World Geography
 - Indian Polity and Constitution
 - General Science and Technology
 - Sports, Awards and Corporate Affairs

CHAPTER 1:

NATURE AND SIGNIFICANCE OF MANAGEMENT

Management

Management is the process of planning, organizing, and controlling an organization's operations to achieve goals efficiently and effectively. It is essential for all organizations.

Concepts of Management

1. **Traditional Concept** – Management is the art of getting things done through others.
2. **Modern Concept** – Management is a process involving planning, organizing, staffing, directing, and controlling to achieve goals efficiently and effectively.
3. **Effectiveness** – Completing tasks on time and achieving goals.
4. **Efficiency** – Completing tasks with minimal cost and optimal resource utilization.

Characteristics of Management

1. **Goal-Oriented Process** – Unites individual efforts to achieve organizational goals.
2. **All-Pervasive** – Applicable to all organizations, big or small, profit or non-profit.
3. **Multidimensional** – Involves:

- ✓ **Management of Work** – Setting goals and defining tasks.
- ✓ **Management of People** – Managing human resources for success.
- ✓ **Management of Operations** – Converting inputs into outputs effectively.

4. **Continuous Process** – A series of ongoing interrelated functions.
5. **Group Activity** – Involves multiple individuals working towards common goals.
6. **Intangible Force** – Cannot be seen but is reflected in organizational functioning.
7. **Dynamic Function** – Adapts to environmental changes for organizational success.

Objectives of Management

1. **Organizational Objectives** – Survival, profit, and growth.
2. **Social Objectives** – Environmental conservation, social welfare, and ethical business practices.
3. **Personal Objectives** – Employee satisfaction, career growth, and financial stability.

Importance of Management

1. **Helps in Achieving Group Goals** – Aligns individual efforts with organizational objectives.
2. **Increases Efficiency** – Improves productivity through planning and organization.
3. **Creates a Dynamic Organization** – Adapts to external changes.
4. **Helps in Achieving Personal Objectives** – Encourages employee growth and motivation.
5. **Contributes to Society** – Generates employment, improves technology, and provides quality products/services.

Management as an Art

- **Theoretical Knowledge** – Based on established concepts and principles.
- **Practice & Creativity** – Requires continuous practice and innovation.
- **Personalized Application** – Every manager applies knowledge uniquely.

Management qualifies as an art because it involves creativity, experience, and individual skills.

Management as a Science

- **Systematized Body of Knowledge** – Developed through research and studies.
- **Principles Based on Experimentation** – Developed through observation and practice.
- **Universal Validity** – Principles are adaptable but not as precise as pure sciences.

Management as a Profession

1. **Well-defined Body of Knowledge** – Can be acquired through education and training.
2. **Restricted Entry** – Unlike other professions, management does not require specific qualifications.

Coordination – The Essence of Management

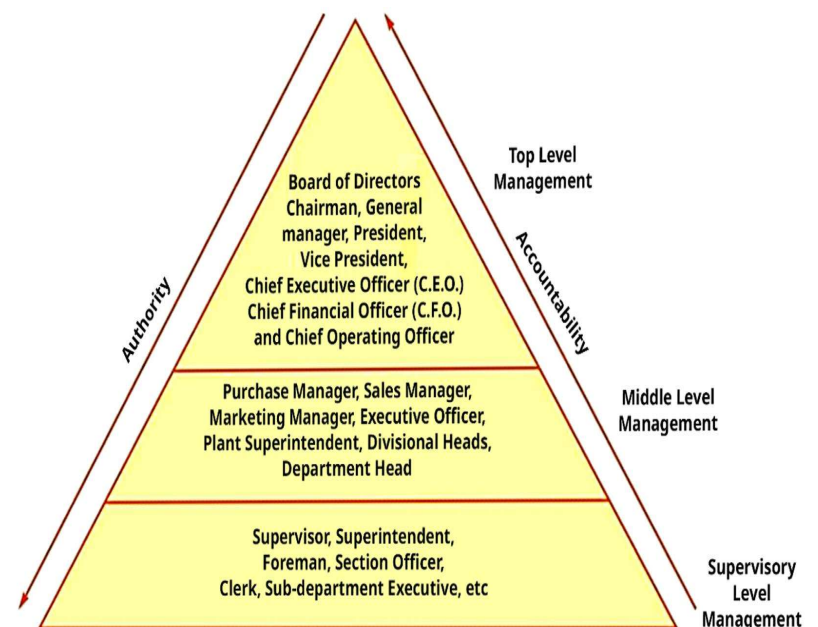
Characteristics of Coordination

1. **Integrates Group Efforts** – Ensures collective goal achievement.
2. **Ensures Unity of Action** – Aligns efforts across the organization.
3. **Continuous Process** – Ongoing across all functions and levels.
4. **All-Pervasive** – Required in all departments and functions.
5. **Responsibility of All Managers** – Essential at every management level.
6. **Deliberate Function** – Requires conscious effort from managers.

Importance of Coordination

1. **Growth in Size** – Helps integrate efforts as the organization expands.
2. **Functional Differentiation** – Aligns different departments and goals.
3. **Specialization** – Ensures smooth collaboration between specialists.

3. **Professional Association** – No mandatory registration with a governing body.



4. **Service Motive** – Primarily aims for profit but also fulfills social responsibilities.
5. **Ethical Code of Conduct** – Exists but is not legally binding.

Management is evolving into a profession but lacks certain formal requirements.

Levels of Management

1. **Top Management** – CEOs, Presidents, Vice Presidents. Responsible for strategy, policy-making, and overall success.
2. **Middle Management** – Department heads, division managers. Bridge between top and lower levels, responsible for implementation.
3. **Supervisory/Lower Management** – Foremen, supervisors. Ensure daily operations, worker supervision, and quality control.

Functions of Management



PRACTICE MCQS

1. Management primarily involves
 - a) Planning only
 - b) Organising only
 - c) Controlling only
 - d) Planning, organising, staffing, directing and controlling
2. The principles of management are applicable to
 - a) Business enterprises only
 - b) Government organisations only
 - c) Non-profit organisations only
 - d) All types of organisations
3. Management is best defined as
 - a) Supervising employees
 - b) Getting work done through others

- c) Hiring and firing workers
d) Maintaining discipline
4. In management, efficiency refers to
a) Achieving goals at any cost
b) Optimum utilisation of resources
c) Doing the right work
d) Completing work quickly
5. Effectiveness in management means
a) Minimum use of resources
b) Achieving organisational objectives
c) Reducing costs
d) Increasing working hours
6. Which of the following is NOT a feature of management?
a) Goal-oriented
b) Continuous process
c) Tangible activity
d) Group activity
7. Management is regarded as
a) An art
b) A science
c) A profession
d) A combination of all three
8. Management is considered an art because it
a) Is based on rigid laws
b) Requires personal skill and creativity
c) Does not involve theory
d) Depends only on rules
9. Management is called an inexact science due to
a) Absence of principles
b) Lack of experiments
c) Human behaviour being unpredictable
d) Limited scope
10. Which of the following is NOT an objective of management?
a) Organisational objectives
b) Social objectives
c) Personal objectives
d) Political objectives
11. A social objective of management is
a) Maximising profits
b) Reducing employee wages
c) Supplying quality goods at fair prices
d) Increasing market share
12. Management is considered a profession because it
a) Has a defined body of knowledge
b) Has compulsory licensing
c) Allows entry only through exams
d) Has no ethical standards
13. Policy formulation and overall strategic decisions are taken by
a) Supervisory management
b) Middle management
c) Top management
d) Workers
14. Which level of management acts as a bridge between top and operative levels?
a) Top management
b) Middle management
c) Lower management
d) Board of directors
15. The primary responsibility of supervisory management is
a) Framing policies
b) Supervising workers
c) Expansion of business
d) Foreign collaborations
16. Which of the following is NOT a managerial function?
a) Planning
b) Organising
c) Forecasting
d) Guessing
17. The essence of management is
a) Planning
b) Staffing
c) Coordination
d) Controlling
18. Coordination helps in achieving
a) Unity of direction
b) Departmental rivalry
c) Individual dominance
d) Resource wastage
19. The need for coordination increases when
a) Organisation size increases
b) Workforce decreases
c) Activities are simple
d) Departments are few
20. Management responding to environmental changes reflects its
a) Static nature
b) Dynamic nature
c) Rigid nature
d) Fixed nature
21. Allocation of tasks and resources is done under
a) Planning
b) Organising
c) Directing
d) Controlling
22. Motivating, leading and supervising employees is part of
a) Planning
b) Organising
c) Directing
d) Controlling
23. Management is called a continuous process because
a) It ends after planning
b) Functions are interrelated and ongoing
c) It applies only to new firms
d) It stops once objectives are achieved
24. Management differs from pure science as it
a) Produces exact results
b) Deals with human behaviour
c) Is purely theoretical
d) Has no principles
25. Which of the following best represents a dynamic function of management?
a) Following traditional methods
b) Adjusting to changing business environment
c) Ignoring new technology
d) Relying only on past experience

Answer Key

- | | | |
|------|------|------|
| 1. d | 7. d | 13.c |
| 2. d | 8. b | 14.b |
| 3. b | 9. c | 15.b |
| 4. b | 10.d | 16.d |
| 5. b | 11.c | 17.c |
| 6. c | 12.a | 18.a |

19.a
20.b
21.b

22.c
23.b
24.b

25.b

CHAPTER 2: BUSINESS ENVIRONMENT

Business Environment

The business environment is the total external forces that influence an organization's operations and decision-making.

Importance of Business Environment

1. **Identifying Opportunities & First-Mover Advantage:** Businesses that recognize opportunities early gain a competitive edge. Example: Maruti Udyog led the small car market by predicting demand.
2. **Detecting Threats & Early Warning Signals:** Understanding threats helps businesses adapt. Example: An Indian firm must improve quality if an MNC enters with better products.
3. **Utilizing Resources Efficiently:** Awareness of the environment allows businesses to acquire materials, technology, and finance at the right time and price.
4. **Coping with Rapid Changes:** Environmental scanning helps businesses stay ahead of market trends.
5. **Aiding Planning & Policy Formation:** Environmental analysis helps businesses set strategies and policies.
6. **Enhancing Performance:** Continuous monitoring and adaptation improve business success.

Characteristics of Business Environment

1. Totality of External Forces

The business environment includes **all external factors** that affect a business.

These forces are outside the control of the firm but strongly influence decisions and performance.

Examples: economic conditions, government policies, social trends, technology.

2. Specific and General Forces

The business environment is made up of two types of forces:

a) Specific forces

These directly affect an individual firm.

Examples:

- Customers
- Suppliers
- Investors
- Competitors

b) General forces

These affect all businesses indirectly.

Examples:

- Social factors
- Political factors
- Legal factors
- Technological factors

3. Interrelated Elements

Different elements of the business environment are **closely connected** to each other.

A change in one factor leads to changes in others.

Example: Increased health awareness (social factor) increases demand for diet and organic foods (market change).

4. Dynamic Nature

The business environment is **constantly changing**.

Changes occur due to:

- Consumer preferences
- Technology
- Competition
- Government policies

A business must keep adapting to survive and grow.

5. Complexity

The business environment is **easy to study in parts**, but difficult to understand as a whole.

This is because many factors operate at the same time and influence each other.

6. Relativity

The business environment **differs from place to place and time to time**.

What works in one country or region may not work in another. Example: Business laws and consumer behavior in India are different from those in the USA.

Components of Business Environment

Economic Environment

Includes factors like GDP, inflation, interest rates, tax policies, investment rates, and disposable income, which significantly impact business.

Examples:

- Lower taxes increase consumer spending, boosting demand for products.
- Reduced excise duty on air conditioners increases sales.
- Low-interest rates encourage home and car purchases.
- Inflation raises production costs, affecting profitability.

Social Environment

Refers to societal characteristics that influence business operations, such as traditions, lifestyle, demographics, education, and consumer awareness.

Examples:

- Festivals like Diwali boost sales for sweets, gifts, and decorations.
- Increasing demand for health-related products like gyms and bottled water.
- Government banning animal fat in Vanaspati Ghee due to public protest.

Technological Environment

Involves innovations, scientific advancements, and technological changes that impact business operations.

Examples:

- Digital watches replaced traditional ones.
- Xerox machines reduced the use of carbon paper.
- Smartphones overtook keypad phones.
- Online shopping has reshaped the retail industry.

Political Environment

Includes political stability, government policies, foreign relations, and leadership ideology. Political changes directly affect business operations.

Examples:

- Terrorism in Jammu & Kashmir affected tourism.
- Political instability led to stock market crashes.
- Liberalization allowed MNCs like Coca-Cola and Pepsi into India.

Legal Environment

Consists of government laws, court judgments, and regulations businesses must follow.

Examples:

- Advertising bans on alcohol and tobacco.
- Supreme Court shutting down polluting tanneries in Kanpur.
- Mandatory statutory warnings on cigarette packets.



Impact of Government Policies on Business (LPG Reforms – 1991)

In 1991, India faced a **severe economic crisis** due to rising fiscal deficit, inflation, and low foreign exchange reserves. To overcome this, the Government of India introduced a series of structural reforms known as the **LPG Reforms**. These reforms transformed the Indian economy from a **closed and controlled system** to an **open and market-oriented system**.

1. Liberalization

Liberalization refers to **removing unnecessary restrictions and controls** imposed by the government on businesses.

- **Industrial Licensing Abolished:** Most industries were freed from licensing requirements (except a few like defense and atomic energy).
- **Freedom in Pricing and Expansion:** Businesses got more freedom to decide prices, expand capacity, and diversify operations.
- **Easier Import–Export Rules:** Tariffs and quotas on foreign trade were reduced to encourage global competition.
- **Encouragement to Foreign Investment:** Foreign companies could invest in Indian industries more easily.

Impact: Liberalization improved **competition, efficiency, and productivity**. Consumers benefitted from **better quality products** and more choices.

2. Privatization

Privatization means **reducing the role of the government in business and encouraging private sector participation**.

- **Disinvestment of Public Sector Undertakings (PSUs):** The government sold shares of many PSUs to private individuals and companies.
- **Greater Role of Private Enterprises:** Private companies were encouraged to operate in sectors earlier reserved for the public sector (like telecom, aviation, banking, etc.).
- **Improved Efficiency:** Privatization reduced bureaucracy and improved decision-making in businesses.

Impact: Privatization increased **competitiveness, innovation, and efficiency**. Many industries like telecom, banking, airlines, and retail flourished due to private investment.

3. Globalization

Globalization means **integration of the Indian economy with the world economy**.

- **Free Flow of Goods and Services:** Import and export became easier with reduced restrictions.
- **Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII):** Global companies were allowed to invest in India.
- **Technology and Knowledge Exchange:** Advanced technology, managerial practices, and global workforce entered India.
- **Expansion of International Trade:** Indian companies started competing and collaborating with multinational corporations (MNCs).

Impact: Globalization provided **access to international markets, modern technology, better job opportunities, and global recognition** for Indian businesses. However, it also increased competition for domestic companies.

Impact of LPG Reforms on Business

- Indian businesses became **more competitive and efficient**.
- Growth of **private sector** industries.
- Rise in **foreign investment and multinational corporations (MNCs)**.
- Consumers benefitted from **better quality products and services**.
- New opportunities in **IT, telecom, banking, education, healthcare, and retail sectors**.
- India emerged as one of the **fastest-growing economies** in the world.

Effects of Government Policy Changes on Business

1. **Increased Competition:** Both local and global competition has intensified.
2. **More Demanding Customers:** Consumers now have more choices and expect better quality.
3. **Technological Advancements:** Companies need to invest in R&D to stay competitive.
4. **Necessity for Adaptation:** Businesses must constantly evolve to survive.
5. **Human Resource Development:** Demand for skilled professionals has risen.
6. **Market-Oriented Approach:** Companies now prioritize customer needs before production.
7. **Reduced Budgetary Support for Public Enterprises:** Public companies must become self-sufficient.

Business Strategies in a Changing Environment

1. **Diversification:** Companies expand into multiple industries (e.g., Reliance in textiles, IT, and petrochemicals).
2. **Joint Ventures:** MNCs collaborate with Indian firms (e.g., Ford with Mahindra, Honda with SEIL).
3. **Brand Building:** Companies invest heavily in advertising and marketing.

- 4. **Adoption of Latest Technology:** Keeping up with technological trends is essential for success.
- 5. **Better Compensation for Skilled Employees:** Salaries for technical and managerial roles have increased.
- 6. **Customer-Centric Approach:** Businesses now focus more on consumer needs and satisfaction.

Demonetization in India

- Demonetisation is the **act of stripping a currency unit of its legal tender status**, meaning the currency can no longer be used for transactions.
- In India, this process was applied to **high denomination notes** in order to fight corruption, black money, counterfeit currency, and promote digital payments.

Background of Demonetisation in India

- **First Demonetisation – 1946**
 - ✓ The Reserve Bank of India (RBI) demonetised **₹1,000 and ₹10,000 notes** on **12th January 1946**.
 - ✓ To curb black money after World War II.
 - ✓ Result: Very little success, as high-value notes were not widely used.
- **Second Demonetisation – 1978**
 - ✓ On **16th January 1978**, the Janata Party government under PM **Morarji Desai** demonetised **₹1,000, ₹5,000, and ₹10,000 notes**.
 - ✓ Aim: To curb illegal transactions and black money.
 - ✓ Result: Again, limited success, since most illegal wealth was not kept in cash.
- **Third Demonetisation – 2016**
 - ✓ On **8th November 2016**, PM **Narendra Modi** announced the demonetisation of **₹500 and ₹1,000 notes** (which together accounted for **86% of India’s currency in circulation**).
 - ✓ This was the **largest demonetisation exercise in Indian history**.
- **Demonetisation (2016)**
 - ✓ **Curb Black Money:** To eliminate unaccounted cash holdings.
 - ✓ **Fight Counterfeit Currency:** Fake notes were being circulated, especially from across borders.
 - ✓ **Stop Terror Financing:** Cash funding for illegal activities and terrorism
 - ✓ **Promote Digital Transactions:** To encourage cashless payments and transparency.
 - ✓ **Formalisation of Economy:** To bring more people into the tax net.
- **Immediate Impacts of 2016 Demonetisation**
 - ✓ **Cash Shortage:** Long queues outside banks and ATMs, as people rushed to exchange old notes.

- ✓ **Economic Slowdown:** Sectors dependent on cash (real estate, agriculture, small businesses) were badly hit.
- ✓ **Digital Payment Surge:** Use of Paytm, UPI, and other cashless methods increased rapidly.
- ✓ **Temporary GDP Decline:** Growth slowed down in 2016–17 due to cash crunch.
- ✓ **High Return of Notes:** Around **99.3% of demonetised currency** came back to the RBI (as per RBI’s 2018 report).

Positive Outcomes Claimed

- Increase in **digital transactions** (UPI transactions crossed billions monthly later).
- More people filed **Income Tax Returns** (IT base widened).
- Formalisation of small businesses and start of **GST integration** in 2017.
- Boosted awareness about cashless economy.

Criticism and Challenges

- Black money largely held in **real estate, gold, offshore accounts**, not in cash, demonetisation couldn’t eliminate it fully.
- Cash-based workers, daily wage earners, and small traders suffered income losses.
- Rural areas with poor banking access faced more hardship.
- Implementation issues (frequent rule changes, ATM recalibration).
- Opposition parties called it “anti-people” and questioned its benefits.

Judicial Review

- In **2023**, the **Supreme Court of India upheld the legality of 2016 demonetisation** in a 4:1 verdict, saying the decision was taken in proper consultation with RBI.

Important Facts for Exams

- Date of announcement: **8 November 2016** at 8:00 PM.
- Old notes banned: **₹500 and ₹1,000**.
- % of currency withdrawn: **86% of cash in circulation**.
- Total demonetised value: Around **₹15.41 lakh crore**.
- Returned to RBI: **₹15.31 lakh crore** (~99.3%).
- RBI Governor at that time: **Dr. Urjit Patel**.
- **Highest denomination ever demonetised** → ₹10,000 (in 1946 & 1978).
- **Currency withdrawn in 2016** → ~₹15.41 lakh crore (86% of circulation).
- **Return of notes (2016)** → ~99.3% to RBI, raising doubts about black money elimination.

Challenges of Digital Transactions

- Requires smartphones and digital payment infrastructure.
- Needs strong internet connectivity.

Comparative Table of Demonetisation in India

Year	Prime Minister	Currency Notes Demonetised	Objective	Immediate Impact	Result/Outcome
1946	Jawaharlal Nehru (Interim Govt., RBI Governor C.D. Deshmukh)	₹1,000 & ₹10,000	To curb black money after WWII	Limited effect, since high-value notes were not widely used	Failure – most black money was in other assets
1978	Morarji Desai	₹1,000, ₹5,000 & ₹10,000	To fight black money & illegal hoarding	Sudden withdrawal, but notes used only by few rich people	Limited success, didn’t affect common man much

2016	Narendra Modi	₹500 & ₹1,000 (86% of total cash)	Fight black money, counterfeit, terror funding, promote digital economy	Cash crunch, queues at banks/ATMs, slowdown in cash-based sectors, spike in digital payments	Mixed results – 99.3% notes returned to RBI, digital payments rose, formalisation increased
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MCQS For Practice

- Business environment refers to:
 - Internal factors affecting business
 - External forces influencing business operations
 - Only government regulations
 - Only customer preferences
- Which of the following is **NOT** a feature of the business environment?
 - Dynamic nature
 - Certainty
 - Complexity
 - Relativity
- Business environment includes:
 - Political, economic, social, and technological factors
 - Only economic factors
 - Only political and legal factors
 - Internal business policies
- Which type of business environment includes competition, customers, suppliers, and investors?
 - General forces
 - Specific forces
 - Technological forces
 - Legal forces
- Why is the business environment considered dynamic?
 - It remains stable over time
 - It keeps changing due to external factors
 - It is always predictable
 - It only affects large businesses
- Which of the following shows the impact of the social environment on business?
 - Changes in government policies
 - Technological advancements
 - Increasing health consciousness leading to higher demand for organic food
 - Fluctuations in exchange rates
- The concept of *First Mover Advantage* is related to:
 - Identifying threats early
 - Entering the market before competitors
 - Avoiding competition
 - Government regulation
- Which economic factor affects business growth the most?
 - Literacy rate
 - Political stability
 - Interest rates
 - Social traditions
- Which of the following is an example of a political factor affecting business?
 - Increase in disposable income
 - Change in government policies
 - Advancements in artificial intelligence
 - Change in customer preferences
- Which business environment factor is related to inflation and GDP growth?
 - Political environment
 - Economic environment
 - Technological environment
 - Social environment
- Liberalization means:
 - Reducing government control over business
 - Government ownership of industries
 - Imposing more restrictions on businesses
 - Encouraging monopolies
- Which of the following shows the impact of globalization on business?
 - Ban on foreign investment
 - Increased foreign trade and investment
 - Only domestic companies allowed to operate
 - Government ownership of all businesses
- The main purpose of privatization is to:
 - Increase government control over industries
 - Transfer ownership from private sector to government
 - Transfer ownership of public sector enterprises to private sector
 - Increase trade restrictions
- The main goal of demonetization in India (2016) was to:
 - Increase corruption
 - Reduce black money and promote digital payments
 - Increase inflation
 - Reduce economic growth
- Which of the following is **NOT** a characteristic of globalization?
 - Free movement of goods and services
 - Free movement of capital
 - Restricting foreign investments
 - Free movement of people across borders
- Which factor has the greatest impact on technological advancement in business?
 - Political instability
 - Rapidly changing customer preferences
 - High literacy rate
 - Competition and innovation
- Which sector benefits the most from a reduction in interest rates?
 - Agriculture
 - Construction and automobile industries
 - Healthcare
 - Retail
- What is a key feature of a competitive business environment?
 - Monopoly market
 - Lack of customer awareness
 - Presence of multiple firms offering similar products
 - Government control over pricing
- The impact of globalization on Indian businesses includes:
 - Reduced foreign trade
 - Increased competition from multinational companies
 - Government control over private enterprises
 - Reduced foreign investments
- The business environment is considered relative because:
 - It remains the same across all countries
 - Different regions and nations have different conditions
 - It is fixed and does not change over time
 - It only affects large businesses
- What was the primary aim of economic reforms in India after 1991?
 - Strengthen government control over industries
 - Promote liberalization, privatization, and globalization

- C) Eliminate foreign trade
- D) Increase business regulations
- 22. Which of the following is **NOT** part of the legal environment?
 - A) Court judgments
 - B) Government laws and regulations
 - C) Social customs
 - D) Administrative orders
- 23. The technological environment affects businesses by:
 - A) Increasing the cost of production
 - B) Creating new ways of producing goods and services
 - C) Eliminating competition
 - D) Preventing product innovation

- 24. What is a major impact of government policy changes on businesses?
 - A) Decreased competition
 - B) Reduced technological advancements
 - C) Increased market orientation and customer focus
 - D) Elimination of foreign investments
- 25. Which factor affects both social and economic business environments?
 - A) Change in tax laws
 - B) Interest rate fluctuations
 - C) Consumer lifestyle changes
 - D) Government policies

Answer Key

- | | | |
|------|-------|-------|
| 1. B | 10. B | 19. B |
| 2. B | 11. A | 20. B |
| 3. A | 12. B | 21. B |
| 4. B | 13. C | 22. C |
| 5. B | 14. B | 23. B |
| 6. C | 15. C | 24. C |
| 7. B | 16. D | 25. C |
| 8. C | 17. B | |
| 9. B | 18. C | |

CHAPTER 3:

PRINCIPLES OF MANAGEMENT

Principle

A principle is a fundamental truth that explains a cause-and-effect relationship in a phenomenon.

Management Principles

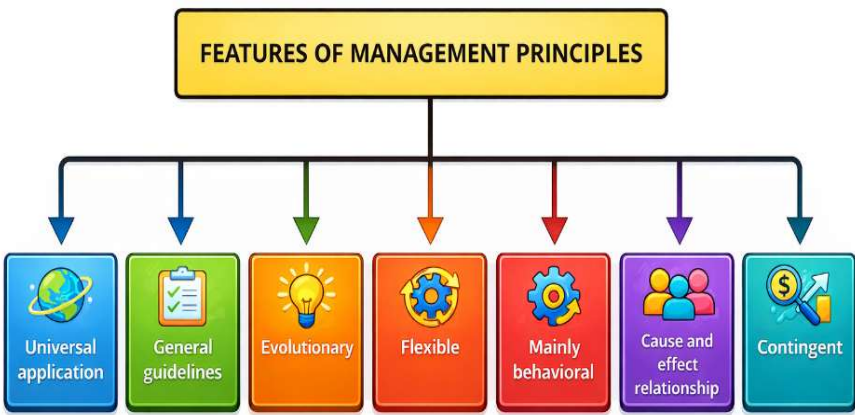
Management principles are fundamental truths that guide managerial decision-making and execution.

Derivation of Management Principles

Management principles are derived through:

1. Deep observations
2. Repeated experiments

Nature of Management Principles



Universal Applicability:

- ✓ Management principles apply to all types of organizations, regardless of size or nature.
- ✓ Example: The principle of *division of work* enhances specialization in all organizations.
- 1. **General Guidelines:**
 - ✓ These principles provide direction but do not offer fixed solutions due to complex business environments.
- 2. **Based on Practice and Experiments:**
 - ✓ Management principles are developed through extensive research, observation, and analysis.
- 3. **Flexibility:**
 - ✓ They are adaptable and can be modified as per the situation.

- ✓ Henri Fayol stated, "*Principles of Management are not absolute and must be applied according to conditions.*"

4. **Behavioural in Nature:**
 - ✓ These principles influence employee behavior and help manage relationships between human and physical resources.
5. **Cause and Effect Relationship:**
 - ✓ These principles predict outcomes based on their application.
6. **Contingent:**
 - ✓ Their application depends on the prevailing circumstances within an organization.

Significance of Management Principles

1. **Enhancing Managerial Knowledge:** Improves decision-making and problem-solving abilities.
2. **Optimum Utilization of Resources:** Ensures maximum output with minimum costs.
3. **Scientific Decision-Making:** Encourages systematic and logical decision-making.
4. **Adapting to Environmental Changes:** Helps organizations adjust to changing business environments.
5. **Fulfilling Social Responsibility:** Guides businesses in contributing to society.
6. **Facilitating Management Training and Research:** Serves as a foundation for management education and research.
7. **Ensuring Effective Administration:** Reduces biases and promotes objective decision-making.

Henri Fayol and His Principles of Management

Henri Fayol (1841-1925) was a French mining engineer and management theorist. He developed **14 principles of management** based on his experience.

Fayol's 14 Principles of Management

1. **Division of Work:** Specialization improves efficiency and productivity.
2. **Authority and Responsibility:** Authority (decision-making power) must be balanced with responsibility.
3. **Discipline:** Employees must follow organizational rules and agreements for smooth operations.
4. **Unity of Command:** Each employee should have only one direct superior to avoid confusion.
5. **Unity of Direction:** All units should work towards a common goal with a unified strategy.
6. **Subordination of Individual Interest to General Interest:** Organizational goals should take precedence over personal interests.
7. **Remuneration:** Fair wages should be provided to employees to ensure motivation and satisfaction.
8. **Centralization and Decentralization:** A balance between decision-making at the top level and delegation to lower levels is necessary.
9. **Scalar Chain:** A clear chain of command should exist from top to bottom.
 - ✓ *Gang Plank:* A shortcut in the scalar chain allowing direct communication between employees at the same level.
10. **Order:** Proper arrangement of people (social order) and resources (material order) enhances efficiency.
11. **Equity:** Fair treatment of all employees builds trust and loyalty.
12. **Stability of Personnel:** Reducing employee turnover ensures consistent performance.
13. **Initiative:** Employees should be encouraged to take initiatives in decision-making.
14. **Espirit de Corps (Team Spirit):** A strong team spirit fosters unity and improves productivity.

Difference between Henry Fayol and F. W. Taylor

Basis	Henry Fayol	F. W. Taylor
Basis of formation	Based on personal experience and observation as a manager.	Based on scientific observations and experiments.
Focus	Improvement of overall administration.	Increasing productivity and efficiency of workers.
Applicability	Universal applicability to all types of organisations.	Applicable mainly to factory and workshop situations.
Expression of principles	Expressed as a general theory of administration.	Expressed as scientific management.
Unity of Command	Strictly followed. One employee should receive orders from only one superior.	Not followed. Functional foremanship resulted in multiple bosses.
Emphasis	Emphasis on managerial functions and principles of management.	Emphasis on standardisation of work and methods.
Level / Perspective	Top-level approach. Started from the highest level of management.	Bottom-level approach. Started from the shop-floor level.
	Top-level approach. Started from the highest level of management.	Bottom-level approach. Started from the shop-floor level.

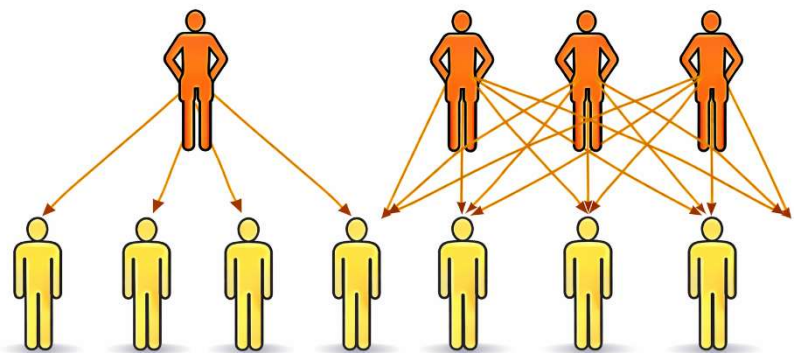
Henry Fayol is concerned with management of the organisation, while F. W. Taylor is concerned with management of work and workers.

Scientific Management by F.W. Taylor

Scientific management applies scientific methods to improve efficiency in management.

Principles of Scientific Management

1. **Science, Not Rule of Thumb:** Decisions should be based on scientific analysis rather than personal judgment.
2. **Harmony, Not Discord:** Cooperation between management and workers ensures better outcomes.
3. **Cooperation, Not Individualism:** Encourages teamwork and collaboration instead of competition.
4. **Development of Workers:** Employees should be trained and placed in jobs best suited to their skills.



Scientific management emphasizes efficiency, productivity, and systematic decision-making, contributing to better management practices in organizations.

Taylor's Scientific Management Techniques, which include:

1. **Functional Foremanship** – Division of supervision into specialized functions, separating planning and execution.
2. **Standardization and Simplification of Work** – Setting work standards and eliminating unnecessary variety to improve efficiency.
3. **Work Study** – A set of techniques to improve productivity, including:
 - ✓ **Fatigue Study** – Identifying required rest periods.
 - ✓ **Method Study** – Finding the best way to perform a job.
 - ✓ **Motion Study** – Eliminating unnecessary movements.
 - ✓ **Time Study** – Setting standard time for tasks.
4. **Differential Piece Wage System** – Rewarding efficient workers with higher wages and discouraging inefficiency.

MCQS For Practice

1. What does the term *Principle* refer to in management?
 - a) A statement based on assumptions
 - b) A fundamental truth based on cause-and-effect relationships
 - c) A theory with no practical application
 - d) A temporary solution to a problem
2. Management principles are derived from:
 - a) Assumptions and beliefs
 - b) Deep observations and repeated experiments
 - c) Random trials and errors
 - d) Decisions made by top-level managers
3. The universal applicability of management principles means:
 - a) They can only be applied to large organizations
 - b) They are only useful in industrial businesses
 - c) They can be applied to all types and sizes of

- d) They are rigid and cannot be changed
4. Which principle states that management principles are flexible and can be modified according to situations?
 - a) Cause-and-effect relationship
 - b) Universal applicability
 - c) Flexibility
 - d) Contingency
 5. What does the principle of *General Guidelines* in management mean?
 - a) They provide specific solutions for every problem
 - b) They offer guidelines but must be applied according to the situation
 - c) They are strict rules that must be followed without change
 - d) They are not useful in practice

6. Who is known as the Father of Modern Management?
 - a) Peter Drucker
 - b) Henri Fayol
 - c) Frederick Taylor
 - d) Elton Mayo
7. According to Henri Fayol, which principle ensures division of work among specialists to increase efficiency?
 - a) Unity of Command
 - b) Centralization
 - c) Division of Work
 - d) Equity
8. Which principle states that an employee should receive orders from only one superior?
 - a) Unity of Direction
 - b) Unity of Command
 - c) Scalar Chain
 - d) Division of Work
9. The principle of *Authority and Responsibility* emphasizes that:
 - a) Authority should always be greater than responsibility
 - b) Responsibility should be given without authority
 - c) Authority and responsibility should be balanced
 - d) Only top management should have authority
10. What is the meaning of *Esprit de Corps*?
 - a) Encouraging individual achievements
 - b) Promoting teamwork and unity
 - c) Giving financial rewards to employees
 - d) Dividing work among employees
11. Which principle emphasizes that organizational goals should be given priority over individual goals?
 - a) Remuneration of Employees
 - b) Subordination of Individual Interest to General Interest
 - c) Discipline
 - d) Stability of Personnel
12. What is the main objective of the principle of *Remuneration of Employees*?
 - a) To reduce salaries and increase profits
 - b) To pay employees unfair wages
 - c) To provide fair wages to employees and benefits to the organization
 - d) To ensure employees work without pay
13. According to Fayol, which principle suggests that decisions should not be completely centralized or decentralized?
 - a) Equity
 - b) Authority and Responsibility
 - c) Centralization and Decentralization
 - d) Order
14. The *Scalar Chain* principle refers to:
 - a) A direct link between workers and top management
 - b) The formal chain of authority from top to bottom
 - c) Absence of communication hierarchy
 - d) Informal communication among managers
15. What is the concept of *Gang Plank* in the Scalar Chain principle?
 - a) Allowing direct communication between employees at the same level
 - b) Eliminating hierarchy completely
 - c) Strictly following hierarchy without exception
 - d) Allowing managers to ignore subordinates
16. The principle of *Order* in management refers to:
 - a) Following strict rules without flexibility
 - b) Placing people and materials in the right place for efficiency
 - c) Punishing employees for mistakes
 - d) Increasing production speed without planning
17. The principle of *Equity* suggests:
 - a) Employees should be treated fairly and without discrimination
 - b) Employees should receive equal salaries
 - c) There should be no rules in the organization
 - d) Employees should not be disciplined
18. *Stability of Personnel* means:
 - a) Employees should not change jobs frequently
 - b) Employees should be hired temporarily
 - c) Employees should be rotated every month
 - d) Employees should not be promoted
19. What does the principle of *Initiative* encourage?
 - a) Managers should take all decisions
 - b) Workers should take no action without approval
 - c) Employees should be encouraged to develop and implement ideas
 - d) Employees should only follow instructions
20. What does *Scientific Management* mainly focus on?
 - a) Using personal experience for decisions
 - b) Applying scientific methods to management
 - c) Following traditional methods blindly
 - d) Ignoring efficiency and productivity
21. Which principle of Scientific Management suggests replacing the “rule of thumb” method?
 - a) Harmony, Not Discord
 - b) Science, Not Rule of Thumb
 - c) Development of Workers
 - d) Cooperation, Not Individualism
22. What does *Mental Revolution* in Scientific Management mean?
 - a) Change in mindset from conflict to cooperation
 - b) Workers going on strike
 - c) Managers making random decisions
 - d) Reducing worker rights
23. The principle of *Cooperation, Not Individualism* suggests:
 - a) Workers and managers should work together
 - b) Employees should work alone
 - c) Competition should be encouraged among workers
 - d) Managers should avoid worker involvement
24. According to Taylor, what is the purpose of *Development of Workers*?
 - a) To replace employees frequently
 - b) To maximize worker efficiency through training
 - c) To give workers more breaks
 - d) To decrease wages
25. What is a key feature of Japanese worker-management relations?
 - a) Workers go on strike frequently
 - b) Workers wear black ribbons instead of striking
 - c) Workers and managers avoid communication
 - d) Managers take all decisions alone

Answer Key

- | | | |
|------|-------|-------|
| 1. B | 6. B | 11. B |
| 2. B | 7. C | 12. C |
| 3. C | 8. B | 13. C |
| 4. C | 9. C | 14. B |
| 5. B | 10. B | 15. A |

16. B

17. A

18. A

19. C
20. B

21. B

22. A

23. A
24. B

25. D

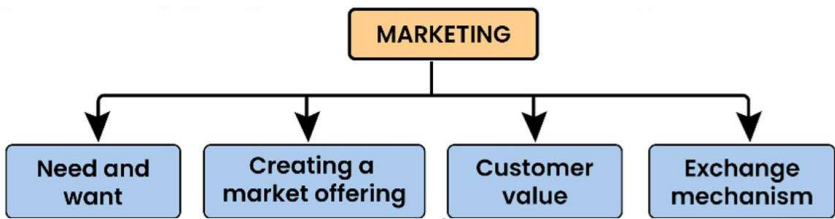
CHAPTER 4

MARKETING MANAGEMENT

Market

A market is defined as the set of potential and actual buyers of a product or service.

Customer



A customer refers to individuals or organizations seeking to fulfill their needs and wants. Marketing is impossible without customers or buyers.

Marketer or Seller

A marketer (or seller) is an individual or organization that offers products or services to customers with the goal of satisfying their needs and wants.

Marketing

Marketing is a social process where individuals and groups obtain what they need and want by creating, offering, and exchanging products and services of value.

Definition by JF Pyle:

"Marketing is that phase of business activity through which human wants are satisfied by the exchange of goods and services."

Features of Marketing

1. **Need and Want:** Marketing focuses on identifying and fulfilling the needs and wants of individuals and groups. Needs are essential, while wants are specific ways to satisfy needs.

2. **Creating a Market Offering:** This involves providing detailed information about a product or service, such as its shape, size, price, and availability.

3. **Customer Value:** Customers analyze the cost and benefits before purchasing a product. The marketer's role is to enhance value so that their product stands out from competitors.

4. **Exchange Mechanism:** Marketing involves the exchange of goods and services for money or other valuable considerations. This exchange process is the essence of marketing.

Marketing applies to various types of products and services:

1. **Physical Products:** Items like bikes, mobiles, shoes, and scooters.

2. **Services:** Professions such as banking, legal services, electricians, and doctors.

3. **Ideas:** Campaigns like Swachh Bharat Abhiyan, No Smoking, and Blood Donation.

4. **Persons:** Politicians and celebrities marketed to influence public opinion.

5. **Places:** Tourist destinations like Agra (City of Love) and Udaipur (City of Lakes).



6. **Events:** Mega-events like the FIFA World Cup, Trade Fairs, and Film Festivals.

7. **Information:** Services providing stock market updates or technology insights.

8. **Organizations:** Companies like Reliance and LG use branding strategies to build their image.

9. **Experience:** Activities like amusement park rides, bungee jumping, and dining with a celebrity.

Marketing Management

Marketing management involves planning, organizing, directing, and controlling activities that lead to the exchange of goods and services.

Functions of Marketing Management:

1. **Choosing a Target Market:** The first step is selecting the specific group of customers the product is meant for. Example: A company making garments exclusively for children.

2. **Growing Customers in the Target Market:** After selecting the target market, companies focus on creating demand and ensuring customer satisfaction.

3. **Creating Superior Value:** Marketing managers must offer unique and superior value to attract and retain customers.

Marketing Concepts

1. **Production Concept:**
 - ✓ Focuses on mass production, availability, and affordability.
 - ✓ Assumes customers prefer easily available, low-cost products.
 - ✓ Works well when demand exceeds supply.

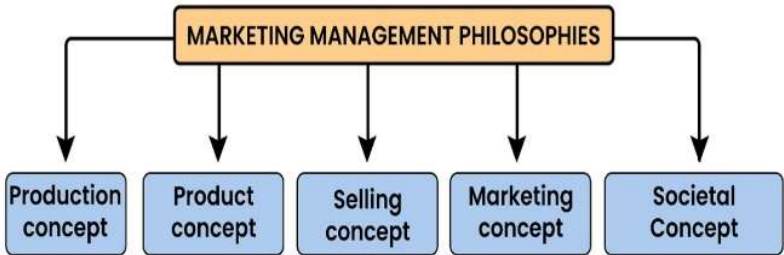
2. **Product Concept:**
 - ✓ Emphasizes quality, performance, and innovation.
 - ✓ Assumes customers favor superior products.
 - ✓ Risk: Ignoring customer needs in favor of product perfection.

3. **Selling Concept:**
 - ✓ Based on aggressive promotion and sales techniques.
 - ✓ Assumes customers won't buy enough unless persuaded.
 - ✓ Short-term approach: Prioritizes sales over long-term customer relationships.

4. **Marketing Concept:**
 - ✓ Focuses on customer satisfaction as the key to business success.
 - ✓ Assumes businesses should produce what customers want.
 - ✓ Involves:

a) Identifying the target market

b) Understanding customer needs



- c) Developing products accordingly
- d) Satisfying customers better than competitors

5. **Societal Marketing Concept:**

- ✓ Extends the marketing concept to include social responsibility.
- ✓ Balances customer needs, company profits, and societal well-being.
- ✓ Addresses issues like environmental protection, poverty, and ethical business practices.

Functions of Marketing

1. **Market Research and Analysis**
Marketers collect and analyze market information to understand customer needs, preferences, and buying behavior. This helps businesses identify opportunities, threats, strengths, and weaknesses to make informed marketing decisions.
2. **Market Planning**
After gathering market insights, businesses develop marketing plans to achieve their sales and promotional objectives effectively.
3. **Product Designing and Development**
Marketers decide the product's quality, design, packaging, and features to ensure it meets customer expectations and stands out from competitors. For example, a refrigerator company considers size, color, technology, and energy efficiency while planning its product.
4. **Standardization and Grading**
 - 1) **Standardization** ensures uniform quality and consistency in products, assuring customers of reliability.
 - 2) **Grading** involves categorizing products based on quality, size, or other criteria. It is commonly used in agricultural goods like rice, wheat, and pulses.
5. **Packaging and Labeling**
Packaging involves designing wrappers, cartons, or containers to protect and promote the product. It acts as a "silent salesman" by attracting customers.
6. **Branding**
Branding involves assigning a unique name, logo, or symbol to a product to differentiate it from competitors. A strong brand builds customer trust and loyalty.
7. **Customer Support Services**
Businesses provide after-sales services, maintenance, technical support, and complaint handling to ensure customer satisfaction and long-term loyalty.
8. **Pricing**
Price is a crucial factor influencing customer buying decisions. Marketers set prices based on competition, production costs, demand, and company objectives.
9. **Promotion and Selling**
To attract customers, marketers use promotional activities such as advertising, personal selling, sales promotions, and publicity to boost sales.
10. **Physical Distribution**
Businesses plan and manage distribution channels, warehousing, and logistics to ensure efficient product delivery to customers.
11. **Transportation**
Since production and consumption locations differ, marketers use various transportation modes to deliver goods nationwide or globally.
12. **Storage and Warehousing**
Products are stored in warehouses to prevent damage, theft, or spoilage before they reach consumers.

Marketing Mix

The **marketing mix** includes four essential elements:

1. **Product** – The tangible or intangible offering that satisfies customer needs.
2. **Price** – The cost customers pay for the product.
3. **Place** – The distribution channels used to deliver products to customers.
4. **Promotion** – Activities that communicate and promote the product to consumers.

Product Mix

Product mix includes decisions regarding product quality, design, and packaging. Companies expand their product lines over time, like Redmi, which started with smartphones and later diversified into TVs and smartwatches.

Branding

Branding involves giving a product a unique name or identity.

- **Brand** – A name, symbol, or design distinguishing a product from competitors (e.g., Sony, Woodland).
- **Brand Name** – The spoken part of a brand (e.g., Lux, Dell).
- **Brand Mark** – The visual symbol of a brand (e.g., Nike's swoosh logo).
- **Trademark** – A legally protected brand name or logo.

Qualities of a Good Brand Name

- Should be short and simple (e.g., Surf, Lux).
- Easy to pronounce and remember.
- Suggests product benefits (e.g., Ujala for brightness).
- Unique and culturally appropriate.

Advantages of Branding

- **For Businesses:** Differentiates products, aids advertising, allows premium pricing, and simplifies new product launches.
- **For Customers:** Ensures quality, simplifies product identification, and adds to social status.

Packaging

Packaging protects, promotes, and differentiates a product.

Levels of Packaging

1. **Primary Packaging** – Direct contact with the product (e.g., toothpaste tube).
2. **Secondary Packaging** – Additional protection (e.g., toothpaste box).
3. **Transportation Packaging** – Ensures safe transit and storage (e.g., corrugated boxes for fragile items).

Functions of Packaging

- **Protection** – Prevents damage, contamination, and spoilage.
- **Identification** – Helps customers recognize the product.
- **Convenience** – Enhances handling and storage.
- **Promotion** – Visually appealing packaging attracts buyers.
- **Health and Hygiene** – Reduces the risk of adulteration.
- **Product Differentiation** – Helps customers distinguish between products.
- **Innovation** – New packaging methods extend product shelf life (e.g., airtight chip packets).

Labelling

Labelling refers to the process of attaching identification marks to a product's packaging. It is a crucial aspect of marketing as it provides essential information about the product and its manufacturer. A label may either be part of the package or attached directly to the product.

Functions of Labelling:

1. **Describes the product and its contents** – Since manufacturers cannot personally communicate with every customer, labels serve as a medium to provide details such as product name, price, ingredients, usage instructions, etc.
2. **Identifies the product** – Labels help customers distinguish one product from another. For example, a Cadbury chocolate is easily recognizable by its purple label.
3. **Aids in grading** – Labels allow classification into different categories, such as Brooke Bond Red Label, Yellow Label, and Green Label.
4. **Promotes sales** – Attractive and colorful labels can attract customers and boost sales, especially in consumer goods.
5. **Fulfills legal requirements** – Labels are legally required to display information such as batch number, maximum retail price (MRP), weight, volume, and statutory warnings.

Price

Price refers to the amount a buyer pays to acquire a product or service. It is a crucial element of marketing since customers are highly sensitive to pricing. Even a slight change in price can influence customer preference and impact a firm's revenue and profits.

Price Mix

Price mix involves decisions related to setting and adjusting product prices. It includes determining pricing objectives, assessing competitor pricing, analyzing demand levels, and modifying prices accordingly.

Factors Affecting Price Determination:

1. **Pricing Objectives**
 - ✓ **Profit Maximization** – A firm may set high prices to maximize short-term profits or lower prices to capture market share and achieve long-term gains.
 - ✓ **Market Share Leadership** – Lower prices attract more customers and expand market reach.
 - ✓ **Survival in Competition** – If facing intense competition, firms may offer discounts or promotional pricing.
 - ✓ **Product Quality Leadership** – High-quality products often justify premium pricing.
2. **Product Cost**
 - ✓ Includes fixed costs (do not change with output), variable costs (depend on production level), and semi-variable costs (partially vary).
 - ✓ Generally, firms set prices that cover total costs and ensure reasonable profit margins.
3. **Market Competition**
 - ✓ In a monopoly, firms have greater control over pricing.
 - ✓ In competitive markets, firms must consider rival pricing and product features.
4. **Customer Demand and Utility**
 - ✓ If a product offers high utility, customers are willing to pay higher prices.
 - ✓ Low-utility products require competitive pricing to attract buyers.
5. **Government Regulations**
 - ✓ The government regulates prices of essential goods like medicines and petrol to prevent exploitation.
6. **Marketing Strategies**

- ✓ Distribution systems, sales promotions, and advertising influence price setting.

Place/Physical Distribution

Place refers to the strategies used to ensure a product is available at the right place, in the right quantity, and at the right time.

Place Mix

It involves decisions regarding channels of distribution and market coverage. Intermediaries (wholesalers, retailers) help expand reach, improve efficiency, and enhance customer convenience.

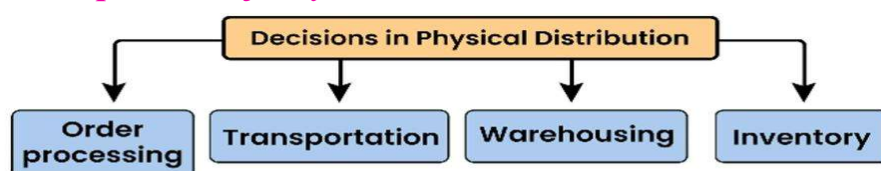
Types of Distribution Channels:

1. **Direct Channel (Zero-Level Channel)** – No intermediaries; manufacturers sell directly to consumers through:
 - ✓ Own retail outlets (e.g., Domino's)
 - ✓ Door-to-door selling (e.g., Amway, Tupperware)
 - ✓ Mail order selling (e.g., books, medicines)
 - ✓ Online selling (e.g., e-commerce platforms)
 - ✓ Telemarketing (e.g., TV shopping channels)
2. **Indirect Channels**
 - 1) **One-Level Channel:** Manufacturer → Retailer → Consumer (used for automobiles, footwear, etc.)
 - 2) **Two-Level Channel:** Manufacturer → Wholesaler → Retailer → Consumer (common for FMCG products like soap, rice, and tea)
 - 3) **Three-Level Channel:** Manufacturer → Agent → Wholesaler → Retailer → Consumer (used when covering large markets with limited product lines)

Factors Determining Channel Choice:

1. **Product-Related Factors**
 - ✓ **Nature of Product:** Industrial products (e.g., machinery) use direct channels, while consumer goods use longer channels.
 - ✓ **Perishability:** Perishable items (e.g., vegetables, dairy) require shorter channels.
 - ✓ **Product Complexity:** Technical products need direct selling, while simple products use intermediaries.
 - ✓ **Unit Value:** Low-cost items (e.g., cosmetics) use long channels, whereas high-value items (e.g., jewelry) prefer direct selling.
2. **Company-Related Factors**
 - ✓ **Financial Strength:** Direct distribution requires high investment, while intermediaries reduce financial burden.
 - ✓ **Competitive Pressure:** Firms often align distribution strategies with competitors.
3. **Market-Related Factors**
 - ✓ **Market Size:** Larger markets require more intermediaries.
 - ✓ **Geographical Spread:** If customers are spread out, longer channels are needed.
 - ✓ **Order Size:** Smaller orders favor long channels, while bulk orders suit short channels.
4. **Environmental Factors**
 - ✓ Economic conditions and legal constraints influence distribution decisions.

Components of Physical Distribution:



1. Order Processing

- ✓ Involves steps from order placement to final delivery.
- ✓ Faster order processing increases customer satisfaction but requires efficient inventory management.

2. Transportation

- ✓ Moves goods from production sites to markets.
- ✓ Adds value by making products available at the right locations.
- ✓ Different modes: Rail, Road, Air, Pipeline, Waterways (each has pros and cons).

3. Warehousing

- ✓ Ensures product availability when needed.
- ✓ Necessary for seasonal products (e.g., crops, heaters, summer clothing).
- ✓ Involves cost considerations (own vs. rented warehouses).

4. Inventory Management

- ✓ Maintains adequate stock levels to meet demand.
- ✓ Balances product availability with cost efficiency.

Factors Determining Inventory Levels

1. Firm's Customer Service Policy:

- ✓ Companies maintaining high customer service standards keep large inventories to ensure uninterrupted supply.

2. Accuracy of Sales Forecast:

- ✓ Accurate sales forecasts help maintain minimal inventory. In the absence of reliable forecasts, firms stock more to meet unexpected demand.

3. Responsiveness of Distribution System:

- ✓ If additional demand takes time to fulfill, firms maintain higher inventories. Faster supply chains reduce the need for large stockpiles.

4. Cost of Inventory:

- ✓ Includes warehousing costs, tied-up capital, and production expenses. High inventory costs lead to lower stock levels, while lower costs allow for larger inventories.

Promotion Mix

Promotion mix includes all decisions related to promoting products and services. It aims to inform and persuade customers to purchase. The key elements are:

1. Advertising:

- Paid, impersonal promotion of goods, services, or ideas by an identified sponsor.
- Features:
 - ✓ **Mass Reach:** Large audiences through TV, radio, newspapers, and magazines.
 - ✓ **Choice of Media:** Options include print, digital, audiovisual, and broadcast media.
 - ✓ **Legitimacy:** Public advertisements enhance trust in the product.
 - ✓ **Expressiveness:** Uses visuals, music, and multimedia to make messages impactful.
 - ✓ **Cost Efficiency:** Reaches many people, making cost per customer low.
 - ✓ **Customer Confidence:** Builds assurance in the brand.

Objections to Advertising:

- **Increases Costs:** Advertising costs may be passed to consumers, but mass production can offset this.
- **Undermines Social Values:** Creates unnecessary desires for new products.
- **Confuses Buyers:** Multiple competing advertisements can overwhelm consumers.
- **Promotes Inferior Products:** Low-cost options cater to budget-conscious consumers.
- **Offensive Content:** Some ads may be inappropriate, but ethical advertising is regulated.

2. Personal Selling:

Involves direct interaction between a seller and potential buyers to influence purchasing decisions.

Features of Personal Selling:

- **Face-to-Face Interaction:** Allows personalized engagement.
- **Two-Way Communication:** Buyers can ask questions and clarify doubts.
- **Better Customer Response:** Customers pay more attention to direct explanations.
- **Relationship Building:** Helps in fostering customer loyalty.
- **Effective Persuasion:** Sales representatives can demonstrate product benefits and customize offerings.

Qualities of a Good Salesperson:

1. **Physical Qualities:** Good health, pleasing personality, and neat appearance.
2. **Mental Qualities:** Intelligence, presence of mind, and initiative.
3. **Social Skills:** Ability to interact with different types of customers.
4. **Communication Skills:** Clear and convincing speech.
5. **Patience:** Ability to handle difficult customers calmly.

3. Sales Promotion:

Short-term incentives to boost sales quickly.

Techniques for Customers:

- **Rebates & Discounts:** Temporary price reductions to clear stock.
- **Refunds:** Partial price returns on proof of purchase.
- **Product Combinations:** Free items with purchase (e.g., free bucket with a TV).
- **Quantity Gifts:** Extra product for the same price (e.g., "Buy 3, Get 1 Free").
- **Instant Draws & Lucky Draws:** Scratch cards or coupons for prizes.
- **Usable Benefits:** High-value rewards like free travel packages.
- **Zero-Interest Financing:** Products sold in installments at 0% interest.
- **Sampling:** Free product samples to encourage trials.
- **Contests:** Consumer competitions (e.g., slogan-writing contests) to boost engagement.

4. Public Relations (PR)

PR involves managing a company's reputation and relationships with various stakeholders like customers, investors, and suppliers.

PR Methods:

1. **News Coverage:** Generating positive media attention.
2. **Speeches:** Influential talks by company executives.
3. **Events:** Press conferences, exhibitions, and sponsorships.
4. **Written Materials:** Annual reports, brochures, and newsletters.

5. **Public Service Activities:** Corporate social responsibility (CSR) initiatives like environmental programs, charity, and educational projects.

MCQs For Practice

1. Who introduced the concept of Functional Foremanship?
 - a) Henry Fayol
 - b) F.W. Taylor
 - c) Elton Mayo
 - d) Max Weber
2. Functional Foremanship is an extension of which management principle?
 - a) Unity of command
 - b) Division of work
 - c) Centralization
 - d) Unity of direction
3. How many foremen did Taylor suggest under Functional Foremanship?
 - a) 4
 - b) 6
 - c) 8
 - d) 10
4. Which foreman is responsible for maintaining discipline?
 - a) Route Clerk
 - b) Disciplinarian
 - c) Gang Boss
 - d) Speed Boss
5. Who is responsible for ensuring timely and accurate completion of work?
 - a) Gang Boss
 - b) Speed Boss
 - c) Repair Boss
 - d) Instruction Card Clerk
6. Which foreman ensures proper working conditions of machines and tools?
 - a) Repair Boss
 - b) Inspector
 - c) Time and Cost Clerk
 - d) Route Clerk
7. What does Standardization of Work primarily aim at?
 - a) Reducing worker salaries
 - b) Reducing wastage and increasing efficiency
 - c) Increasing variety in products
 - d) Increasing production time
8. Which of the following is NOT a part of Work Study?
 - a) Fatigue Study
 - b) Motion Study
 - c) Leadership Study
 - d) Time Study
9. What is the main objective of Fatigue Study?
 - a) Determining the best method of work
 - b) Finding out the right amount and timing of rest intervals
 - c) Determining the standard time to complete a task
 - d) Reducing cost of production
10. Motion Study focuses on:
 - a) Finding unnecessary movements in work
 - b) Reducing the number of workers
 - c) Increasing machine speed
 - d) Improving discipline
11. Which device is used in Time Study?
 - a) Thermometer
 - b) Stop-watch
 - c) Calculator
 - d) Computer
12. What does the Differential Piece Wage System focus on?
 - a) Paying equal wages to all workers
 - b) Paying different wages based on efficiency
 - c) Paying only a fixed salary
 - d) Reducing wages over time
13. What is the main objective of the Differential Piece Wage System?
 - a) Encourage efficiency
 - b) Reduce worker satisfaction
 - c) Increase absenteeism
 - d) Make all workers perform the same
14. How is the standard output for workers fixed in this system?
 - a) Manager's guess
 - b) Worker's choice
 - c) Time and Motion Study
 - d) Fixed for all companies
15. Who is known as the "Father of Scientific Management"?
 - a) Henry Fayol
 - b) F.W. Taylor
 - c) Max Weber
 - d) Peter Drucker
16. What is the primary focus of marketing?
 - a) Selling products at high prices
 - b) Identifying and satisfying customer needs and wants
 - c) Manufacturing high-quality products
 - d) Increasing company profits only
17. Who is a marketer?
 - a) Only manufacturers of goods
 - b) Only retailers selling the product
 - c) A person or organization offering products/services to customers
 - d) A customer buying the product
18. What does a 'market offering' include?
 - a) Only the price of the product
 - b) Complete information about the product, including shape, size, and availability
 - c) Discounts and offers only
 - d) Only the brand name of the product
19. What is considered the essence of marketing?
 - a) Advertising and promotions
 - b) Exchange of goods and services for value
 - c) Increasing sales through aggressive selling
 - d) Manufacturing superior products
20. Which of the following can be marketed?
 - a) Only physical products
 - b) Only services and products
 - c) Only ideas and information
 - d) Products, services, ideas, places, and experiences
21. Which marketing concept focuses on mass production and affordability?
 - a) Product Concept
 - b) Selling Concept
 - c) Production Concept
 - d) Marketing Concept
22. The Marketing Concept is based on which of the following principles?
 - a) Producing high-quality goods
 - b) Increasing production without market research
 - c) Understanding customer needs and providing

- products accordingly
d) Selling whatever is produced
23. The Societal Marketing Concept focuses on customer satisfaction along with:
a) Maximum sales at any cost
b) Social welfare and ethical business practices
c) Aggressive marketing strategies
d) Only profit maximization
24. Which of the following is NOT an example of what can be marketed?

- a) A mobile phone
b) A travel destination
c) A business transaction between two companies
d) A charity campaign
25. What is the first step in marketing management?
a) Creating advertisements
b) Choosing a target market
c) Manufacturing the product
d) Deciding the product price

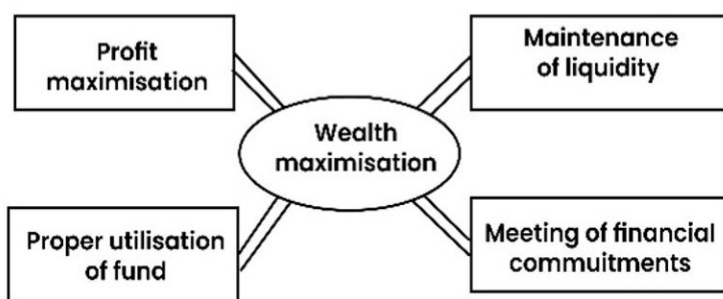
Answer Key

- | | | |
|------|-------|-------|
| 1. B | 10. A | 19. B |
| 2. B | 11. B | 20. D |
| 3. C | 12. B | 21. C |
| 4. B | 13. A | 22. C |
| 5. B | 14. C | 23. B |
| 6. A | 15. B | 24. C |
| 7. B | 16. B | 25. B |
| 8. C | 17. C | |
| 9. B | 18. B | |

CHAPTER 5: FINANCIAL MANAGEMENT

Business Finance

Business finance is the funds required to carry out business activities efficiently.



Financial Management

- Financial management involves the efficient acquisition, utilization, and distribution of financial resources to ensure the smooth functioning of a company.
- According to Howard and Upton, “Financial management involves the application of general management principles to a particular financial operation.”

Objectives of Financial Management

The primary objective of financial management is **maximizing shareholder wealth**, which is achieved by increasing the market value of the company’s equity shares. The market price of shares

- Ensuring Effective Utilization of Funds** – Investment decisions should generate higher returns than costs, leading to value addition.
- Ensuring Safety of Funds** – Companies should ensure financial security by maintaining reserves and reinvesting profits.

Role of Financial Management

The overall financial health of a business depends on the quality of financial management. It focuses on mobilizing financial resources at lower costs and deploying them in the most profitable activities. Financial management influences:

- Size and Composition of Fixed Assets** – For example, investing in machinery affects the overall asset base of the company.
- Amount and Composition of Current Assets** – More fixed assets require increased working capital.
- Long-term and Short-term Financing Decisions** – Financial managers decide on the proportion of short-term and long-term funds.
- Debt-Equity Ratio** – The proportion of debt and equity affects financial structuring and overall risk.
- Profit and Loss Items** – Factors such as interest payments and dividends depend on financial decisions.

Financial Decisions

Financial management involves three major financial decisions:

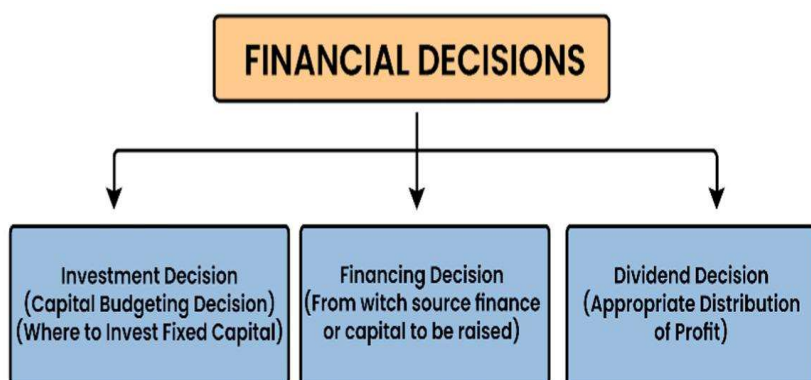
- Investment Decision**
- Financing Decision**
- Dividend Decision**

Investment Decision (Capital Budgeting Decision)

Investment decisions involve selecting assets where funds will be invested. These are categorized as:

Long-Term Investment Decisions (Capital Budgeting Decisions) – These involve committing funds to long-term assets or projects, such as:

- ✓ Purchasing new fixed assets (land, machinery, etc.)
- ✓ Opening a new branch



risks when financial decisions add value to the firm, while poor financial decisions lead to a decline in share prices.

Shareholder wealth maximization is ensured by:

- Ensuring Availability of Adequate Funds at a Reasonable Cost** – Funds should be obtained at a reasonable cost while managing risk to ensure value addition.

- ✓ Launching a new product line
- ✓ Investing in advanced production techniques
- ✓ Major expenditures on R&D and advertising

Investment decisions are crucial because they:

- Affect the firm's long-term earnings capacity
- Require significant financial outflows
- Influence asset size, profitability, and competitiveness
- Are often irreversible without significant costs

Factors Affecting Investment Decisions:

1. **Cash Flow of the Project** – The company should analyze expected cash inflows before investing.
2. **Rate of Return** – Investment projects should be compared based on expected returns.
3. **Investment Criteria** – Various financial evaluation techniques (e.g., Net Present Value, Internal Rate of Return, Payback Period) should be used to assess projects before making investment decisions.
4. **Short-Term Investment Decisions (Working Capital Decisions)** These decisions involve investing in current assets such as cash, stock, and receivables, which affect liquidity and profitability. Effective management of cash, inventory, and receivables is crucial for sound working capital management.

Financial Decision

A financing decision involves determining the composition of various securities in a company's capital structure. The primary sources of finance are categorized into two types:

1. **Shareholder's Funds** – Includes share capital, surplus, reserves, and retained earnings.
2. **Borrowed Funds** – Comprises finance raised through debentures, public deposits, or other forms of debt.

Debt vs. Equity

- **Cost of Debt:** The expected return required by lenders for assuming risk. It is generally lower than equity as lenders have a lower risk exposure.
- **Cost of Equity:** The expected return demanded by equity shareholders for assuming risk.
- **Tax Benefits:** Interest paid on debt is tax-deductible, whereas dividends are paid from after-tax profits, making debt financing more cost-effective.
- **Financial Risk:** Higher debt usage increases the risk of failing to meet financial obligations, including interest and principal repayments.

Factors Affecting Financing Decisions

1. **Cost:** Preference is given to the source with the lowest financing cost.
2. **Risk:** Borrowed funds pose higher risk than owner's funds, so a balance must be maintained.
3. **Cash Flow Position:** Companies with strong cash flows can opt for debt financing, whereas those with weak cash flows should prefer equity financing.
4. **Control Considerations:** Borrowing funds helps existing shareholders retain control, while issuing new shares may dilute their ownership.
5. **Floatation Cost:** Includes expenses like broker commissions and underwriting fees; companies prefer options with lower floatation costs.
6. **Fixed Operating Cost:** Companies with high fixed costs should avoid debt financing due to the obligation of interest payments.
7. **State of Capital Market:** During a boom, equity financing is preferable, while during a downturn, debt financing is in higher demand.

Dividend Decision

A dividend decision pertains to the distribution of after-tax profits to shareholders. The primary options include retaining earnings or distributing them as dividends. The goal is to maximize shareholder wealth.

Factors Affecting Dividend Decisions

1. **Earnings:** Dividends are paid from past and current earnings.
2. **Stability of Earnings:** Firms with stable earnings declare higher dividends.
3. **Cash Flow Position:** Sufficient cash is required to pay dividends; firms with surplus cash can declare higher dividends.
4. **Growth Opportunities:** Firms with expansion plans retain earnings, whereas those without significant growth opportunities distribute higher dividends.
5. **Stability of Dividend:** Many companies follow a fixed dividend policy, increasing dividends only when long-term earnings growth is assured.
6. **Shareholder Preference:** Companies consider shareholder expectations while deciding dividends, especially for those relying on regular income.
7. **Taxation Policy:** A higher dividend tax may discourage dividend payouts, whereas lower taxation may encourage higher distributions.
8. **Access to Capital Markets:** Firms with easy access to funding may distribute higher dividends, while those relying on retained earnings may declare lower dividends.
9. **Legal Restrictions:** Companies must adhere to legal provisions when declaring dividends.
10. **Contractual Constraints:** Loan agreements may impose restrictions on dividend payments.
11. **Stock Market Reaction:** Higher dividends generally increase stock prices, influencing financial decisions.

Financial Planning

Financial planning involves determining in advance how much money to spend and where to allocate it based on the available funds. It is a systematic process that helps in setting objectives, policies, procedures, and budgets to manage the financial activities of an enterprise. Financial planning is essential to prevent shortages or surpluses of funds.

Financial planning includes:

1. **Estimating Financial Needs:** Determining the amount of finance required for smooth business operations.
2. **Identifying Sources of Funds:** Deciding the pattern of securities to be issued.
3. **Establishing Utilization Policies:** Developing appropriate policies for the effective use and administration of funds.

Steps in Financial Planning:

- A. **Estimating Capital Requirements:** Financial planning starts by determining the total capital requirement. The finance manager forecasts sales, and if future growth is expected, the firm must expand production capacity, increasing the need for long-term funds. A rise in production and sales necessitates higher fixed and working capital.
- B. **Raising Funds:** After estimating fund requirements, the next step is deciding how to acquire these funds. Finance may be generated internally or sourced externally through equity shares, preference shares, debentures, and loans.
- C. **Investment Planning:** Financial planning extends beyond fund generation. It involves evaluating and selecting the best investment opportunities. Short-term

financial plans, such as budgets, are also created by finance managers.

Objectives of Financial Planning:

- 1. **Ensuring Availability of Funds:** Estimating fund requirements for different purposes, such as purchasing long-term assets or covering daily business expenses.
- 2. **Avoiding Excessive Fundraising:** Preventing unnecessary resource accumulation, as surplus funds can increase costs and remain idle if not utilized effectively.

Importance of Financial Planning:

- 1. **Preparedness for the Future:** Helps forecast business scenarios (e.g., sales growth of 10%, 20%, or 30%) and develop strategies accordingly.
- 2. **Avoiding Business Surprises:** Creates contingency plans for different financial situations.
- 3. **Coordination Among Departments:** Ensures alignment between production, sales, and other business functions through clear financial policies.
- 4. **Efficient Financial Utilization:** Reduces waste, duplication of efforts, and gaps in planning.
- 5. **Bridging Present and Future:** Links current financial status with anticipated growth.
- 6. **Balancing Investment and Financing:** Ensures continuous coordination between investment and funding decisions.
- 7. **Performance Evaluation:** Facilitates assessment by setting clear financial goals for different business segments.

Capital Structure

Capital structure refers to the mix of debt and equity used to finance business operations.

Formula: Capital Structure = Debt/Equity

It represents the proportion of debt capital and equity capital in the company’s total funding. The optimal capital structure is one that enhances the value of equity shares and maximizes shareholder wealth.

Debt and equity differ in cost and risk:

- **Debt:** Lower cost but higher risk since regular interest payments are legally required. Failure to pay can lead to asset claims or even insolvency.
- **Equity:** More expensive but safer for the company since dividend payments are not legally mandatory.

EPS Calculation

Situation	EBIT	Interest	EBT	Tax (30%)	EAT	EPS
I	7,00,000	0	7,00,000	2,10,000	4,90,000	0.98
II	7,00,000	1,00,000	6,00,000	1,80,000	4,20,000	1.05
III	7,00,000	2,00,000	5,00,000	1,50,000	3,50,000	1.16

As seen in the table, EPS is highest in **Situation III**, proving that including debt increases earnings when ROI is higher than the interest rate.

Situation I: (All Equity Financing)

- **Total Capital:** ₹50 lakhs
- **Equity Capital:** ₹50 lakhs (5,00,000 shares @ ₹10 each)
- **Debt:** Nil
- **EBIT:** ₹3,00,000
- **Tax Rate:** 30%

Situation II: (Moderate Debt Financing)

- **Total Capital:** ₹50 lakhs
- **Equity Capital:** ₹40 lakhs (4,00,000 shares @ ₹10 each)

EPS Calculation

Capital structure impacts profitability and financial risk. Companies use financial leverage to determine an ideal capital structure.

Financial Leverage

Financial leverage measures the proportion of debt in the company’s capital structure.

Formula: Financial Leverage = Debt/Equity

A higher financial leverage ratio indicates a greater reliance on debt, increasing both potential returns and financial risk.

Capital Structure and Impact of Debt on Earnings

Effect of Debt on Earnings and Capital Structure

Debt financing is a common method used by companies to raise capital as it is a cheaper source of finance compared to equity. However, excessive debt increases financial risk. The impact of debt on earnings is determined by comparing the company’s **Return on Investment (ROI)** with the **Interest Rate on Debt**:

- If **ROI > Interest Rate on Debt**, additional debt increases **Earnings Per Share (EPS)** and benefits shareholders.
- If **ROI < Interest Rate on Debt**, increased debt reduces earnings and negatively impacts shareholders.

To illustrate this, we analyze three different capital structures with varying debt and equity proportions.

Example 1: ROI Greater than Interest Rate

Situation I: (All Equity Financing)

- **Total Capital:** ₹50 lakhs
- **Equity Capital:** ₹50 lakhs (5,00,000 shares @ ₹10 each)
- **Debt:** Nil
- **EBIT:** ₹7,00,000
- **Tax Rate:** 30%

Situation II: (Moderate Debt Financing)

- **Total Capital:** ₹50 lakhs
- **Equity Capital:** ₹40 lakhs (4,00,000 shares @ ₹10 each)
- **Debt:** ₹10 lakhs @ 10% interest
- **EBIT:** ₹7,00,000
- **Tax Rate:** 30%

Situation III: (Higher Debt Financing)

- **Total Capital:** ₹50 lakhs
- **Equity Capital:** ₹30 lakhs (3,00,000 shares @ ₹10 each)
- **Debt:** ₹20 lakhs @ 10% interest
- **EBIT:** ₹7,00,000
- **Tax Rate:** 30%

Example 2: ROI Less than Interest Rate

If the company's ROI is lower than the interest rate, increased debt reduces shareholder earnings.

- **Debt:** ₹10 lakhs @ 10% interest
- **EBIT:** ₹3,00,000
- **Tax Rate:** 30%

Situation III: (Higher Debt Financing)

- **Total Capital:** ₹50 lakhs
- **Equity Capital:** ₹30 lakhs (3,00,000 shares @ ₹10 each)
- **Debt:** ₹20 lakhs @ 10% interest
- **EBIT:** ₹3,00,000
- **Tax Rate:** 30%

Situation	EBIT	Interest	EBT	Tax (30%)	EAT	EPS
I	3,00,000	0	3,00,000	90,000	2,10,000	0.42
II	3,00,000	1,00,000	2,00,000	60,000	1,40,000	0.35
III	3,00,000	2,00,000	1,00,000	30,000	70,000	0.23

As shown, EPS declines as debt increases, proving that excessive debt harms shareholder earnings when ROI is lower than the interest rate.

Factors Determining Capital Structure

1. **Cash Flow Position:** A company should raise debt only if it has sufficient cash flow to meet obligations.
2. **Interest Coverage Ratio (ICR):** Measures how many times a company’s EBIT covers its interest payments.
3. **Debt Service Coverage Ratio (DSCR):** Considers total cash required for debt repayment.
4. **Return on Investment (ROI):** If ROI > Interest rate, debt benefits shareholders; otherwise, it is a risk.
5. **Cost of Debt:** Lower interest rates make debt financing attractive.
6. **Tax Rate:** Interest on debt is tax-deductible, reducing the effective cost of debt.
7. **Cost of Equity:** As debt increases, equity holders demand higher returns due to increased risk.
8. **Floatation Cost:** Costs related to raising capital (e.g., advertising, underwriting) affect financing decisions.
9. **Risk Consideration:** Higher debt increases financial risk, limiting borrowing capacity.
10. **Flexibility:** Companies should maintain financial flexibility by not exhausting debt capacity.
11. **Control:** Issuing debt preserves management control, unlike issuing new equity.
12. **Regulatory Framework:** Companies must comply with legal regulations (e.g., SEBI guidelines) while raising capital.
13. **Stock Market Conditions:** During boom periods, equity financing is preferable, whereas debt financing is more attractive during downturns.
14. **Industry Norms:** Companies often align their capital structure with industry standards but should consider their unique risks.

Fixed Capital

Fixed capital refers to the investment of a company's funds in long-term assets or projects.

Significance of Capital Budgeting Decisions

1. **Long-Term Growth:** These decisions influence the company's long-term expansion as funds invested in fixed assets generate future returns, affecting business prospects.
2. **Large Investment Requirement:** Fixed capital decisions involve substantial financial commitments in long-term projects, requiring detailed analysis before investment.
3. **Risk Involvement:** Since fixed capital investments are substantial, they impact the firm's returns over time and influence its overall business risk.

Factors Affecting Fixed Capital Requirements

1. **Nature of Business:** Manufacturing firms require more fixed capital than trading firms due to their need for machinery and equipment.
2. **Scale of Operations:** Large-scale enterprises require more fixed capital for acquiring machinery and assets, whereas small-scale firms need less.

3. **Production Technique:** Capital-intensive businesses require more fixed capital for machinery, whereas labor-intensive firms need less.
4. **Technology Upgradation:** Industries experiencing frequent technological advancements require higher fixed capital to replace obsolete machinery.
5. **Growth Prospects:** Expanding businesses need more fixed capital to increase production capacity.
6. **Diversification:** Companies introducing new product lines need additional fixed capital for machinery and production facilities.
7. **Finance and Leasing Facilities:** Firms with access to financing and leasing options need less fixed capital, as they can acquire assets through installments.
8. **Collaboration and Joint Ventures:** Firms engaged in collaborations require less fixed capital as they share resources with partners, whereas independent businesses need more.

Working Capital

Working capital refers to the investment in short-term assets and is the excess of current assets over current liabilities.

Types of Working Capital

1. **Gross Working Capital:** Represents the total investment in current assets such as cash, receivables, and prepaid expenses.
2. **Net Working Capital:** The difference between current assets and current liabilities. A positive net working capital indicates financial stability, while a negative one signifies liquidity challenges.

Factors Affecting Working Capital Requirements

1. **Nature of Business:** Retail and trading firms require less working capital, whereas manufacturing businesses need more due to inventory and production costs.
2. **Scale of Operations:** Large firms require more working capital to manage higher inventory and receivables.
3. **Business Cycle Fluctuations:** During economic booms, firms need more working capital due to increased demand, while during recessions, requirements decrease.
4. **Seasonality:** Seasonal businesses require more working capital during peak seasons for inventory and supply management.
5. **Technology and Production Cycle:** Labor-intensive industries require higher working capital for wages, while machine-intensive firms require less. Longer production cycles demand more working capital.
6. **Credit Policy (Allowed & Aailed):** Firms offering liberal credit terms require more working capital, while those receiving extended credit from suppliers require less.
7. **Raw Material Availability:** Easy access to raw materials reduces the need for large inventory and working capital.
8. **Operational Efficiency:** Firms with high efficiency require less working capital compared to less efficient businesses.
9. **Market Competition:** Highly competitive industries require more working capital to maintain inventory and offer credit to customers.

10. **Inflation:** Rising costs of raw materials and labor increase the need for higher working capital.

11. **Growth Prospects:** Businesses with expansion plans require more working capital for scaling production and operations.

MCQs For Practice

1. What is the primary objective of financial management?
 - a) Maximizing profits
 - b) Increasing sales revenue
 - c) Maximizing shareholder wealth
 - d) Reducing operating costs
2. Which of the following ensures the availability of adequate funds at a reasonable cost?
 - a) Investment decision
 - b) Financing decision
 - c) Dividend decision
 - d) None of the above
3. Which financial decision focuses on selecting assets for investment?
 - a) Investment decision
 - b) Financing decision
 - c) Dividend decision
 - d) Capital structuring
4. Which of the following is a long-term investment decision?
 - a) Managing working capital
 - b) Purchasing new machinery
 - c) Paying dividends
 - d) Issuing commercial paper
5. Which factor affects investment decisions the most?
 - a) Brand value
 - b) Expected cash flow
 - c) Employee satisfaction
 - d) Government policies
6. Which of the following is NOT a source of shareholder's funds?
 - a) Retained earnings
 - b) Share capital
 - c) Debentures
 - d) Reserves
7. Why is debt financing often preferred over equity financing?
 - a) It has lower tax benefits
 - b) It helps in retaining ownership control
 - c) It is always risk-free
 - d) It is more expensive than equity
8. Which of the following statements is true about dividend decisions?
 - a) A company must distribute all its earnings as dividends
 - b) Retained earnings are a part of dividend decisions
 - c) Dividend decisions are independent of a company's cash flow
 - d) All companies must pay the same amount of dividends annually
9. Which of the following factors affects a company's financing decision?
 - a) Cost of financing
 - b) Number of employees
 - c) Company's branding strategy
 - d) Market competition
10. Which ratio determines the proportion of debt and equity in a company?
 - a) Current ratio
 - b) Debt-equity ratio
 - c) Profitability ratio
 - d) Liquidity ratio

11. What is the primary purpose of financial planning?
 - a) To ensure availability of funds
 - b) To increase expenses
 - c) To ignore financial risks
 - d) To focus only on short-term gains
12. Which financial decision involves distributing after-tax profits to shareholders?
 - a) Investment decision
 - b) Financing decision
 - c) Dividend decision
 - d) Cost decision
13. What is the most critical factor influencing a firm's dividend policy?
 - a) Employee benefits
 - b) Shareholder expectations
 - c) Competitor's marketing strategy
 - d) CEO's preference
14. What is an example of a short-term investment decision?
 - a) Buying land for expansion
 - b) Investing in government bonds
 - c) Managing working capital
 - d) Constructing a new factory
15. What is the impact of higher dividends on a company's stock price?
 - a) Stock price decreases
 - b) Stock price remains constant
 - c) Stock price increases
 - d) No impact on stock price
16. What does capital structure represent?
 - a) The amount of cash reserves a company holds
 - b) The mix of debt and equity used to finance business operations
 - c) The total revenue generated by a business
 - d) The number of shareholders in a company
17. Which of the following is a key advantage of debt financing?
 - a) No legal obligation to pay interest
 - b) Lower cost compared to equity financing
 - c) Does not affect financial risk
 - d) Provides ownership control to investors
18. What does financial leverage indicate?
 - a) The proportion of retained earnings in a company
 - b) The proportion of debt in the company's capital structure
 - c) The ability of a company to pay dividends
 - d) The amount of cash a company has in reserves
19. Which of the following best describes the relationship between debt and financial risk?
 - a) Higher debt reduces financial risk
 - b) Higher debt increases financial risk
 - c) Debt has no impact on financial risk
 - d) Financial risk only depends on equity financing
20. What is fixed capital mainly used for?
 - a) Investment in long-term assets and projects
 - b) Paying employee salaries
 - c) Managing day-to-day business expenses
 - d) Reducing taxes
21. Which business type typically requires more fixed capital?
 - a) Trading firms

- b) Service-based businesses
 - c) Manufacturing firms
 - d) Small retail shops
22. Which of the following affects fixed capital requirements?
- a) Market competition
 - b) Nature of business
 - c) Employee productivity
 - d) Customer feedback
23. What does net working capital represent?
- a) The total value of a company's fixed assets
 - b) The difference between current assets and current liabilities

- c) The amount of profit earned by a company
 - d) The total debt financing of a company
24. Which factor can increase working capital requirements?
- a) Shorter production cycle
 - b) Seasonal demand fluctuations
 - c) Low competition in the market
 - d) Reduced inflation rates
25. What happens to working capital requirements during an economic boom?
- a) They decrease
 - b) They remain constant
 - c) They increase
 - d) They become irrelevant

Answer Key

- | | | |
|------|-------|-------|
| 1. C | 10. B | 19. B |
| 2. B | 11. A | 20. A |
| 3. A | 12. C | 21. C |
| 4. B | 13. B | 22. B |
| 5. B | 14. C | 23. B |
| 6. C | 15. C | 24. B |
| 7. B | 16. B | 25. C |
| 8. B | 17. B | |
| 9. A | 18. B | |

CHAPTER 6: FINANCIAL MARKETS

A financial market acts as a bridge between surplus and deficit units, facilitating the movement of funds between lenders and borrowers. It is a platform for the creation and exchange of financial assets. When companies issue new shares or debentures, they create financial assets. The financial market plays a crucial role in linking savers with investors by mobilizing funds, a process known as the allocation function. This function ensures that funds are directed toward the most productive investment opportunities through financial intermediaries.

Consequences of Allocation Function

- Households receive higher returns on their savings.
- Scarce resources are allocated to firms with the highest productivity potential.

Functions of Financial Markets

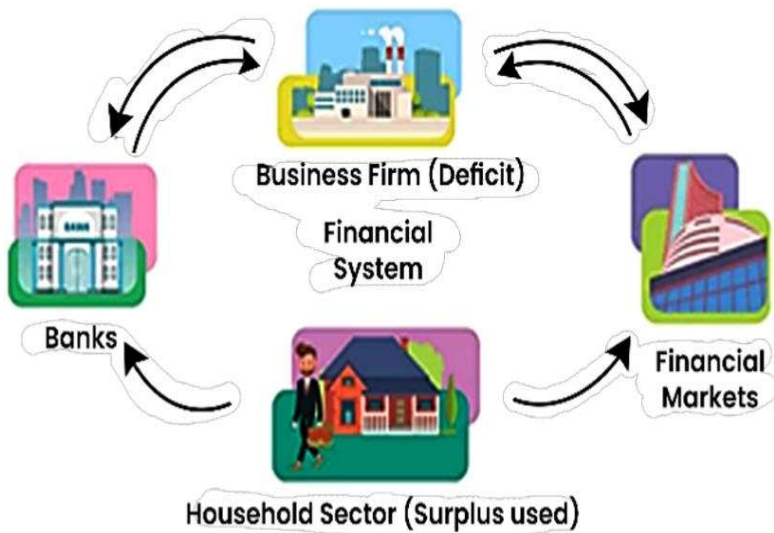
- Mobilization of Savings & Productive Use:** Transfers savings from savers to investors by offering various investment options, ensuring funds are channeled efficiently.
- Facilitates Price Discovery:** Prices of financial assets are determined through the interaction of supply (households) and demand (business firms).
- Provides Liquidity:** Enables easy buying and selling of financial assets, ensuring liquidity.
- Reduces Transaction Costs:** Provides a common platform with valuable information about prices, costs, and availability of securities, reducing time, effort, and cost.

Classification of Financial Market

Financial markets are categorized into:

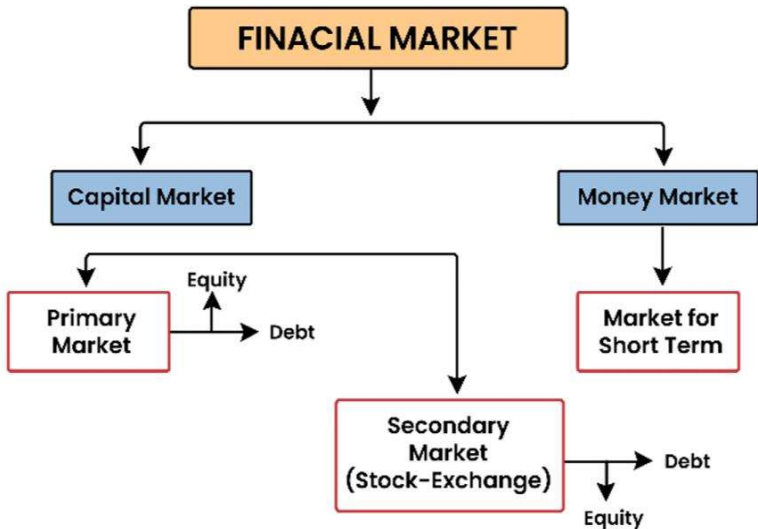
1. Money Market

Deals with short-term funds and monetary assets with a maturity of less than one year.



Features of Money Market:

- Deals in short-term and unsecured financial instruments.
- No fixed geographical location; transactions occur via telephone or internet.
- Key institutions: RBI, commercial banks, LIC, GIC, etc.
- Common instruments: Call money, Treasury bills, Commercial Paper (CP), Certificates of Deposit (CD), Commercial Bills.
- Highly liquid with low risk.



Instruments of Money Market:

- **Call Money:** Short-term borrowing among banks to maintain CRR, with maturity from 1 to 15 days. The interest rate, known as the **call rate**, fluctuates frequently.
- **Treasury Bills:** Short-term borrowing instruments issued by RBI on behalf of the government, with maturity ranging from 14 to 364 days. They are highly liquid and risk-free.
- **Commercial Paper:** Unsecured promissory notes issued by large firms to meet short-term needs, with a maturity of 15 days to one year.
- **Certificate of Deposits (CDs):** Negotiable instruments issued by banks and financial institutions to raise funds in tight liquidity situations, with a maturity period ranging from 91 days to one year.
- **Commercial Bill:** Bills of exchange used to finance credit sales of business firms, which can be discounted with banks before maturity.

2. Capital Market

Provides medium and long-term funds for businesses and government projects. It facilitates the efficient allocation of savings to investment opportunities.

Features of Capital Market:

- Channels savings into industrial and commercial enterprises.
- Promotes economic growth and development.
- Involves institutions like development banks, commercial banks, and stock exchanges.
- Comprises two major segments: **Primary Market** and **Secondary Market**.

Types of Capital Markets:

1. **Primary Market (New Issue Market):** Involves the issuance of new securities by companies to investors for the first time. Securities include equity shares, preference shares, and debentures. Investors include banks, financial institutions, insurance companies, mutual funds, and individuals.
2. **Secondary Market:** Facilitates the buying and selling of existing securities among investors through stock exchanges, ensuring liquidity and price discovery.

These financial markets play a fundamental role in ensuring economic stability, liquidity, and the efficient allocation of resources.

Methods of Floatation in the Primary Market

The primary market is where new securities are issued by companies to raise funds. The different methods of issuing securities are:

Basis	Primary Market	Secondary Market
Type of Securities	New securities are issued.	Previously issued securities are traded.
Issued By	Companies directly issue securities.	Investors trade securities among themselves.
Capital Formation	Directly contributes to capital formation.	Indirectly contributes by providing liquidity.
Entry	All companies can enter to raise funds.	Only listed companies' securities are traded.
Location	No fixed geographical area.	Has a fixed location and working hours.
Price Determination	Prices are set by the company.	Prices depend on market demand and supply.

Difference Between Capital Market and Money Market

Basis	Capital Market	Money Market
Participants	The participants include financial institutions, banks, public and private companies, foreign investors, and individual retail investors.	The participants include financial institutions, banks, public and private companies, but foreign investors and retail investors do not participate.
Duration	Deals in medium and long-term securities.	Deals in short-term securities with a maximum tenure of one year.

1. Public Issue through Prospectus

- ✓ This is the most common method used by public companies.
- ✓ The company invites investors by advertising in newspapers and magazines.
- ✓ Underwriters or brokers help in the process.
- ✓ The prospectus must follow SEBI guidelines and the Companies Act.
- ✓ The securities must be listed on at least one stock exchange.

2. Offer for Sale

- ✓ The company does not sell securities directly to the public.
- ✓ Instead, intermediaries like stockbrokers or issuing houses buy securities in bulk and resell them at a higher price.

3. Private Placement

- ✓ The company sells securities to a selected group of investors such as UTI, GIC, or high-net-worth individuals.
- ✓ This method saves time and costs, making it suitable for smaller companies.

4. Rights Issue (For Existing Companies)

- ✓ Existing shareholders get the first opportunity to buy new shares at a price lower than the market rate.
- ✓ Shareholders can accept the offer, transfer their rights, or let the offer lapse.
- ✓ If shareholders do not subscribe, the remaining shares are offered to the general public.

5. e-IPOs (Electronic Initial Public Offering)

- ✓ Companies issue shares through an online stock exchange system.
- ✓ They must enter an agreement with the exchange for listing.
- ✓ SEBI-registered brokers collect applications, and registrars process orders electronically.

Secondary Market (Stock Exchange)

- The secondary market allows the trading of already issued securities.
- It provides liquidity, enabling investors to buy or sell securities.
- It includes stock exchanges where securities are traded among investors.

Difference Between Primary and Secondary Markets

Instruments	Common instruments include equity shares, debentures, preference shares, bonds, and other innovative securities.	Common instruments include treasury bills, trade bills, certificates of deposit (CD), and commercial papers (CP).
Investment Outlay	Requires relatively low investment, as securities are generally valued between ₹10 to ₹100.	Requires a larger investment as money market instruments are costlier.
Liquidity	Securities are liquid due to stock exchanges but are less liquid than money market instruments.	Offers a higher degree of liquidity.
Safety	More risk involved regarding returns and principal repayment, as issuing companies may default.	Comparatively safer due to short duration and strong financial backing of issuers.
Expected Return	Higher returns due to potential capital gains and regular dividends/interest.	Lower returns due to the short duration of investment.
Type of Capital	Used by companies to raise fixed capital.	Used by companies to meet working capital needs.

Stock Exchange

A stock exchange is an organization or an association of individuals, whether incorporated or not, established to assist, regulate, and control the buying, selling, and trading of securities.

Functions of Stock Exchange (Secondary Market)

- Economic Barometer:**
 - ✓ The stock exchange reflects the economic condition of a country.
 - ✓ Changes in share prices indicate economic cycles such as **boom** and **recession**.
 - ✓ It acts as an economic mirror or pulse of the economy.
- Pricing of Securities:**
 - ✓ Helps in determining the value of securities based on demand and supply.
 - ✓ Securities of profitable and growth-oriented companies have higher valuations.
 - ✓ This valuation assists investors, government, and creditors in financial decision-making.
- Safety of Transactions:**
 - ✓ Only listed securities are traded, ensuring regulatory compliance.
 - ✓ Companies must meet strict guidelines to be listed, ensuring investor protection.
- Contribution to Economic Growth:**
 - ✓ Facilitates the buying and selling of securities, enabling reinvestment into productive ventures.
 - ✓ Promotes capital formation and economic development.
- Spreading Equity Culture:**
 - ✓ Encourages public participation in stock investments.
 - ✓ Regulates new issues and promotes better trading practices.
 - ✓ Educates investors about the benefits and risks of investing in securities.
- Providing Scope for Speculation:**
 - ✓ Permits controlled speculation to maintain liquidity and market stability.
- Liquidity:**
 - ✓ Provides a ready market for securities, ensuring investors can convert their investments into cash when needed.
 - ✓ Encourages long-term investments by offering the option to convert them into short or medium-term investments.

Companies that generate profits often have their shares traded at higher prices and experience active market participation. This

enables them to raise fresh capital with ease. Conversely, investors are reluctant to invest in loss-making companies. The stock exchange thus plays a crucial role in directing investors' funds toward profitable businesses.

Encouraging Savings and Investment

The stock market provides lucrative investment opportunities in various securities, which encourages individuals to save more and invest in corporate securities rather than non-productive assets like gold and silver.

Trading Procedure on a Stock Exchange

1. Selection of a Broker

To trade on a stock exchange, an investor must choose a broker who is a registered member of the exchange, as only members are permitted to trade. Brokers may be individuals, partnership firms, or corporate entities. The investor must furnish essential details before placing an order, including:

- PAN number (mandatory)
- Date of birth and address
- Educational qualification and occupation
- Residential status (Indian/NRI)
- Bank account details
- Depository account details
- Details of any other brokers with whom registered
- Client code number in the client registration form

Once these details are provided, the broker opens a trading account in the investor's name.

2. Opening a Demat Account

To hold and transfer securities in electronic form, the investor must open a Demat account with a Depository Participant (DP). Additionally, a bank account is required for cash transactions in the securities market.

3. Placing an Order

After selecting a broker, the investor specifies the type and number of securities to buy or sell. Clear instructions regarding quantity and price must be provided. Upon placing an order, an order confirmation slip is issued to the investor.

4. Executing the Order

The broker logs into the stock exchange platform to match the investor's order with the best available price. Once the trade is executed, the broker provides a trade confirmation slip. Within 24 hours, a contract note is issued, containing transaction details such as:

- Number of shares bought or sold
- Price, date, and time of the transaction
- Brokerage charges

A Unique Order Code number is assigned to each transaction by the stock exchange and is printed on the contract note.

5. Settlement of the Trade

The investor must either deliver the shares sold or pay for the shares bought by the specified deadline. This must be done on or before the pay-in day. Settlements follow a T+2 rolling cycle, meaning that on the second business day after the trade (T+2), the stock exchange transfers shares or payments to the broker. The broker, in turn, ensures payment or share delivery to the investor within 24 hours of the payout day. Shares are credited to the investor’s Demat account.

Dematerialisation of Securities

All stock market transactions are now conducted electronically, eliminating risks such as theft, delays, and excessive paperwork associated with physical share certificates. Dematerialisation (Demat) refers to the process of converting physical securities into electronic form. To do this, an investor must open a Demat account with a registered depository. Presently, most Initial Public Offerings (IPOs) are issued in Demat form, and over 90% of trading turnover is settled electronically.

These important aspects of stock market operations help ensure efficient and secure transactions for investors.

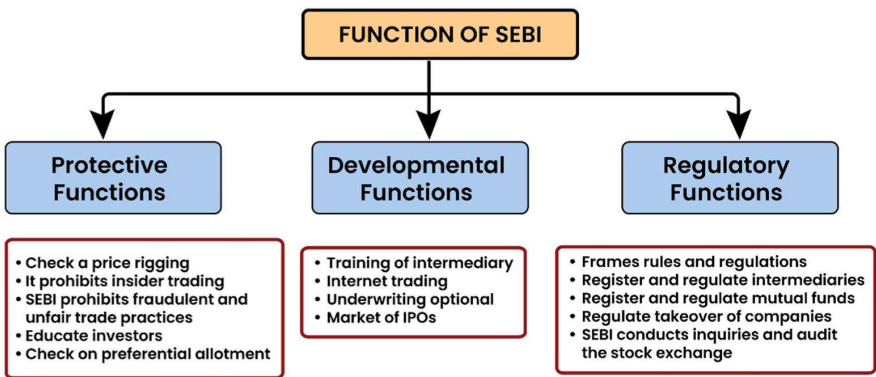
The **Securities and Exchange Board of India (SEBI)** has made it mandatory to trade certain selected securities in **dematerialised (demat) form** only.

Benefits of Dematerialisation

- 1. **Convenience:** Holding shares in demat form is similar to maintaining a bank account. Physical shares can be converted into electronic form and vice versa.
- 2. **Loan Facility:** Demat securities can be pledged or mortgaged to avail loans.
- 3. **Security:** Eliminates risks of loss, theft, or forgery of share certificates.
- 4. **Reduced Paperwork:** Minimises documentation and manual processing.
- 5. **Broker Responsibility:** The broker is accountable for crediting the correct number of shares to the investor's account.
- 6. **Single Account Holding:** Securities of different companies can be managed within a single demat account.

Working of a Demat Account

- 1. **Selecting a Depository Participant (DP):** Investors must choose a DP, which acts as an intermediary between them and the depository. DPs include banks, brokers, or financial institutions.
- 2. **Opening an Account:** Investors must submit an account opening form along with PAN details and photographs.
- 3. **Dematerialisation Request:** Physical share certificates must be submitted to the DP for conversion into electronic form.
- 4. **IPO Application:** If shares are applied through an IPO, providing demat account details ensures automatic credit upon allotment.
- 5. **Selling Shares:** To sell shares, investors must instruct



their DP to debit their demat account.

- 6. **Stock Exchange Transactions:** The broker instructs its DP to deliver shares to the stock exchange.

- 7. **Payment Settlement:** After the broker receives payment, it is credited to the investor. The entire transaction follows a **T+2 settlement cycle** since April 2003.

Demutualisation

Initially, stock exchanges were owned and managed by brokers, leading to conflicts of interest. **Demutualisation** was introduced to separate ownership and control of stock exchanges from trading rights. This reform reduced the chances of brokers manipulating the system for personal gain.

Constituents of the Depository System

The depository system comprises:

- 1. **The Depository**
- 2. **Depository Participants (DPs)**

The Depository

A **depository** functions like a bank, allowing investors to deposit and withdraw securities. Its key features include:

- Holding securities like shares and debentures in electronic form.
- Operating through **Depository Participants (DPs)**, which interact directly with investors.
- Offering services only after obtaining a SEBI registration certificate.
- Enabling the opening of **demat accounts**.
- Facilitating **electronic transfer of securities and settlements**.
- Hypothecating dematerialised securities for bank loans.
- Issuing **bonus shares electronically**.
- Providing **nomination facilities** for demat accounts.

Depository Participants (DPs)

A **DP** is an intermediary between investors and the depository. Investors interact only with DPs for all share transactions in electronic form. As per SEBI regulations, **banks, brokers, and financial institutions** can become DPs upon SEBI registration. All buying and selling of shares in the **depository system** occur through DPs.

Securities and Exchange Board of India (SEBI)

The **Securities and Exchange Board of India (SEBI)** was established on **12th April 1988** as an interim body to regulate and promote the securities market while ensuring investor protection. It functions under the **Ministry of Finance, Government of India**. SEBI was granted statutory powers through the **Securities and Exchange Board of India Act, 1992**, enacted on **30th January 1992**. Its headquarters is located in **Mumbai**.

Objectives of SEBI

- 1. **Investor Protection:** Safeguard the rights and interests of investors, especially individuals, by providing guidance and education.
- 2. **Prevention of Malpractices:** Curb unethical practices such as price rigging, insider trading, and misleading statements in prospectuses.
- 3. **Regulation of Stock Exchanges:** Ensure smooth and orderly functioning of stock exchanges and securities markets.
- 4. **Code of Conduct for Intermediaries:** Establish and regulate fair practices for brokers, merchant bankers, and other market intermediaries.
- 5. **Facilitation of Fundraising:** Provide a transparent, efficient, and fair marketplace for companies to raise capital.

Functions of SEBI

1. Regulatory Functions

- Registers brokers, sub-brokers, mutual funds, and other market participants.

- Regulates stock brokers, underwriters, and merchant bankers.
- Monitors and controls takeovers and acquisitions of companies.
- Imposes fees and charges to implement SEBI regulations.
- Conducts inspections, audits, and inquiries into stock exchanges and market intermediaries.
- Exercises powers under the **Securities Contract Regulation Act, 1956** as per government directives.

2. Protective Functions

- Prohibits fraudulent and unfair trade practices like price manipulation and false prospectus claims.

- Prevents **insider trading**—restricting company insiders (directors, promoters) from unfairly profiting using confidential information.
- Implements investor protection measures.
- Promotes ethical practices and adherence to market regulations.

3. Development Functions

- Provides training for market intermediaries.
- Conducts research and publishes relevant market information.
- Adopts a flexible approach to develop and modernize capital markets.

MCQs for Practice

- What is the primary function of financial markets?
 - To create inflation
 - To facilitate the movement of funds between lenders and borrowers
 - To control foreign exchange rates
 - To manage government policies
- Which of the following is NOT a function of financial markets?
 - Mobilization of savings
 - Facilitating price discovery
 - Controlling the government budget
 - Providing liquidity
- The financial market that deals with short-term financial instruments is called:
 - Capital Market
 - Money Market
 - Stock Market
 - Derivatives Market
- Which of the following is NOT an instrument of the money market?
 - Treasury Bills
 - Commercial Papers
 - Equity Shares
 - Certificate of Deposits
- What is the maturity period of Treasury Bills?
 - 1 to 5 years
 - 1 to 15 days
 - 14 to 364 days
 - More than 5 years
- The capital market provides funds for:
 - Short-term needs
 - Government welfare programs
 - Medium and long-term investments
 - Only real estate investments
- The market where companies issue new securities for the first time is called:
 - Secondary Market
 - Money Market
 - Derivatives Market
 - Primary Market
- Which of the following is a feature of the secondary market?
 - Buying and selling of new securities
 - Helps companies raise capital
 - Facilitates trading of existing securities
 - Deals only in government bonds
- The method where companies sell securities directly to select investors is called:
 - Public Issue
 - Offer for Sale
 - Private Placement
 - Rights Issue
- What is the primary purpose of the money market?
 - To provide long-term financing
 - To facilitate international trade
 - To manage short-term liquidity needs
 - To regulate interest rates
- Which financial instrument is used for interbank borrowing in the money market?
 - Bonds
 - Call Money
 - Shares
 - Debentures
- Which institution primarily regulates financial markets in India?
 - RBI
 - SEBI
 - Ministry of Finance
 - NITI Aayog
- In the stock market, the process of determining asset prices based on demand and supply is called:
 - Market Regulation
 - Price Discovery
 - Liquidity Management
 - Arbitrage
- Which of the following is NOT a method of floatation in the primary market?
 - Rights Issue
 - Offer for Sale
 - Public Issue
 - Trading of old shares
- The key characteristic of the money market is:
 - High risk and low liquidity
 - Short-term maturity and high liquidity
 - Long-term financing and low returns
 - Fixed geographical location
- The stock market where securities are traded after being issued in the primary market is called:
 - Primary Market
 - Money Market
 - Secondary Market
 - Debt Market
- Which of the following is a difference between the capital market and the money market?
 - The money market deals with short-term funds, while the capital market deals with long-term funds
 - The capital market is more liquid than the money market
 - The money market has higher risks than the capital market
 - Only governments participate in the capital market

18. Which of these is a key feature of commercial paper?
 - A) It is issued by the government
 - B) It is a long-term debt instrument
 - C) It is an unsecured promissory note issued by large firms
 - D) It has no maturity period
19. Which method allows existing shareholders to buy additional shares at a lower price?
 - A) Initial Public Offering (IPO)
 - B) Rights Issue
 - C) Private Placement
 - D) Offer for Sale
20. The electronic process of issuing shares through stock exchanges is known as:
 - A) Public Issue
 - B) Private Placement
 - C) e-IPO
 - D) Offer for Sale
21. What is the primary function of a stock exchange?
 - a) To regulate mutual funds
 - b) To facilitate the buying and selling of securities
 - c) To provide loans to investors
 - d) To control inflation
22. Which of the following best describes the stock exchange as an economic barometer?
 - a) It determines a country's tax policies
 - b) It reflects the economic condition of a country
 - c) It regulates company profits
 - d) It sets GDP growth rates
23. The price of securities on a stock exchange is determined by:
 - a) Government regulations
 - b) Demand and supply
 - c) Company advertisements
 - d) Fixed pricing by SEBI
24. What ensures safety in stock exchange transactions?
 - a) Trading of only listed securities
 - b) Government intervention in trades
 - c) Fixed share prices
 - d) Free and unregulated trade
25. Which of the following is NOT a function of a stock exchange?
 - a) Spreading equity culture
 - b) Controlling bank interest rates
 - c) Providing liquidity to securities
 - d) Encouraging savings and investments
26. What is the primary benefit of a stock exchange for economic growth?
 - a) It provides employment to stockbrokers
 - b) It facilitates reinvestment in productive ventures
 - c) It increases government taxation
 - d) It controls inflation
27. What is the first step in trading on a stock exchange?
 - a) Opening a Demat account
 - b) Selecting a broker
 - c) Placing an order
 - d) Settlement of trade
28. Why is a Demat account necessary for stock trading?
 - a) To receive dividends directly in cash
 - b) To hold and transfer securities in electronic form
 - c) To borrow money from the stock exchange
 - d) To get free stock market tips
29. What document is issued by a broker after executing a trade?
 - a) Contract note
 - b) Share certificate
 - c) Loan agreement
 - d) Demand draft
30. The settlement of a stock market transaction follows a:
 - a) T+2 rolling cycle
 - b) T+5 rolling cycle
 - c) Weekly settlement
 - d) Monthly settlement
31. Which organization regulates the Indian stock market?
 - a) RBI
 - b) SEBI
 - c) Ministry of Finance
 - d) World Bank
32. What is dematerialization in stock trading?
 - a) Converting electronic shares into physical certificates
 - b) Converting physical securities into electronic form
 - c) Buying and selling shares for speculation
 - d) Depositing shares in a mutual fund
33. Which of the following is a key benefit of dematerialization?
 - a) Increased paperwork
 - b) Higher transaction costs
 - c) Security from loss and forgery
 - d) Reduced brokerage fees
34. What does SEBI aim to prevent in the stock market?
 - a) Insider trading and price manipulation
 - b) Investments in government securities
 - c) Buying and selling of shares
 - d) Companies from issuing dividends
35. What does "liquidity" in the stock market mean?
 - a) The ability to convert securities into cash easily
 - b) Government control over investments
 - c) Fixed interest rates on securities
 - d) The ability of a company to pay dividends
36. Which of the following is a protective function of SEBI?
 - a) Preventing unfair trade practices
 - b) Controlling inflation
 - c) Fixing stock prices
 - d) Regulating government bonds
37. What does demutualization of stock exchanges refer to?
 - a) Separating ownership from trading rights
 - b) Merging different stock exchanges
 - c) Eliminating stock exchanges
 - d) Government ownership of stock exchanges
38. Who is responsible for the proper crediting of shares to an investor's Demat account?
 - a) SEBI
 - b) The broker
 - c) The stock exchange
 - d) The government
39. Which document must an investor provide to open a trading account?
 - a) Birth certificate
 - b) PAN card
 - c) Insurance policy
 - d) Bank statement only
40. The headquarters of SEBI is located in:
 - a) New Delhi
 - b) Chennai
 - c) Mumbai
 - d) Kolkata

Answer Key

1. B

2. C

3. B

4. C

5. C

6. C

7. D

8. C

9. C

10. C

11. B

12. B

13. B

14. D

15. B

16. C

17. A

18. C

19. B

20. C

21. B

22. B

23. B

24. A

25. B

26. B

27. B

28. B

29. A

30. A

31. B

32. B

33. A

34. A

35. A

36. A

37. A

38. B

39. B

40. C

CHAPTER 7:

CONSUMER PROTECTION

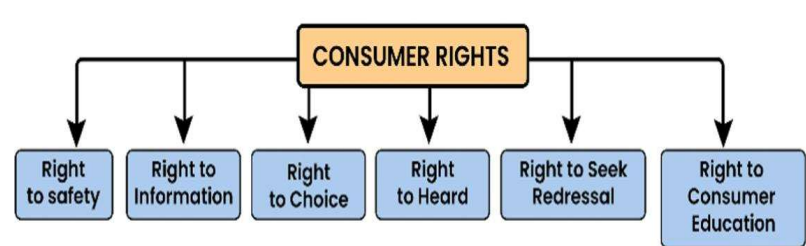
Who is a Consumer?

A consumer is an individual who purchases goods or avails services for personal use.



What is Consumer Protection?

Consumer protection refers to safeguarding consumers from unfair trade practices by manufacturers and sellers. It ensures that businesses prioritize consumer interests and provide quality products and services.



Need for Consumer Protection

Some businesses engage in unfair practices like adulteration, selling substandard products, and misleading advertisements. Consumer protection is essential to prevent such exploitation and safeguard consumer rights.

Importance of Consumer Protection

(A) From the Consumer’s Perspective

1. **Consumer Ignorance:** Many consumers are unaware of their rights, making them vulnerable to exploitation.

2. **Unorganized Consumers:** Consumers in India are often unorganized, lacking strong associations to protect their interests.

3. **Widespread Exploitation:** Unfair trade practices, such as false advertising and adulteration, necessitate consumer protection.

(B) From the Business Perspective

1. **Long-term Business Growth:** Satisfied customers lead to repeat purchases and business growth.

2. **Social Responsibility:** Businesses use society’s resources and must contribute positively to society.

3. **Moral Obligation:** Ethical business practices build trust and goodwill.

4. **Legal Compliance:** Avoiding unfair practices prevents legal action and protects the company's reputation.

5. **Consumer-Centric Approach:** Businesses exist to serve consumers, making their satisfaction a priority.

Who Can File a Complaint?

1. Any consumer.

2. A registered consumer association.

3. The Central or State Government.

4. Multiple consumers with a common grievance.

5. A legal heir or representative of a deceased consumer.

Three-Tier Consumer Dispute Redressal System

1. **District Forum:** Handles cases up to ₹1 crore.

2. **State Commission:** Deals with cases between ₹1 crore and ₹10 crores.

3. **National Commission:** Takes cases exceeding ₹10 crores.

Consumer Rights

1. **Right to Safety:** Protection against hazardous products (e.g., ISI-marked electronic items).

2. **Right to be Informed:** Consumers must have complete product information before purchase.

3. **Right to Choose:** Freedom to select from various available products.

4. **Right to be Heard:** The right to voice grievances through consumer forums.

5. **Right to Seek Redressal:** Compensation or replacement in case of defective products or services.

6. **Right to Consumer Education:** Awareness of consumer rights through initiatives like *Jago Grahak Jago*.

Consumer Responsibilities

1. **Exercise Rights:** Be aware and utilize consumer rights effectively.

2. **Be Informed:** Check product details before purchasing.

3. **Ensure Quality:** Buy products with certification marks like ISI, Agmark, Hallmark, etc.

4. **Beware of False Advertisements:** Do not believe misleading advertisements blindly.

5. **Insist on a Cash Memo:** Proof of purchase is essential for lodging complaints.

- 6. **Market Awareness:** Understand available products to make informed decisions.
- 7. **File Complaints:** Report unfair practices to consumer forums.
- 8. **Encourage Ethical Business Practices:** Avoid supporting black marketing and hoarding.
- 9. **Support Consumer Organizations:** Join associations to safeguard consumer rights.
- 10. **Environmental Responsibility:** Reduce waste and avoid harmful practices.

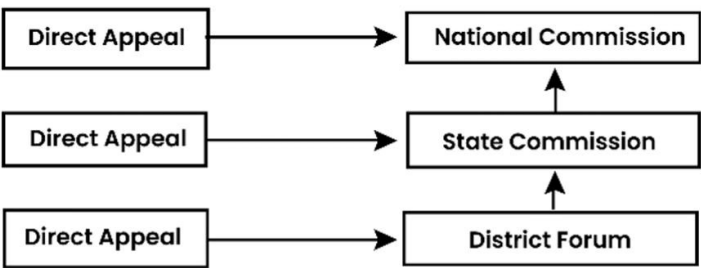
Relief Available to Consumers

- 1. Removal of product defects.
- 2. Replacement of defective goods.
- 3. Refund of purchase price.
- 4. Compensation for loss or injury.
- 5. Discontinuation of unfair trade practices.
- 6. Stopping the sale of hazardous goods.

Consumer Protection Act, 2019

Who Can File a Complaint?

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- 3. The Central or State Government.
- 4. Multiple consumers with a common interest.
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Consumer Redressal Agencies

- 1. **District Forum:**
 - ✓ Handles cases up to ₹1 crore.
 - ✓ Comprises a President and two members (including one woman).
 - ✓ Can order refunds, replacements, or compensation.
 - ✓ Appeals can be filed in the State Commission within 30 days.
- 2. **State Commission:**
 - ✓ Deals with cases between ₹1 crore and ₹10 crores.
 - ✓ Includes a President and at least two members.
 - ✓ Can order refunds, replacements, or compensation.
 - ✓ Appeals can be made to the National Commission within 30 days.

- 3. **National Commission:**
 - ✓ Handles cases above ₹10 crores.
 - ✓ Comprises a President and at least four members.
 - ✓ Can order refunds, replacements, or compensation.
 - ✓ Appeals can be made to the Supreme Court within 30 days.

Quality Certification Marks

S.No	Certification Mark	Image
1	ISI Mark: Electrical and durable consumer goods.	
2	Agmark: Agricultural products.	
3	Hallmark (BIS MARK): Gold and silver jewelry.	
4	Woolmark: 100% pure wool products.	
5	Eco Mark: Environment-friendly products.	

Role of Consumer Organizations

- 1. Publishing informative brochures and journals.
- 2. Creating consumer awareness.
- 3. Collecting data on product quality.
- 4. Filing complaints on behalf of consumers.
- 5. Educating consumers about their rights.
- 6. Promoting consumerism, especially among women.

MCQs For Practice

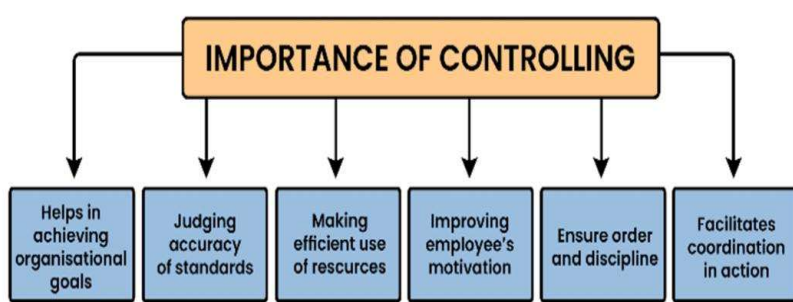
- 1. What does consumer protection primarily aim to prevent?
 - a) Increasing business profits
 - b) Government regulations on businesses
 - c) Exploitation of consumers by unfair trade practices
 - d) Increase in product prices
- 2. The Right to Seek Redressal allows consumers to:
 - a) File complaints for defective goods and services
 - b) Ignore defective products
 - c) Accept any product without checking quality
 - d) Support unethical business practices
- 3. Which of the following is NOT an unfair trade practice?
 - a) False advertising
 - b) Selling adulterated products
 - c) Providing genuine discounts
 - d) Hoarding essential goods
- 4. Why is consumer protection important from the consumer’s point of view?
 - a) Consumers are always aware of their rights
 - b) Consumers are often unorganized and unaware of their rights

- c) Consumers want to support businesses
- d) Consumers do not need protection
5. How does consumer protection benefit businesses?
 - a) It reduces business profits
 - b) It helps businesses maintain long-term customer relationships
 - c) It allows businesses to engage in unfair practices
 - d) It forces businesses to increase prices
6. Which of the following is a consumer right?
 - a) Right to business expansion
 - b) Right to safety
 - c) Right to produce goods
 - d) Right to earn profits
7. What does the Right to Safety ensure?
 - a) Protection against hazardous products
 - b) Protection against low prices
 - c) Protection against competition
 - d) Protection against taxation
8. The Right to Choose ensures that consumers can:
 - a) Buy only from government stores
 - b) Choose from a variety of products at fair prices
 - c) Be forced to buy certain brands
 - d) Get free products from businesses
9. Which initiative promotes consumer awareness in India?
 - a) Digital India
 - b) Make in India
 - c) Jago Grahak Jago
 - d) Startup India
10. What is the first level of consumer redressal agency?
 - a) State Commission
 - b) National Commission
 - c) District Forum
 - d) Supreme Court
11. Which consumer forum handles cases up to ₹1 crore?
 - a) State Commission
 - b) National Commission
 - c) District Forum
 - d) Consumer Court
12. Which agency handles consumer complaints above ₹10 crores?
 - a) District Forum
 - b) State Commission
 - c) National Commission
 - d) Supreme Court
13. How many members are there in a District Forum?
 - a) 2
 - b) 3 (including one woman)
 - c) 4
 - d) 5
14. Which quality mark certifies gold and silver jewelry?
 - a) ISI
 - b) Agmark
 - c) Hallmark
 - d) Woolmark
15. What does the ISI mark certify?
 - a) Agricultural products
 - b) Electronic and consumer durable products
 - c) Jewelry items
 - d) Pharmaceuticals
16. Which of the following is a consumer responsibility?
 - a) Supporting black marketing
 - b) Ignoring product information
 - c) Buying standard quality products
 - d) Trusting misleading advertisements
17. Where can a consumer appeal if dissatisfied with a State Commission order?
 - a) District Forum
 - b) National Commission
 - c) Consumer Court
 - d) High Court
18. What is the time limit to appeal a National Commission order in the Supreme Court?
 - a) 7 days
 - b) 15 days
 - c) 30 days
 - d) 60 days
19. Who can file a consumer complaint under the Consumer Protection Act, 2019?
 - a) Only an individual consumer
 - b) Only the government
 - c) Consumer associations, governments, and legal heirs
 - d) Only business organizations
20. Which of the following is NOT a consumer relief available under the Consumer Protection Act?
 - a) Removal of product defects
 - b) Refund of purchase price
 - c) Compensation for losses
 - d) Business profit-sharing
21. Which certification mark ensures environmentally friendly products?
 - a) Hallmark
 - b) Eco Mark
 - c) Woolmark
 - d) FPO
22. The Right to be Informed means consumers must:
 - a) Be provided with product details before purchase
 - b) Be forced to buy expensive products
 - c) Only buy from large businesses
 - d) Trust advertisements without verification

Answer Key

- | | | |
|------|-------|-------|
| 1. C | 9. C | 17. B |
| 2. A | 10. C | 18. C |
| 3. C | 11. C | 19. C |
| 4. B | 12. C | 20. D |
| 5. B | 13. B | 21. B |
| 6. B | 14. C | 22. A |
| 7. A | 15. B | |
| 8. B | 16. C | |

CHAPTER 8: CONTROLLING

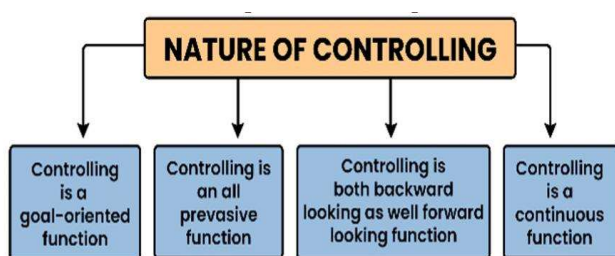


Controlling

Controlling refers to the process of comparing actual performance with planned performance to ensure that organizational goals are achieved. According to Ricky W. Griffin,

"The controlling function leads to goal achievement; an organization without effective control is unlikely to reach its goals."

Features/Nature of Controlling



1. **Goal-Oriented Function** – Controlling ensures that resources are utilized efficiently to accomplish organizational objectives.
2. **Pervasive Function** – It is applicable at all levels of management across all types of organizations, though its extent may vary depending on the managerial level.
3. **Continuous Process** – Controlling is an ongoing function that operates throughout the organization's lifetime. It not only monitors current activities but also aids in future planning by analyzing past performance.
4. **Backward & Forward-Looking Function** – Controlling reviews past activities to identify deviations from standards while also taking corrective actions to improve future performance.

Importance of Controlling

1. **Achievement of Organizational Goals** – Controlling ensures that plans are effectively executed, minimizing errors and ensuring targets are met.
2. **Accuracy of Standards** – It helps in evaluating and revising performance standards based on organizational changes.
3. **Efficient Use of Resources** – Ensures optimal utilization of resources while maintaining quality, quantity, and cost-effectiveness.
4. **Employee Motivation** – By setting clear performance standards, employees are motivated to achieve better results.
5. **Ensures Order & Discipline** – Controlling minimizes undesirable practices such as fraud, theft, and corruption by keeping a constant check on activities.
6. **Facilitates Coordination** – Performance standards are aligned across departments, promoting better coordination.

Relationship Between Planning and Controlling

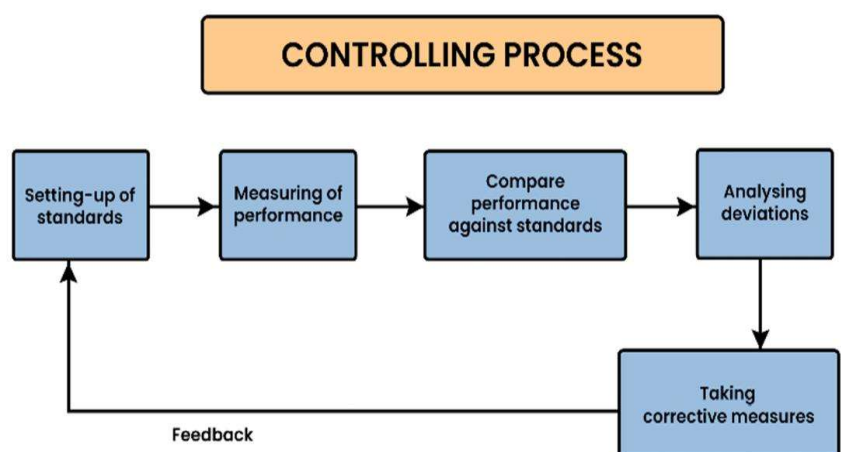
1. **Controlling is Aimless Without Planning** – Planning sets the standards for performance, which controlling

then monitors. Without a plan, controlling has no reference point.

2. **Planning is Meaningless Without Controlling** – Controlling ensures that plans are properly executed by identifying deviations and taking corrective actions.
3. **Both are Forward-Looking** – Planning involves forecasting future conditions, while controlling ensures deviations are corrected to improve future performance.
4. **Both are Backward-Looking** – Planning is guided by past experiences, and controlling compares actual performance with set standards to analyze past activities.

Controlling Process

1. **Setting Performance Standards** – Defining measurable targets in qualitative or quantitative terms that serve as benchmarks for evaluation.
2. **Measuring Actual Performance** – Evaluating actual work through techniques like personal observation, sample checking, and performance reports.
3. **Comparing Performance with Standards** – Identifying deviations by comparing actual results with planned targets. If actual performance aligns with standards, no corrective action is needed.



4. **Analyzing Deviations** – Determining the causes of deviations and their impact. Key techniques include:
 - ✓ **Critical Point Control** – Focus on key result areas (KRAs) that significantly affect organizational success.
 - ✓ **Management by Exception** – Managers focus only on major deviations, ignoring minor variations within the permissible range.

Advantages of Critical Point Control & Management by Exception:

- Saves managerial time by focusing on significant deviations.
 - Enhances efficient use of managerial skills.
 - Encourages delegation of authority, allowing subordinates to handle routine issues.
 - Helps in early identification of critical problems for timely intervention.
5. **Taking Corrective Measures** – When deviations exceed permissible limits, corrective actions are taken. If necessary, performance standards are revised.
 6. **Feedback in Controlling** – A feedback report is prepared after corrective actions, listing reasons for deviations and suggesting improvements. This report serves as the foundation for future planning and controlling cycles.

MCQs For Practice

1. What is the primary purpose of controlling in management?
 - a) Setting organizational goals
 - b) Comparing actual performance with planned performance
 - c) Hiring employees
 - d) Allocating financial resources
2. According to Ricky W. Griffin, controlling helps in:
 - a) Planning new strategies
 - b) Goal achievement
 - c) Increasing production
 - d) Reducing employee workload
3. Which of the following is NOT a characteristic of controlling?
 - a) Goal-oriented function
 - b) One-time process
 - c) Pervasive function
 - d) Continuous process
4. Controlling is considered a forward-looking function because:
 - a) It only focuses on past performance
 - b) It sets new goals
 - c) It takes corrective actions for future improvement
 - d) It is not related to planning
5. How does controlling contribute to efficient resource utilization?
 - a) By increasing financial investment
 - b) By reducing the workforce
 - c) By ensuring tasks are performed according to set standards
 - d) By eliminating management levels
6. Which function of management does controlling most closely relate to?
 - a) Planning
 - b) Organizing
 - c) Staffing
 - d) Directing
7. What is the first step in the controlling process?
 - a) Taking corrective actions
 - b) Measuring actual performance
 - c) Setting performance standards
 - d) Analyzing deviations
8. Why is controlling necessary in an organization?
 - a) To increase employee workload
 - b) To ensure that organizational activities align with goals
 - c) To increase the number of management levels
 - d) To eliminate planning
9. Which of the following is NOT a benefit of controlling?
 - a) Maintaining order and discipline
 - b) Improving employee motivation
 - c) Reducing financial investment
 - d) Facilitating coordination
10. The function of controlling is applicable at which levels of management?
 - a) Only top-level management
 - b) Only middle-level management
 - c) Only lower-level management
 - d) All levels of management
11. What is meant by 'Critical Point Control' in controlling?
 - a) Focusing on key result areas that are crucial for success
 - b) Controlling every activity in the organization
 - c) Managing employees strictly
 - d) Ignoring all deviations
12. 'Management by Exception' suggests that managers should:
 - a) Focus only on significant deviations
 - b) Control every small detail of work
 - c) Set unrealistic performance standards
 - d) Eliminate performance measurement
13. What is the final step in the controlling process?
 - a) Measuring performance
 - b) Taking corrective measures
 - c) Setting standards
 - d) Hiring new employees
14. Which of the following best describes the relationship between planning and controlling?
 - a) Controlling replaces planning
 - b) Planning and controlling are independent of each other
 - c) Controlling follows planning and ensures implementation
 - d) Controlling and planning are unrelated processes
15. Controlling is considered a backward-looking function because:
 - a) It only focuses on future plans
 - b) It compares past performance with standards
 - c) It ignores past mistakes
 - d) It eliminates planning
16. What happens if actual performance matches the standards in the controlling process?
 - a) No corrective action is required
 - b) The entire process is repeated
 - c) Standards are revised immediately
 - d) The controlling process stops permanently
17. Which of the following is a key function of controlling in employee motivation?
 - a) Setting unrealistic goals
 - b) Providing clear performance expectations
 - c) Reducing employee workload
 - d) Ignoring employee performance
18. What is the main objective of analyzing deviations in the controlling process?
 - a) To identify problems and take corrective actions
 - b) To punish employees
 - c) To increase production forcefully
 - d) To remove performance standards
19. Which of the following is a tool for measuring actual performance in controlling?
 - a) Performance reports
 - b) Employee personal opinions
 - c) Random guesses
 - d) Predictions without data
20. How does controlling help in better planning?
 - a) By ignoring past mistakes
 - b) By revising standards based on past performance
 - c) By setting new goals without evaluation
 - d) By eliminating managerial roles

Answer Key

- | | | |
|------|------|-------|
| 1. B | 5. C | 9. C |
| 2. B | 6. A | 10. D |
| 3. B | 7. C | 11. A |
| 4. C | 8. B | 12. A |

13. B

14. C

15. B
16. A

17. B

18. A
19. A

20. B

CHAPTER 9:

DIRECTING

Directing Function of Management

Directing is a crucial function of management that involves instructing, guiding, inspiring, and motivating employees to ensure their efforts contribute to achieving organizational goals. According to Ernest Dale, *"Directing is telling people what to do and ensuring that they do it to the best of their ability."*

Characteristics of Directing

1. **Initiates Action:** Directing is the most vital function of management, as it initiates action in an organization. While planning, organizing, staffing, and controlling set the foundation, directing ensures the implementation of these plans.

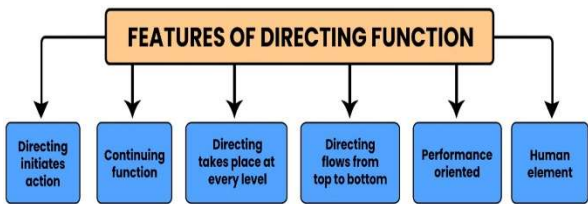
2. **Continuous Process:** Directing is not a one-time task but an ongoing process. Managers must consistently guide, supervise, and motivate employees to ensure tasks are performed correctly and efficiently.

3. **Applicable at All Levels:** Directing is a universal function performed at all organizational levels. However, it is more prominent at the supervisory level, where managers directly interact with employees.

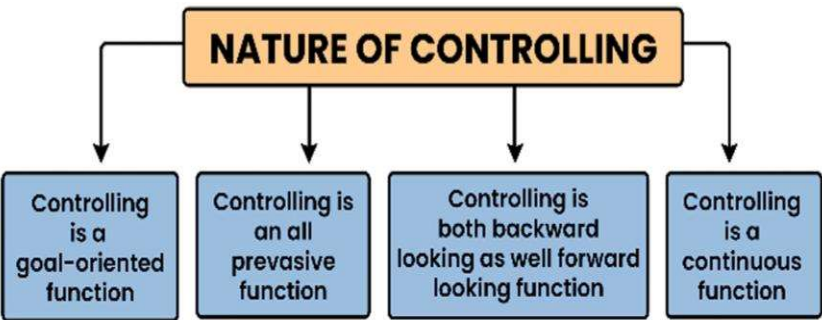
4. **Flows from Top to Bottom:** Directing follows a hierarchical structure, starting from top management and cascading down to lower levels. Managers receive directives from superiors and pass them on to subordinates.

5. **Performance-Oriented:** The primary goal of directing is to enhance performance. It translates plans into execution and ensures efficiency in achieving organizational objectives.

6. **Human-Centric Function:** Directing involves understanding and shaping human behavior, fostering



interpersonal relationships, and motivating employees to work at their full potential.



Importance of Directing

1. **Initiates Action:** Employees begin working only when they receive instructions and guidance from their superiors. Effective directing aligns their actions with organizational goals.

2. **Integrates Employee Efforts:** Employees work at different levels and in varied roles. Directing ensures coordination, maintaining workflow continuity and organizational harmony.

3. **Acts as a Motivational Tool:** Directing goes beyond giving orders; it also inspires employees to perform at their best. Effective motivation fosters a sense of belonging and commitment.

4. **Ensures Stability and Balance:** Directing helps resolve differences in attitudes among employees and between employees and employers. For instance, salespeople may advocate for price reductions to boost sales, while management prioritizes revenue. Directing helps balance such conflicting interests.

5. **Facilitates Change:** Employees often resist change, but directing helps them adapt by emphasizing its benefits. For example, when an organization adopts new technology, effective guidance reassures employees and



Elements of Directing

Directing consists of four key elements:

Supervision

Supervision involves instructing, guiding, monitoring, and observing employees as they perform their duties. The term 'supervision' is derived from *'super'*, meaning *above*, and *'vision'*, meaning *seeing*, signifying oversight of employees' activities to optimize resource utilization and goal achievement.

Importance of Supervision

1. Builds friendly relationships with workers.

2. Acts as a link between management and employees, conveying ideas and addressing grievances.

3. Promotes unity among employees.

4. Provides instructions and motivation to help employees achieve targets.

5. Offers training to employees, enhancing their efficiency and skills.

6. Encourages employees to utilize their potential and boosts morale.

7. Suggests methods for skill enhancement and professional growth.

Motivation

Motivation refers to the process of stimulating, inspiring, and encouraging employees to perform at their highest potential. It is a psychological concept, meaning it cannot be imposed on employees but must come from within.

Terms Related to Motivation

1. **Motive:** A motive is an internal drive or need that energizes an individual to act toward achieving a goal. It arises from personal needs, creating a sense of restlessness until fulfilled. For example, the need to earn money drives an individual to seek employment.

2. **Motivation:** It is the process of encouraging people to give their best effort to achieve goals.

3. **Motivators:** These are the incentives or techniques used to enhance motivation in an organization. Common

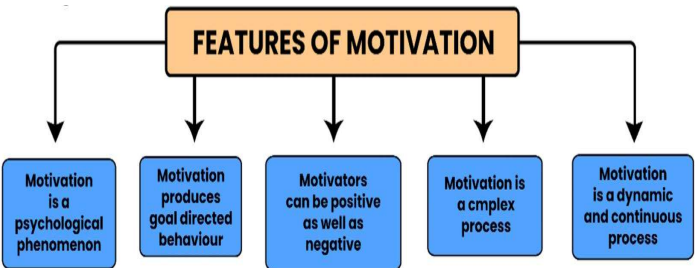
motivators include salary increments, bonuses, promotions, recognition, and respect.

Characteristics of Motivation

- 1. **Psychological Phenomenon:** Motivation is an internal force influenced by desires, aspirations, and needs, which cannot be externally enforced.
- 2. **Goal-Oriented Behavior:** A motivated individual works with focus and does not require constant supervision. For instance, an employee aiming for a salary hike will work more efficiently.
- 3. **Positive and Negative Motivators:** Organizations use both positive (promotion, increment, bonus, recognition) and negative motivators (warnings, demotions, salary cuts) to drive performance.
- 4. **Complex Process:** Since human needs vary, different individuals respond to different motivational techniques, making motivation a challenging task.
- 5. **Dynamic and Continuous:** As human needs evolve, motivation is a continuous process requiring ongoing managerial effort.

Importance of Motivation

- 1. **Enhances Performance:** Motivation bridges the gap between an employee’s capability and willingness to



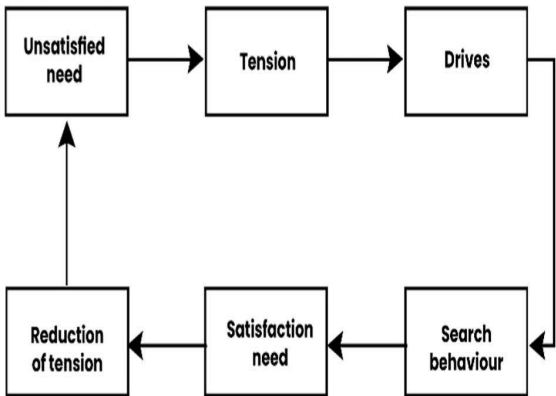
work, improving efficiency.

- 2. **Develops Positive Attitude:** It transforms negative mindsets into positive ones, aligning employees with organizational goals.
- 3. **Reduces Employee Turnover:** Motivated employees are more likely to stay, reducing recruitment and training costs.
- 4. **Facilitates Organizational Change:** Employees become more receptive to changes when they understand their necessity in a competitive environment.
- 5. **Reduces Absenteeism:** By ensuring good working conditions and rewards, motivation helps in reducing absenteeism.

Process of Motivation

- 1. **Unsatisfied Need:** An individual identifies a need that remains unfulfilled.

Process of Motivation



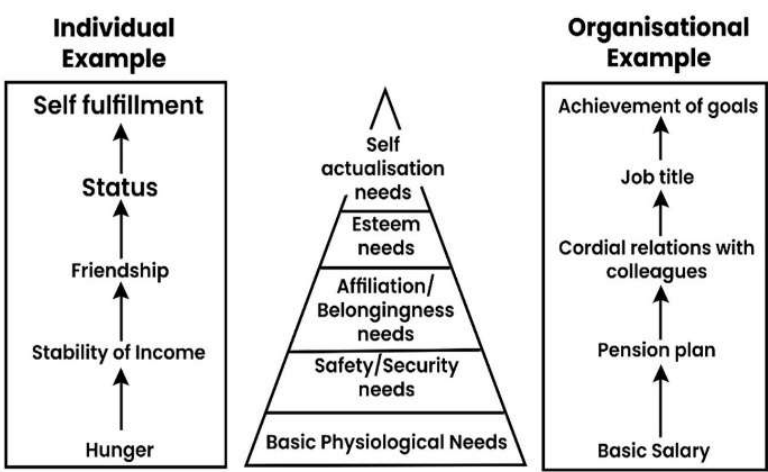
- 2. **Tension:** A sense of discomfort arises due to the unmet need.
- 3. **Drive:** The person takes action to satisfy the need.
- 4. **Search Behavior:** Efforts are made to find ways to fulfill the need.
- 5. **Need Satisfaction:** The individual attains satisfaction upon fulfilling the need.

- 6. **Reduction of Tension:** Once the need is met, the discomfort disappears.

Maslow’s Hierarchy of Needs Theory

Developed by Abraham Maslow in 1943, this theory classifies human needs into five levels, arranged in hierarchical order:

- 1. **Physiological Needs:** Basic survival requirements such as food, water, shelter, and clothing. Organizations fulfill these needs by providing salaries.
- 2. **Safety and Security Needs:** Protection from harm, job security, and financial stability. Organizations address these by offering job security, insurance, and pension plans.
- 3. **Social Needs:** A sense of belonging, love, and relationships. Companies satisfy these through team-building activities and fostering positive work environments.
- 4. **Esteem Needs:** Self-respect, recognition, and achievement. Employees meet these needs through promotions, job titles, and acknowledgment of their work.
- 5. **Self-Actualization Needs:** Personal growth, self-fulfillment, and realizing one’s potential. Organizations encourage this by assigning challenging tasks and providing opportunities for innovation.



Maslow's Need Hierarchy Theory

Assumptions of Maslow’s Theory

- 1. Human behavior is driven by needs.
- 2. Needs follow a hierarchical structure.
- 3. A satisfied need no longer acts as a motivator.
- 4. Higher-level needs emerge only when lower-level needs are fulfilled.

Incentives

Incentives refer to all measures used to motivate individuals to enhance their performance. These incentives can be broadly classified into:

(i) Financial Incentives

Financial incentives are rewards that can be measured in monetary terms. The common types include:

- 1. **Pay and Allowances:** Salary is the primary financial incentive for employees. It includes basic pay, dearness allowance, house rent allowance, etc. Some organizations link pay hikes and allowances to employee performance.
- 2. **Profit Sharing:** Employees receive a share in the company's profits if they exceed a predetermined level. This encourages employees to work harder to increase company profits.
- 3. **Co-Partnership/Stock Option:** Employees are offered company shares at a price lower than the market rate. This fosters a sense of ownership and motivates them to contribute to company growth.
- 4. **Bonus:** A bonus is an additional financial reward given above the salary. It is often paid annually, and its

percentage depends on company profits. Many organizations distribute bonuses during festivals.

- 5. **Productivity-Linked Wage Incentives:** Some firms implement wage incentive plans where rewards are based on individual or group productivity levels.
- 6. **Retirement Benefits:** Employers provide benefits such as provident funds, pensions, and gratuities to ensure financial security after retirement.
- 7. **Perks/Fringe Benefits:** Additional benefits like car allowances, educational support for children, and health benefits are provided to enhance employee satisfaction and motivation.

(ii) Non-Financial Incentives

Non-financial incentives are benefits that cannot be directly measured in monetary terms but still contribute to employee motivation. Common types include:

- 1. **Status:** Employees aspire for higher status, which can be provided through promotions, office facilities, or prestigious job titles.
- 2. **Organizational Climate:** A positive work environment, including autonomy, reward orientation, and a risk-taking culture, impacts employee behavior positively.
- 3. **Career Advancement Opportunities:** Employees are motivated by opportunities for growth through promotions, skill development programs, and a well-structured promotion policy.
- 4. **Job Enrichment:** Redesigning jobs to include variety, autonomy, and responsibility makes work more engaging and fulfilling for employees.
- 5. **Employee Recognition:** Acknowledging and appreciating employee efforts through congratulatory messages, awards, and incentives increases motivation.
- 6. **Job Security:** Employees value stability in their jobs, ensuring long-term financial security and reducing stress related to employment uncertainty.
- 7. **Employee Participation:** Involving employees in decision-making enhances their commitment and encourages them to follow organizational policies sincerely.
- 8. **Employee Empowerment:** Granting employees more autonomy and decision-making power increases their sense of responsibility and motivation.

Types of Leadership Styles

S.No.	Point of Difference	Authoritative Style	Democratic Style	Laissez-Faire Style
1.	Decision-making	Leader makes decisions alone	Leader consults subordinates	Subordinates make decisions
2.	Communication	One-way (downward)	Two-way	Free-flow communication
3.	Motivation Technique	Fear and punishment (Negative)	Reward and involvement (Positive)	Self-direction and self-control
4.	Delegation of Authority	No delegation	Partial delegation	Complete delegation
5.	Role of Leader	Provides direction	Maintains teamwork	Provides support and resources
6.	Discipline	Obedience to orders	Exchange of ideas	Self-discipline

Importance of Leadership

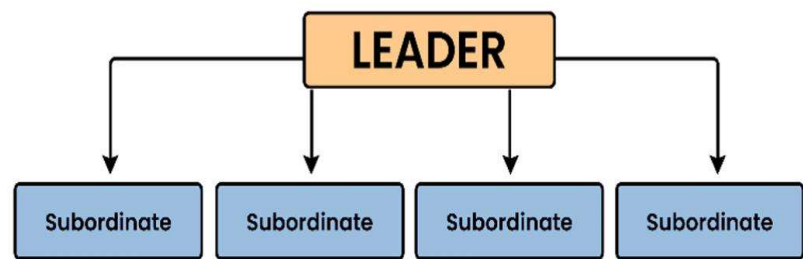
- 1. Inspires and guides employees.
- 2. Secures cooperation within the organization.
- 3. Builds confidence.
- 4. Enhances productivity.
- 5. Improves job satisfaction.
- 6. Strengthens team spirit.

Leadership

Leadership is the process of influencing and guiding people toward the achievement of organizational goals. A leader maintains strong interpersonal relationships and motivates employees to perform efficiently.

Features of Leadership

- Involves the ability to influence others.
- Aims to change behaviors positively.
- Establishes interpersonal relationships between leaders and followers.
- Focuses on achieving common objectives.
- Is a continuous and dynamic process.

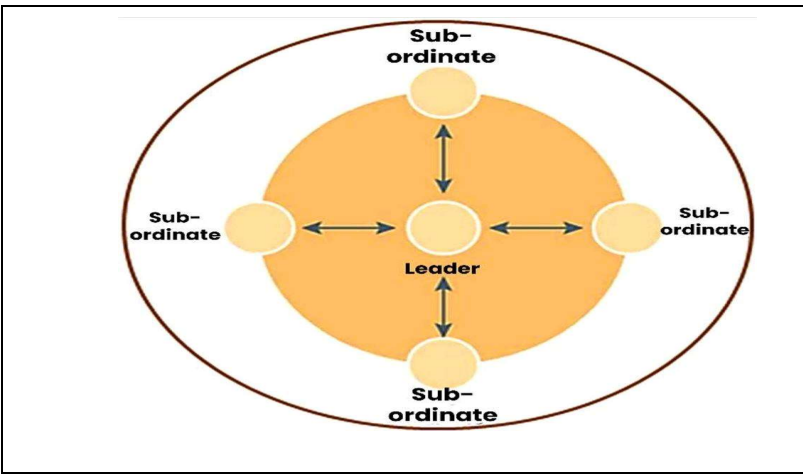


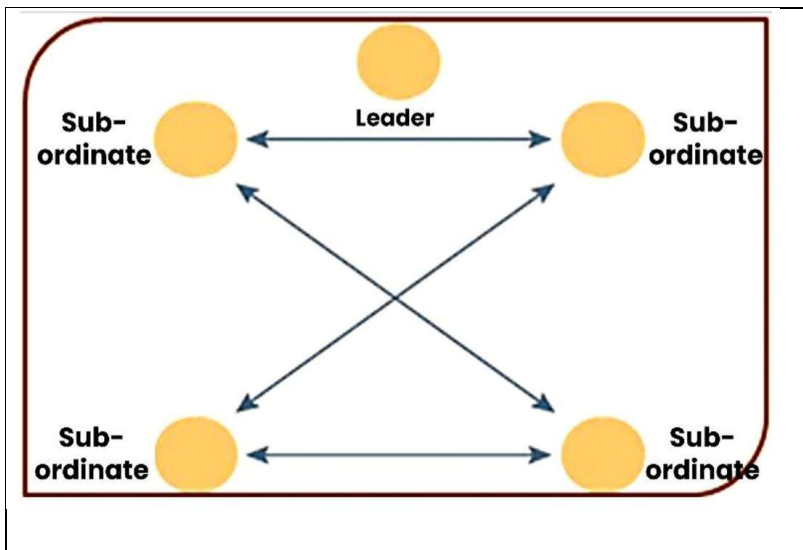
Leadership Styles

Leadership style refers to the behavior and approach a leader adopts while managing subordinates. It depends on factors such as personality, experience, value system, type of subordinates, and organizational environment.

Different Styles of Leadership

- 1. **Autocratic (Authoritative) Leadership:** The leader exercises complete control, issues orders without consulting subordinates, and expects unquestioning obedience. This style relies on rewards and punishments to ensure compliance.
- 2. **Democratic (Participative) Leadership:** The leader involves subordinates in decision-making, considers their opinions, and encourages participation. This approach fosters teamwork and better decision implementation.
- 3. **Free-Rein (Laissez-Faire) Leadership:** The leader provides maximum freedom to subordinates, allowing them to make their own decisions and work independently. The leader acts as a facilitator, offering guidance only when necessary.





Qualities of a Good Leader

1. **Physical Qualities** – Good health, endurance, and a strong presence.
2. **Knowledge** – Adequate expertise and competence.
3. **Integrity** – High moral standards and honesty.
4. **Initiative** – Courage to take the first step.
5. **Communication Skills** – Ability to speak, listen, and counsel effectively.
6. **Motivation Skills** – Understanding and addressing employees' needs.
7. **Self-Confidence** – Strong belief in one's abilities.
8. **Decisiveness** – Ability to make firm decisions.
9. **Social Skills** – Friendliness and approachability.

Communication

Definition: The exchange of ideas, information, or instructions between individuals using different mediums like spoken words, written text, diagrams, and gestures.

Communication Process

1. **Sender** – Initiates the message.
2. **Message** – The content to be communicated.
3. **Encoding** – Converting the message into a suitable form.
4. **Media** – The channel of communication (phone, email, etc.).
5. **Receiver** – The person who gets the message.
6. **Decoding** – Understanding the message.
7. **Feedback** – Response from the receiver.
8. **Noise** – Any disruption in communication (e.g., poor connection, distractions).

Importance of Communication

1. **Coordination** – Aligns various organizational activities.
2. **Smooth Operations** – Essential for business continuity.
3. **Decision-making** – Provides necessary information.
4. **Managerial Efficiency** – Supports managers in daily tasks.
5. **Cooperation** – Strengthens workplace relationships.
6. **Leadership** – Effective leaders require strong communication skills.
7. **Employee Motivation** – Keeps employees engaged and satisfied.

Forms of Organizational Communication

1. Formal Communication

- **Definition:** Official communication within an organization.
- **Types:**
 - ✓ **Downward:** From superior to subordinate (e.g., orders, policies).
 - ✓ **Upward:** From subordinate to superior (e.g., reports, suggestions).
 - ✓ **Horizontal:** Between peers or departments.
- **Common Networks:**

- ✓ **Wheel Pattern:** All communication goes through a central figure.
- ✓ **Single Chain:** Message passes through a hierarchy.
- ✓ **Circular Pattern:** Communication flows among adjacent colleagues.
- ✓ **Free Flow:** No restriction on communication flow.
- ✓ **Inverted 'V' Pattern:** Subordinates communicate with both immediate and higher superiors.

2. Informal Communication (Grapevine)

- **Definition:** Unofficial and casual communication among employees.
- **Types:**
 - ✓ **Gossip:** One person shares information with many.
 - ✓ **Cluster:** Information is shared selectively among trusted individuals.
 - ✓ **Single Strand:** Message passes sequentially from one person to another.
 - ✓ **Probability:** Random sharing of information.

Merits and Demerits of Communication Forms

Merits of Formal Communication:

1. Orderly and structured.
2. Enhances control and accountability.
3. Reliable and authentic.
4. Less distortion of information.

Demerits of Formal Communication:

1. Time-consuming.
2. Rigid and inflexible.
3. Can cause delays due to hierarchy.

Lacks personal touch.

Merits of Informal Communication:

1. Quick transmission of information.
2. Provides immediate feedback.
3. Helps in clarifying official messages.
4. Strengthens relationships.

Demerits of Informal Communication:

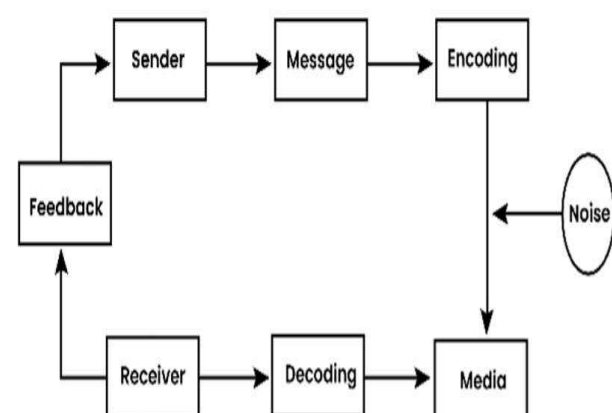
1. Spreads rumors and misinformation.
2. Can disrupt the work environment.
3. May lead to information leakage.
4. Unofficial, so accountability is lacking.

Informal communication

It occurs outside the official chain of command. It involves interactions between individuals and groups that are not officially recognized.

Relations:

Communication Process



- Establishes personal relationships among individuals regardless of their hierarchical levels.
- Unlike formal communication, it is not impersonal but rather fosters close connections.

Nature:

- Flexible and dynamic, varying from person to person.
- Not rigid like formal communication, allowing modifications as needed.

Channel:

- Does not follow a fixed chain of command.
- Operates on the basis of informal relationships within the organization.

Need:

- Serves the needs of individuals working in an organization rather than the organization itself.

Speed:

- Very fast as it bypasses official communication channels.

Fixation of Responsibility:

- Difficult to identify the source of information, making accountability a challenge.

Barriers to Effective Communication

Communication is vital for organizational efficiency. However, various barriers hinder its effectiveness. These barriers include:

(i) Semantic Barriers

- Badly Expressed Message:** Messages should be clear and simple to avoid confusion due to wrong words or omissions.
- Words or Symbols with Different Meanings:** The same word may be interpreted differently by different people. Example: The word "shoot" could mean taking a photo or firing a gun.
- Faulty Translation:** Poor translation from one language to another can lead to miscommunication.
- Unclear Assumptions:** Assumptions should be clearly explained to prevent misinterpretation.
- Technical Jargon:** The use of specialized terminology by professionals can hinder understanding among non-specialists.
- Body Language Mismatch:** Inconsistencies between verbal messages and body language can lead to misunderstandings.

(ii) Psychological Barriers

- Premature Evaluation:** Drawing conclusions before the message is fully conveyed can lead to misunderstandings.

- Lack of Attention:** A distracted receiver may not fully grasp the message.
- Loss Due to Poor Retention:** Information can be lost or distorted when passed through multiple levels.
- Distrust:** Effective communication requires mutual trust between sender and receiver.

(iii) Organisational Barriers

- Organisational Policy:** Policies that restrict free communication can hinder information flow.
- Rules and Regulations:** Rigid procedures can delay communication.
- Status Differences:** Hierarchical differences may discourage open communication.
- Complex Organisational Structure:** Multiple managerial levels can cause delays and distortion in communication.
- Lack of Organisational Facilities:** Absence of communication tools like feedback mechanisms can obstruct effective communication.

(iv) Personal Barriers

- Lack of Confidence in Subordinates:** Superiors who doubt their subordinates may ignore their input.
- Lack of Incentives:** Employees may not be motivated to communicate if there is no reward for doing so.
- Fear of Challenging Authority:** Employees may withhold information to avoid conflict with superiors.
- Unwillingness to Communicate:** Fear of negative consequences can prevent employees from sharing important information.

Improving Effective Communication

- ✓ **Clarify the Idea Before Communication:** Messages should be well-structured and clear.
- ✓ **Communicate According to the Receiver's Needs:** Messages should be adjusted based on the receiver's level of understanding.
- ✓ **Consult Others Before Communicating:** Seeking input before communication ensures effectiveness.
- ✓ **Ensure Proper Feedback:** Encouraging responses enhances the communication process.
- ✓ **Convey Helpful and Valuable Information:** Messages should be relevant and beneficial to the receiver.
- ✓ **Follow-up Communication:** Regular follow-ups ensure successful implementation of messages.
- ✓ **Be a Good Listener:** Effective communication requires active listening from both sender and receiver.
- ✓ **Be Aware of Language and Content:** The choice of words, tone, and message content should be appropriate.
- ✓ **Consistency of Message:** Messages should align with the organization's policies and objectives.

Practice MCQs

- What is the primary function of directing in management?
 - Planning
 - Organizing
 - Initiating action
 - Controlling
- Which of the following is NOT a characteristic of directing?
 - It is a continuous process
 - It is applicable only to top-level management
 - It flows from top to bottom
 - It is performance-oriented
- Who defined directing as "telling people what to do and ensuring that they do it to the best of their ability"?
 - Peter Drucker
 - Henri Fayol
 - Ernest Dale
 - F.W. Taylor
- Directing helps in integrating employee efforts by ensuring:
 - Coordination and harmony

- b) Financial stability
 - c) Strict supervision
 - d) Reduced wages
5. Which of the following is NOT an element of directing?
 - a) Motivation
 - b) Leadership
 - c) Supervision
 - d) Planning
 6. The term 'supervision' is derived from which two words?
 - a) Super and vision
 - b) Super and power
 - c) Superior and vision
 - d) Supervisor and mission
 7. One key importance of supervision is:
 - a) It builds friendly relationships with workers
 - b) It eliminates the need for leadership
 - c) It replaces financial incentives
 - d) It removes employee hierarchy
 8. Supervision acts as a link between:
 - a) Employees and customers
 - b) Employees and employers
 - c) Shareholders and customers
 - d) Management and suppliers
 9. Which of the following is NOT a function of supervision?
 - a) Providing instructions
 - b) Motivating employees
 - c) Conducting financial audits
 - d) Encouraging professional growth
 10. Effective supervision enhances employee:
 - a) Turnover
 - b) Morale
 - c) Resistance to change
 - d) Absenteeism
 11. Motivation is a:
 - a) Psychological process
 - b) Physical process
 - c) Mechanical process
 - d) Administrative process
 12. Which of the following is a positive motivator?
 - a) Salary increment
 - b) Demotion
 - c) Salary cut
 - d) Termination warning
 13. Maslow's hierarchy of needs does NOT include:
 - a) Physiological needs
 - b) Legal needs
 - c) Esteem needs
 - d) Social needs
 14. What is the first step in the process of motivation?
 - a) Drive
 - b) Tension
 - c) Unsatisfied need
 - d) Need satisfaction
 15. Which is an example of a non-financial incentive?
 - a) Bonus
 - b) Promotion
 - c) Overtime pay
 - d) Profit-sharing
 16. Leadership is the process of:
 - a) Influencing and guiding employees
 - b) Enforcing strict policies
 - c) Reducing communication channels
 - d) Controlling salaries
 17. Which leadership style encourages subordinates to participate in decision-making?
 - a) Autocratic
 - b) Democratic
 - c) Laissez-Faire
 - d) Bureaucratic
 18. A free-rein leadership style provides:
 - a) Maximum freedom to employees
 - b) Strict rules for employees
 - c) Close supervision
 - d) Limited job flexibility
 19. Autocratic leadership is also known as:
 - a) Authoritative leadership
 - b) Laissez-faire leadership
 - c) Charismatic leadership
 - d) Transformational leadership
 20. One key quality of a good leader is:
 - a) Integrity
 - b) Strictness
 - c) Fear tactics
 - d) Avoiding decision-making
 21. Communication is the process of:
 - a) Sharing information and ideas
 - b) Restricting information flow
 - c) Avoiding workplace discussions
 - d) Preventing feedback
 22. Which of the following is NOT a type of formal communication?
 - a) Downward
 - b) Upward
 - c) Horizontal
 - d) Grapevine
 23. What is an example of informal communication?
 - a) Official meetings
 - b) Emails from the HR department
 - c) Casual conversations among employees
 - d) Memos from management
 24. Which type of communication network follows a strict chain of command?
 - a) Wheel pattern
 - b) Free flow
 - c) Inverted V
 - d) Circular pattern
 25. One key barrier to effective communication is:
 - a) Clear instructions
 - b) Semantic differences
 - c) Strong leadership
 - d) Employee incentives
 26. A psychological barrier to communication includes:
 - a) Lack of attention
 - b) Poor internet connection
 - c) Complex organizational structure
 - d) Technical jargon
 27. Which of the following is an organizational barrier to communication?
 - a) Poor retention
 - b) Status differences
 - c) Fear of authority
 - d) Distrust
 28. Lack of confidence in subordinates is an example of a:
 - a) Personal barrier
 - b) Semantic barrier
 - c) Technical barrier
 - d) Organizational barrier
 29. Which of the following is a way to improve effective communication?
 - a) Using unclear language
 - b) Avoiding feedback
 - c) Being a good listener
 - d) Ignoring organizational needs

30. What does "encoding" refer to in the communication process?
- a) Translating the message into an understandable form

- b) Blocking the message from being sent
- c) Delivering feedback to the sender
- d) Eliminating the need for communication.

Answer Key:

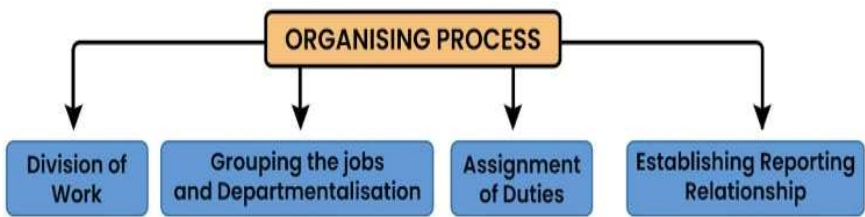
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|-------|-------|-------|
| 1. C | 11. A | 21. A |
| 2. B | 12. A | 22. D |
| 3. C | 13. B | 23. C |
| 4. A | 14. C | 24. A |
| 5. D | 15. B | 25. B |
| 6. A | 16. A | 26. A |
| 7. A | 17. B | 27. B |
| 8. B | 18. A | 28. A |
| 9. C | 19. A | 29. C |
| 10. B | 20. A | 30. A |

CHAPTER 10:
ORGANISING

Coordinating

- Identifying and grouping different activities within an organisation.
- Bringing together physical, financial, and human resources to establish productive relationships.
- Henry Fayol’s Definition:** “To organise a business is to provide it with everything useful to its functioning: raw materials, machines and tools, capital and personnel.”

Process of Organising:

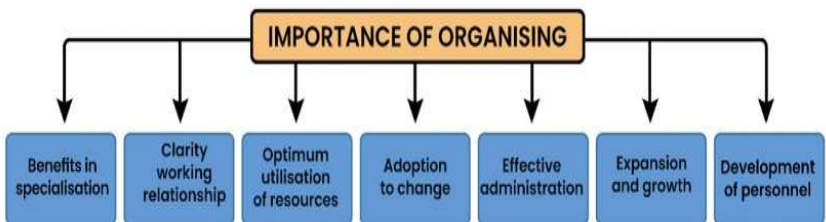


- Identification and Division of Work:**
 - ✓ Work is divided into manageable activities (jobs) to avoid duplication and ensure specialization.
- Departmentalisation:**
 - ✓ Grouping similar and related jobs into departments for better coordination.
 - ✓ **Types of Departmentalisation:**
 - **By Function:** E.g., Finance, Production, Marketing.
 - **By Product:** E.g., Medicine, Textile, Garments.
 - **By Territory:** E.g., East, West, North, South.
- Assignment of Duties:**
 - ✓ Duties assigned to employees based on their skills and expertise.
- Establishing Reporting Relationships:**
 - ✓ Defines authority and responsibility relationships for better coordination.
 - ✓ Establishes a clear hierarchy of command.

Importance of Organising:

- Specialisation:**
 - ✓ Work is divided to reduce workload and improve efficiency.
 - ✓ Employees gain expertise in their assigned tasks.
- Clarity in Working Relationships:**
 - ✓ Clear job descriptions remove ambiguity.
 - ✓ Defines lines of communication and authority.
- Optimum Utilisation of Resources:**

- ✓ Prevents duplication of work and resource



wastage.

- Effective Administration:**
 - ✓ Clearly defined roles lead to smooth execution of tasks.
- Development of Personnel:**
 - ✓ Delegation helps subordinates develop leadership skills.
- Adaptation to Change:**
 - ✓ Helps organisations adjust to market changes.
- Expansion and Growth:**
 - ✓ Organising allows businesses to expand and diversify efficiently.

Organisation Structure:

- “Network of job positions, responsibilities, and authority at different levels.”
- Key Elements:**
 - Job Design
 - Departmentation
 - Span of Management
 - Delegation of Authority

Benefits of an Adequate Organisation Structure:

- Increases profitability.
- Ensures coordination of resources.
- Improves communication and control.

Types of Organisation Structure:

1. Functional Structure

- Jobs are based on functions.
- Each department reports to a coordinating head.
- Example:** Finance, Marketing, Production, HR.

Suitability:

- Large organisations with limited product lines.
- Businesses requiring high specialisation.

Advantages:

- ✓ Encourages functional specialisation.
- ✓ Better control and coordination.

- ✓ Improves efficiency and reduces costs.
- ✓ Facilitates focused employee training.

2. Divisional Structure

- Organisation is divided based on products, each with its own functions.
- Suitable for large companies with multiple product lines.

Advantages: • Product Specialisation: Helps managers gain expertise. • Greater Accountability: Each division is treated as a ‘profit centre.’ • Flexibility & Initiative: Each division operates independently. • Expansion & Growth: New divisions can be added easily.	Disadvantages: • Expensive due to duplication of resources. • Potential conflicts over resource allocation. • Managers may focus only on divisional goals, ignoring overall company objectives.
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Suitability:

- Companies producing multiple distinct products.
- Organisations requiring product specialisation.
- Businesses experiencing growth and expansion.

Points of Difference	Functional Structure	Divisional Structure
Basis of Formation	Formed on the basis of function.	Formed on the basis of product.
Accountability & Responsibility	Difficult to make accountable as departments are interdependent.	Easy to fix accountability as departments work independently.
Economy Cost	Economical.	Not very economical due to resource duplication.
Development of Managers	Limited managerial development due to functional specialization.	More managerial development due to multi-functional exposure.
Specialization	Brings functional specialization.	Brings product specialization.
Coordination	Less coordination compared to divisional structure.	Better coordination as all activities related to one product are in one department.
Autonomy of Operations	Less autonomy.	More autonomy.
Suitability	Suitable for all types of organizations.	Suitable for multiproduct or diversified firms.

Formal Organisation

A formal organisation is a structured system created by management to achieve systematic working and efficient resource utilization.

Features of Formal Organisation

1. Created intentionally by top management for smooth functioning.
2. Aims to achieve organizational objectives.
3. Clarifies communication and relationships.
4. Integrates and coordinates departmental efforts.
5. Focuses on work rather than interpersonal relationships.
6. Emphasizes job roles rather than individuals.
7. Specifies authority-responsibility relationships.

Advantages

1. **Fixation of Responsibility** - Clearly defined relationships ensure accountability.
2. **Clarity of Duties** - Clearly assigned roles prevent confusion and duplication.
3. **Unity of Command** - Maintains hierarchy and clear reporting lines.
4. **Achievement of Objectives** - Provides a framework for efficient operations.
5. **Stability** - Continues functioning despite employee turnover.

Disadvantages

1. **Procedural Delays** - Fixed chains of command slow down decision-making.
2. **Lack of Initiative** - Limits creative freedom due to rigid policies.
3. **Limited Understanding of Human Relationships** - Focuses more on structure than interpersonal dynamics.

Informal Organisation

An informal organisation is a network of personal and social relationships that develop spontaneously among employees.

Features

1. Formed for social and psychological satisfaction.
2. Lacks a definite structure.
3. Arises spontaneously.
4. Allows free flow of communication.
5. Emerges within a formal organisation due to interactions.

Advantages

1. **Fast Communication** - Allows quicker information exchange and feedback.
2. **Fulfills Social Needs** - Enhances job satisfaction and belongingness.
3. **Fills Formal Structure Gaps** - Complements the limitations of formal systems.

Disadvantages

1. **Spreads Rumors** - Can spread misinformation and create conflicts.
2. **Resistance to Change** - May oppose organizational changes.
3. **Priority to Group Interests** - Can conflict with organizational goals.

Delegation

Delegation is the process of assigning responsibility and authority to subordinates while maintaining accountability.

Elements of Delegation

1. **Responsibility** - Obligation to perform a task, flows upwards.
2. **Authority** - Right to make decisions, flows downwards.
3. **Accountability** - Answerability for outcomes, flows upwards.

Comparative Study of Delegation Elements

Element	Definition	Delegation	Flow Direction
Responsibility	Obligation to perform a task.	Can be delegated.	Flows upward.

Authority	Right to make decisions.	Cannot be fully delegated.	Flows downward.
Accountability	Answerability for results.	Cannot be delegated.	Flows upward.

Importance of Delegation

1. **Effective Management** - Reduces workload on top executives.
2. **Employee Development** - Encourages skill development and managerial growth.
3. **Motivation of Employees** - Provides autonomy and responsibility, boosting morale.
4. **Facilitates Growth** - Supports expansion by preparing future managers.
5. **Defines Hierarchy** - Establishes clear superior-subordinate relationships.
6. **Improves Coordination** - Reduces duplication and overlapping of tasks.

Decentralisation

Decentralisation involves distributing decision-making powers across hierarchical levels.

Importance of Decentralisation

1. **Encourages Initiative** - Enables managers at all levels to make independent decisions.
2. **Develops Managerial Talent** - Provides experience in decision-making.
3. **Faster Decision Making** - Reduces delays as approvals are minimized.
4. **Relieves Top Management** - Allows focus on strategic planning.

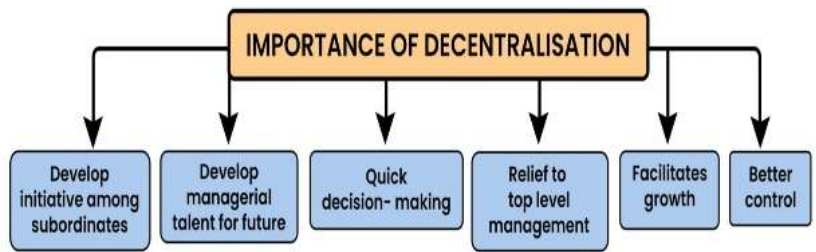
MCQs

1. **What is the first step in the organising process?**
 - a) Departmentalisation
 - b) Assignment of Duties
 - c) Establishing Reporting Relationships
 - d) Identification and Division of Work
2. **What is the primary purpose of departmentalisation?**
 - a) To eliminate hierarchy
 - b) To group similar activities for better coordination
 - c) To assign duties randomly
 - d) To create informal groups
3. **Which of the following is NOT a basis for departmentalisation?**
 - a) Function
 - b) Product
 - c) Territory
 - d) Random Selection
4. **In which organisational structure are jobs grouped based on functions such as Finance, Marketing, and Production?**
 - a) Functional Structure
 - b) Divisional Structure
 - c) Matrix Structure
 - d) Network Structure
5. **Which of the following is a key advantage of a functional structure?**
 - a) Promotes inter-departmental communication
 - b) Encourages functional specialisation
 - c) Reduces hierarchy
 - d) Prevents duplication of resources

5. **Facilitates Growth** - Enhances productivity and expansion.
6. **Better Control** - Helps evaluate performance at all levels.

Difference between Delegation and Decentralisation

Basis	Delegation	Decentralisation
Nature	Compulsory act.	Optional policy decision.
Freedom	Limited as superiors maintain control.	Greater freedom due to reduced control.
Status	Process of task sharing.	Policy decision of top management.
Scope	Narrow, limited to superior and subordinate.	Wider, extends to all levels.
Purpose	Confined to superior and subordinate.	Aims to increase subordinate autonomy.



6. **A company manufacturing garments and electronics is likely to follow which type of organisational structure?**
 - a) Functional Structure
 - b) Divisional Structure
 - c) Network Structure
 - d) Matrix Structure
7. **What is a disadvantage of divisional structure?**
 - a) Lack of flexibility
 - b) High cost due to duplication of resources
 - c) Poor accountability
 - d) Slow decision-making
8. **Which organisational structure ensures clear lines of authority and responsibility?**
 - a) Formal Organisation
 - b) Informal Organisation
 - c) Decentralised Organisation
 - d) Network Organisation
9. **Which of the following is NOT a feature of a formal organisation?**
 - a) Defined hierarchy
 - b) Structured communication
 - c) Spontaneous relationships
 - d) Clearly assigned duties
10. **What is a key feature of an informal organisation?**
 - a) Clearly defined job roles
 - b) Fixed authority-responsibility relationships
 - c) Spontaneous and social interactions
 - d) Strict policies

11. Which of the following is an advantage of an informal organisation?

- a) Faster communication
- b) Strict control
- c) No flexibility
- d) Eliminates need for formal structure

12. Which is NOT a function of organising?

- a) Assigning duties
- b) Establishing reporting relationships
- c) Controlling operations
- d) Departmentalisation

13. Which of the following statements is true about delegation?

- a) Responsibility can be fully transferred
- b) Authority cannot be delegated
- c) Accountability remains with the superior
- d) Delegation removes hierarchy

14. Which element of delegation flows downward?

- a) Responsibility
- b) Authority
- c) Accountability
- d) Coordination

15. Which of the following is NOT an element of delegation?

- a) Authority
- b) Responsibility
- c) Accountability
- d) Coordination

16. Decentralisation refers to:

- a) Centralising power at the top
- b) Transferring decision-making power to lower levels
- c) Eliminating top management
- d) Completely removing delegation

17. Which of the following is NOT a benefit of decentralisation?

- a) Faster decision-making
- b) Greater managerial autonomy
- c) Increased workload on top management
- d) Better utilisation of resources

18. Delegation differs from decentralisation because:

- a) Delegation is a policy decision, decentralisation is compulsory
- b) Delegation occurs within departments, decentralisation is organisation-wide
- c) Delegation involves lower management only
- d) Decentralisation increases central control

19. Which of the following helps employees develop leadership skills?

- a) Delegation
- b) Departmentalisation
- c) Formal Organisation
- d) Bureaucracy

20. Which principle of organising helps in achieving efficiency through specialisation?

- a) Span of Management
- b) Division of Work

- c) Authority and Responsibility
- d) Coordination

21. What does the span of management refer to?

- a) Number of employees under a manager's supervision
- b) Division of tasks within a team
- c) Number of departments in an organisation
- d) Flexibility in decision-making

22. What does the term "Unity of Command" mean?

- a) Employees report to multiple bosses
- b) Employees follow a single chain of command
- c) Employees have no supervisors
- d) All employees make their own decisions

23. What is a major disadvantage of functional structure?

- a) Encourages cross-functional communication
- b) Lack of specialisation
- c) Departmental goals may overshadow organisational goals
- d) High adaptability to change

24. What is the primary goal of organising?

- a) Increasing company revenue
- b) Structuring resources and responsibilities efficiently
- c) Reducing employee interaction
- d) Eliminating middle management

25. Which of the following is an example of territorial departmentalisation?

- a) Finance, HR, Production
- b) North, South, East, West
- c) Electronics, Clothing, Cosmetics
- d) Project A, Project B, Project C

26. What is NOT a characteristic of a divisional structure?

- a) Based on products
- b) Each division functions independently
- c) Centralised decision-making
- d) Higher costs due to duplication

27. Which of the following ensures accountability in an organisation?

- a) Clear authority-responsibility relationships
- b) Eliminating hierarchy
- c) Random work assignments
- d) Reducing communication channels

28. Which structure is best for a company with multiple product lines?

- a) Functional Structure
- b) Divisional Structure
- c) Hierarchical Structure
- d) Bureaucratic Structure

29. What is a major feature of formal organisation?

- a) Lack of hierarchy
- b) Emphasis on relationships
- c) Defined job roles and responsibilities
- d) No communication channels

30. Why is decentralisation important?

- a) Increases dependence on top management
- b) Reduces efficiency
- c) Encourages autonomy in decision-making
- d) Makes hierarchy rigid

Answer Key

- 1. D
- 2. B
- 3. D
- 4. A
- 5. B
- 6. B
- 7. B
- 8. A
- 9. C

- 10. C
- 11. A
- 12. C
- 13. C
- 14. B
- 15. D
- 16. B
- 17. C
- 18. B

- 19. A
- 20. B
- 21. A
- 22. B
- 23. C
- 24. B
- 25. B
- 26. C
- 27. A

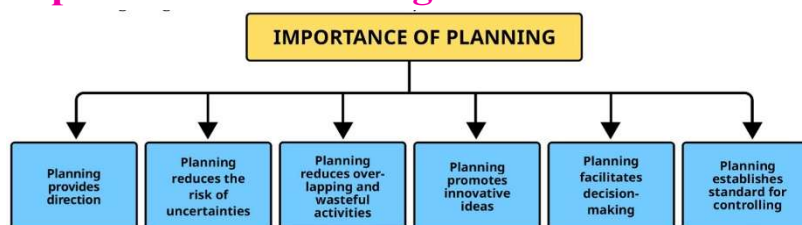
CHAPTER 11: PLANNING

Planning

- Planning is the process of thinking in advance about **what** is to be done, **when** it should be done, **how** it should be done, and **by whom**.
- Henri Fayol defines planning as “chalking out a plan of action, deciding the result envisaged, the stages to go through, and the methods to use.”



Importance of Planning



- Provides Direction:**
 - Ensures clarity in tasks and responsibilities.
 - Helps employees work towards organizational goals efficiently.
 - Establishes coordination between different departments.
- Reduces Risk and Uncertainty:**
 - Helps managers anticipate future challenges and take corrective action.
 - Reduces uncertainties by forecasting and preparing for possible risks.
- Eliminates Overlapping & Wasteful Activities:**
 - Ensures smooth execution of tasks by minimizing confusion.
 - Eliminates redundant work and improves efficiency.
- Encourages Innovation & Creativity:**
 - Requires intellectual effort, allowing managers to develop new ideas.
 - Converts innovative ideas into concrete plans.
- Facilitates Decision-Making:**
 - Helps managers evaluate different alternatives before selecting the best course of action.
 - Prevents hasty or random decisions, reducing uncertainty.
- Establishes Standards for Controlling:**
 - Sets performance benchmarks to compare actual outcomes with planned targets.
 - Helps in identifying deviations and taking corrective actions.

Features of Planning

- Focuses on Achieving Objectives:**
 - Every plan is made to fulfill specific organizational goals.
 - Example: A company planning to sell 2,400 refrigerators in six months will adjust strategies like discounts or price cuts to meet targets.

2. Primary Function of Management:

- ✓ Planning is the first and foremost function before executing any other managerial activity.

3. Pervasive in Nature:

- ✓ Required at all levels of management (Top, Middle, and Lower).
- ✓ Example:
 - Top-level: Strategic planning for the entire organization.
 - Middle-level: Departmental planning.
 - Lower-level: Daily operational planning.

4. Continuous Process:

- ✓ Planning never stops; it evolves based on market conditions.
- ✓ Example: A business plan made during a recession may need revision if the market improves.

5. Futuristic (Forward-Looking):

- ✓ Planning is always concerned with future actions and goals.
- ✓ Example: Sales forecasting helps a company prepare annual production and marketing plans.

6. Involves Decision-Making:

- ✓ Planning involves selecting the best alternative from various available options.
- ✓ Example: If only one way exists to perform a task, planning is unnecessary.

7. Mental Exercise:

- ✓ Requires logical and systematic thinking, not just guesswork.
- ✓ Involves intelligence, imagination, and managerial foresight.

Limitations of Planning

1. Leads to Rigidity:

- ✓ Once plans are made, they are difficult to change even if external factors change.
- ✓ Example: A company sets a maximum discount of 10% for sales employees but later realizes that a higher discount could boost sales.

2. Other Limitations (Not included in the original text but relevant for exams):

- ✓ **Time-Consuming:** Requires extensive research and analysis.
- ✓ **Expensive Process:** Involves costs related to data collection, expert consultations, and implementation.



Planning: the first step to management.

- ✓ **May Not Work in a Dynamic Environment:**
Frequent market or technological changes can make plans ineffective.

Planning in Management

1. Limitations of Planning

(i) Planning May Not Work in a Dynamic Environment

- Business environment changes frequently (e.g., economic conditions, government policies, consumer behavior).
- Frequent changes make it difficult to forecast accurately, leading to failure of plans.

(ii) Planning Reduces Creativity

- Planning is usually done by top management.
- Middle and lower-level employees only implement plans, limiting their creativity.
- Example: A worker suggests a new assembly method to save time and cost, but his supervisor rejects it to follow the pre-decided plan.

(iii) Planning Involves Huge Costs

- Planning requires expert professionals, data analysis, feasibility studies, etc.
- Sometimes, the cost of planning may exceed the benefits.

(iv) Planning is a Time-Consuming Process

- Extensive time is required for research, forecasting, and decision-making.
- Not practical in emergencies when quick decisions are needed.

(v) Planning Does Not Guarantee Success

- Relying on previously successful plans may not work due to changing circumstances.
- Plans must be flexible and adaptable to new situations.

2. Planning Process

(i) Setting Objectives

- Goals are set first; all plans and strategies aim to achieve these objectives.
- Example: A company sets a goal to increase profits by 30%.

(ii) Developing Premises

- Assumptions about the future are made using forecasting techniques.
- These assumptions are called "Planning Premises."

(iii) Identifying Alternative Courses of Action

- Managers list different ways to achieve objectives.
- There are always multiple alternatives to consider.

(iv) Evaluating Alternative Courses

- Each alternative is assessed based on objectives, risks, costs, and feasibility.

(v) Selecting the Best Alternative

- The most suitable option is chosen, sometimes a combination of alternatives is used.

(vi) Implementing the Plan

- Plans are put into action, involving other managerial functions.

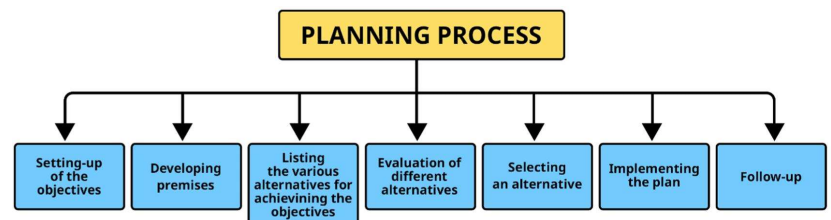
(vii) Follow-up Action

- Plans are continuously monitored and modified as needed.

3. Types of Plans

(i) Single-Use Plans

- Created for a one-time event or project.
- Discarded once the objective is achieved.



- Examples: Budget, Programmes, Projects.

Features:

1. Used only once.
2. Designed for a specific situation.
3. Discarded after use.
4. Example: A company plans a budget for a marketing campaign.

(ii) Standing Plans (Repeat-Use Plans)

- Used repeatedly for recurring activities.
- Provide long-term guidelines for decision-making.
- Examples: Policies, Procedures, Methods, Rules.

Features:

1. Used over a long period.
2. Act as guidelines for operations.
3. Provide stability and consistency.
4. Example: A company's policy for employee promotions.

4. Other Important Types of Plans

(i) Objectives

- Define what an organization aims to achieve.
- Example: A company plans to increase sales by 10%.

(ii) Strategy

- A comprehensive plan to deal with competitors and external forces.
- Involves long-term objectives, resource allocation, and a course of action.

(iii) Policies

- General guidelines for decision-making.
- Example: A school's policy to admit students scoring above 85%.

(iv) Procedures

- Step-by-step actions to perform tasks.
- Example: Admission procedure in a school.

(v) Methods

- Specific ways to complete a task efficiently.
- Example: Different training methods for employees.

(vi) Rules

- Strict regulations that must be followed.
- Example: "No smoking in office premises."

(vii) Programmes

- Detailed action plans including objectives, policies, resources, and budgets.
- Example: A company's training program for new employees.

(viii) Budget

- A financial plan estimating expected income and expenses over a period.
- Example: A cash budget forecasting monthly revenue and expenses.

Cash Flow Statement

- A statement that estimates cash inflows and outflows over a specific period.
- **Cash inflow:** Comes from sources like cash sales.
- **Cash outflow:** Includes costs and expenses.
- **Net cash position:** Calculated as:

$$\text{Cash Inflow} - \text{Cash Outflow} = \text{Surplus or Deficiency}$$

MCQs

1. Planning is the process of thinking in advance about:
 - a) What to do
 - b) When to do it
 - c) How to do it
 - d) All of the above
2. Who defined planning as “chalking out a plan of action, deciding the result envisaged, the stages to go through, and the methods to use”?
 - a) Henry Mintzberg
 - b) Henri Fayol
 - c) Peter Drucker
 - d) F.W. Taylor
3. Which of the following is NOT an importance of planning?
 - a) Provides direction
 - b) Reduces innovation
 - c) Reduces risk and uncertainty
 - d) Eliminates overlapping activities
4. Planning helps in decision-making by:
 - a) Providing multiple alternatives
 - b) Ensuring decisions are made randomly
 - c) Ignoring external factors
 - d) Increasing confusion
5. How does planning establish standards for controlling?
 - a) By setting performance benchmarks
 - b) By eliminating the need for supervision
 - c) By allowing unstructured decisions
 - d) By discouraging evaluation
6. Which feature of planning emphasizes that it is required at all levels of management?
 - a) Continuous process
 - b) Futuristic
 - c) Pervasive in nature
 - d) Mental exercise
7. Why is planning considered a continuous process?
 - a) It is done once and never changed
 - b) Plans need to be modified based on new conditions
 - c) It requires no follow-up actions
 - d) It eliminates uncertainty permanently
8. Planning is primarily concerned with:
 - a) Past performance
 - b) Future actions
 - c) Present outcomes
 - d) Employee satisfaction
9. Which feature of planning involves logical and systematic thinking?
 - a) Mental exercise
 - b) Pervasiveness
 - c) Rigidity
 - d) Decision-making
10. If only one way exists to complete a task, then planning:
 - a) Becomes unnecessary
 - b) Becomes more critical
 - c) Increases efficiency
 - d) Becomes time-consuming
11. Planning may not work effectively in:
 - a) A stable environment
 - b) A dynamic environment
 - c) A structured organization
 - d) A controlled system
12. How does planning limit creativity?
 - a) By restricting employees from modifying plans
 - b) By encouraging participation
 - c) By allowing middle-level managers to make changes
 - d) By increasing innovation
13. Which limitation of planning involves high financial costs?
 - a) Reduces creativity
 - b) Involves huge costs
 - c) Eliminates wasteful activities
 - d) Facilitates decision-making
14. What makes planning a time-consuming process?
 - a) The need for research, analysis, and forecasting
 - b) The quick decision-making process
 - c) The elimination of middle managers
 - d) The lack of organizational goals
15. Does planning guarantee success?
 - a) Yes, always
 - b) No, it depends on execution
 - c) Yes, if made by top management
 - d) No, because it is unnecessary
16. The first step in the planning process is:
 - a) Evaluating alternatives
 - b) Setting objectives
 - c) Implementing the plan
 - d) Identifying problems
17. What are "planning premises"?
 - a) Alternative courses of action
 - b) Assumptions about the future
 - c) Steps in decision-making
 - d) Rules of an organization
18. In planning, alternative courses of action are:
 - a) Ignored
 - b) Created before setting objectives
 - c) Identified after setting objectives
 - d) Not required for decision-making
19. Evaluating alternative courses of action involves:
 - a) Comparing them based on risks, costs, and feasibility
 - b) Ignoring competition
 - c) Implementing all alternatives at once
 - d) Selecting random solutions
20. Follow-up action in planning ensures:
 - a) Plans are never modified
 - b) Performance is monitored and plans are adjusted
 - c) The plan remains fixed permanently
 - d) Plans are discontinued after implementation
21. A budget is an example of a:
 - a) Standing plan
 - b) Single-use plan
 - c) Strategy
 - d) Policy
22. Which type of plan is used for recurring decisions?
 - a) Single-use plan
 - b) Standing plan
 - c) Follow-up action
 - d) Decision tree
23. An organization's mission and vision are part of:
 - a) Objectives
 - b) Methods
 - c) Rules
 - d) Budget
24. A company's policy on employee dress code is an example of a:
 - a) Budget
 - b) Rule
 - c) Method
 - d) Procedure
25. A method refers to:
 - a) A way to complete a task efficiently
 - b) A company's financial budget
 - c) A one-time business decision
 - d) A general guideline for employees

26. A program consists of:

a) A specific rule

b) Detailed action plans including objectives and budgets

c) A single-use plan

d) Employee hiring procedures

27. A financial plan that estimates income and expenses is called a:

a) Rule

b) Procedure

c) Budget

d) Policy

28. Cash inflow in a cash flow statement includes:

a) Employee salaries

b) Business loans

c) Cash sales and revenues

d) Advertising expenses

29. A company’s decision to reduce prices to attract customers is an example of a:

a) Method

b) Strategy

c) Budget

d) Rule

30. Which of the following is an example of a single-use plan?

a) Employee hiring policy

b) Annual marketing budget

c) Safety rules

d) Customer service guidelines

Answer Key

1. D

2. B

3. B

4. A

5. A

6. C

7. B

8. B

9. A

10. A

11. B

12. A

13. B

14. A

15. B

16. B

17. B

18. C

19. A

20. B

21. B

22. B

23. A

24. B

25. A

26. B

27. C

28. C

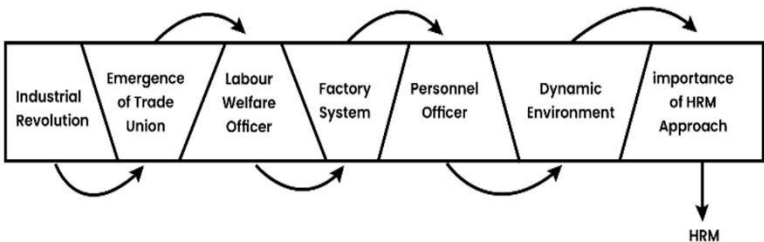
29. B

30. B

CHAPTER 12: STAFFING

Staffing

- Involves manpower planning, recruitment, selection,



training, compensation, promotion, and maintenance of managerial personnel.

- Dale Yoder: "Staffing is that phase of management which deals with the effective control and use of manpower or human resources."
- A managerial function ensuring positions in an organization are filled and maintained.
- Recognizes the importance of every employee in an organization.

Importance of Staffing

1. **Filling roles with competent personnel:** Ensures job positions are occupied by qualified employees.
2. **Right person, right job:** Enhances performance and efficiency.
3. **Enterprise growth:** Efficient employees drive organizational survival and expansion.
4. **Optimal human resource utilization:** Prevents overstaffing and under-staffing, ensuring smooth workflow.
5. **Job satisfaction & morale:** Fair rewards and objective assessments boost motivation.

Staffing as Part of Human Resource Management (HRM)

- When conducted at a large scale, staffing becomes HRM.
- **Activities of HRM:**
 - ✓ Human resource planning
 - ✓ Recruitment, selection, and placement
 - ✓ Career growth
 - ✓ Performance appraisal
 - ✓ Motivation
 - ✓ Compensation
 - ✓ Social security

Staffing Process

1. **Estimating manpower requirements:**
 - ✓ Workforce analysis helps assess the number and type of employees required.
 - ✓ Helps determine if an organization is overstaffed or understaffed.
 - ✓ Policies should ensure diversity (women, minorities, etc.).
 - ✓ Includes:
 - **Workload Analysis:** Determines human resources needed.
 - **Workforce Analysis:** Evaluates available human resources.



2. **Recruitment:**
 - ✓ Process of searching for and attracting job candidates.
 - ✓ Uses both **internal** and **external** sources.
 - ✓ Steps include:
 - Identifying recruitment sources
 - Assessing their validity
 - Selecting the best sources
 - Inviting applications
3. **Selection:**
 - ✓ Choosing and appointing the right candidate via exams, tests, and interviews.
 - ✓ Enhances self-esteem and prestige of selected candidates.
4. **Placement & Orientation:**
 - ✓ **Placement:** Assigning employees to their job roles.
 - ✓ **Orientation:** Introducing new employees to policies, rules, and coworkers.
5. **Training & Development:**
 - ✓ Training improves job skills and efficiency.
 - ✓ Development focuses on overall growth.
6. **Performance Appraisal:**
 - ✓ Evaluating employee performance against set standards.
7. **Promotion & Career Planning:**
 - ✓ Promotion offers higher responsibilities and boosts morale.
8. **Compensation:**
 - ✓ Includes direct (salary, wages, incentives) and indirect (insurance, medical benefits) payments.
 - ✓ Factors considered: legal policies, trade unions, company policies.

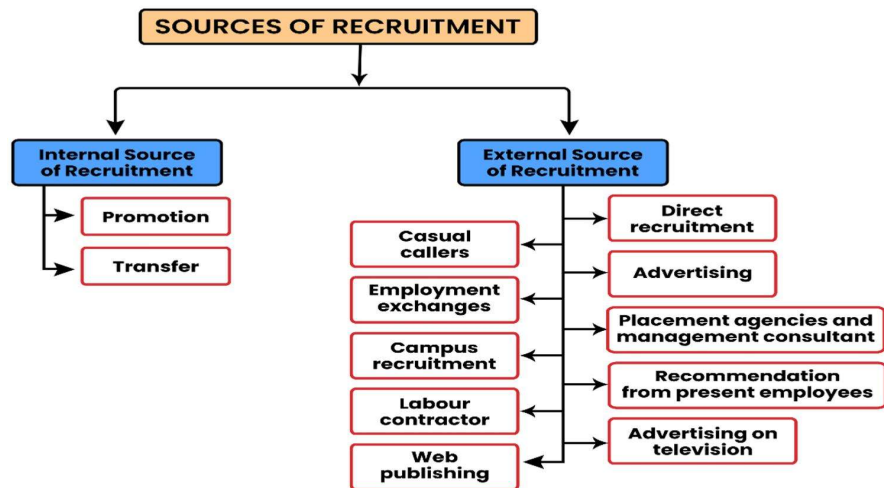
Recruitment

- Process of appointing potential candidates for job roles.
- Brings together employers and job seekers.
- Can be **internal** (within the organization) or **external** (outside the organization).

Internal Sources of Recruitment

- **Advantages:**
 1. **Economical:** Saves time and money.
 2. **Simple Process:** Employees are already familiar with the organization.
 3. **Training Tool:** Transfers help prepare employees for higher roles.
 4. **Employee Motivation:** Promotion opportunities boost morale.
- **Drawbacks:**
 1. **Lack of fresh talent:** Limits innovation.
 2. **Reduced competition:** Employees may expect automatic promotions.
 3. **Not suitable for new organizations:** Requires existing workforce.

4. **Low productivity:** Frequent transfers may affect efficiency.
5. **Lethargy:** Employees may become complacent.



Methods of Internal Recruitment

1. **Transfer:**
 - ✓ Shifting an employee within the organization without a change in status or salary.
 - ✓ Example: Transferring a teacher between school branches.
2. **Promotion:**
 - ✓ Moving employees to higher positions with more responsibility and benefits.
 - ✓ Encourages motivation and career growth.

External Sources of Recruitment

- **Advantages:**
 1. **Fresh talent:** New employees bring modern ideas.
 2. **Wider choice:** More applicants provide better selection options.
 3. **Qualified personnel:** Attracts skilled and trained employees.
 4. **Competitive spirit:** Encourages existing employees to perform better.
- **Drawbacks:**
 1. **Employee dissatisfaction:** Existing staff may feel overlooked.
 2. **Lengthy process:** Requires advertisement and screening.
 3. **Expensive:** Involves costs for advertisements and application processing.

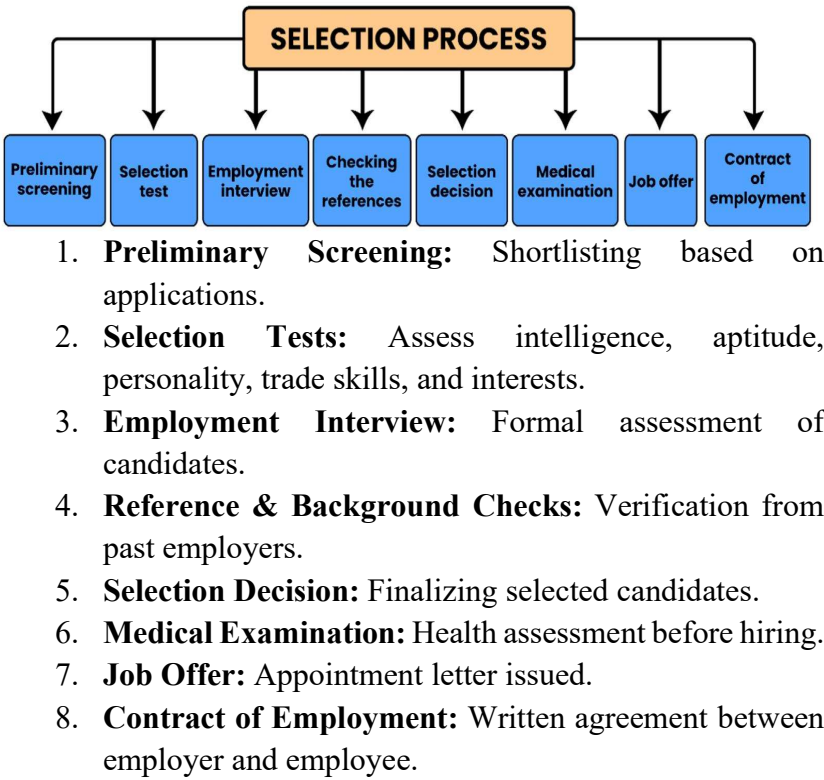
Difference Between Internal and External Sources of Recruitment

Point of Difference	Internal Recruitment	External Recruitment
Meaning	Uses existing staff to fill vacancies.	Uses new personnel or outsiders to fill vacancies.
Time	Less time-consuming.	More time-consuming.
Economy	More economical, no external search costs.	Costly due to advertisements and hiring processes.
Quality	Limited choice, may not ensure best quality.	Wider choice, better quality candidates.
Employee Morale	Boosts morale through promotion opportunities.	Lowers morale due to lack of internal growth.

Methods of External Recruitment

- 1. **Direct Recruitment:** Notices displayed for job seekers to apply directly.
- 2. **Casual Callers:** Database of unsolicited applications maintained.
- 3. **Advertisement:** Used for wider reach via newspapers, TV, journals.
- 4. **Employment Exchange:** Government-run services for skilled/unskilled jobs.
- 5. **Placement Agencies & Consultants:** Match personnel demand and supply.
- 6. **Campus Recruitment:** Colleges and institutes as a hiring source.
- 7. **Employee Recommendations:** Trusted hiring through employee referrals.
- 8. **Labour Contractors:** Middlemen for unskilled and semi-skilled workers.
- 9. **Advertising on TV:** Broadcast job openings.
- 10. **Web Publishing:** Online job portals like Naukri, TimesJobs, etc.

Selection Process



Difference Between Recruitment and Selection

Point of Recruitment Difference		Selection
Meaning	Searching for suitable candidates.	Screening and selecting the best candidates.
Stage	Precedes staffing.	Begins after recruitment.
Nature	Positive process (invites applicants).	Negative process (rejects more than selects).
Contract	No contractual relation.	Creates a contract between employer and employee.

Training and Development

- **Training:** Equipping employees with job-related skills.

MCQs

1. What does staffing primarily deal with?
- A) Financial planning
- B) Manpower planning, recruitment, selection, training, and compensation
- C) Marketing strategies
- D) Production management

- **Development:** Overall personal and professional growth.

Benefits of Training

For Organizations:

- 1. Systematic learning, reducing waste.
- 2. Increased productivity and profitability.
- 3. Prepares future managers.
- 4. Reduces absenteeism and turnover.
- 5. Adapts to changing environments.

For Employees:

- 1. Enhances career prospects.
- 2. Leads to higher earnings.
- 3. Improves efficiency and reduces accidents.
- 4. Boosts job satisfaction and morale.

Difference Between Training and Development

S. No.	Point of Difference	Training	Development
1	Concept	Focuses on technical skills.	Covers technical, human, and conceptual skills.
2	Suitability	For technical staff.	For managerial staff.
3	Nature	Enhances existing skills.	Develops hidden potential.
4	Methods	On-the-job training preferred.	Off-the-job training preferred.
5	Focus	Short-term organizational needs.	Long-term growth.
6	Time	Short-term process.	Long-term process.
7	Initiative	Taken by superior.	Taken by individual.
8	Duration	Fixed duration.	Continuous process.
9	Levels of Trainees	Suitable for non-managerial employees.	Suitable for middle and top-level managers.
10	Centered	Work-centered.	Person-centered.

Training Methods

On-the-Job Methods:

- 1. **Apprenticeship Programmes:** Learning under an expert with stipend.
- 2. **Internship Training:** Collaboration between institutes and companies.
- 3. **Induction/Orientation Training:** Welcoming and adjusting new employees.

Off-the-Job Methods:

- 1. **Vestibule Training:** Simulated work environment for hands-on practice.

2. Who defined staffing as "that phase of management which deals with the effective control and use of manpower or human resources"?
- A) Henry Fayol
- B) Dale Yoder

- C) Elton Mayo
D) Frederick Taylor
3. Which of the following is NOT an importance of staffing?
A) Filling roles with competent personnel
B) Ensuring right person for the right job
C) Reducing company investments
D) Enhancing enterprise growth
4. Staffing ensures that job positions are occupied by:
A) The cheapest employees
B) The most experienced employees
C) Qualified employees
D) The employees who demand the least salary
5. Which of the following is a key function of Human Resource Management (HRM)?
A) Inventory management
B) Human resource planning
C) Machine maintenance
D) Market research
6. The staffing process starts with:
A) Employee training
B) Estimating manpower requirements
C) Promotion planning
D) Job evaluation
7. Workforce analysis in staffing helps in:
A) Reducing production costs
B) Evaluating available human resources
C) Increasing marketing reach
D) Setting sales targets
8. The process of searching for and attracting job candidates is known as:
A) Training
B) Selection
C) Recruitment
D) Orientation
9. Internal sources of recruitment include:
A) Campus placement
B) Employment exchanges
C) Transfers and promotions
D) Online job portals
10. A key advantage of internal recruitment is:
A) High recruitment costs
B) Lack of employee motivation
C) Employee familiarity with the organization
D) Influx of fresh talent
11. Which is NOT a drawback of internal recruitment?
A) Limited fresh talent
B) Low employee morale
C) Reduced competition
D) Employees may become complacent
12. Which of the following is an external source of recruitment?
A) Transfers
B) Promotions
C) Employment exchanges
D) Job rotation
13. Which of these is NOT a method of external recruitment?
A) Direct recruitment
B) Promotions
C) Campus recruitment
D) Placement agencies
14. The process of choosing and appointing the right candidate is called:
A) Recruitment
B) Selection
C) Induction
D) Training
15. What is the final step of the selection process?
A) Medical examination
B) Preliminary screening
C) Job offer and contract of employment
D) Performance appraisal
16. The purpose of an orientation program is to:
A) Train employees in a new skill
B) Introduce employees to the organization and its policies
C) Assess employee performance
D) Monitor financial reports
17. The primary aim of training is to:
A) Reduce employee salary
B) Improve job skills and efficiency
C) Increase competition among employees
D) Eliminate workforce redundancy
18. Which of the following is NOT a method of on-the-job training?
A) Apprenticeship programs
B) Vestibule training
C) Job rotation
D) Coaching
19. Which training method is used to train workers in a simulated work environment?
A) Coaching
B) Internship training
C) Vestibule training
D) Job rotation
20. Performance appraisal refers to:
A) Selection of candidates
B) Evaluating employee performance against set standards
C) Conducting interviews
D) Assigning employees to departments
21. What does promotion in staffing lead to?
A) Demotion of senior employees
B) Higher responsibilities and motivation
C) Increased company costs
D) Reduced employee satisfaction
22. Compensation includes:
A) Only salary and wages
B) Only bonuses
C) Both direct (salary, wages) and indirect (insurance, benefits) payments
D) Only incentives
23. Which is NOT a factor affecting compensation?
A) Legal policies
B) Trade unions
C) Company policies
D) Employee's personal interests
24. Which recruitment method is best for hiring unskilled and semi-skilled workers?
A) Placement agencies
B) Labour contractors
C) Online job portals
D) Employee referrals
25. What is the major difference between recruitment and selection?
A) Recruitment is negative, selection is positive
B) Recruitment is a positive process, selection is a negative process
C) Recruitment rejects more candidates, selection does not
D) Recruitment is more expensive than selection
26. What is the focus of training?
A) Short-term organizational needs
B) Long-term managerial skills
C) Developing hidden potential
D) Off-the-job assignments

27. Which of the following training methods is commonly used for managerial development?
- A) Apprenticeship
 - B) Job rotation
 - C) Induction training
 - D) Internship
28. What is the primary disadvantage of external recruitment?
- A) Boosts employee morale
 - B) Expensive and time-consuming
 - C) Reduces the need for training
 - D) Promotes internal employees

29. Internal recruitment is suitable for:
- A) Organizations looking for fresh talent
 - B) Organizations with an existing workforce
 - C) Startups with no employees
 - D) Companies with high attrition rates
30. Development in HRM refers to:
- A) Overall personal and professional growth
 - B) Job-specific skill enhancement
 - C) Short-term skill learning
 - D) Focus only on technical skills

MCQs

1. B	11. B	21. B
2. B	12. C	22. C
3. C	13. B	23. D
4. C	14. B	24. B
5. B	15. C	25. B
6. B	16. B	26. A
7. B	17. B	27. B
8. C	18. B	28. B
9. C	19. C	29. B
10. C	20. B	30. A

CHAPTER 13:
ENTREPRENEURSHIP DEVELOPMENT

Entrepreneurship

- (i) **Entrepreneur** – A person who sets up their own business.
- (ii) **Entrepreneurship** – The process of starting and managing a business.
- (iii) **Enterprise** – The outcome of entrepreneurship, i.e., the business itself.

Meaning of Entrepreneurship

Entrepreneurship is a **systematic, purposeful, and creative** activity that involves managing business risks to create value for buyers, investors, and entrepreneurs. It involves identifying needs, utilizing resources efficiently, and organizing production.

Characteristics of Entrepreneurship

- (i) **Systematic Activity** – Entrepreneurs follow a step-by-step process, requiring knowledge, training, and experience.
- (ii) **Lawful & Purposeful** – Entrepreneurship involves only **legal** and **goal-oriented** business activities.
- (iii) **Innovation** – Entrepreneurs introduce **new products, methods, or marketing techniques** to gain a competitive edge.
- (iv) **Risk-Taking** – Every business involves risks, and entrepreneurs manage them effectively.
- (v) **Organization of Production** – Entrepreneurs ensure **efficient use of resources and production techniques**.

Importance of Entrepreneurship

- (i) **Economic Development** – Leads to **industrial growth** and higher GDP.
- (ii) **Employment Generation** – Creates **self-employment and jobs** for others.
- (iii) **Sustaining Development** – Encourages **continuous improvement and innovation** in business.
- (iv) **Encouraging Competition** – Leads to **better quality products and services**.
- (v) **Wealth Creation** – Entrepreneurs generate **profits and economic benefits** for society.

Factors Affecting Entrepreneurship Development

A. Environmental Factors – Economic conditions influence entrepreneurship growth. Key factors:

- **Economic System** – Capitalistic economies encourage startups.
- **Infrastructure** – Availability of roads, power, and technology.
- **Interest & Taxation Rates** – Lower rates boost entrepreneurship.
- **Inflation & Capital Access** – Moderate inflation and financial availability help businesses grow.

B. Individual Factors – Personal traits determine entrepreneurial success.

- **Competency & Willingness** – Both are required to be a successful entrepreneur.
- **Types of Entrepreneurs:**
 - 1. **Not Ready Entrepreneur** – Lacks both skills & motivation.
 - 2. **Potential Entrepreneur** – Has skills but lacks motivation.
 - 3. **Eager Entrepreneur** – Has motivation but lacks skills.
 - 4. **Ready Entrepreneur** – Has both skills and motivation.

Process of Entrepreneurship Development

- (i) **Discovery** – Identifying and analyzing business opportunities.
- (ii) **Evaluation** – Assessing the feasibility of an idea.
- (iii) **Developing a Plan** – Creating a business strategy.
- (iv) **Resource Allocation** – Arranging funds and manpower.
- (v) **Managing Operations** – Implementing the plan and running the business.
- (vi) **Harvesting** – Ensuring long-term growth and expansion.

Entrepreneurial Motivation

Entrepreneurial motivation is the **drive or force** that pushes individuals to start and sustain businesses. It affects their **direction, effort, and persistence** in achieving success.

MCQs

1. What is the primary goal of an entrepreneur?
 - a) To work for others
 - b) To establish their own business
 - c) To avoid risks
 - d) To follow a fixed routine
2. What does the term "Entrepreneurship" refer to?
 - a) The process of setting up one's own business
 - b) The outcome of a business
 - c) The risk-free establishment of a business
 - d) The government's role in business development
3. What is an enterprise?
 - a) The process of entrepreneurship
 - b) The outcome of entrepreneurship
 - c) The failure of a business venture
 - d) A government policy
4. Which of the following is NOT a feature of entrepreneurship?
 - a) Systematic activity
 - b) Risk-taking
 - c) Lawful and purposeful activity
 - d) Guaranteed success
5. Why is entrepreneurship considered a systematic activity?
 - a) Because it follows a fixed procedure
 - b) Because it involves legal formalities
 - c) Because it requires special knowledge, training, and experience
 - d) Because it ensures profit
6. Which of the following is an essential characteristic of an entrepreneur?
 - a) Risk-averse behavior
 - b) Dependence on government schemes
 - c) Innovation
 - d) Preferring stable jobs over business
7. Why is risk-taking an important feature of entrepreneurship?
 - a) Because entrepreneurship is risk-free
 - b) Because risk can be eliminated completely
 - c) Because risk is inevitable and must be managed
 - d) Because it guarantees high profits
8. What is the purpose of innovation in entrepreneurship?
 - a) To increase costs
 - b) To do things in a new way for better efficiency
 - c) To copy competitors
 - d) To avoid competition
9. Which of the following is NOT a role of entrepreneurship in economic development?
 - a) Creating employment
 - b) Reducing poverty
 - c) Promoting economic stagnation
 - d) Encouraging innovation
10. What is the main source of motivation for an entrepreneur?
 - a) Government incentives
 - b) Job security
 - c) Achieving personal and business goals
 - d) Avoiding work pressure
11. What is the first step in the process of entrepreneurship development?
 - a) Managing the company
 - b) Discovering new ideas and objectives
 - c) Harvesting profits
 - d) Hiring employees
12. What is meant by "Harvesting" in entrepreneurship?
 - a) Planting crops for business
 - b) Ending a business
 - c) Determining future growth and development of business
 - d) Selling assets of a company
13. What is meant by "Entrepreneurial Motivation"?
 - a) The process of motivating employees
 - b) The forces that drive an entrepreneur to work towards goals
 - c) The government's support to entrepreneurs
 - d) The tax benefits given to entrepreneurs
14. What does an entrepreneur primarily focus on?
 - a) Avoiding risks
 - b) Making quick money
 - c) Identifying needs and utilizing resources
 - d) Copying existing business models
15. What is required for sustaining development in entrepreneurship?
 - a) Finding new ways of doing work
 - b) Following traditional business methods
 - c) Reducing employment opportunities
 - d) Avoiding competition
16. Which of the following is NOT an environmental factor in entrepreneurship development?
 - a) Economic system
 - b) Government policies
 - c) Individual's personal wealth
 - d) Availability of infrastructure
17. Which type of economy is most supportive of entrepreneurship?
 - a) Socialistic economy
 - b) Communistic economy
 - c) Capitalistic economy
 - d) Traditional economy
18. What is the most important requirement for a person to become an entrepreneur?
 - a) A lot of personal savings
 - b) Both competency and willingness
 - c) Government support
 - d) Avoiding risks
19. Which type of entrepreneur lacks both competency and willingness?
 - a) Ready entrepreneur
 - b) Not-ready entrepreneur
 - c) Eager entrepreneur
 - d) Potential entrepreneur
20. What is the characteristic of a "Potential Entrepreneur"?
 - a) Has willingness but no ability
 - b) Has ability but no willingness
 - c) Has both ability and willingness
 - d) Lacks innovation
21. Which step comes after identifying an opportunity in entrepreneurship?
 - a) Hiring employees
 - b) Developing a business plan
 - c) Taking a loan
 - d) Closing the business
22. What does "Managing the Company" refer to in the entrepreneurship process?

- a) Planning future business ideas
 - b) Stopping business activities
 - c) Overseeing daily operations and achieving business goals
 - d) Taking loans from banks
23. What role does education and training play in entrepreneurship?
- a) It ensures guaranteed success
 - b) It helps in acquiring knowledge and skills
 - c) It removes all business risks
 - d) It eliminates competition
24. Which of the following factors influence an individual’s decision to become an entrepreneur?
- a) Only government incentives
 - b) Only personal savings
 - c) Both competency and willingness
 - d) None of the above
25. What is the relationship between entrepreneurship and economic development?
- a) No relationship
 - b) Entrepreneurship leads to economic development
 - c) Economic development hinders entrepreneurship
 - d) Economic development occurs only in developed nations
26. Which of the following is NOT a role of entrepreneurship?
- a) Employment generation
 - b) Business monopoly creation

- c) Innovation
 - d) Economic growth
27. What does "Organisation of Production" mean in entrepreneurship?
- a) Setting up production units in various locations
 - b) Adopting new methods of production for better efficiency
 - c) Employing only experienced workers
 - d) Ignoring technological advancements
28. What does "Evaluation" in entrepreneurship refer to?
- a) Evaluating opportunities by analyzing risks and benefits
 - b) Checking government policies
 - c) Evaluating employees' salaries
 - d) Estimating taxes
29. Why is moderate inflation considered favorable for entrepreneurship?
- a) It stabilizes product demand
 - b) It eliminates market risks
 - c) It discourages new businesses
 - d) It reduces government intervention
30. Why is the availability of capital important for entrepreneurship?
- a) It ensures profit
 - b) It provides financial resources to start and grow the business
 - c) It eliminates risk
 - d) It guarantees success

Answer Key

1. B	11. B	21. B
2. A	12. C	22. C
3. B	13. B	23. B
4. D	14. C	24. C
5. C	15. A	25. B
6. C	16. C	26. B
7. C	17. C	27. B
8. B	18. B	28. A
9. C	19. B	29. A
10. C	20. B	30. B

BUSINESS STATISTICS

Business Statistics (10 Marks)

- Statistics - What and Why
- Organization & Presentation of Data
- Measures of Central Tendency
- Measures of Dispersion
- Correlation Analysis

STATISTICS – WHAT AND WHY

Statistics is the study of the collection, analysis, interpretation, presentation, and organization of data. In other words, it is a mathematical discipline to collect, summarize data. Also, we can say that statistics is a branch of applied mathematics. However, there are two important and basic ideas involved in statistics; they are uncertainty and variation. The uncertainty and variation in different fields can be determined only through statistical analysis. These uncertainties are basically determined by the probability that plays an important role in statistics.

Statistics is a branch of mathematics that deals with collecting, organizing, analyzing, interpreting, and presenting data. It helps us make sense of numerical information & draw meaningful conclusions from it.

What is Statistics?

Statistics is simply defined as the study and manipulation of data. As we have already discussed in the introduction that statistics deals with the analysis and computation of numerical data. Let us see more definitions of statistics given by different authors here.

- According to **Merriam-Webster dictionary**, statistics is defined as “classified facts representing the conditions of a people in a state – especially the facts that can be stated in numbers or any other tabular or classified arrangement”.
- According to statistician **Sir Arthur Lyon Bowley**, statistics is defined as “Numerical statements of facts in any department of inquiry placed in relation to each other”.

Why is Statistics Important?

1. **Decision-Making:** Helps individuals and businesses make informed decisions based on data.
2. **Understanding Trends:** Identifies patterns and trends in various fields like economics, healthcare, and social sciences.
3. **Prediction & Forecasting:** Used in weather forecasting, stock market analysis, and other predictive models.
4. **Quality Control:** Essential in manufacturing to ensure product consistency and efficiency.
5. **Scientific Research:** Supports hypothesis testing and data-driven discoveries.
6. **Risk Management:** Helps in assessing risks in finance, insurance, and medicine.

Statistics Examples

Some of the real-life examples of statistics are:

- To find the mean of the marks obtained by each student in the class whose strength is 50. The average value here is the statistics of the marks obtained.
- Suppose you need to find how many members are employed in a city. Since the city is populated with 15 lakh people, hence we will take a survey here for 1000

people (sample). Based on that, we will create the data, which is the statistic.

Basics of Statistics

- The basics of statistics include the measure of central tendency and the measure of dispersion. The central tendencies are mean, median and mode and dispersions comprise variance and standard deviation.
- Mean is the average of the observations. Median is the central value when observations are arranged in order. The mode determines the most frequent observations in a data set.
- Variation is the measure of spread out of the collection of data. Standard deviation is the measure of the dispersion of data from the mean. The square of standard deviation is equal to the variance.

Mathematical Statistics

- Mathematical statistics is the application of Mathematics to Statistics, which was initially conceived as the science of the state — the collection and analysis of facts about a country: its economy, and, military, population, and so forth.
- Mathematical techniques used for different analytics include mathematical analysis, linear algebra, stochastic analysis, differential equation and measure-theoretic probability theory.

Statistics Formulas

The formulas that are commonly used in statistical analysis are given in the table below.

Meer Sir Academy	
Sample Mean ($\bar{x}$)	$\bar{x} = \frac{\sum x}{n}$
Population Mean (μ)	$\mu = \frac{\sum x}{N}$
Sample Standard Deviation (s)	$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$
Population Standard Deviation (σ)	$\sigma = \sqrt{\frac{\sum (x - \mu)^2}{N}}$
Sample Variance (s^2)	$s^2 = \frac{\sum (x_i - \bar{x})^2}{n - 1}$
Population Variance (σ^2)	$\sigma^2 = \frac{\sum (x_i - \mu)^2}{N}$
Range (R)	$R = \text{Largest data value} - \text{Smallest data value}$
Range (R)	$R = \text{Largest data value} - \text{Smallest data value}$

STAGES IN A STATISTICAL INVESTIGATION

Five Stages:



1. **Collection:** This is the primary step in a statistical study and data should be collected with care by the investigator. If data are faulty, the conclusions drawn can never be reliable. The data may be available from existing published or unpublished sources or else may be collected by the investigator himself. The first-hand collection of data is one of the most difficult and important tasks faced by a statistician.
2. **Organization:** Data collected from published sources are generally in organized form. However, a large mass of figures that are collected from a survey frequently needs organization. In organizing, there are 3 steps as
 - a. **Editing:** The collected data must be editing very carefully so that the omissions, inconsistencies irrelevant answers and wrong computation in the returns from a survey may be corrected or adjusted.
 - b. **Classify:** Classification is the process of arranging the data according to some common characteristics possessed by the items constituting the data.
 - c. **Tabulation:** To arrange the data in columns and rows. Hence collected data is organized properly so that the desire information may be highlighted and undesirable information avoided.
3. **Presentation:** Arranged data is not capable to influence a layman. Thus, it is necessary that data may be presented with the help of tables, diagrams and graphs. By these devices facts can be understood easily.
4. **Analysis:** A major part of it is developed to the methods used in analyzing the presented data, mostly in a tabular form. For this analysis, a number of statistical tools are available, such as averages, correlation, regression etc.
5. **Interpretation:** the interpretation of a data is a difficult task and necessitates a high degree of skills and experience in the statistical investigation because certain decisions made on the basis of conclusions drawn.

Types of Statistics

Basically, there are two types of statistics.

- Descriptive Statistics
- Inferential Statistics

Descriptive Statistics

The data is summarised and explained in descriptive statistics. The summarization is done from a population sample utilising several factors such as mean and standard deviation. It is a way of organising, representing, and explaining a set of data using charts, graphs, and summary measures.

Histograms, pie charts, bars, and scatter plots are common ways to summarise data and present it in tables or graphs. Descriptive statistics are just that: descriptive. They don’t need to be normalised beyond the data they collect.

Inferential Statistics

We attempt to interpret the meaning of descriptive statistics using inferential statistics. We utilise inferential statistics to convey the meaning of the collected data after it has been collected, evaluated, and summarised. The probability principle

is used in inferential statistics to determine if patterns found in a study sample may be extrapolated to the wider population from which the sample was drawn.

Inferential statistics are used to test hypotheses and study correlations between variables, and they can also be used to predict population sizes. Inferential statistics are used to derive conclusions and inferences from samples, i.e. to create accurate generalisations.

Summary Statistics

In Statistics, summary statistics are a part of descriptive statistics (Which is one of the types of statistics), which gives the list of information about sample data. We know that statistics deals with the presentation of data visually and quantitatively.

Thus, summary statistics deals with summarizing the statistical information. Summary statistics generally deal with condensing the data in a simpler form, so that the observer can understand the information at a glance. Generally, statisticians try to describe the observations by finding:

- The measure of central tendency or mean of the locations, such as arithmetic mean.
- The measure of distribution shapes like skewness or kurtosis.
- The measure of dispersion such as the standard mean absolute deviation.
- The measure of statistical dependence such as correlation coefficient.

Summary Statistics Table

The summary statistics table is the visual representation of summarized statistical information about the data in tabular form.

For example, the blood group of 20 students in the class are O, A, B, AB, B, B, AB, O, A, B, B, AB, AB, O, O, B, A, AB, B, A.

Blood Group	No. of Students
O	4
A	4
B	7
AB	5
Total	20

Thus, the summary statistics table shows that 4 students in the class have O blood group, 4 students have A blood group, 7 students in the class have B blood group and 5 students in the class have AB blood group. The summary statistics table is generally used to represent the big data related to population, unemployment, and the economy to be summarized systematically to interpret the accurate result.

Scope of Statistics

Statistics is used in many sectors such as psychology, geology, sociology, weather forecasting, probability and much more. The goal of statistics is to gain understanding from the data, it focuses on applications, and hence, it is distinctively considered as a mathematical science.

Methods in Statistics

The methods involve collecting, summarizing, analyzing, and interpreting variable numerical data. Here some of the methods are provided below.

- Data collection
- Data summarization

- Statistical analysis

LIMITATIONS OF STATISTICS

- ✓ Statistics does not study qualitative facts:
- ✓ Statistics doesn’t study individual:
- ✓ Statistical results are true only on the average:
- ✓ Statistics as lack of complete accuracy:
- ✓ Statistics is liable to be misused:
- ✓ Statistics is only one of the methods of studying a phenomenon;
- ✓ Statistical results may be misleading;

ORGANIZATION & PRESENTATION OF DATA

What is Data in Statistics?

Data is a collection of facts, such as numbers, words, measurements, observations etc.

TYPES OF DATA AND DATA SOURCES

Statistical data are the foundation of statistics, representing measurable, countable, or classifiable aspects of a subject, phenomenon, or activity. A **variable** is anything that generates data and exhibits variability in successive measurements.

Types of Data

1. **Quantitative Data** – It is numerical information. *Example- An Octopus is an Eight legged creature.* Measurable in definite units and classified into:
 - **Continuous Data:** Can take any value within a range (e.g., weight, height, temperature).
 - **Discrete Data:** Countable values with fixed numbers (e.g., number of customers, defective items).
2. **Qualitative Data** – it is descriptive data. *Example- She can run fast. He is thin.* Based on attributes rather than measurements and classified into:
 - **Nominal Data:** Categorized without a specific order (e.g., gender, skill level).
 - **Rank Data:** Ordered based on performance or criteria (e.g., competition rankings).

Data Sources

- **Secondary Data:** Pre-existing data from published or unpublished sources.
- **Primary Data:** Newly collected data for a specific purpose.

Data can be classified as either primary or secondary, depending on its source. Let’s explore both types:

Primary Data

Primary data is collected firsthand by an investigator for a specific purpose. It is considered "pure" since no prior statistical operations have been performed on it, making it original and unaltered. An example of primary data is the Census of India.

Secondary Data

Secondary data refers to information obtained from a source that originally collected it. This type of data has been previously gathered by researchers or investigators and may be available in published or unpublished forms. Since statistical operations may have already been applied, it is not considered completely pure. Examples include data from the Government of India’s Department of Finance website, books, journals, or other repositories.

Collection of Primary Data

Primary data is obtained through experimental or descriptive research methods such as experiments, surveys, observations, or direct communication with respondents. Some key methods of collecting primary data include:

Observation Method

This method is widely used in behavioral science research. When observation is conducted with a specific research purpose and follows a systematic approach with checks and controls, it becomes a scientific tool for data collection.

Types of Observation

1. **Structured vs. Unstructured Observation**
 - I. **Structured Observation:** The process is well-defined, specifying what to observe, how to observe, and under what conditions.
 - II. **Unstructured Observation:** There are no predetermined guidelines, allowing for a more exploratory approach.
2. **Participant, Non-participant, and Disguised Observation**
 - I. **Participant Observation:** The observer becomes part of the group being studied.
 - II. **Non-participant Observation:** The observer remains detached from the group.
 - III. **Disguised Observation:** The observer studies subjects without their knowledge.
3. **Controlled vs. Uncontrolled Observation**
 - I. **Controlled (Laboratory) Observation:** Conducted in a structured setting with experimental procedures.
 - II. **Uncontrolled (Exploratory) Observation:** Takes place in a natural environment without intervention.

Advantages of Observation	Limitations of Observation
• Eliminates subjective bias • Data is not influenced by past behaviors or future intentions • Captures natural behavior of subjects	• Expensive method • Limited scope of information • Unpredictable factors may affect observations

Methods of Data Collection

1. Interview Method

This method involves gathering data through verbal interaction, where responses are provided orally. It can be conducted in two ways:

(A) Personal Interview

A person, known as the interviewer, asks questions face-to-face with the respondent and it can be categorized as:

- i. **Direct Personal Investigation:** The interviewer personally collects information from the concerned individuals.
- ii. **Indirect Oral Examination:** Information is gathered by questioning people who have knowledge about the subject.
- iii. **Structured Interviews:** These involve predetermined questions and standardized recording techniques.

- iv. **Unstructured Interviews:** These are flexible and do not follow a fixed set of questions.
- v. **Focused Interview:** The interviewer explores specific experiences and their effects on the respondent, allowing open-ended questioning.
- vi. **Clinical Interview:** This method delves into deep personal feelings, motives, and experiences to gather information.
- vii. **Non-Directive Interview:** The interviewer encourages the respondent to discuss a topic freely with minimal direct questioning.

Advantages	Limitations
- Provides in-depth information. - Allows better sample control. - Greater flexibility in questioning. - Personal information can be gathered. - Reduces misinterpretation in unstructured interviews.	- Expensive method. - Risk of interviewer or respondent bias. - Time-consuming. - Potential for inaccurate or dishonest responses. - Requires highly skilled interviewers.

(B) Telephonic Interviews

Information is collected by calling respondents and asking questions over the phone.

Advantages	Limitations
- Fast, flexible, and cost-effective. - Easier recall and higher response rate. - No need for field staff.	- Interviews should not exceed five minutes. - Limited to respondents with phone access. - Questions must be brief and direct. - Limited data can be collected.

2. Questionnaire Method

A questionnaire is sent to respondents, who are expected to read, answer, and return it. It consists of multiple questions in a structured format. Conducting a **pilot study** (a small-scale test survey) is recommended to identify weaknesses in the questionnaire.

Essentials of a Good Questionnaire

- Should be concise and straightforward.
- Questions should follow a logical sequence.
- Avoid technical terms and vague expressions.
- Include control questions to verify reliability.
- Provide enough space for responses.
- Include clear instructions for completion.
- Ensure good paper quality and presentation to attract respondents.

Advantages	Limitations
Eliminates interviewer bias.	- Low response rate. - No control over how respondents answer.

- Respondents can take their time to answer. - Convenient and accessible. - Large samples improve reliability.	- Inflexible once sent. - Risk of ambiguous or incomplete responses. - Time-consuming process.
--	--

3. Schedules Method

Similar to the questionnaire method, but with schedules filled out by trained enumerators who assist respondents by explaining the purpose of the survey and clarifying any doubts. Enumerators must be skilled, honest, and patient. This method is useful for large-scale studies but is costly.

Collection of Secondary Data

Researchers can obtain secondary data from various sources, which can be either **published** or **unpublished**.

Published Sources	Unpublished Sources
- Government publications. - Technical and trade journals. - Reports from businesses, banks, etc. - Public records. - Statistical and historical documents.	- Letters, diaries, and private documents. - Unpublished biographies or research.

Factors to Consider Before Using Secondary Data

- Reliability** – Assess the source, method of collection, and potential biases.
- Suitability** – Ensure it aligns with the research objectives.
- Adequacy** – Check accuracy and relevance to the study area.

Census and Sampling in Data Collection

In statistics, data collection is the foundation of all analysis and interpretation. There are several methods of collecting data, but in this lesson, we will focus on two primary methods: Census Method and Sampling Method. Both methods are suitable for different scenarios, and understanding when to apply each is essential.

Census Method

The Census Method involves studying every member of a population. A population refers to the entire set of observations under consideration.

For example, if a school wants to collect feedback from students about its facilities, the entire student body would be considered the population. Similarly, a government may conduct a national census to gather information about every household in the country.

In India, the Census of India is conducted every ten years. This survey collects detailed demographic data, such as birth rates, death rates, total population, and population growth. The last census was conducted in 2011.

Characteristics of the Census Method include:

- ✓ Collecting data from all individuals in a population.
- ✓ Providing accurate and comprehensive data.
- ✓ Being time-consuming and expensive.

Difference between Census and Sample Surveys

Parameter	Census	Sample Survey
Definition	A statistical method that studies all the units or members of a population.	A statistical method that studies only a representative group of the population, and not all its members.
Calculation	Total/Complete	Partial
Time involved	It is a time-consuming process.	It is a quicker process.
Cost involved	It is a costly method.	It is a relatively inexpensive method.
Accuracy	The results obtained are accurate as each member is surveyed. So, there is a negligible error.	The results are relatively inaccurate due to leaving out of items from the sample. The resulting error is large.
Reliability	Highly reliable	Low reliability
Error	Not present	The smaller the sample size, the larger the error.
Relevance	This method is suited for heterogeneous data.	This method is suited for homogeneous data.

Sampling Method

In many cases, collecting data from an entire population is impractical due to time and cost constraints. Instead, researchers use the **Sampling Method**, where data is collected from a smaller, representative group of the population. This group is called a **sample**.

For instance, instead of surveying all students in a school, a researcher could select a group of students from different classes to represent the whole student body. Similarly, if the government wants to estimate the average income of Indian households, it may survey a sample of households rather than every household in the country.



A good sample should be:

- **Small in size** but representative of the entire population.
- **Accurate**, providing insights into the entire population.
- **Cost-effective and time-efficient**.

The key to an effective study is selecting an appropriate sample. For instance, if a researcher wants unbiased student feedback, they should ensure that the selected students represent diverse backgrounds.

Sampling Techniques

Sampling plays a crucial role in research, and selecting the right technique is essential for accurate results. Sampling methods are broadly classified into:

1. Probability Sampling (random selection)
2. Non-Probability Sampling (non-random selection)

1. Probability Sampling

In **Probability Sampling**, every element in the population has an equal chance of being selected. This method ensures unbiased and representative samples.

a) Simple Random Sampling

Each element of the population has an equal probability of being selected. It is used when there is no prior knowledge about the population.

Example: Selecting 20 students randomly from a class of 50. Each student has a **1/50** chance of being selected.

b) Stratified Sampling

The population is divided into subgroups (**strata**) based on similar characteristics. Then, elements are randomly selected from each stratum.

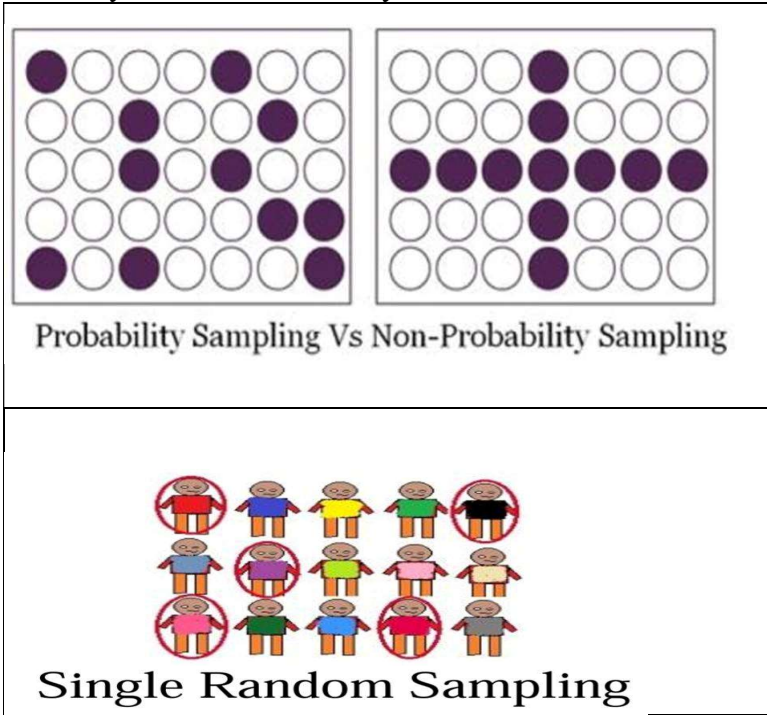
Example: If a survey studies income levels, the population can be divided into low-income, middle-income, and high-income groups. Then, random samples are taken from each group.

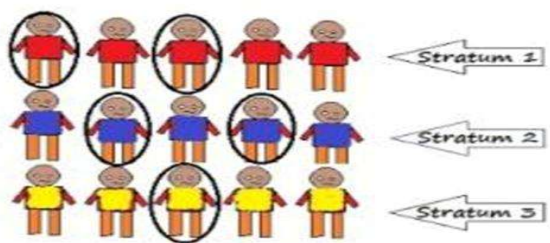
c) Cluster Sampling

The population is divided into clusters, and entire clusters are randomly selected for the study.

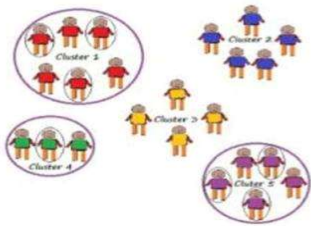
- **Single-stage cluster sampling:** Entire clusters are selected randomly.
- **Two-stage cluster sampling:** First, clusters are selected randomly, and then individuals within those clusters are randomly chosen.

Example: A country is divided into states, and a few states are randomly selected for a survey.

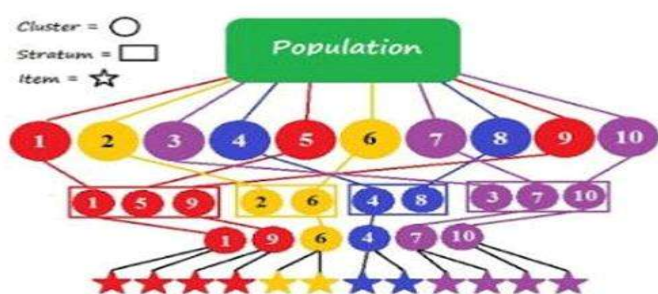




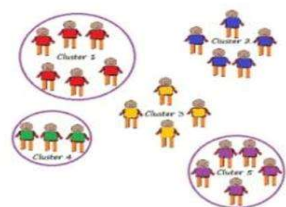
Stratified Sampling



Two Stage Cluster Sampling



Multi-Stage Sampling



Single Stage Cluster Sampling

d) Systematic Sampling

Instead of random selection, elements are chosen at regular intervals.



Systematic Clustering

Example: If a population has 20 people and a researcher wants a sample of 5, they select every **4th person** ($20/5 = 4$). If the first selection is **3**, then the sample includes **3, 7, 11, 15, 19**.

e) Multi-Stage Sampling

This method combines two or more sampling techniques. The population is divided into multiple levels before selecting the final sample.

Example: A country is divided into **states**, then into **cities**, then into **urban and rural areas**, and finally into **households**.

2. Non-Probability Sampling

In Non-Probability Sampling, elements are chosen based on subjective judgment rather than random selection. This can introduce bias but is useful when random sampling is impractical.

a) Convenience Sampling

Samples are selected based on availability and accessibility.

Example: A researcher surveying shoppers at a mall because they are easy to reach.

b) Purposive Sampling

Samples are chosen based on specific criteria relevant to the study.

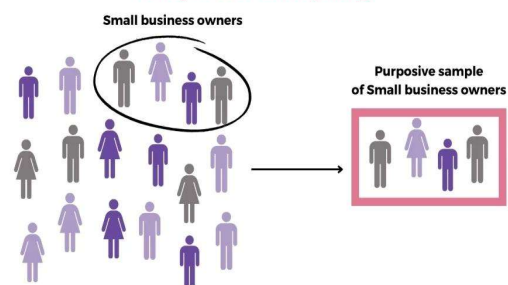
Example: If a study focuses on students pursuing a master's degree, only those planning to enroll in a master's program will be selected.

Convenience Sampling

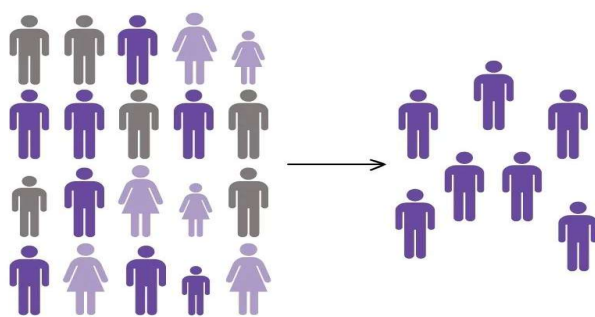


Find panelists that are easy to access

Purposive Sampling



Quota Sampling

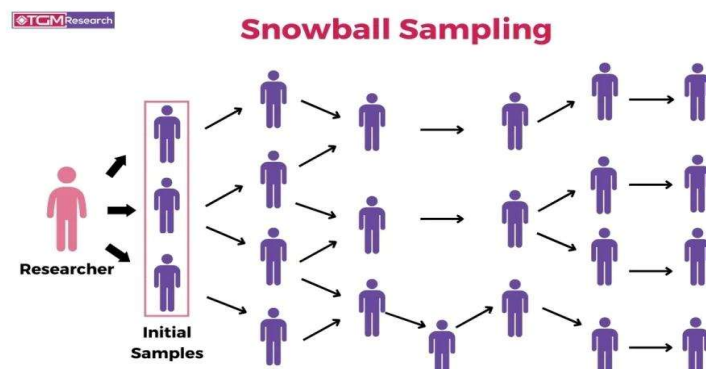


c) Quota Sampling

A sample is selected to reflect the proportions of characteristics in the population.

Example: If a population consists of 45% females and 55% males, the sample should also maintain the same proportion.

Snowball Sampling



d) Snowball Sampling

This method is used when the population is hard to reach. Existing subjects help recruit more participants.

Example: In a study about **HIV/AIDS awareness**, initial participants refer other individuals, expanding the sample over time.

When Would It Be Preferable To Use A Non-probability Sample?

Non-probability sampling methods are particularly beneficial in the following scenarios:

1. **Exploratory Research:** When the focus is on understanding phenomena or exploring new areas without the need for generalizability.
2. **Limited Resources:** When time, budget, or access to the population is constrained, non-probability sampling offers a cost-effective alternative.
3. **Hard-to-Reach Populations:** For studying populations that are difficult to locate or access, such as
 - Bar Graph
 - Pie Chart
 - Line Graph

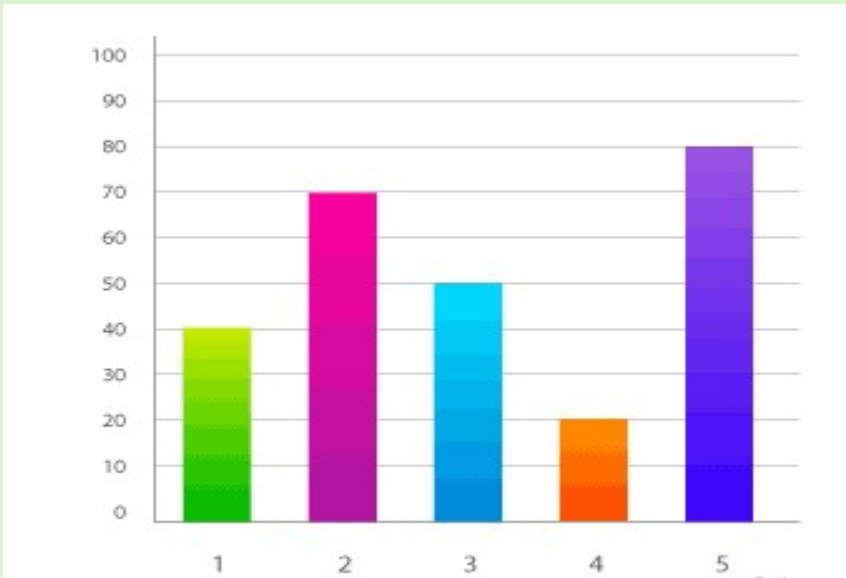
undocumented immigrants or individuals with rare conditions.

4. **Pilot Studies:** To test research instruments, procedures, or hypotheses before conducting larger-scale studies.
5. **Qualitative Research:** Non-probability sampling is often preferred in qualitative research, where the emphasis is on understanding individual perspectives and experiences rather than generalizability.

Representation of Data

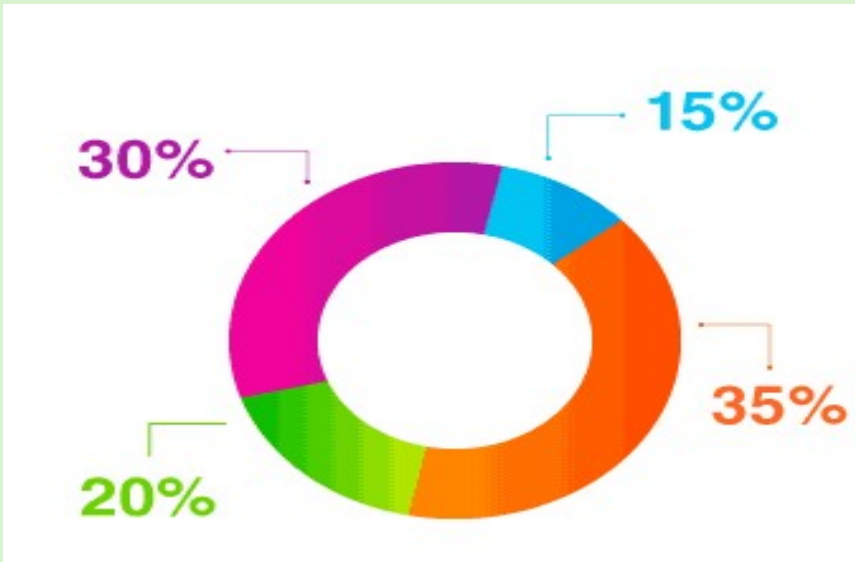
There are different ways to represent data such as through graphs, charts or tables. The general representation of statistical data are:

- Pictograph
- Histogram
- Frequency Distribution



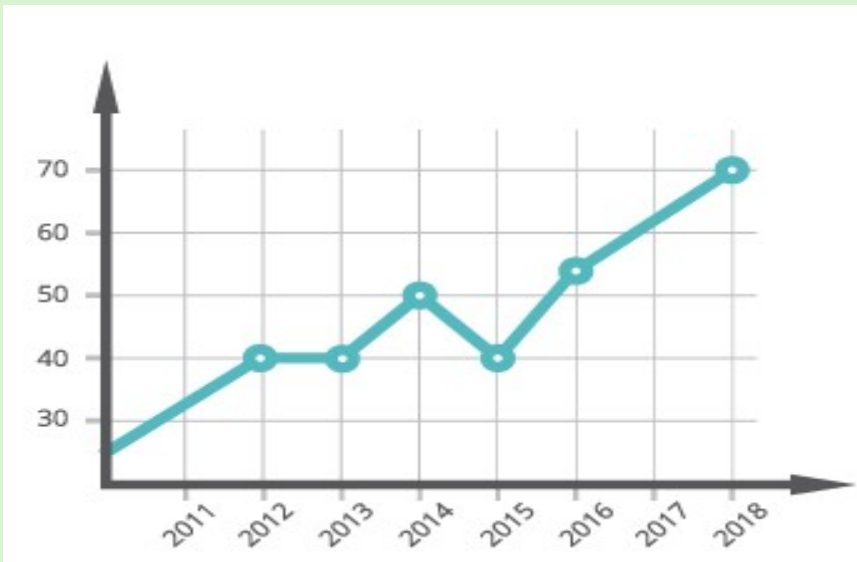
Bar Graph

A Bar Graph represents grouped data with rectangular bars with lengths proportional to the values that they represent. The bars can be plotted vertically or horizontally.



Pie Chart

A type of graph in which a circle is divided into **Sectors**. Each of these sectors represents a proportion of the whole.



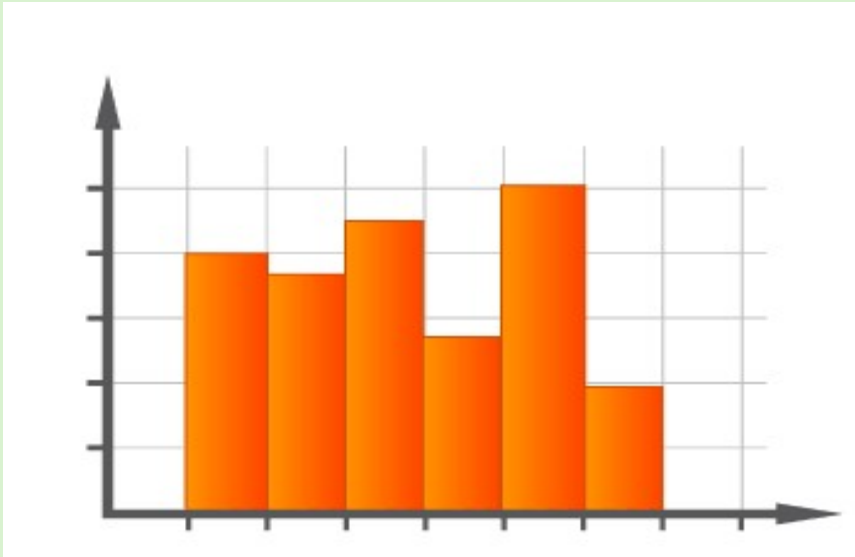
Line Graph

The line chart is represented by a series of data points connected with a straight line. The series of data points are called ‘markers.’



Pictograph

A pictorial symbol for a word or phrase, i.e. showing data with the help of pictures. Such as Apple, Banana & Cherry can have different numbers, and it is just a representation of data.



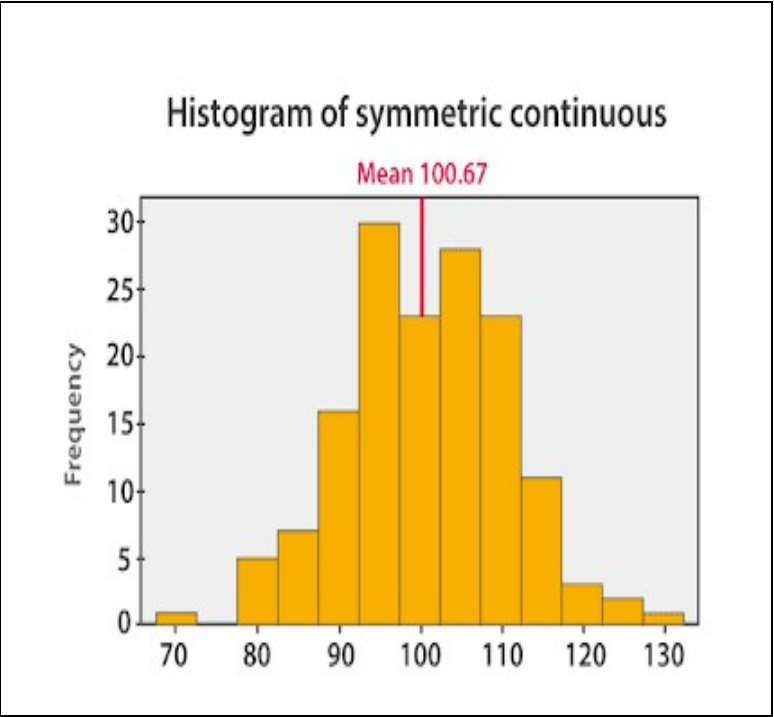
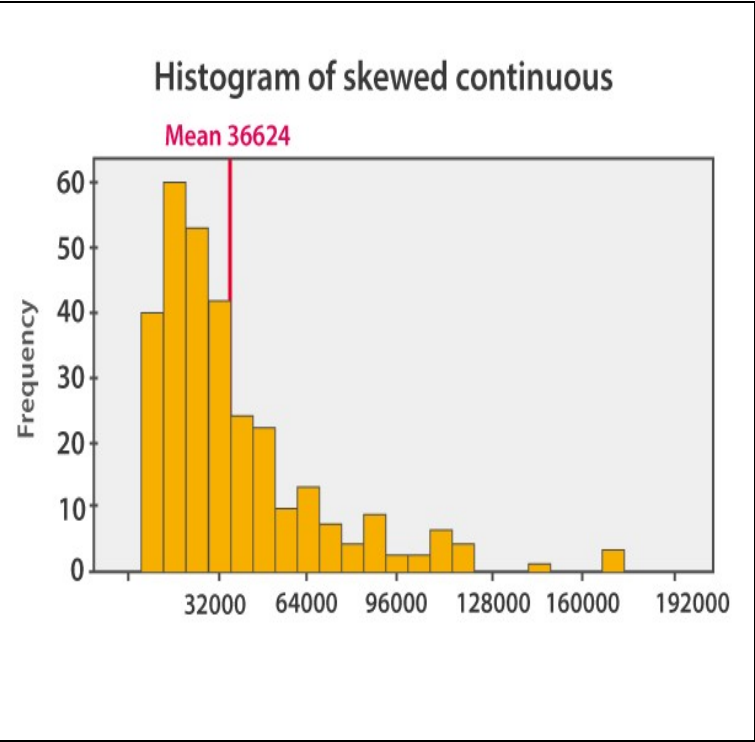
Histogram

A diagram is consisting of rectangles. Whose area is proportional to the frequency of a variable and whose width is equal to the class interval.

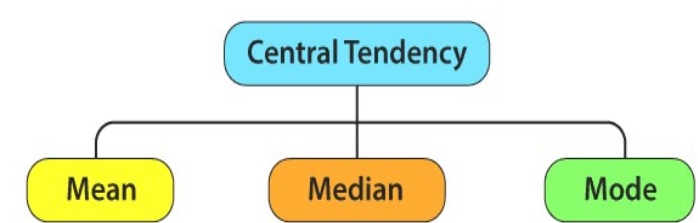
Marks obtained	Frequency
5	4
6	3
7	6
8	5
9	3
10	1

Frequency Distribution

The frequency of a data value is often represented by “f.” A frequency table is constructed by arranging collected data values in ascending order of magnitude with their corresponding frequencies.



MEASURES OF CENTRAL TENDENCY



The measure of central tendency is defined as the statistical measure that identifies a single value as the representative of an entire distribution. It aims to provide an accurate description of the entire data. It is the single value that is most typical/representative of the data. Since such typical values tend to lie centrally within a set of observations when arranged according to magnitudes, averages.

In Mathematics, statistics are used to describe the central tendencies of the grouped and ungrouped data. The three measures of central tendency are:

All three measures of central tendency are used to find the central value of the set of data.

Mean

The mean represents the average value of the dataset. It can be calculated as the sum of all the values in the dataset divided by the number of values.

In general, it is considered as the arithmetic mean. Some other measures of mean used to find the central tendency are as follows:

- Geometric Mean
- Harmonic Mean
- Weighted Mean

Table 2.1: Calculation of a Weighted Mean

Type of Test	Relative Weight (w)	Marks (x)	(wx)
Mid-term	2	30	60
Laboratory	3	25	75
Final	5	20	100
Total	Σw = 10		Σwx = 235

Weighted Mean Formula

$$\bar{x} = \frac{\sum wx}{\sum w}$$
$$= \frac{w_1x_1 + w_2x_2 + w_3x_3}{w_1 + w_2 + w_3}$$

Substitution

$$\bar{x} = \frac{60 + 75 + 100}{2 + 3 + 5}$$
$$= \frac{235}{10} = 23.5 \text{ marks}$$

Weighted Mean = 23.5 marks

It is observed that if all the values in the dataset are the same, then all geometric, arithmetic and harmonic mean values are the same. If there is variability in the data, then the mean value differs. Calculating the mean value is completely easy. The formula to calculate the mean value is given by:

Mean (Arithmetic Mean):

$$\text{Mean} = \frac{x_1 + x_2 + \cdots + x_n}{n}$$

Where:

- $x_1, x_2, \dots, x_n$ are the observations
- n is the number of observations

The histogram given below shows that the mean value of symmetric continuous data and the skewed continuous data.

In symmetric data distribution, the mean value is located accurately at the centre. But in the skewed continuous data distribution, the extreme values in the extended tail pull the mean value away from the centre. So it is recommended that the mean can be used for the symmetric distributions.

Arithmetic Mean

Arithmetic Mean (Simple Mean)

Add all the observations and divide by the number of observations.

Given Observations: 10, 15, 30, 7, 42, 79, 83

$$\bar{x} = \frac{\sum x}{n}$$

Sum = 10 + 15 + 30 + 7 + 42 + 79 + 83 = 266

$$\bar{x} = \frac{266}{7} = 38$$

Arithmetic Mean = 38

Note: μ = Population Mean, $\bar{x}$ = Sample Mean.

Ungrouped Data – Weighted Average

When different weights are involved, use the **weighted mean**.

Weights:

- Mid-term Test: 2
- Laboratory: 3
- Final Exam: 5

$$\text{Weighted Mean} = \frac{\sum wx}{\sum w}$$

Test	Marks (x)	Weight (w)	w × x
Mid-term	60	2	60 × 2 = 120
Laboratory	70	3	70 × 3 = 210
Final Exam	80	5	80 × 5 = 400

Σwx = 730 Σw = 10

$$\text{Weighted Mean} = \frac{730}{10} = 73$$

Weighted Average = 73

Weighted mean gives a **more realistic picture** than the **simple mean**.

Arithmetic Mean

Arithmetic mean is the most commonly used measure of central tendency. It is computed by adding all the values in the data set and dividing the total by the number of observations.

Computation of Arithmetic Mean in Case of Individual Series

The arithmetic mean in case of individual series can be computed using the following methods:

- Direct Method
- Assumed Mean Method

Direct Method

If there are **N observations** as $X_1, X_2, X_3, \dots, X_n$

Then the Arithmetic Mean (usually denoted by $\bar{X}$, read as X bar) is given by:

$$\bar{X} = \frac{X_1 + X_2 + X_3 + \dots + X_N}{N}$$

or

$$\bar{X} = \frac{\sum X}{N}$$

Where:

Where:

$\sum X$ = Sum of all observations
N = Total number of observations

Example 1

Calculate Arithmetic Mean from the data showing the marks obtained by 7 students of class XI in a certain examination:
5, 11, 16, 17, 19, 24, 30

Solution:

$$\begin{aligned} \bar{X} &= \frac{\sum X}{N} \\ &= \frac{5 + 11 + 16 + 17 + 19 + 24 + 30}{7} \\ &= \frac{122}{7} = 17.43 \end{aligned}$$

The average marks are 17.43.

Assumed Mean Method

The assumed mean method (also called shortcut method) is useful when the number of observations is large or when values involve fractions. It simplifies calculation.

In this method, a particular value is assumed as the arithmetic mean based on logic or convenience. The deviation of each observation from the assumed mean is calculated. The sum of these deviations is then divided by the total number of observations.

The actual arithmetic mean is calculated using the formula:

$$\bar{X} = A + \frac{\sum d}{N}$$

Where:

$\bar{X}$ = Arithmetic Mean
A = Assumed Mean
d = (X – A)
 $\sum d$ = Sum of deviations
N = Number of observations

Note: Any value (present in the data or not) can be taken as assumed mean. The final answer will remain the same.

Example 2

Data of exports of certain firms for the year 2013–2014:

Firms	1	2	3	4	5	6	7	8	9
Value of Exports (₹ Cr)	10	20	30	40	50	60	70	80	90

Compute the average value of exports using Assumed Mean Method.

Solution

Table: Computation of Arithmetic Mean by Assumed Mean Method

Assumed Mean (A) = 60

Firms	Exports (X)	d = (X – 60)
1	10	-50
2	20	-40
3	30	-30
4	40	-20
5	50	-10
6	60	0
7	70	10
8	80	20
9	90	30

N = 9

$\sum X$ = 450

$\sum d$ = -90

Now apply formula:

$$\begin{aligned} \bar{X} &= A + \frac{\sum d}{N} \\ &= 60 + \frac{-90}{9} \\ &= 60 - 10 = 50 \end{aligned}$$

Average value of exports = ₹50 crores.

Computation of Arithmetic Mean for Grouped data Discrete Series:

In case of discrete series where the variable X takes the values $X_1, X_2 \dots X_N$ with respective frequencies $f_1, f_2 \dots f_N$ the arithmetic mean can be calculated by applying:

- a) Direct Method
- b) Assumed Mean Method.
- c) Step Deviation Method

(i) Direct Method

According to this method, the arithmetic mean is given by:

$$\bar{X} = \frac{f_1X_1 + f_2X_2 + \dots + f_nX_n}{f_1 + f_2 + \dots + f_n}$$

or

$$\bar{X} = \frac{\sum fX}{\sum f}$$

Where:

$\sum f$ = Total frequency

Example 3

The following data gives the weekly wages (in ₹) of **20 workers** in a factory:

Weekly Earnings (₹):
100, 140, 170, 200, 250

Number of Workers:
5, 2, 6, 4, 3

Calculate the average weekly earnings of the workers.

Solution

Table: Computation of Arithmetic Mean

Weekly Wages (X)	No. of Workers (f)	fX	d = X – 170	Fd
100	5	500	-70	-350
140	2	280	-30	-60
170	6	1020	0	0
200	4	800	30	120
250	3	750	80	240

$\Sigma f = 20$
 $\Sigma fX = 3350$
 $\Sigma fd = -50$

Using Direct Method:

$$\bar{X} = \frac{\Sigma fX}{\Sigma f}$$
$$= \frac{3350}{20} = ₹167.50$$

So, the **average weekly wages = ₹167.50**

(ii) Assumed Mean Method

Since in discrete series frequency (f) of each item is given, we multiply each deviation (d) from the assumed mean (A) with the respective frequency (f) to get fd.

Formula:

$$\bar{X} = A + \frac{\Sigma fd}{N}$$

Where:
A = Assumed Mean
d = X – A
N = Σf

Calculation:

Assumed Mean (A) = 170

$$\bar{X} = 170 + \frac{-50}{20}$$
$$= 170 - 2.5 = ₹167.50$$

So, the **average weekly earnings = ₹167.50**

(iii) Step Deviation Method

In this method, deviations from the assumed mean are divided by a common factor **c** to simplify calculation.

$$d' = \frac{d}{c} = \frac{X - A}{c}$$

Formula:

$$\bar{X} = A + \frac{\Sigma fd'}{\Sigma f} \times c$$

Example 4

From the following data of marks obtained by **60 students** of a class:

Marks	20	30	40	50	60	70
No. of Students	8	12	20	10	6	4

Calculate the arithmetic mean by:

- (i) Direct Method
- (ii) Assumed Mean Method
- (iii) Step Deviation Method

Solution

Table: Calculation of Arithmetic Mean

Marks (X)	No. of Students (f)	fX	d = (X – 40)	d' = d/10	fd	fd'
20	8	160	-20	-2	-160	-16
30	12	360	-10	-1	-120	-12
40	20	800	0	0	0	0
50	10	500	10	1	100	10
60	6	360	20	2	120	12
70	4	280	30	3	120	12

$\Sigma f = 60$
 $\Sigma fX = 2460$
 $\Sigma fd = 60$
 $\Sigma fd' = 6$

Direct Method:

$$\bar{X} = \frac{2460}{60} = 41$$

Assumed Mean Method:

$$\bar{X} = 40 + \frac{60}{60} = 41$$

Step Deviation Method:

$$\bar{X} = 40 + \frac{6}{60} \times 10$$
$$= 40 + 1 = 41$$

So, the **Arithmetic Mean = 41 marks**.

Computation of Arithmetic Mean in Case of Continuous Series

In a **continuous series**, class intervals and frequencies are given. For calculating the arithmetic mean, **mid-points of class intervals** are used.

Class intervals may be:

- Exclusive type
- Inclusive type
- Unequal size

In continuous series also, arithmetic mean can be calculated by the following methods:

- a) Direct Method
- b) Assumed Mean Method
- c) Step Deviation Method

(i) Direct Method

The steps involved in the calculation of arithmetic mean are:

Step 1

Calculate the **mid-point (m)** of each class:

m = (Lower Limit + Upper Limit) / 2

Step 2

Multiply the mid-point with the respective frequency and denote the product as **fm**.

Step 3

Calculate arithmetic mean using the formula:

X̄ = Σfm / Σf

Where:

Σf = Total frequency

m = Mid-point of class interval

(ii) Assumed Mean Method

Under this method, the formula for calculating arithmetic mean is:

X̄ = A + Σfd / Σf

Where:

A = Assumed mean

d = m - A

f = Frequency of observations

(iii) Step Deviation Method

To simplify calculations, deviations (d) are divided by a **common factor (c)**. This reduces large values and makes calculation easier.

d' = d / c

Later, the value of d' is multiplied again by **c** so that the final result of arithmetic mean remains unchanged.

Step 1

Calculate:

d' = (m - A) / c

Where:

m = Mid-point

A = Assumed mean

c = Common factor (difference between upper and lower limit of a class interval)

Step 2

Apply the formula:

X̄ = A + Σfd' / Σf × c

Example 6

Calculate the **average land size of farmers of a village** using:

(a) Direct Method

(b) Step Deviation Method

Given Data:

Size of Land (in hectares)	0–10	10–20	20–30	30–40	40–50	50–60
No. of Farmers	42	44	58	35	26	15

Step 1: Find Mid-Points (m)

m = (Lower Limit + Upper Limit) / 2

Class	Mid-point (m)
0–10	5
10–20	15
20–30	25
30–40	35
40–50	45
50–60	55

(a) Direct Method

Formula:

X̄ = Σfm / Σf

Calculation Table:

Class	F	M	fm
0–10	42	5	210
10–20	44	15	660
20–30	58	25	1450
30–40	35	35	1225
40–50	26	45	1170
50–60	15	55	825

Totals:

Σf = 220

Σfm = 5540

Mean Calculation:

X̄ = 5540 / 220
X̄ = 25.18

Average Land Size (Direct Method):

= 25.18 hectares

(b) Step Deviation Method

Choose:

Assumed Mean (A) = 25

Class width (c) = 10

Formula:

X̄ = A + Σfd' / Σf × c

Where:

d' = (m - A) / c

Calculation Table:

M	F	d'	fd'
5	42	-2	-84
15	44	-1	-44
25	58	0	0

35	35	1	35
45	26	2	52
55	15	3	45

Totals:

$$\Sigma f = 220$$

$$\Sigma fd' = 4$$

Mean Calculation:

$$\begin{aligned}\bar{X} &= 25 + \frac{4}{220} \times 10 \\ \bar{X} &= 25 + 0.18 \\ \bar{X} &= 25.18\end{aligned}$$

Final Answer

Average land size of farmers:

- By Direct Method = 25.18 hectares
- By Step Deviation Method = 25.18 hectares

Both methods give the same result, which confirms the calculation is correct.

A company is planning to improve plant safety. For this purpose, accident data for the last 180 weeks were collected and grouped into the following frequency distribution:

Number of Accidents	1–10	11–20	21–30	31–40	41–50	51–60
Number of Weeks	10	20	30	50	40	30

Calculate the **arithmetic mean of the number of accidents per day**.

Given (grouped) weekly accident data for **180 weeks**:
Classes (No. of accidents per week): 1–10, 11–20, 21–30, 31–40, 41–50, 51–60

Frequencies (No. of weeks): 10, 20, 30, 50, 40, 30 ($\Sigma f = 180$)
1) Convert inclusive to exclusive (so mid-points are correct)
Exclusive classes become:
0.5–10.5, 10.5–20.5, 20.5–30.5, 30.5–40.5, 40.5–50.5, 50.5–60.5
Mid-points x : 5.5, 15.5, 25.5, 35.5, 45.5, 55.5

2) Use assumed mean / step-deviation

Take assumed mean $A = 45.5$, class width $c = 10$
Then $d' = \frac{x-A}{c}$ gives:
-4, -3, -2, -1, 0, +1

Multiply by f :
 fd' : 10(-4) = -40, 20(-3) = -60, 30(-2) = -60, 50(-1) = -50, 40(0)=0, 30(1)=30

$$\text{So, } \Sigma fd' = -180$$

$$\bar{X} = A + \left(\frac{\Sigma fd'}{\Sigma f} \right) c = 45.5 + \left(\frac{-180}{180} \right) 10 = 45.5 - 10 = 35.5$$

So the **mean accidents = 35.5 accidents per week**.

3) Convert to “per day”

$$\text{Mean per day} = \frac{35.5}{7} = 5.0714 \approx 5.07$$

Arithmetic mean number of accidents per day $\approx$ 5.07
(accidents/day).

Combined Mean

If a series of **N observations** consists of two or more components having $N_1, N_2, N_3, \dots$ observations with respective means $\bar{X}_1, \bar{X}_2, \bar{X}_3, \dots$, then the **combined mean** $\bar{X}$ of all observations is given by:

$$\bar{X} = \frac{N_1\bar{X}_1 + N_2\bar{X}_2 + N_3\bar{X}_3 + \dots}{N_1 + N_2 + N_3 + \dots}$$

Example 7

The average marks of three batches of students having **70, 50 and 30 students** respectively are **50, 55 and 45**. Find the **average marks of all the 150 students taken together**.

Solution:

Let $\bar{X}$ be the average marks of all 150 students.

$$\begin{aligned}\bar{X}_1 &= 50, \bar{X}_2 = 55, \bar{X}_3 = 45 \\ N_1 &= 70, N_2 = 50, N_3 = 30\end{aligned}$$

Using the formula of combined mean:

$$\begin{aligned}\bar{X}_{123} &= \frac{N_1\bar{X}_1 + N_2\bar{X}_2 + N_3\bar{X}_3}{N_1 + N_2 + N_3} \\ &= \frac{70 \times 50 + 50 \times 55 + 30 \times 45}{70 + 50 + 30} \\ &= \frac{3500 + 2750 + 1350}{150} = \frac{7600}{150} = 50.67\end{aligned}$$

Average marks of all the students = 50.67 marks.

Properties of Arithmetic Mean

- The sum of the deviations, of all the values of X , from their arithmetic mean, is zero.
- The product of the arithmetic mean and the number of items gives the total of all items.
- The sum of the squares of the deviations of the items taken from arithmetic mean is minimum.
- If a constant is added or subtracted to all the variables, mean increases or decreases by that constant.
- If all the variables are multiplied or divided by a constant, mean also gets multiplied or divided by the constant.

Weighted Arithmetic Mean:

In calculating the **simple arithmetic mean**, it is assumed that all items in a series are of **equal importance**. However, in many practical situations, different items do not contribute equally and therefore must be given **different degrees of importance**. When the mean is calculated by assigning a suitable weight to each observation according to its importance, it is called the

When data values vary in importance, the analyst assigns weights that best reflect the relative importance of each value. If $X_1, X_2, X_3, \dots, X_N$ are the observations and $w_1, w_2, w_3, \dots, w_N$ are their respective weights, then the weighted arithmetic mean is given by:

$$\bar{X}_w = \frac{\sum wX}{\sum w}$$

Note:

If the weights of all observations are equal, i.e. $w_1 = w_2 = w_3 = \dots = w_N = w$, then the **weighted arithmetic mean** becomes.

Example 8: Weighted Arithmetic Mean

An examination was held to decide the award of a **scholarship**. The **weights of various subjects were different**. The marks obtained (out of 100) by **three candidates A, B and C** in each subject are given below.

Calculate the **weighted arithmetic mean** to decide the award of the scholarship.

Subject	Weight	A	B	C
Mathematics	40	60	57	62
History	30	62	61	67
Chemistry	20	55	53	60
English	10	67	77	49

Solution:

Subject	Weight	A (X)	A (wX)	B (X)	B (wX)	C (X)	C (wX)
Mathematics	40	60	2400	57	2280	62	2480
History	30	62	1860	61	1830	67	2010
Chemistry	20	55	1100	53	1060	60	1200
English	10	67	670	77	770	49	490
Total	100	244	6030	248	5940	238	6180

Using the formula of weighted mean,

$$\bar{X}_w = \frac{\sum wX}{\sum w}$$

For Student A:

$$\bar{X}_{wA} = \frac{6030}{100} = 60.3 \text{ marks}$$

Simple A.M. = $\frac{244}{4} = 61$ marks

For Student B:

$$\bar{X}_{wB} = \frac{5940}{100} = 59.4 \text{ marks}$$

Simple A.M. = $\frac{248}{4} = 62$ marks

For Student C:

$$\bar{X}_{wC} = \frac{6180}{100} = 61.8 \text{ marks}$$

Simple A.M. = $\frac{238}{4} = 59.5$ marks

Conclusion:

According to **simple arithmetic mean**, student **B** should get the scholarship.

However, according to **weighted arithmetic mean**, student **C** should get the scholarship because all subjects are **not of equal importance**.

Evaluation of Arithmetic Mean

Arithmetic mean is **easy to calculate** and uses **all values** of the series, so it is considered representative of the entire data set. However, it is **affected by extreme values** (very high or very low observations). Because of this, the mean may become higher or lower than most of the values and may not truly represent the data. Also, **arithmetic mean cannot be calculated for open-ended frequency distributions**.

Computation of Median in case of Individual Series

The steps involved in the calculation of median are as follows:
Step 1: Arrange the data in ascending or descending order.
Step 2: Ascertain $\frac{N+1}{2}$ th item. This will give the position of the median (the item/items at which the median lies). It may be noted that the formula $\frac{N+1}{2}$ th item gives the **position** of the median in an ordered series, not the median itself. Median is the **size** of the $\frac{N+1}{2}$ th item.

Computation of Median in case of Discrete Series

In case of discrete series, the position of median i.e. $\frac{N+1}{2}$ th item can be located through cumulative frequency. The steps involved in the calculation of median are as follows:
Step 1: Arrange the data in ascending or descending order of magnitude.
Step 2: Find out the cumulative frequency (c.f.).
Step 3: Median = size of $\frac{N+1}{2}$ th item.
Step 4: Now look at the cumulative frequency column and find the total which is either equal to $\frac{N+1}{2}$ or the next higher to that and determine the value of the variable corresponding to it. That gives the value of the median.

Geometric Mean

In addition to the three measures of central tendency discussed earlier, there are two other means commonly used in business and economics: the **geometric mean** and the **harmonic mean**. Among these, the geometric mean holds greater significance. Below, we explore both concepts, starting with the geometric mean.
The geometric mean is defined as the **nth root of the product of n values** in a dataset. Mathematically, it is represented as:

$$G.M. = \sqrt[n]{X_1 \times X_2 \times X_3 \times \dots \times X_n}$$

Similarly, for three values, the **cube root** of their product is taken, and this pattern continues as the number of values increases. However, when dealing with a large dataset, direct multiplication and root extraction become complex. To simplify calculations, **logarithms** are often used.

Example: To find the geometric mean of 2,4,and 8, we proceed as follows...
To find the **geometric mean of 2, 4, and 8**, we proceed as follows:

$$\begin{aligned} \text{G.M.} &= \sqrt[3]{2 \times 4 \times 8} \\ &= \sqrt[3]{64} \end{aligned}$$

$$= 4$$

Therefore, the geometric mean of 2, 4, and 8 is 4.

MEDIAN

Median is the middle value of the dataset in which the dataset is arranged in the ascending order or in descending order. When the dataset contains an even number of values, then the median value of the dataset can be found by taking the mean of the middle two values.

Consider the given dataset with the odd number of observations arranged in descending order – 23, 21, 18, 16, 15, 13, 12, 10, 9, 7, 6, 5, and 2

Here 12 is the middle or median number that has 6 values above it and 6 values below it.

Now, consider another example with an even number of observations that are arranged in descending order – 40, 38, 35, 33, 32, 30, 29, 27, 26, 24, 23, 22, 19, and 17

When you look at the given dataset, the two middle values obtained are 27 and 29.

Now, find out the mean value for these two numbers.

i.e., $(27+29)/2 = 28$

Therefore, the median for the given data distribution is 28.

Median odd	Median even
23	40
21	38
18	35
16	33
15	32
13	30
12	29
10	27
9	26
7	24
6	23
5	22
2	19
	17

28

Characteristics Of The Median

Unlike the arithmetic mean, the median can be computed from open-ended distributions. This is because it is located in the median class-interval, which would not be an open-ended class. The median can also be determined graphically whereas the arithmetic mean cannot be ascertained in this manner.

As it is not influenced by the extreme values, it is preferred in case of a distribution having extreme values.

In case of the qualitative data where the items are not counted or measured but are scored or ranked, it is the most appropriate measure of central tendency.

Mode

Mode (M₀) is the value around which maximum concentration of items occurs. For example, a manufacturer would like to know the size of shoes that has maximum demand or style of the shirt that is more frequently demanded. Here, Mode is the most appropriate measure. Mode is the value which is repeated the highest number of times in the series. It is the size of that item which possesses the maximum frequency.

Computation of Mode in case of Ungrouped Data/ Individual series

The mode of this series can be obtained by mere inspection. The number which occurs most often is the mode. Note that if in any series, two or more numbers have the maximum frequency, then the mode will be difficult to calculate. Such series are called as **Bi-modal, Trimodal or Multi-modal series**.

Based on the properties of the data, the measures of central tendency are selected.

- If you have a symmetrical distribution of continuous data, all the three measures of central tendency hold good. But most of the times, the analyst uses the mean because it involves all the values in the distribution or dataset.
- If you have skewed distribution, the best measure of finding the central tendency is the median.
- If you have the original data, then both the median and mode are the best choice of measuring the central tendency.
- If you have categorical data, the mode is the best choice to find the central tendency.

Example: Find the mode of 15, 21, 26, 25, 21, 23, 28, 21

Solution: The mode is 21 since it occurs three times and the other values occur only once.

The mode represents the frequently occurring value in the dataset. Sometimes the dataset may contain multiple modes and, in some cases, it does not contain any mode at all.

Consider the given dataset 5, 4, 2, 3, 2, 1, 5, 4, 5

Since the mode represents the most common value. Hence, the most frequently repeated value in the given dataset is 5.

Mode
5
5
5
4
4
3
2
2
1

Example 16

Find the **modal age** of boys studying in XII class from the following data:

Age (in years)	5	7	10	12	15	18
No. of Boys	4	6	9	7	5	3

Solution:

Mode is the value of the variable corresponding to the **highest frequency**.

Here, the highest number of boys is 9, which corresponds to the age 10 years.

Modal age = 10 years.

Computation of mode in case of discrete series

The mode in case of discrete series is calculated by applying the following methods:

(a) Simple inspection method: By simple inspection, the modal value is the value of the variable against which the frequency is the largest.

Example 16: Find the modal age of boys studying in XII class from the following data.

Solution: From the above data we can clearly see that modal age is 10 yrs because 10 has occurred maximum number of times i.e. 9.

b) Grouping and Analysis Table method: This method is generally used when the difference between the maximum frequency and the frequency preceding it or succeeding it is very small.

Process of Computation:

In order to find mode, a grouping table and an analysis table are to be prepared in the following manner:

Grouping Table:

A grouping table consists of 6 columns.

1. Arrange the values in ascending order and write down their corresponding frequencies in the column-1.
2. In column-2 the frequencies are grouped into two's and added.
3. In column-3 the frequencies are grouped into two's, leaving the first frequency and added.
4. In column-4 the frequencies are grouped into three's, and added.
5. In column-5 the frequencies are grouped into three's, leaving the first frequency and added.
6. In column-6 the frequencies are grouped into three's, leaving the first and second frequencies and added.
7. Now in each these columns mark the highest total with a circle.

Analysis Table:

Analysis Table (Method for Mode in Discrete Series)

After preparing a **grouping table**, prepare an **analysis table**.

While preparing this table, take the **column numbers** of the grouping table as **rows** and the **values of the variable** as **columns**.

Now, for each column number, find the **highest total** in the grouping table and **mark (put a bar/1)** against the value(s) of the variable to which that highest total belongs.

Finally, the value of the variable (or class) which gets the **highest number of bars** is the **modal value (modal class)**.

Applying Grouping and Analysis Table Method (for the given data)

Given data:

Age (years): 5, 7, 10, 12, 15, 18

Frequency: 4, 6, 9, 7, 5, 3

From the analysis table (bars/marks counted), the totals are:

- Age 5 → 1 bar
- Age 7 → 3 bars
- **Age 10 → 6 bars (highest)**
- Age 12 → 3 bars
- Age 15 → 1 bar
- Age 18 → 0 bar

Thus, the modal age of boys is 10 years.

Computation of Mode in case of Continuous series

In a **continuous series**, for calculating mode, first ensure that the series is an **exclusive series** with **equal class intervals**. To find the mode, we need one extra step compared to discrete series. As in discrete series, the **modal class** is determined by **inspection** or by preparing **grouping and analysis tables**.

Steps involved

1. **Determine the modal class** (the class interval having the **maximum frequency**).
2. **Calculate the value of mode** by using the formula:

$$\text{Mode} = l_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$$

Where:

- l_1 = lower limit of the modal class
- f_1 = frequency of the modal class
- f_0 = frequency of the class preceding the modal class
- f_2 = frequency of the class succeeding the modal class
- i = class interval (width) of the modal class

Note

1. In case of continuous series, **class intervals must be equal** and the series should be **exclusive** to calculate the mode. If the given series is **inclusive** or has **unequal class intervals**, it must first be converted into an **exclusive series with equal class intervals**.
2. If **mid-points** are given, then the **class intervals must be obtained first**.

Practice Questions on Mode (continuous series)

$$\text{Mode} = l_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$$

Q1: Class (Marks): 0–10, 10–20, 20–30, 30–40, 40–50

Frequency: 5, 9, 14, 8, 4

Find the mode.

Solution

Modal class = 20–30 (highest $f_1 = 14$)

$$l_1 = 20, f_0 = 9, f_2 = 8, i = 10$$

$$\begin{aligned}\text{Mode} &= 20 + \frac{14 - 9}{2(14) - 9 - 8} \times 10 = 20 + \frac{5}{28 - 17} \times 10 \\ &= 20 + \frac{5}{11} \times 10 = 20 + 4.545 = 24.55\end{aligned}$$

Mode = 24.55

Q2: Class (Age in years): 15–20, 20–25, 25–30, 30–35, 35–40

Frequency: 6, 12, 20, 14, 8

Find the mode.

Solution

Modal class = 25–30 ($f_1 = 20$)

$$l_1 = 25, f_0 = 12, f_2 = 14, i = 5$$

$$\begin{aligned}\text{Mode} &= 25 + \frac{20 - 12}{2(20) - 12 - 14} \times 5 = 25 + \frac{8}{40 - 26} \times 5 \\ &= 25 + \frac{8}{14} \times 5 = 25 + 2.857 = 27.86\end{aligned}$$

Mode = 27.86 years

Q3: Class (Daily wage ₹): 100–200, 200–300, 300–400, 400–500, 500–600

Frequency: 7, 11, 18, 12, 6

Find the mode.

Solution

Modal class = 300–400 ($f_1 = 18$)

$$l_1 = 300, f_0 = 11, f_2 = 12, i = 100$$

$$\begin{aligned}\text{Mode} &= 300 + \frac{18 - 11}{2(18) - 11 - 12} \times 100 \\ &= 300 + \frac{7}{36 - 23} \times 100 = 300 + \frac{7}{13} \times 100 \\ &= 300 + 53.85 = 353.85\end{aligned}$$

Mode = ₹353.85

Q4: Class (Time in minutes): 0–5, 5–10, 10–15, 15–20, 20–25

Frequency: 3, 8, 15, 10, 4

Find the mode.

Solution

Modal class = 10–15 ($f_1 = 15$)

$$l_1 = 10, f_0 = 8, f_2 = 10, i = 5$$

$$\begin{aligned}\text{Mode} &= 10 + \frac{15 - 8}{2(15) - 8 - 10} \times 5 = 10 + \frac{7}{30 - 18} \times 5 \\ &= 10 + \frac{7}{12} \times 5 = 10 + 2.917 = 12.92\end{aligned}$$

Mode = 12.92 minutes

Q5: Class (Scores): 40–50, 50–60, 60–70, 70–80, 80–90

Frequency: 4, 10, 16, 12, 5

Find the mode.

Solution

Modal class = 60–70 ($f_1 = 16$)

$$l_1 = 60, f_0 = 10, f_2 = 12, i = 10$$

$$\begin{aligned}\text{Mode} &= 60 + \frac{16 - 10}{2(16) - 10 - 12} \times 10 = 60 + \frac{6}{32 - 22} \times 10 \\ &= 60 + \frac{6}{10} \times 10 = 60 + 6 = 66\end{aligned}$$

Mode = 66

Quartiles

A **quartile** is a value that divides a total distribution into **four equal parts**. Accordingly, there are **three quartiles**, namely Q_1 , Q_2 , and Q_3 , which are called the **first quartile**, **second quartile**, and **third quartile**, or alternatively the **lower quartile**, **middle quartile**, and **upper quartile** respectively.

The **first quartile** (Q_1) covers the **first 25% of the items** in the series. It divides the distribution in such a way that **25% of the observations are less than Q_1** and **75% are greater than Q_1** .

The **second quartile** (Q_2) is the **median** or the **middle value** of the series. It divides the data into two equal parts.

The **third quartile** (Q_3) covers **75% of the items** in the series. It divides the distribution in such a way that **75% of the observations are less than Q_3** and **25% are greater than Q_3** .

Calculation of Quartiles

The calculation of **quartiles** is done exactly in the same manner as in the calculation of **median**.

In case of Individual and Discrete Series

$$Q_k = \text{Size of } \frac{k(N+1)}{4} \text{ th item of the series}$$

Where $k = 1, 2, 3$ for Q_1 , Q_2 , and Q_3 .

In case of Continuous Series

$$Q_k = \text{Size of } \frac{kN}{4} \text{ th item of the series}$$

Quartile is calculated as:

$$Q_k = l_1 + \frac{\frac{kN}{4} - c.f}{f} \times i$$

Where:

l_1 = Lower limit of quartile class

$c.f$ = Cumulative frequency preceding the quartile class

f = Frequency of the quartile class

i = Class interval

Example 13

Find Q_1 and Q_3 of the following:

(a)

4, 5, 6, 7, 8, 9, 12, 13, 15, 10, 20

Solution:

Arrange the data in ascending order:

4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 20

$$N = 11$$

$$Q_1 = \text{Size of } \frac{N+1}{4} \text{ th item} = \frac{11+1}{4} = 3\text{rd item}$$

$$Q_1 = 6$$

$$Q_3 = \text{Size of } \frac{3(N+1)}{4} \text{ th item} = \frac{3(12)}{4} = 9\text{th item}$$

$$Q_3 = 13$$

$$Q_1 = 6, Q_3 = 13$$

(b)

100, 500, 1000, 800, 600, 400, 7000, 1200

Solution:

Arrange the data in ascending order:

100, 400, 500, 600, 800, 1000, 1200, 7000

$$N = 8$$

$$Q_1 = \text{Size of } \frac{N+1}{4} \text{ th item} = \frac{9}{4} = 2.25\text{th item}$$

$$Q_1 = 400$$

$$Q_3 = \text{Size of } \frac{3(N+1)}{4} \text{ th item} = \frac{27}{4} = 6.75\text{th item}$$

$$Q_3 = 1000$$

$$Q_1 = 400, Q_3 = 1000$$

(b) The values of the variable in ascending order are:

100, 400, 500, 600, 700, 800, 1000, 1200; $N = 8$

Q_1

$$Q_1 = \text{Size of } \frac{(N+1)}{4} \text{ th item of the series}$$

$$= \text{Size of } \frac{(8+1)}{4} \text{ th item} = \text{Size of } 2.25\text{th item}$$

$$= \text{Size of } [2\text{nd item} + 0.25(3\text{rd item} - 2\text{nd item})]$$

$$= 400 + 0.25(500 - 400) = 400 + 25 = 425$$

Q_3

$$Q_3 = \text{Size of } \frac{3(N+1)}{4} \text{ th item of the series}$$

$$= \text{Size of } \frac{3(8+1)}{4} \text{ th item} = \text{Size of } 6.75\text{th item}$$

$$= \text{Size of } [6\text{th item} + 0.75(7\text{th item} - 6\text{th item})]$$

$$= 800 + 0.75(1000 - 800) = 800 + 150 = 950$$

∴ Required Q_1 and Q_3 are 425 and 950 respectively.

Quartile deviation

The **Quartile Deviation** can be defined mathematically as **half of the difference between the upper quartile and the lower quartile**. Quartile deviation is represented by **QD**, where Q_3 denotes the **upper quartile** and Q_1 indicates the **lower quartile**.

Quartile Deviation is also known as the **Semi-Interquartile Range**.

Quartile Deviation Formula

Suppose Q_1 is the lower quartile, Q_2 is the median, and Q_3 is the upper quartile of a given data set. Then, the quartile deviation is calculated as:

QD = (Q3 - Q1) / 2

In the following sections, we learn how to calculate quartiles for **ungrouped** and **grouped** data separately.

Quartile Deviation for Ungrouped Data

For **ungrouped (individual) data**, quartiles are obtained using the following formulas:

Q1 = size of ((n+1)/4) th item
Q2 = size of ((n+1)/2) th item
Q3 = size of (3(n+1)/4) th item

Where,
n= total number of observations in the data set.

Here,

- Q2is the **median** of the data set.
- Q1is the **median of the lower half** of the data.
- Q3is the **median of the upper half** of the data.

Before estimating quartiles, the data must be **arranged in ascending order**. If the value of n is **even**, the same procedure used for finding the median is followed.

Quartile Deviation for Grouped Data

For **grouped (continuous) data**, quartiles are calculated using the **cumulative frequency method**.

The formula used is:

Qk = l + ((kN/4 - c.f) / f) * i

Where:

- l= lower limit of the quartile class
- N= total frequency
- c.f= cumulative frequency preceding the quartile class
- f= frequency of the quartile class
- i= class interval
- k = 1for Q1, k = 3for Q3

After calculating Q_1 and Q_3 , the **quartile deviation** is obtained using:

QD = (Q3 - Q1) / 2

Example: Calculation of Quartile Deviation (Ungrouped Data)

Given the following ungrouped data:

2, 5, 7, 7, 8, 8, 10, 10, 14, 15, 17, 18, 24, 27, 28, 48

Step 1: Arrange the Data in Ascending Order

The data are already arranged in ascending order.

2,5,7,7,8,8,10,10,14,15,17,18,24,27,28,48

Total number of observations,

n = 16

Step 2: Calculate the Median (Q2)

Since n is even, the median is the average of the $n/2$ th and $((n/2)+1)$ th observations.

Q2 = (8th + 9th) / 2 = (10 + 14) / 2 = 12

Step 3: Calculate the First Quartile (Q1)

The lower half of the data (first 8 observations) is:

2,5,7,7,8,8,10,10

The median of the lower half is the average of the 4th and 5th values:

Q1 = (7 + 8) / 2 = 7.5

Step 4: Calculate the Third Quartile (Q3)

The upper half of the data (last 8 observations) is:

14,15,17,18,24,27,28,48

The median of the upper half is the average of the 4th and 5th values:

Q3 = (18 + 24) / 2 = 21

Step 5: Calculate Quartile Deviation

Quartile Deviation (QD) = (Q3 - Q1) / 2
QD = (21 - 7.5) / 2 = 13.5 / 2 = 6.75

Final Answer

Quartile Deviation = 6.75

Example 2:

Calculate the quartile deviation for the following distribution.

Example 2

Calculate the quartile deviation for the following distribution.

Table with 11 columns: Class, 0-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70-80, 80-90, 90-100. Row 1: Frequency, 5, 3, 4, 3, 3, 4, 7, 9, 7, 8.

Solution:

Let us calculate the cumulative frequency for the given distribution of data.

Table with 3 columns: Class, Frequency, Cumulative Frequency.

0 – 10	5	5
10 – 20	3	5 + 3 = 8
20 – 30	4	8 + 4 = 12
30 – 40	3	12 + 3 = 15
40 – 50	3	15 + 3 = 18
50 – 60	4	18 + 4 = 22
60 – 70	7	22 + 7 = 29
70 – 80	9	29 + 9 = 38
80 – 90	7	38 + 7 = 45
90 – 100	8	45 + 8 = 53

Step 2: Calculation of Q_1

$$\frac{N}{4} = \frac{53}{4} = 13.25$$

The cumulative frequency just greater than **13.25** is **15**, corresponding to the class **30–40**.
Hence, the **quartile class** is **30–40**.

$$\begin{aligned} l_1 &= 30, f = 3, c = 12, i = 10 \\ Q_1 &= l_1 + \frac{\left(\frac{N}{4}-c\right)}{f} \times i \\ Q_1 &= 30 + \frac{(13.25-12)}{3} \times 10 \\ &= 30 + \frac{1.25}{3} \times 10 = 30 + 4.167 = 34.167 \end{aligned}$$

Step 3: Calculation of Q_3

$$\frac{3N}{4} = \frac{3 \times 53}{4} = 39.75$$

The cumulative frequency just greater than **39.75** is **45**, corresponding to the class **80–90**.
Hence, the **quartile class** is **80–90**.

$$\begin{aligned} l_1 &= 80, f = 7, c = 38, i = 10 \\ Q_3 &= l_1 + \frac{\left(\frac{3N}{4}-c\right)}{f} \times i \\ Q_3 &= 80 + \frac{(39.75-38)}{7} \times 10 \\ &= 80 + \frac{1.75}{7} \times 10 = 80 + 2.5 = 82.5 \end{aligned}$$

Step 4: Quartile Deviation

$$QD = \frac{Q_3 - Q_1}{2}$$

$$QD = \frac{82.5 - 34.167}{2} = \frac{48.333}{2} = 24.1665$$

Final Answer

Quartile Deviation $\approx$ 24.17

Measures of Central Tendency and Dispersion

The central tendency measure is defined as the number used to represent the center or middle of a set of data values. The three commonly used measures of central tendency are the mean, median, and mode.

A statistic that tells us how the data values are dispersed or spread out is called the measure of dispersion. A simple measure of dispersion is the range. The range is equivalent to the difference between the highest and least data values. Another measure of dispersion is the standard deviation, representing the expected difference (or deviation) among a data value and the mean.

Variance and Standard deviation are the two important topics in Statistics. It is the measure of the dispersion of statistical data. Dispersion is the extent to which values in a distribution differ from the average of the distribution. To quantify the extent of the variation, there are certain measures namely:

- (i) Range
- (ii) Quartile Deviation
- (iii) Mean Deviation
- (iv) Standard Deviation

The degree of dispersion is calculated by the procedure of measuring the variation of data points.

What is variance?

Variance is the measure of how notably a collection of data is spread out. If all the data values are identical, then it indicates the variance is zero. All non-zero variances are considered to be positive. A little variance represents that the data points are close to the mean, and to each other, whereas if the data points are highly spread out from the mean and from one another indicates the high variance. In short, the variance is defined as the average of the squared distance from each point to the mean.

What is Standard deviation?

Standard Deviation is a measure which shows how much variation (such as dispersion, spread,) from the mean exists. The standard deviation indicates a “typical” deviation from the mean. It is a popular measure of variability because it returns to the original units of measure of the data set. Like the variance, if the data points are close to the mean, there is a small variation whereas the data points are highly spread out from the mean, then it has a high variance. Standard deviation calculates the extent to which the values differ from the average. Standard Deviation, the most widely used measure of dispersion, is based on all values. Therefore a change in even one value affects the value of standard deviation. It is independent of origin but not of scale. It is also useful in certain advanced statistical problems.

Variance and Standard Deviation Formula

The formulas for the variance and the standard deviation is given below:

How is Standard Deviation calculated?

Steps to Calculate Standard Deviation

Standard deviation measures the **dispersion or spread** of data around the mean.

Step 1: Find the Mean (μ or x̄)

Mean = ΣX / N

Where:

N = Number of observations

Step 2: Find Each Value’s Deviation from the Mean

Deviation = Xi – μ

Step 3: Square Each Deviation

(Xi–μ)²

Step 4: Find the Mean of Squared Deviations (Variance)

For a Population:

σ² = Σ(Xi – μ)² / N

For a Sample:

s² = Σ(Xi – x̄)² / (N – 1)

Step 5: Take the Square Root of Variance

Population Standard Deviation:

σ = √σ²

Sample Standard Deviation:

s = √s²

Example Calculation

Consider the dataset: 4, 8, 6, 5, 3

Step 1: Mean

x̄ = (4 + 8 + 6 + 5 + 3) / 5 = 26 / 5 = 5.2

Step 2: Deviations from Mean

Value (X)	X – 5.2
4	-1.2
8	2.8
6	0.8
5	-0.2
3	-2.2

Step 3: Squared Deviations

Deviation (X – 5.2)²

-1.2	1.44
2.8	7.84
0.8	0.64
-0.2	0.04
-2.2	4.84

Step 4: Variance (Population)

σ² = (1.44 + 7.84 + 0.64 + 0.04 + 4.84) / 5 = 14.8 / 5 = 2.96

Step 5: Standard Deviation

σ = √2.96 ≈ 1.72

Final Answer

Standard Deviation ≈ 1.72

Standard Deviation Example

Calculate the standard deviation for the number of gold coins on a ship run by pirates.

There are a total of 100 pirates on the ship. Statistically, it means that the population is 100. We use the standard deviation equation for the entire population if we know a number of gold coins every pirate has.

Statistically, let’s consider a sample of 5 and here you can use the standard deviation equation for this sample population.

This means we have a sample size of 5 and in this case, we use the standard deviation equation for the sample of a population.

Consider the number of gold coins 5 pirates have; 4, 2, 5, 8, 6.

Sample size, n = 5

Step 1: Calculate the Mean (x̄)

x̄ = Σx / n = (4 + 2 + 5 + 8 + 6) / 5 = 25 / 5 = 5

Step 2: Find Deviations from the Mean (x – x̄)

Value (x)	x – x̄
4	–1
2	–3
5	0
8	3
6	1

Step 3: Square the Deviations

Deviation	(x – x̄)²
–1	1
–3	9
0	0
3	9
1	1

Σ(x – x̄)² = 1 + 9 + 0 + 9 + 1 = 20

Step 4: Apply Sample Standard Deviation Formula

Since this is a sample, we use:

S = √[Σ(x – x̄)² / (n – 1)]

$$S = \sqrt{\frac{20}{5-1}}$$

$$S = \sqrt{\frac{20}{4}}$$

$$S = \sqrt{5}$$

Step 5: Final Answer

$$\sqrt{5} \approx 2.236$$

Standard Deviation = 2.236

Standard deviation of Grouped Data

In case of grouped data or grouped frequency distribut ion, the standard deviation can be found by considering the frequency of data values. This can be understood with the help of an example.

Question: Calculate the mean, variance and standard deviation for the following data:

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	27	10	7	5	4	2

Solution:

Class Interval	Frequency (f)	Mid Value (xi)	fxi	fxi2
0 – 10	27	5	135	675
10 – 20	10	15	150	2250
20 – 30	7	25	175	4375
30 – 40	5	35	175	6125
40 – 50	4	45	180	8100
50 – 60	2	55	110	6050
	Σf= 55		Σfxi = 925	Σfxi2 = 27575

Given Data

Total frequency:

$$N = \sum f = 55$$

Calculation of Mean

$$\bar{x} = \frac{\sum fx_i}{N}$$

$$\bar{x} = \frac{925}{55} = 16.818$$

So, the **mean = 16.818**

Variance Calculation

For a **sample**, variance is calculated using:

$$\sigma^2 = \frac{1}{N-1} \left[\sum fx_i^2 - \frac{1}{N} (\sum fx_i)^2 \right]$$

Substituting the values:

$$\sigma^2 = \frac{1}{55-1} \left[27575 - \frac{1}{55} (925)^2 \right]$$

$$= \frac{1}{54} \left[27575 - \frac{855625}{55} \right]$$

$$= \frac{1}{54} [27575 - 15556.8182]$$

$$= \frac{1}{54} \times 12018.1818$$

$$\sigma^2 = 222.559$$

So, the **variance = 222.559**

Standard Deviation

$$\sigma = \sqrt{\sigma^2}$$

$$\sigma = \sqrt{222.559}$$

$$\sigma = 14.918$$

Final Answer

- **Mean = 16.818**
- **Variance = 222.559**
- **Standard Deviation = 14.918**

Practice Problems on Standard Deviation

1. Calculate the standard deviation of the following values:

5, 10, 25, 30, 50.

2. Find the mean and standard deviation for the following data.

x	60	61	62	63	64	65	66	67	68
f	2	1	12	29	25	12	10	4	5

3. The diameters of circles (in mm) drawn in a design are given below:

Diameters	33 – 36	37 – 40	41 – 44	45 – 48	49 – 52
No.of circles	15	17	21	22	25

Calculate the standard deviation and mean diameter of the circles.

[Hint: First make the data continuous by making the classes as 32.5-36.5, 36.5-40.5, 40.5-44.5, 44.5 – 48.5, 48.5 – 52.5 and then proceed.]

MEASURES OF DISPERSION

Dispersion

Dispersion refers to the extent to which values in a distribution differ from the average of the distribution. It measures the spread or variability of data.

The two key aspects are:

Absolute measure of dispersion – Determines the amount of variation in the original unit of the data. Absolute measures depend on the unit of measurement, making them unsuitable for comparing datasets with different units. For example, the same data in kilograms and grams would show a 1000 times difference in variation.

Relative measure of dispersion – Expresses variation as a unit less number or percentage for comparison. Absolute measures are not suitable for comparing different datasets because they depend on the unit of measurement. Relative measures help compare different distributions by expressing dispersion as a percentage or unit less number.

Absolute measures of dispersion	Relative measures of dispersion
1. Range	1. Co-efficient of Range
2. Variance	2. Co-efficient of Variation
3. Standard deviation	3. Co-efficient of Standard Deviation
4. Quartiles and Quartile deviation	4. Co-efficient of Quartile Deviation
5. Mean and Mean deviation3	5. Co-efficient of Mean Deviation

In statistics, the dispersion measures help interpret data variability, i.e. to understand how homogenous or heterogeneous the data is. In simple words, it indicates how squeezed or scattered the variable is. However, there are two types of dispersion measures, absolute and relative.

1. Range

- The difference between the maximum and minimum values.

Formula:

Range = Max Value – Min Value

2. Interquartile Range (IQR)

- The difference between the third quartile (Q3) and the first quartile (Q1).
- Measures the spread of the middle 50% of the data.

Formula:

IQR = Q3 – Q1

3. Variance

- The average of the squared differences from the mean.
- Shows how much the values deviate from the mean.

Formula (for a population):

σ² = Σ(xi – μ)² / N

Formula (for a sample):

s² = Σ(xi – x̄)² / (n – 1)

4. Standard Deviation (SD)

- The square root of variance.
- A widely used measure of dispersion.

Formula (population):

σ = √σ²

Formula (sample):

s = √s²

5. Coefficient of Variation (CV)

- Expresses standard deviation as a percentage of the mean.
- Useful for comparing variability between datasets with different units.

Formula:

CV = (σ / μ) × 100%

Mean Deviation

Mean deviation (MD) of a series is the arithmetic average of the deviation of various items from a measure of central tendency (mean, median and mode).

Mean deviation is based on the items of the distribution and is calculated as an average, on the basis of deviation obtained from either mean, median or mode but generally from the median.

First, we compute deviations of all the items from either mean or median ignoring plus (+) and (–) signs. They are called absolute values of deviations where the two parallel bars (ii) indicate that the absolute value is taken. This is also called modulus value. Then the aggregate of these deviations are divided by the number of observations this is called mean deviation.

Mean Deviation (M.D.)

Mean Deviation is the average of the absolute deviations of observations from a central value (Mean / Median / Mode).

Formula for Mean Deviation

M.D. = Σf | D | / N

Where:

- f= frequency
- | D | = absolute deviation from Mean / Median / Mode
- N = Σf (total frequ ency)

Coefficient of Mean Deviation

After calculating Mean Deviation, the **coefficient of Mean Deviation** is obtained by dividing Mean Deviation by the chosen measure of central tendency.

Formula:

Coefficient of M.D. = M.D. / (Mean / Median / Mode)

This coefficient helps in **comparing variability** between different datasets.

Calculation of mean deviation

- (i) Arrange the data in ascending order (for calculating of median)
- (ii) Calculate median/mean/mode
- (iii) Take deviations of items from median/mean ignoring ± signs and denote the column as |D|
- (iv) Calculate the sum of this deviation in case of discrete and continuous series |D| is multiplied by respective frequency of the item to get Σf |D|
- (v) Divide the total obtained by number of items to get mean deviation

Example: Calculate mean deviation and coefficient of mean deviation from both mean and median for the following data on the monthly income (in ₹) of households

Income (₹)	8520	6350	7920	8360	7500
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Table 9.3: Calculation of Mean Deviation from Median

Monthly Income (₹)	Deviation from Mean (7730) D	Deviation from Median (7920) D
6350	1380	1570
7500	230	420
7920	190	0
8360	630	440
8520	790	600

ΣX = 38650
Σ | D | (from Mean) = 3220
Σ | D | (from Median) = 3030

Mean Deviation from Mean

M.D. (Mean) = Σ | D | / N
= 3220 / 5 = 644

Mean Deviation from Median

M.D. (Median) = Σ | D | / N
= 3030 / 5 = 606

Coefficient of Mean Deviation

(i) Coefficient of M.D. from Mean

Coefficient of M.D. = 644 / 7730 = 0.083

(ii) Coefficient of M.D. from Median

Coefficient of M.D. = 606 / 7920 = 0.076

Calculation of mean deviation in discrete series

Example 7: Calculate (a) median (b) mean deviation and (c) Coefficient of mean deviation

Given (Discrete Series)

Size of item (X) 6 12 18 24 30 36 42

Frequency (f) 4 7 9 18 15 10 5

N = Σf = 4 + 7 + 9 + 18 + 15 + 10 + 5 = 68

(a) Median

Cumulative frequencies (cf):

X	F	cf
6	4	4
12	7	11
18	9	20
24	18	38
30	15	53
36	10	63
42	5	68

Median position:

(N + 1) / 2 = (68 + 1) / 2 = 34.5th item

The 34.5th item lies where cf first becomes ≥ 34.5, i.e., at cf = 38, corresponding to X = 24.

Median = 24

(b) Mean Deviation (about Median)

M.D. = Σf | X - Median | / N

Median = 24

| X | f | | X - 24 | | f | X - 24 |

---:---:---:---:

| 6 | 4 | 18 | 72 |

| 12 | 7 | 12 | 84 |

| 18 | 9 | 6 | 54 |

| 24 | 18 | 0 | 0 |

| 30 | 15 | 6 | 90 |

| 36 | 10 | 12 | 120 |

| 42 | 5 | 18 | 90 |

Σf | X - 24 | = 72 + 84 + 54 + 0 + 90 + 120 + 90 = 510

M.D. = 510 / 68 = 7.5

Mean Deviation (about Median) = 7.5

(c) Coefficient of Mean Deviation (about Median)

Coefficient of M.D. = M.D. / Median = 7.5 / 24 = 0.3125

Coefficient of Mean Deviation = 0.3125

Final Answers

- Median = 24
- Mean Deviation (about Median) = 7.5
- Coefficient of Mean Deviation = 0.3125

Calculation of mean deviaiton in continuous series

Example 8: Calculate (i) mean, (ii) mean deviation from mean and (iii) co-efficient of mean deviation.

Given Data

Marks (Class Interval)	0–10	10–20	20–30	30–40	40–50
No. of students (f)	5	8	15	16	6

Σf = 50

Solution: Calculation of Mean Deviation from Mean

Step 1: Find mid-points (m)

Mid-point $m = \frac{L+U}{2}$

0–10 → 5, 10–20 → 15, 20–30 → 25, 30–40 → 35, 40–50 → 45

Table 9.5: Calculation of Mean Deviation from Mean

Take assumed mean $A = 25$, class width $c = 10$

$d' = \frac{m - A}{c} = \frac{m - 25}{10}$

| Marks (X) | f | m | $d' = \frac{m-25}{10}$ | $f d'$ | $| D | = | m - \bar{X} |$ | $f | D |$ |

| --- | ---: | ---: | ---: | ---: | ---: |

| 0–10 | 5 | 5 | -2 | -10 | 22 | 110 |

| 10–20 | 8 | 15 | -1 | -8 | 12 | 96 |

| 20–30 | 15 | 25 | 0 | 0 | 2 | 30 |

| 30–40 | 16 | 35 | +1 | +16 | 8 | 128 |

| 40–50 | 6 | 45 | +2 | +12 | 18 | 108 |

Σf = 50, Σf d' = 10, Σf | D | = 472

Step 2: Mean (using step-deviation)

$\bar{X} = A + \left(\frac{\Sigma f d'}{N}\right) \times c$
 $= 25 + \left(\frac{10}{50}\right) \times 10 = 25 + 2 = 27$ marks

Mean = 27 marks

Step 3: Mean Deviation from Mean

M.D. = $\frac{\Sigma f | D |}{N} = \frac{472}{50} = 9.44$ marks

Mean Deviation = 9.44 marks

Step 4: Coefficient of Mean Deviation (from Mean)

Coefficient of M.D. = $\frac{\text{M.D.}}{\text{Mean}} = \frac{9.44}{27} = 0.349$

Coefficient of M.D. = 0.349

Mean Deviaiton: An evaluation

In the calculation of mean deviation, the **positive and negative signs of deviations are ignored** and only absolute deviations are taken.

For example:

Σf | D | = 472

Limitations of Mean Deviation

1. **Ignores algebraic signs**
Mean deviation ignores the plus (+) and minus (–) signs of deviations.
This makes the method **mathematically unsound and illogical**, because deviations in opposite directions do not cancel each other.
2. **Non-algebraic measure**
Since absolute values are used, mean deviation **cannot be treated algebraically**.
Hence, it is classified as a **non-algebraic measure of dispersion**.
3. **Not suitable for open-end classes**
Mean deviation **cannot be computed for distributions with open-end classes**, as the exact deviations cannot be determined.

DISCOUNTING

The compound interest formula is:

$P_n = P_0(1 + r)^n$

This can be written as:

$P_0 = \frac{P_n}{(1+r)^n}$

Where:

- P_0 = Present value
- P_n = Future value after n years
- r = Rate of interest per year
- n = Number of years

Explanation

If the future income is P_n **rupees** and the present rate of interest is **100r percent**, then the **present value** of P_n rupees will be P_0 rupees.

Example

Suppose a machine has:

- A useful life of **20 years**
- An expected net income of **₹50,000 per year**
- No resale value at the end of 20 years (it becomes obsolete)

The present value of the machine is obtained by **discounting** its future income using the prevailing rate of interest.

Meaning of Discounting

The process of finding the **present value of future income** with the help of a given rate of interest is called **discounting**.

Geometric Mean: Concluding Note

When there are **extreme values** in a series, the **geometric mean** should be used because it is **much less affected by extreme values**. In such cases, the **arithmetic mean gives misleading results**.

Advantages of Geometric Mean

- It takes into account **every observation** in the dataset.
- It is **rigidly defined**.
- It is particularly useful for averaging **ratios, percentages, and growth rates**.
- Compared to arithmetic mean, it gives **more weight to smaller values** and **less weight to larger values**.
- Because of this property, geometric mean is **generally less than or equal to arithmetic mean**.
- It allows **algebraic manipulation**.
- If geometric means of different series and their frequencies are known, a **combined geometric mean** can be calculated using **logarithms**.

Limitations of Geometric Mean

- It is **more difficult to understand** than arithmetic mean.
- Both **calculation and interpretation** are comparatively complex.
- It **cannot be calculated** when the data includes **zero or negative values**.
- Due to these limitations, it is **not commonly used** in practice.

Harmonic Mean

The harmonic mean is defined as the reciprocal of the arithmetic mean of the reciprocals of individual observations. Symbolically,

Where n is the total number of observations.

Here, each reciprocal of the original figure is weighted by the corresponding frequency (f).

The primary advantage of the harmonic mean is that it incorporates all observations in a distribution and allows for further algebraic manipulation. It is particularly useful when giving greater weight to smaller values and less weight to larger ones is desired.

However, the harmonic mean has certain limitations. Firstly, it is both complex to understand and challenging to compute. Secondly, it cannot be determined if any observation in the dataset is zero or negative. Thirdly, it serves as a summary measure rather than representing an actual value within the distribution.

Notably, the harmonic mean is always lower than the geometric mean, which in turn is lower than the arithmetic mean. This occurs because the harmonic mean gives less significance to larger values. Since it is calculated using reciprocals, and reciprocals of larger values are smaller than those of smaller values, the harmonic mean is always lower than both the geometric and arithmetic means.

The harmonic mean of a set of observations is defined as:

$$HM = \frac{n}{\frac{1}{x_1} + \frac{1}{x_2} + \dots + \frac{1}{x_n}}$$

It is the **reciprocal of the arithmetic mean of the reciprocals** of the observations.

Example 2.17

Suppose we have three observations: **4, 8 and 16**. We are required to calculate the harmonic mean.

Step 1: Find reciprocals

$$\frac{1}{4}, \frac{1}{8}, \frac{1}{16} \\ = 0.25, 0.125, 0.0625$$

Step 2: Apply the formula

$$HM = \frac{n}{\sum \frac{1}{x}} \\ = \frac{3}{0.25 + 0.125 + 0.0625} \\ = \frac{3}{0.4375} \\ = 6.857 \text{ (approx.)}$$

Harmonic Mean = 6.857 (approx.)

Harmonic Mean for Grouped Data

When the number of observations is large, calculation of harmonic mean becomes tedious.

In the case of grouped data, harmonic mean is calculated using:

$$HM = \frac{\sum f}{\sum \left(f \times \frac{1}{x}\right)}$$

where

x = mid-value of the class

f = frequency

Example 2.18

Consider the following series:

Class Interval 2–4 4–6 6–8 8–10

Frequency (f) 20 40 30 10

Solution

First calculate mid-values:

Class Interval	Mid-value (x)	f	1/x	f × (1/x)
2–4	3	20	0.3333	6.6660
4–6	5	40	0.2000	8.0000
6–8	7	30	0.1429	4.2870
8–10	9	10	0.1111	1.1111

$$\sum f = 100, \sum f \left(\frac{1}{x}\right) = 20.0641$$

Step 2: Apply the formula

$$\begin{aligned}
 \text{HM} &= \frac{\sum f}{\sum f \left(\frac{1}{x} \right)} \\
 &= \frac{100}{20.0641} \\
 &= 4.984 \text{ (approx.)}
 \end{aligned}$$

Harmonic Mean = 4.984 (approx.)

QUADRATIC MEAN

We have seen earlier that the geometric mean is the antilogarithm of the arithmetic mean of the logarithms, and the harmonic mean is the reciprocal of the arithmetic mean of the reciprocals. Likewise, the quadratic mean (Q) is the square root of the arithmetic mean of the squares. Instead of using original values, the quadratic mean can be used while averaging deviations when the standard deviation is to be calculated. This will be used in the next chapter on dispersion.

This is the formula for **Quadratic Mean**, also known as the **Root Mean Square (RMS)**.

$$Q = \sqrt{\frac{x_1^2 + x_2^2 + \dots + x_n^2}{n}}$$

Where:

- $x_1, x_2, \dots, x_n$ are the observations
- n is the number of observations

Note:

The quadratic mean is always **greater than or equal to** the arithmetic mean and is especially useful when larger values need to be given more weight, such as in physics and engineering problems.

Relative Position of Different Means

The relative position of different means will always be: $Q > x > G > H$ provided that all the individual observations in a series are positive and all of them are not the same.

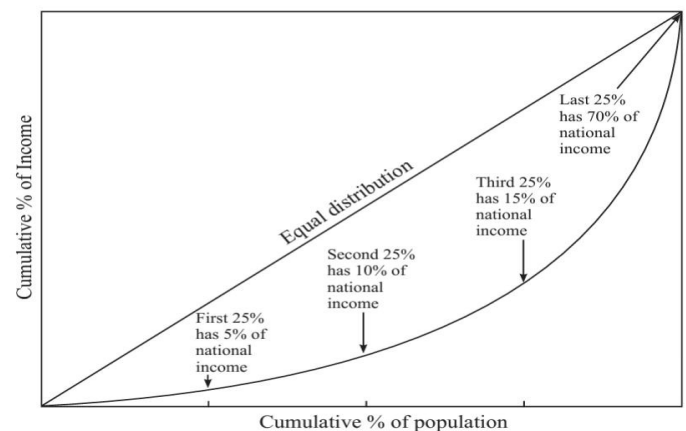
Composite Average or Average of Means

Sometimes, we may have to calculate an average of several averages. In such cases, we should use the same method of averaging that was employed in calculating the original averages. Thus, we should calculate the arithmetic mean of several values of x , the geometric mean of several values of GM, and the harmonic mean of several values of HM. It will be wrong if we use some other average in averaging of means.

Lorenz Curve

Lorenz curve is the graphical method of studying dispersion. Lorenz curve is the cumulative frequency curve showing the distribution of a variable such as population against any independent variable such as income or area settled. If the distribution of the dependent variable is equal, the plot will show as a straight, 45° line. Unequal distributions will yield a curve.

The gap between this curve and the 45° line is the inequality gap. The farther the curve from this 45° line, the greater is the variability present in the distribution.



Lorenz curve is used to see the degree of concentration of income or health. For example, it may show top 25% of population accounts for 70% of income or bottom 25% of population has only 5% of income.

Steps involved in drawing Lorenz Curve:

The drawing of Lorenz curve requires following steps:

- 1) Find cumulative totals of variables. In case of continuous variable calculate the cumulative totals of mid-points.
- 2) Estimate cumulative frequencies.
- 3) Express the cumulative mid-points and frequencies into percentages by taking each of the sum total as 100.
- 4) Take the cumulative percentages of the variable on Y axis and cumulative percentages of frequencies on X-axis. Each axis will have values from '0' to '100'.
- 5) Draw a line joining Co-ordinate (0, 0) with (100,100). This is called the line of equal distribution.
- 6) Plot the cumulative percentages of the variable with corresponding cumulative percentages of frequency. Join these points to get the Lorenz Curve.

CORRELATION ANALYSIS

Correlation refers to the associations between variables. When an association exists between two variables, it means that the average value of one variable changes as there is a change in the value of the other variable.

A correlation is the simplest type of association. When a correlation is weak, it means that the average value of one variable changes only slightly (only occasionally) in response to changes in the other variable. If there is no association, it means that there is no change in the value of one variable in response to the changes in the other variable. In some cases, the correlation may be positive or it may be negative.

A positive correlation means that as one variable increases the other variable increases, e.g. Height of a child and age of the child.

Negative correlation implies as one variable increases the other variable decrease, e.g. value of a car and age of the car.

Correlation vs. Causation

- Correlation measures the strength of the relationship between two variables but does not establish a cause-and-effect connection. It indicates how two variables co-vary, not whether one causes changes in the other.
- Causation, on the other hand, implies that a change in one variable directly leads to a change in another. Simply because two events or variables occur together does not mean that one is responsible for the other.
- For instance, a **positive linear correlation** between two variables, X and Y, means that as X increases, Y also increases, and as X decreases, Y decreases. However, this does not mean that X causes Y.

- An example of this is the correlation between children's arm length and their reasoning ability. Data might show that children with longer arms tend to have better reasoning skills. However, the true explanation is that older children naturally have longer arms and more developed reasoning abilities. Here, **age** is the third variable influencing both factors, making the correlation **spurious** rather than causal.
- Similarly, a researcher found a strong positive correlation between the number of temple-goers and the number of burglaries in different towns. However, concluding that attending temple increases burglary rates or that burglary leads to temple visits would be illogical. Instead, the underlying factor is **population size**—more populated towns naturally have both more temple-goers and more burglary cases.

Types of Correlation

Correlation can be classified into the following types:

1. **Positive and Negative Correlation**
2. **Linear and Non-Linear Correlation**

A) Positive Correlation:

When two variables move in the same direction—meaning if one increases, the other also increases, or if one decreases, the other also decreases—it is referred to as a positive correlation.

- Example:** Advertising and sales.
- Other examples of positive correlation include:
- Height and weight
 - Household income and expenditure
 - Price and supply of commodities
 - Amount of rainfall and crop yield

B) Negative Correlation

If two variables change in the opposite direction (i.e. if one increases, the other decreases and vice versa), then the correlation is called a negative correlation.

For example: T.V. registrations and cinema attendance.

- Some other examples of series of negative correlation are:
- Volume and pressure of perfect gas;
 - Current and resistance [keeping the voltage constant]
 - Price and demand for goods.

Linear and Non-Linear Correlation

The nature of a graph helps determine whether the correlation between two variables is linear or non-linear. If the graph forms a straight line, the correlation is **linear**; otherwise, it is **non-linear** or **curvilinear**.
For instance, if variable **x** increases by a fixed amount (e.g., 20) and **y** also increases by a fixed amount (e.g., 4), the ratio between them remains constant (1/5 in this case). However, in a **curvilinear correlation**, this ratio does not remain constant.

In general, two variables **x** and **y** are considered **linearly related** if their relationship follows the equation:

y = a + bx

where **a** and **b** are real numbers. When plotted, this equation forms a straight line for given values of **a** and **b**. Such linear relationships are common in physical sciences but are less frequent in economics and social sciences.

A relationship is classified as **non-linear** if a unit change in one variable does not produce a constant change in the other but instead varies irregularly. In such cases, the graph does not form a straight line. An example of a non-linear relationship is:

y = a + bx + cx^2

Degrees of Correlation

The coefficient of correlation measures the strength and direction of the relationship between two variables.

1. **Perfect Correlation:** If two variables change in the same proportion, the correlation is **perfect positive** (r = +1). If they change in opposite directions but in the same proportion, it is **perfect negative** (r = -1). These cases are rare in practice.
2. **No Correlation:** When two variables show no relationship, meaning a change in one does not affect the other, the correlation is **zero** (r = 0).
3. **Limited Correlation:** Most correlations fall between **-1 and +1**. A strong positive correlation means r is close to +1, while a strong negative correlation means r is close to -1. A weak or no linear correlation results in r being close to 0.

The coefficient of correlation thus helps determine the strength and direction of relationships between variables.

- Correlation can be positive, negative, or zero, with values lying between ±1.
- The value of r falls within the range: -1 ≤ r ≤ +1.
- The + sign indicates a positive linear correlation, and the – sign indicates a negative linear correlation.
- A strong positive linear correlation is represented by an r value close to +1.
- An r value of exactly +1 indicates a perfect positive correlation.
- A strong negative linear correlation is represented by an r value close to -1.
- An r value of exactly -1 indicates a perfect negative correlation.
- If there is no linear correlation or a weak correlation, r will be close to 0.

The following Table reveals the effect (or degree) of coefficient of correlation.

Table: Degree and Type of Correlation

Degree of Correlation	Positive Correlation (r)	Negative Correlation (r)
Absence of correlation	0	0
Perfect correlation	+1	–1
High degree	+0.75 to +1	–0.75 to –1
Moderate degree	+0.25 to +0.75	–0.25 to –0.75
Low degree	0 to +0.25	0 to –0.25

Note
The coefficient of correlation **r** is a **dimensionless quantity**; that is, it does **not depend on the units** of measurement used.

Properties Of Correlation Coefficient

- 1) The correlation coefficient 'r' lies between -1 to +1.
- 2) The correlation coefficient 'r' is the pure number and is independent of the units of measurement of the variables.
- 3) The correlation coefficient 'r' is independent of change of origin i.e. the value of r is not affected even if each of the individual value of two variables is increased or decreased by some non-zero constant.
- 4) The correlation coefficient 'r' is independent of change of scale i.e. the value of r is not affected even if each of the individual value of two variables is multiplied or divided by some non-zero constant.

Methods Of Determining Correlation

We shall consider the following most commonly used methods.

1. Scatter Plot (Scatter diagram or dot diagram)

Scatter plots are graphical tools used to examine the relationship between two variables by plotting data along the x- and y-axes. Each point on the plot represents an individual or an object, and the patterns formed by these points help identify the association between the variables. Often, a regression line is added to assess whether the relationship between the two variables is statistically significant.

Scatter plots can be used to explore the correlations between various pain scoring systems, such as the Pain Sensitivity Questionnaire (PSQ), Pain Anxiety Symptoms Scale (PASS), and Pain Catastrophizing Scale (PCS), along with the Geop-Pain Questionnaire (GPQ). The plot typically includes a correlation coefficient (R) and a regression line, which helps indicate the strength and direction of the relationship. If multiple data points overlap in one location, like in Figure 2, interpreting the correlation visually can be difficult. In such cases, the correlation coefficient and regression line offer a clearer understanding of the relationship.

A scatter plot is created by plotting a set of points on a two-dimensional grid, where each point represents a pair of values from the two variables. One variable is plotted on the x-axis (horizontal), and the other on the y-axis (vertical).

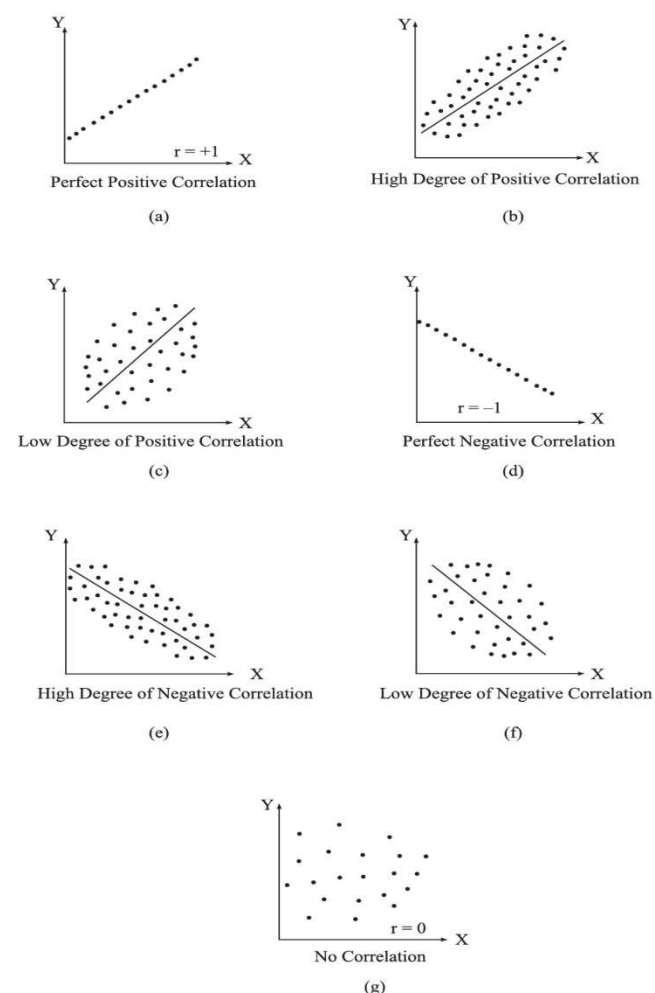
By examining the scatter plot, you can visually determine the relationship between the variables:

1. **Positive Correlation:** If the points generally trend upwards from left to right, this indicates a positive correlation (i.e., as one variable increases, the other also increases).
2. **Negative Correlation:** If the points trend downwards from left to right, this indicates a negative correlation (i.e., as one variable increases, the other decreases).
3. **No Correlation:** If the points are scattered randomly with no clear pattern, this suggests there is no correlation between the variables.

Scatter plots are particularly useful for identifying trends, patterns, or outliers and provide a visual representation of data before further statistical analysis, such as calculating the correlation coefficient.

- ✓ If all points lie on a rising straight line, the correlation is perfectly positive and $r = +1$ (see fig. a)
- ✓ If all points lie on a falling straight line the correlation is perfectly negative and $r = -1$ (see fig. d)
- ✓ If the points lie in narrow strip, rising upwards, the correlation is high degree of positive (see fig. b)
- ✓ If the points lie in a narrow strip, falling downwards, the correlation is high degree of negative (see fig. e)
- ✓ If the points are spread widely over a broad strip, rising upwards, the correlation is low degree positive (see fig. c)
- ✓ If the points are spread widely over a broad strip, falling downward, the correlation is low degree negative (see fig. f)

- ✓ If the points are spread (scattered) without any specific pattern, the correlation is absent. i.e. $r = 0$. (see fig. g)



2. Karl Pearson's coefficient of correlation

Karl Pearson's coefficient of correlation It gives the precise numerical expression for the measure of correlation. It is denoted by 'r'. The value of 'r' gives the magnitude of correlation and its sign denotes its direction. The mathematical formula for computing r is:

Coefficient of Correlation (Karl Pearson's Method)

The coefficient of correlation **r** is given by:

$$r = \frac{\sum xy}{N \sigma_x \sigma_y}$$

Where:

- $x = X - \bar{X}$
- $y = Y - \bar{Y}$
- σ_x = standard deviation of X
- σ_y = standard deviation of Y
- N = number of pairs of observations

Standard Deviations

$$\sigma_x = \sqrt{\frac{\sum x^2}{N}}, \sigma_y = \sqrt{\frac{\sum y^2}{N}}$$

Substituting the values of σ_x and σ_y

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Final Form (Most Commonly Used)

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

Note

This form of the formula is widely used because it **avoids direct calculation of standard deviations** and simplifies computation.

(i) By Using Actual Mean

$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum(X - \bar{X})^2} \sqrt{\sum(Y - \bar{Y})^2}}$$

...(2)

(ii) By Assumed Mean Method

$$r = \frac{\sum d_x d_y - \frac{\sum d_x \sum d_y}{N}}{\sqrt{\sum d_x^2 - \frac{(\sum d_x)^2}{N}} \sqrt{\sum d_y^2 - \frac{(\sum d_y)^2}{N}}}$$

...(3)

Where:

$$d_x = X - A_x, d_y = Y - A_y$$

(iii) By Direct Method

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}}$$

...(4)

Covariance Method

Covariance of X and Y is defined as:

$$\text{cov}(X, Y) = \frac{\sum(X_i - \bar{X})(Y_i - \bar{Y})}{N}$$

Hence,

$$r = \frac{\text{cov}(X, Y)}{\sigma_X \sigma_Y}$$

Where:

- N = number of pairs of observations
- σ_X = standard deviation of X
- σ_Y = standard deviation of Y

Example 1: Calculate the coefficient of correlation between the expenditure on advertising and sales of the company from the following data.

Given Data

Advertising Expenditure (in ₹000)	165	166	167	168	167	169	170	172
Sales (in ₹ Lakh)	167	168	165	172	168	172	169	171
$N = 8$ (pairs of observations)								

Table : Calculation of Coefficient of Correlation

X_i	Y_i	$x = X_i - \bar{X}$	$y = Y_i - \bar{Y}$	xy	x^2	y^2
165	167	-3	-2	6	9	4
166	168	-2	-1	2	4	1
167	165	-1	-4	4	1	16
167	168	-1	-1	1	1	1
168	172	0	3	0	0	9
169	172	1	3	3	1	9

170	169	2	0	0	4	0
172	171	4	2	8	16	4

$$\begin{aligned}\sum X_i &= 1344, \sum Y_i = 1352 \\ \sum x &= 0, \sum y = 0 \\ \sum xy &= 24, \sum x^2 = 36, \sum y^2 = 44\end{aligned}$$

Calculation

Mean values

$$\begin{aligned}\bar{X} &= \frac{\sum X_i}{N} = \frac{1344}{8} = 168 \\ \bar{Y} &= \frac{\sum Y_i}{N} = \frac{1352}{8} = 169\end{aligned}$$

Standard deviations

$$\begin{aligned}\sigma_x &= \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{36}{8}} \\ \sigma_y &= \sqrt{\frac{\sum y^2}{N}} = \sqrt{\frac{44}{8}}\end{aligned}$$

Coefficient of Correlation

$$\begin{aligned}r &= \frac{\sum xy}{N\sigma_x\sigma_y} \\ r &= \frac{24}{8\sqrt{\frac{36}{8}}\sqrt{\frac{44}{8}}} = \frac{24}{\sqrt{36 \times 44}} \\ r &= +0.6029\end{aligned}$$

Interpretation

Since the value of **r** is **positive and approximately 0.6**, it indicates a **positive and moderate correlation** between advertising expenditure and sales.

That is, **sales tend to increase with an increase in advertising expenditure**, and the relationship is **reasonably good but not perfect**.

Notes

- $-1 \leq r \leq +1$

- (i) $r = +1 \rightarrow$ Perfect positive correlation
- (ii) $r = -1 \rightarrow$ Perfect negative correlation
- (iii) $r = 0 \rightarrow$ No correlation

3. Spearman’s Rank-correlation coefficient.

This method is based on the ranks of the items rather than on their actual values. The advantage of this method over the others in that it can be used even when the actual values of items are unknown.

For example if you want to know the correlation between honesty and wisdom of the boys of your class, you can use this method by giving ranks to the boys. It can also be used to find the degree of agreements between the judgments of two examiners or two judges. The formula is:

Example 6

Calculate ‘R’ from the following data.

Given Data

Student No.	1	2	3	4	5	6	7	8	9	10
-------------	---	---	---	---	---	---	---	---	---	----

Rank in Maths (R ₁)	1	3	7	5	4	6	2	10	9	8
Rank in Stats (R ₂)	3	1	4	5	6	9	7	8	10	2

Solution

Table 10.5: Calculation of Rank Correlation

Student No.	R ₁	R ₂	D = (R ₁ – R ₂)	D ²
1	1	3	–2	4
2	3	1	2	4
3	7	4	3	9
4	5	5	0	0
5	4	6	–2	4
6	6	9	–3	9
7	2	7	–5	25
8	10	8	2	4
9	9	10	–1	1
10	8	2	6	36

$$N = 10, \sum D = 0, \sum D^2 = 96$$

Calculation of Rank Correlation Coefficient (R)

Formula:

$$R = 1 - \frac{6\sum D^2}{N(N^2 - 1)}$$

Substituting values:

$$\begin{aligned}
 R &= 1 - \frac{6(96)}{10(10^2 - 1)} \\
 R &= 1 - \frac{576}{10(99)} \\
 R &= 1 - \frac{576}{990} \\
 R &= 1 - 0.5819 \\
 \boxed{R = 0.4181}
 \end{aligned}$$

Interpretation

Since the value of R is positive and less than 0.5, it indicates a low positive correlation between the ranks obtained in Mathematics and Statistics.

Index Number

An **index number** is a statistical measure used to compare changes in variables over time, locations, or categories. It expresses the relative changes in a phenomenon (such as prices, wages, or industrial production) in a numerical form, often using a base year as a reference (usually set at 100).

Uses of Index Numbers

Index numbers have various applications, including:

1. **Measuring Inflation** – The Consumer Price Index (CPI) tracks changes in the cost of living.
2. **Economic Policy Formulation** – Governments use index numbers to make informed economic decisions.
3. **Business and Investment Analysis** – Stock market indices (e.g., S&P 500) help investors assess market trends.
4. **Wage Adjustments** – Used to determine changes in salaries and minimum wages.

5. **Comparing Economic Performance** – Helps compare productivity, GDP growth, and other economic indicators across years or countries.
6. **Assessing Cost of Living Differences** – Used to compare living standards between regions.

Construction of an Index Number

The process of constructing an index number involves several steps:

- An index number is a statistical measure, designed to meaasure changes in a variable or a group of related variables.
- Conventionally, index numbers are expressed in terms percentage.
- Main characteristics of index numbers are:
 - a) Index numbers are a special type of average that provide a measurement of relative changes in the level of certain phenomenon from time to time
 - b) Index numbers are expressed in terms fo percentages to show the extent of relative change
 - c) They measure relative changes.
 - d) They can also measure changes which are not directly measureable.
- Index numbers are economic barometers. They help in formulating economic policies and planning etc. They are used in studying trends adn tendencies. Index numbers are useful in forecasting future economic activity. They measure the purchasing power of money.

Consumer Price Index (CPI)

The Consumer Price Index (CPI) tracks changes in the price levels of a specific basket of goods and services commonly purchased by households. It measures price fluctuations for designated consumer groups within a specific region. CPI can be calculated for different categories such as industrial workers, urban laborers, and agricultural workers.

For example, if the CPI for agricultural workers, based on the year 2000, is 560 in April 2012, it implies that an agricultural worker who spent ₹100 on a standard basket of goods in 2000 would need ₹560 in April 2012 to purchase the same basket. However, CPI only represents the purchasing power required to buy the basket; it does not indicate whether the individual actually buys it.

It is important to note that there cannot be a single CPI for an entire category of people across a country, as retail prices vary by location. Similarly, a single cost of living index for an entire town is impractical, as different groups within the town purchase different sets of goods.

1. Simple Aggregate Price Index Method

$$P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$$

Where:

- P₀= Base year prices
- P₁= Current year prices

2. Simple Average of Price Relatives Method

$$P_{01} = \frac{\sum \left(\frac{P_1}{P_0} \times 100 \right)}{N}$$

Where:

- N= Number of commodities

3. Laspeyres’ Price Index

$$P_{01} = \frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$$

Here, **base year quantities (q_0) are used as weights.**

4. Paasche’s Price Index

$$P_{01} = \frac{\sum P_1 q_1}{\sum P_0 q_1} \times 100$$

Here, **current year quantities (q_1) are used as weights.**

5. Weighted Average of Price Relatives Method

$$P_{01} = \frac{\sum W \left(\frac{P_1}{P_0} \times 100 \right)}{\sum W}$$

Where:

- W = Weights assigned to commodities

6. Consumer Price Index (Cost of Living Index)

$$CPI = \frac{\sum WP}{\sum W}$$

Where:

Example 4: Consumer Price Index Number (2012 on base 2010)

We use **Weighted Average of Price Relatives method**:

$$CPI = \frac{\sum WP}{\sum W} \text{ where } P = \frac{P_1}{P_0} \times 100$$

Step 1: Calculate price relatives (P) and WP

Commodity	Weight (W)	Price 2010 (P ₀)	Price 2012 (P ₁)	$P = \frac{P_1}{P_0} \times 100$	WP
Rice	40	16	20	125	40×125 = 5000
Wheat	20	40	60	150	20×150 = 3000
Pulses	15	0.50	0.50	100	15×100 = 1500
Butter	20	5.12	6.25	122	20×122 = 2440
Oil	5	2	1.5	75	5×75 = 375

$$\sum W = 100, \sum WP = 12315$$

(Butter’s price relative is $\frac{6.25}{5.12} \times 100 = 122.07 \approx 122$, so $WP = 2440$.)

Step 2: CPI (Cost of Living Index)

$$CPI_{2012} = \frac{\sum WP}{\sum W} = \frac{12315}{100} = 123.15$$

Consumer Price Index for 2012 (Base 2010 = 100) = 123.15

Wholesale Price Index (WPI)

The **Wholesale Price Index (WPI)** measures the price of a representative basket of wholesale goods. It reflects changes in the general price level but, unlike the Consumer Price Index (CPI), it does not focus on any specific consumer category. For example, if the WPI with a base year of 2011 is **156** in March 2014, it indicates that the overall price level has increased by **56%** over this period.

Industrial Production Index (IIP)

The **Industrial Production Index (IIP)** measures changes in industrial production across various industries over a specific period. It is calculated as a weighted average of quantity relatives, using the following formula:

Industrial Production Index (IIP)

$$IIP_{01} = \frac{\sum q_1 \times W}{\sum W}$$

Where:

- q_1 = Quantity index (or production index) of the current year
- W = Weights assigned to different industries or items
- $\sum W$ = Sum of weights

Meaning:

The Industrial Production Index measures the **overall change in the level of industrial production** in the current year compared to the base year, using appropriate weights.

Issues in the Construction of Index Numbers

Several challenges arise when constructing index numbers:

1. **Choice of Base Year** – The base year should be free from economic anomalies.
2. **Selection of Items** – Items should be representative, but determining this can be complex.
3. **Weighting Problems** – Assigning appropriate weights can be subjective.
4. **Changes in Quality** – Improvements or changes in product quality can distort the index.
5. **Substitution Bias** – Consumers may switch to cheaper alternatives, affecting price indices.
6. **Data Collection Errors** – Inaccurate or incomplete data can lead to misleading results.
7. **Formula Choice** – Different formulas yield different results, creating inconsistencies.
8. **Ignoring Seasonal Variations** – Seasonal effects can distort short-term comparisons.

Skewness in Statistics

Skewness, in statistics, is a measure of the asymmetry in a probability distribution. It measures the deviation of the curve of the normal distribution for a given set of data.

The value of skewed distribution could be positive or negative or zero. Usually, the bell curve of normal distribution has zero skewness.

ANOVA Statistics

ANOVA Stands for Analysis of Variance. It is a collection of statistical models, used to measure the mean difference for the given set of data.

Degrees of freedom

In statistical analysis, the degree of freedom is used for the values that are free to change. The independent data or information that can be moved while estimating a parameter is the degree of freedom of information.

Applications of Statistics

Statistics have huge applications across various fields in Mathematics as well as in real life. Some of the applications of statistics are given below:

- Applied statistics, theoretical statistics and mathematical statistics
- Machine learning and data mining
- Statistics in society
- Statistical computing
- Statistics applied to the mathematics of the arts

BUSINESS STATISTICS MCQs

PART A: ORGANISATION & PRESENTATION OF DATA (Q1–30)

1. A table showing sales of 5 products for 4 years is an example of:
 - a) Simple table
 - b) Complex table
 - c) Frequency table
 - d) Time series table
2. Which diagram is most suitable to compare profits of different firms?
 - a) Line diagram
 - b) Bar diagram
 - c) Pie chart
 - d) Histogram
3. Data collected from RBI reports is:
 - a) Primary data
 - b) Secondary data
 - c) Internal data
 - d) Census data
4. Which method is best to show percentage distribution?
 - a) Histogram
 - b) Bar chart
 - c) Pie chart
 - d) Line graph
5. If total sales = ₹10,000 and Product A sales = ₹2,500, its pie angle is:
 - a) 45°
 - b) 60°
 - c) 90°
 - d) 120°
6. Number of classes is generally determined by:
 - a) Sturges' formula
 - b) Fisher's formula
 - c) Laspeyres formula
 - d) Paasche formula
7. Class width is calculated as:
 - a) Highest value / Lowest value
 - b) Range / Number of classes
 - c) Mean $\times$ Frequency
 - d) Median / Mode
8. If highest value = 80 and lowest value = 20, range is:
 - a) 40
 - b) 50
 - c) 60
 - d) 70
9. In a frequency table, tally marks are used for:
 - a) Calculation
 - b) Presentation
 - c) Counting observations
 - d) Diagram drawing
10. Data arranged in ascending or descending order is called:
 - a) Classification
 - b) Tabulation
 - c) Array
 - d) Index
11. A frequency distribution with unequal class intervals requires:
 - a) Histogram
 - b) Frequency polygon
 - c) Adjusted histogram
 - d) Pie diagram
12. Which diagram shows trend over time?
 - a) Pie chart
 - b) Bar diagram
 - c) Line graph
 - d) Histogram
13. Sales figures month-wise are an example of:
 - a) Cross-section data
 - b) Time series data
 - c) Primary data
 - d) Attribute data
14. In histogram, bars:
 - a) Have gaps
 - b) Touch each other
 - c) Are circular
 - d) Are vertical only
15. Data classified by qualities like gender is:
 - a) Quantitative
 - b) Qualitative
 - c) Discrete
 - d) Continuous
16. A two-way table shows:
 - a) One characteristic
 - b) Two characteristics
 - c) Three characteristics
 - d) No characteristics
17. Class midpoint is calculated as:
 - a) Upper limit – lower limit
 - b) $(\text{Upper limit} + \text{lower limit})/2$
 - c) $\text{Upper limit} \div 2$
 - d) $\text{Lower limit} \times 2$
18. Which is NOT a diagram?
 - a) Bar diagram
 - b) Pie chart
 - c) Histogram
 - d) Frequency table
19. Which scale is used in ratio?
 - a) Nominal
 - b) Ordinal
 - c) Interval
 - d) Ratio
20. The total of all pie chart angles equals:
 - a) 90°
 - b) 180°
 - c) 270°
 - d) 360°
21. Which diagram can represent negative values?
 - a) Pie chart
 - b) Bar diagram

- c) Histogram
- d) Circle diagram
- 22. Classification by age groups is:
 - a) Qualitative
 - b) Quantitative
 - c) Chronological
 - d) Geographical
- 23. Editing of data is done:
 - a) Before collection
 - b) During collection
 - c) After collection
 - d) During presentation
- 24. Diagram exaggeration is avoided by:
 - a) Using false scale
 - b) Using broken scale carefully
 - c) Avoiding scale
 - d) Using colours
- 25. A bar diagram compares:
 - a) Time trends
 - b) Quantities
 - c) Percentages only
 - d) Correlation
- 26. The source of internal data is:
 - a) Government report
 - b) Company records
 - c) Census
 - d) RBI
- 27. Which graph shows frequency distribution?
 - a) Line graph
 - b) Histogram
 - c) Pie chart
 - d) Bar diagram
- 28. The smallest unit of classification is:
 - a) Class
 - b) Category
 - c) Observation
 - d) Group
- 29. When data is grouped, original values are:
 - a) Lost
 - b) Preserved
 - c) Replaced
 - d) Converted to ratios
- 30. Frequency polygon is drawn by joining:
 - a) Class limits
 - b) Class midpoints
 - c) Frequencies
 - d) Cumulative frequencies

PART B: AVERAGES – PRACTICAL (Q31–65)

- 31. Mean of 2, 4, 6 is:
 - a) 3
 - b) 4
 - c) 5
 - d) 6
- 32. If $\Sigma x = 120$ and $n = 10$, mean is:
 - a) 10
 - b) 11
 - c) 12
 - d) 13
- 33. Mean of first 10 natural numbers is:
 - a) 5
 - b) 5.5
 - c) 6
 - d) 4.5
- 34. Median of 3, 7, 9 is:
 - a) 3
 - b) 7
 - c) 9
 - d) 6

- 35. Median position for n observations is:
 - a) $n/2$
 - b) $(n+1)/2$
 - c) $(n-1)/2$
 - d) $n+2$
- 36. Mode is the value which:
 - a) Occurs least
 - b) Occurs most
 - c) Is average
 - d) Is middle
- 37. Mean is affected by:
 - a) Extreme values
 - b) Frequency only
 - c) Order of data
 - d) Median
- 38. Best average for income data is:
 - a) Mean
 - b) Median
 - c) Mode
 - d) Geometric mean
- 39. If values are 2, 2, 2, 5, 6 then mode is:
 - a) 2
 - b) 5
 - c) 6
 - d) No mode
- 40. Which average can be calculated graphically?
 - a) Mean
 - b) Median
 - c) Mode
 - d) Geometric mean
- 41. Weighted mean is used when:
 - a) Values are equal
 - b) Importance differs
 - c) Frequency is zero
 - d) Data is qualitative
- 42. Median is preferred when data is:
 - a) Symmetrical
 - b) Highly skewed
 - c) Small
 - d) Exact
- 43. Mean of 10 numbers is 15. One value is replaced by 25 instead of 5. New mean is:
 - a) 15
 - b) 17
 - c) 18
 - d) 16
- 44. Mean deviation is based on:
 - a) Mean only
 - b) Median only
 - c) Mean or median
 - d) Mode only
- 45. Which average is least affected by extremes?
 - a) Mean
 - b) Median
 - c) Mode
 - d) Arithmetic mean
- 46. If all values increase by 5, mean:
 - a) Decreases by 5
 - b) Remains same
 - c) Increases by 5
 - d) Doubles
- 47. Mean of 5, 10, 15 is:
 - a) 10
 - b) 12
 - c) 15
 - d) 5
- 48. Median of even number of observations is:
 - a) Middle value

- b) Mean of two middle values
 - c) Highest value
 - d) Lowest value
49. Mean is:
- a) Positional average
 - b) Mathematical average
 - c) Graphical average
 - d) Qualitative average
50. Mode can be:
- a) Fraction
 - b) Decimal
 - c) Value
 - d) All of these
51. In grouped data, median class is the class:
- a) With highest frequency
 - b) Containing median value
 - c) Middle class
 - d) First class
52. Which average is suitable for shoe size?
- a) Mean
 - b) Median
 - c) Mode
 - d) Weighted mean
53. Mean of constant series is:
- a) Constant value
 - b) Zero
 - c) One
 - d) Infinity
54. If mean = 20 and number of items = 5, total is:
- a) 100
 - b) 25
 - c) 4
 - d) 20
55. Median is a:
- a) Mathematical average
 - b) Positional average
 - c) Frequency average
 - d) Ratio
56. Which average requires grouping?
- a) Mean
 - b) Median
 - c) Mode
 - d) All
57. Mean deviation ignores:
- a) Negative signs
 - b) Positive signs
 - c) Frequencies
 - d) Units
58. Which average is used in business forecasting?
- a) Mode
 - b) Median
 - c) Mean
 - d) Quartile
59. Mean of 10 identical numbers is:
- a) Same number
 - b) Zero
 - c) Double
 - d) Half
60. Median is found using:
- a) Graph
 - b) Formula
 - c) Ogive
 - d) Table
61. Mode is useful in:
- a) Fashion industry
 - b) Income data
 - c) Time series
 - d) Index numbers

62. Mean deviation is always:
- a) Negative
 - b) Zero
 - c) Positive
 - d) Infinite
63. Which average cannot be used for open-ended classes?
- a) Mean
 - b) Median
 - c) Mode
 - d) None
64. Mean = Median = Mode in:
- a) Skewed distribution
 - b) Symmetrical distribution
 - c) Open series
 - d) Irregular series
65. Best average for price data:
- a) Mean
 - b) Median
 - c) Mode
 - d) Weighted mean

PART C: DISPERSION & BASIC APPLICATION (Q66–100)

66. Dispersion shows:
- a) Central value
 - b) Spread of data
 - c) Relationship
 - d) Trend
67. Range is:
- a) Highest – Lowest
 - b) Mean – Median
 - c) Median – Mode
 - d) Sum of values
68. If highest = 90 and lowest = 30, range =:
- a) 50
 - b) 60
 - c) 70
 - d) 80
69. Quartile deviation is based on:
- a) Q1 and Q3
 - b) Mean and median
 - c) All values
 - d) Frequencies
70. Dispersion helps in:
- a) Decision making
 - b) Average calculation
 - c) Tabulation
 - d) Classification
71. Which is a relative measure?
- a) Range
 - b) Mean deviation
 - c) Coefficient of variation
 - d) Quartile deviation
72. Lower dispersion means:
- a) Less consistency
 - b) More consistency
 - c) No data
 - d) Wrong data
73. Which measure uses all observations?
- a) Range
 - b) Quartile deviation
 - c) Mean deviation
 - d) Mode
74. Range ignores:
- a) Middle values
 - b) Extreme values
 - c) Frequencies
 - d) Units

75. Standard deviation is:
- Absolute measure
 - Relative measure
 - Positional measure
 - Graphical
76. CV is used to compare:
- Averages
 - Dispersion
 - Consistency
 - Frequency
77. Smaller CV indicates:
- High risk
 - Low risk
 - High variability
 - Less consistency
78. Mean deviation can be calculated from:
- Mean only
 - Median only
 - Mean or median
 - Mode only
79. Dispersion is important because:
- Mean is sufficient
 - Averages mislead
 - Data is grouped
 - Tables are used
80. If all values are same, dispersion is:
- Maximum
 - Minimum
 - Infinite
 - Zero
81. Range coefficient formula is:
- $(H - L)/(H + L)$
 - $H + L$
 - $H \times L$
 - $H - L$
82. Which measure is easiest?
- Range
 - SD
 - QD
 - MD
83. Dispersion is also called:
- Variation
 - Average
 - Index
 - Trend
84. Which is graphical method?
- Histogram
 - Ogive
 - Lorenz curve
 - Bar chart
85. Lorenz curve measures:
- Poverty
 - Inequality
 - Inflation
 - Growth
86. High dispersion means:
- Uniform data
 - Scattered data
 - Accurate data
 - Correct data
87. Range is unsuitable when:
- Data is small
 - Data is large
 - Extreme values exist
 - Classes are equal
88. Dispersion complements:
- Average
 - Correlation
 - Regression
 - Index
89. Mean deviation is minimum when calculated from:
- Mean
 - Median
 - Mode
 - Zero
90. Which is not a dispersion measure?
- Range
 - SD
 - Median
 - QD
91. Dispersion helps compare:
- Prices
 - Variability
 - Time
 - Trends
92. Smaller range indicates:
- Higher fluctuation
 - Lower fluctuation
 - No fluctuation
 - Error
93. CV formula is:
- $SD/Mean \times 100$
 - $Mean/SD \times 100$
 - $SD - Mean$
 - $Mean + SD$
94. Dispersion is essential in:
- Salary analysis
 - Profit comparison
 - Risk analysis
 - All
95. If $SD = 0$, data is:
- Highly variable
 - Uniform
 - Skewed
 - Open
96. Absolute measures depend on:
- Units
 - Ratios
 - Percentages
 - Index
97. Relative measures are:
- Unit free
 - Unit dependent
 - Value based
 - Frequency based
98. Dispersion is zero when:
- Mean = 0
 - All values equal
 - Range is large
 - SD is maximum
99. Which measure is most reliable?
- Range
 - QD
 - SD
 - Mode
100. Business decisions require:
- Only averages
 - Only dispersion
 - Both average and dispersion
 - Neither

ANSWER KEY

1-B, 2-B, 3-B, 4-C, 5-C, 6-A, 7-B, 8-C, 9-C, 10-C, 11-C, 12-C, 13-B, 14-B, 15-B, 16-B, 17-B, 18-D, 19-D, 20-D, 21-B, 22-B, 23-C, 24-B, 25-B, 26-B, 27-B, 28-C, 29-A, 30-B, 31-B, 32-C, 33-B, 34-B, 35-B, 36-B, 37-A, 38-B, 39-A, 40-B, 41-B, 42-B,

43-D, 44-C, 45-B, 46-C, 47-A, 48-B, 49-B, 50-D, 51-B, 52-C, 53-A, 54-A, 55-B, 56-D, 57-A, 58-C, 59-A, 60-C, 61-A, 62-C, 63-B, 64-B, 65-D, 66-B, 67-A, 68-B, 69-A, 70-A, 71-C, 72-B, 73-C, 74-A, 75-A, 76-C, 77-B, 78-C, 79-B, 80-D, 81-A, 82-A, 83-A, 84-C, 85-B, 86-B, 87-C, 88-A, 89-B, 90-C, 91-B, 92-B, 93-A, 94-D, 95-B, 96-A, 97-A, 98-B, 99-C, 100-C

MCQs 101–200

MEASURES OF CENTRAL TENDENCY, DISPERSION & CORRELATION

Measures of Central Tendency (101–135)

101. The arithmetic mean of 10 observations is 25. If each observation is increased by 5, the new mean is
 - a) 25
 - b) 30
 - c) 20
 - d) 50
102. The mean of 6 numbers is 15. If one number 10 is replaced by 22, the new mean is
 - a) 16
 - b) 17
 - c) 18
 - d) 19
103. The median of 7, 9, 11, 13, 15 is
 - a) 9
 - b) 11
 - c) 13
 - d) 15
104. For data: 2, 4, 6, 8, 10, the median is
 - a) 4
 - b) 5
 - c) 6
 - d) 7
105. The mode of 3, 3, 5, 7, 9 is
 - a) 3
 - b) 5
 - c) 7
 - d) No mode
106. If mean = 20 and number of observations = 15, the total value is
 - a) 200
 - b) 250
 - c) 300
 - d) 350
107. Which average is most affected by extreme values?
 - a) Median
 - b) Mode
 - c) Mean
 - d) Quartile
108. Median is preferred over mean when data is
 - a) Symmetrical
 - b) Uniform
 - c) Highly skewed
 - d) Continuous
109. In an even number of observations, median is
 - a) Middle value
 - b) Lower middle value
 - c) Mean of two middle values
 - d) Highest value
110. Mean deviation is minimum when calculated from
 - a) Mean
 - b) Median
 - c) Mode
 - d) Quartiles

111. Weighted mean is used when
 - a) Frequencies are equal
 - b) Importance differs
 - c) Data is qualitative
 - d) Values are same
112. The sum of deviations from arithmetic mean is
 - a) Maximum
 - b) Minimum
 - c) Zero
 - d) One
113. The median of 12, 14, 16, 18 is
 - a) 14
 - b) 15
 - c) 16
 - d) 17
114. Mean of first 20 natural numbers is
 - a) 10
 - b) 10.5
 - c) 11
 - d) 20
115. If all values are multiplied by 3, the mean
 - a) Remains same
 - b) Becomes 3 times
 - c) Becomes 6 times
 - d) Becomes zero
116. Which average can be located graphically?
 - a) Mean
 - b) Median
 - c) Mode
 - d) Geometric mean
117. For income distribution, the best average is
 - a) Mean
 - b) Median
 - c) Mode
 - d) Harmonic mean
118. Mean deviation ignores
 - a) Negative signs
 - b) Positive signs
 - c) Frequencies
 - d) Units
119. If mean = median = mode, the distribution is
 - a) Skewed
 - b) Symmetrical
 - c) Bimodal
 - d) Irregular
120. The arithmetic mean of 5 identical values is
 - a) Zero
 - b) Same value
 - c) Double value
 - d) Half value
121. Mode is most useful in
 - a) Income data
 - b) Fashion industry
 - c) Continuous data
 - d) Time series
122. Which average requires frequency distribution?
 - a) Simple mean
 - b) Median
 - c) Mode
 - d) All
123. Mean is also known as
 - a) Positional average
 - b) Mathematical average
 - c) Graphic average
 - d) Weighted average
124. Median divides data into
 - a) Two equal parts
 - b) Three equal parts

- c) Four equal parts
 - d) Ten equal parts
125. Mean of 4, 8, 12 is
- a) 8
 - b) 10
 - c) 12
 - d) 6
126. If 5 is added to each value, variance
- a) Increases
 - b) Decreases
 - c) Remains same
 - d) Becomes zero
127. Mode can be
- a) Decimal
 - b) Fraction
 - c) Whole number
 - d) All
128. Mean deviation is an
- a) Absolute measure
 - b) Relative measure
 - c) Ratio
 - d) Index
129. Median is affected by
- a) Extreme values
 - b) Frequencies
 - c) Position
 - d) Mean
130. Which average is least stable?
- a) Mean
 - b) Median
 - c) Mode
 - d) Quartile
131. If $\Sigma fx = 600$ and $\Sigma f = 20$, mean is
- a) 25
 - b) 30
 - c) 35
 - d) 40
132. Mean of negative and positive values can be
- a) Zero
 - b) Negative
 - c) Positive
 - d) All
133. Which average is suitable for open-end classes?
- a) Mean
 - b) Median
 - c) Mode
 - d) None
134. Mean is always
- a) A value from data
 - b) Central value
 - c) A calculated value
 - d) Positional
135. Median is a
- a) Mathematical average
 - b) Positional average
 - c) Weighted average
 - d) Relative measure

Measures of Dispersion (136–165)

136. Dispersion measures
- a) Central tendency
 - b) Spread of data
 - c) Relationship
 - d) Growth
137. Range is calculated as
- a) Mean – Median
 - b) Highest – Lowest
 - c) $Q3 - Q1$
 - d) $SD \times \text{Mean}$

138. If highest = 90 and lowest = 40, range is
- a) 40
 - b) 45
 - c) 50
 - d) 55
139. Which dispersion measure uses all values?
- a) Range
 - b) Quartile deviation
 - c) Mean deviation
 - d) Standard deviation
140. Quartile deviation depends on
- a) Mean
 - b) Median
 - c) $Q1$ and $Q3$
 - d) Mode
141. Which is a relative measure?
- a) Range
 - b) Mean deviation
 - c) Standard deviation
 - d) Coefficient of variation
142. Smaller dispersion indicates
- a) More variability
 - b) Less consistency
 - c) More consistency
 - d) High risk
143. Dispersion is zero when
- a) Mean is zero
 - b) All values are equal
 - c) Data is skewed
 - d) Range is large
144. Range ignores
- a) Extreme values
 - b) Middle values
 - c) Frequencies
 - d) Units
145. Standard deviation is
- a) Absolute measure
 - b) Relative measure
 - c) Ratio
 - d) Index
146. CV is used to compare
- a) Averages
 - b) Consistency
 - c) Frequencies
 - d) Trends
147. Higher CV means
- a) More stability
 - b) Less variability
 - c) Less consistency
 - d) More accuracy
148. Which measure is easiest to calculate?
- a) Range
 - b) SD
 - c) MD
 - d) QD
149. Mean deviation is minimum when taken from
- a) Mean
 - b) Median
 - c) Mode
 - d) Zero
150. Which is NOT a measure of dispersion?
- a) Range
 - b) Variance
 - c) Median
 - d) SD
151. Dispersion supplements
- a) Classification
 - b) Average

- c) Correlation
d) Index
152. Absolute measures depend on
a) Units
b) Percentages
c) Ratios
d) Index
153. Relative measures are
a) Unit-free
b) Unit-based
c) Value-based
d) Frequency-based
154. Variance is the square of
a) Mean
b) SD
c) CV
d) QD
155. Which curve measures inequality?
a) Ogive
b) Lorenz curve
c) Histogram
d) Polygon
156. Range coefficient formula is
a) $(H-L)/(H+L)$
b) $(H+L)/(H-L)$
c) $H \times L$
d) $H-L$
157. Dispersion helps in
a) Decision-making
b) Forecasting
c) Risk analysis
d) All
158. High dispersion indicates
a) Uniform data
b) Concentrated data
c) Scattered data
d) Stable data
159. Quartile deviation ignores
a) Middle values
b) Extreme values
c) Frequencies
d) Units
160. Standard deviation is most reliable because
a) Easy
b) Uses all observations
c) Ignores extremes
d) Graphical
161. CV formula is
a) $SD/Mean \times 100$
b) $Mean/SD \times 100$
c) $SD - Mean$
d) $Mean + SD$
162. Dispersion is also called
a) Variation
b) Average
c) Trend
d) Index
163. If $SD = 0$, data is
a) Highly variable
b) Uniform
c) Skewed
d) Open
164. Dispersion is necessary because
a) Mean may mislead
b) Data is large
c) Tables are complex
d) Diagrams are used
165. Larger dispersion implies
a) Higher risk
b) Lower risk
c) No risk
d) Constant returns
- Correlation Analysis (166–200)**
166. Correlation measures
a) Average
b) Relationship
c) Dispersion
d) Trend
167. Correlation coefficient lies between
a) 0 and 1
b) -1 and $+1$
c) $-\infty$ and $+\infty$
d) 1 and 2
168. If $r = +1$, correlation is
a) No correlation
b) Perfect negative
c) Perfect positive
d) Zero
169. If $r = 0$, it indicates
a) Perfect relation
b) No linear correlation
c) High correlation
d) Curved relation
170. Positive correlation means
a) Variables move opposite
b) Variables move together
c) No movement
d) Random movement
171. Negative correlation means
a) Income and savings
b) Price and demand
c) Height and weight
d) Age and experience
172. Correlation does not imply
a) Relationship
b) Causation
c) Association
d) Direction
173. Karl Pearson's method is used for
a) Qualitative data
b) Quantitative data
c) Ranked data
d) Attribute data
174. Value of $r = -0.9$ indicates
a) Weak negative
b) Strong negative
c) Weak positive
d) No correlation
175. Scatter diagram shows
a) Exact value of r
b) Direction of correlation
c) Regression line
d) Variance
176. If all points lie on a straight upward line, correlation is
a) Zero
b) Perfect positive
c) Perfect negative
d) Weak
177. Which method is used for ranks?
a) Pearson
b) Spearman
c) Regression
d) Covariance

178. Correlation coefficient is unit-free because
- It uses ratios
 - Units cancel out
 - Mean is used
 - SD is used
179. Correlation coefficient is affected by
- Origin
 - Scale
 - Both a and b
 - Neither
180. If $r = -1$, the relationship is
- No relation
 - Perfect inverse
 - Weak inverse
 - Curved
181. Income and consumption usually have
- Negative correlation
 - Positive correlation
 - Zero correlation
 - Random correlation
182. Which correlation is strongest?
- $r = 0.3$
 - $r = -0.5$
 - $r = 0.9$
 - $r = -0.1$
183. Scatter diagram is also known as
- Dot diagram
 - Spot diagram
 - Point diagram
 - All
184. Which method is simplest?
- Pearson
 - Regression
 - Scatter diagram
 - Spearman
185. If $r = 0.6$, relationship is
- Perfect
 - Strong
 - Moderate positive
 - Weak
186. Correlation studies only
- Cause
 - Effect
 - Degree of association
 - Impact
187. Which is NOT a correlation method?
- Scatter diagram
 - Pearson's r
 - Spearman's rank
 - Lorenz curve
188. Correlation is symmetrical because
- X depends on Y
 - Y depends on X
 - Both affect equally
 - Direction doesn't matter
189. If $r = 0$, points are
- Straight line
 - Circular
 - Randomly scattered
 - Vertical
190. Correlation coefficient close to zero means
- High relation
 - No relation
 - Weak relation
 - Perfect relation
191. Correlation is used in
- Forecasting

- Business decisions
 - Economic analysis
 - All
192. Rank correlation is suitable when data is
- Quantitative
 - Continuous
 - Qualitative
 - Ranked
193. If both variables increase, correlation is
- Negative
 - Zero
 - Positive
 - No relation
194. Correlation between age and remaining life is
- Positive
 - Negative
 - Zero
 - Perfect
195. Pearson's r assumes relationship is
- Linear
 - Curved
 - Random
 - Exponential
196. If $r = 1$, variance explained is
- 50%
 - 75%
 - 100%
 - 0%
197. Correlation coefficient does not show
- Direction
 - Degree
 - Cause
 - Association
198. Correlation helps in
- Prediction
 - Planning
 - Control
 - All
199. If demand rises when price falls, correlation is
- Positive
 - Negative
 - Zero
 - Perfect positive
200. Correlation coefficient squared is called
- Covariance
 - Determination coefficient
 - Regression coefficient
 - Variation index

ANSWER KEY (101–200)

101-B, 102-B, 103-B, 104-C, 105-A, 106-C, 107-C, 108-C, 109-C, 110-B, 111-B, 112-C, 113-B, 114-B, 115-B, 116-B, 117-B, 118-A, 119-B, 120-B, 121-B, 122-D, 123-B, 124-A, 125-A, 126-C, 127-D, 128-A, 129-C, 130-C, 131-A, 132-D, 133-B, 134-C, 135-B, 136-B, 137-B, 138-C, 139-D, 140-C, 141-D, 142-C, 143-B, 144-B, 145-A, 146-B, 147-C, 148-A, 149-B, 150-C, 151-B, 152-A, 153-A, 154-B, 155-B, 156-A, 157-D, 158-C, 159-B, 160-B, 161-A, 162-A, 163-B, 164-A, 165-A, 166-B, 167-B, 168-C, 169-B, 170-B, 171-B, 172-B, 173-B, 174-B, 175-B, 176-B, 177-B, 178-B, 179-D, 180-B, 181-B, 182-C, 183-D, 184-C, 185-C, 186-C, 187-D, 188-D, 189-C, 190-C, 191-D, 192-D, 193-C, 194-B, 195-A, 196-C, 197-C, 198-D, 199-B, 200-B

ACCOUNTANCY

CHAPTER – 1

ACCOUNTING FOR PARTNERSHIP FIRMS- FUNDAMENTALS

Need for Partnership

- Sole proprietorship has limitations such as **limited capital, managerial abilities, small-scale operations, and higher risk due to unlimited liability**.
- To overcome these limitations, **partnership** is formed, which is based on **mutual trust and faith** among partners.
- Partnership accounting differs from sole proprietorship in aspects like **capital accounts maintenance and profit distribution among partners**.

Meaning of Partnership

- A **partnership** is an **agreement (written/oral) between two or more persons** to conduct a lawful business and share its profits/losses.
- As per **Indian Partnership Act, 1932 (Section 4)**:
 - **Partnership** is a relationship between persons who agree to share profits from a business conducted by all or any one of them on behalf of all.
- **Partners**: Individuals in a partnership.
- **Firm**: Collective name of partners.
- **Firm Name**: The business name under which the firm operates.
- A **partnership firm is not a separate legal entity**; it exists through its partners.

Number of Partners

- **Minimum**: 2 partners (Indian Partnership Act, 1932).
- **Maximum**: 50 partners (Section 464 of Indian Companies Act, 2013).

Features of Partnership

1. **Two or More Persons**
 - ✓ A partnership must have **at least two members**.
 - ✓ Maximum **50 partners** (as per Companies Act, 2013).
2. **Agreement-Based Formation**
 - ✓ Partnership is formed through a **written or oral agreement**.
 - ✓ Agreement specifies terms, duration, and nature of business.
3. **Lawful Business Purpose**
 - ✓ The business must be **legal and profit-oriented**.
 - ✓ Mere **co-ownership of a property does not imply partnership**.
4. **Mutual Agency**
 - ✓ Every partner can **participate in management**.
 - ✓ Each partner acts as an **agent for others** in business transactions.
5. **Profit and Loss Sharing**
 - ✓ Partners must **agree to share profits (or losses)**.
 - ✓ Even if loss-sharing is not mentioned, it is **implied**.
6. **Liability of Partnership**
 - ✓ **Unlimited Liability**: Each partner is jointly and individually liable for the firm's actions while being a partner.

Rights of a Partner

1. Share profits and losses as per the agreed ratio.
2. Participate in business operations.
3. Be consulted on partnership matters.
4. Inspect and obtain copies of account books.

5. Disallow the admission of a new partner.
6. Joint ownership of partnership property.
7. Receive interest on loans given to the firm (agreed rate or 6% p.a. if not specified).
8. Get reimbursement for expenses incurred on behalf of the firm.
9. Right to retire with proper notice.

Limited Liability Partnership (LLP)

1. Introduced under the **Limited Liability Partnership Act, 2008**.
2. A partnership formed and registered under this Act.
3. **Body Corporate**: Formed and incorporated under the Act.
4. **Separate Legal Entity**: Distinct from its partners.
5. **Perpetual Succession**: Changes in partners do not affect its existence.
6. **Not Governed by the Indian Partnership Act, 1932**.

Distinction Between Ordinary Partnership & LLP

Basis	Partnership Firm	LLP
Applicable Law	Indian Partnership Act, 1932	LLP Act, 2008
Registration	Optional	Mandatory with the Registrar of Companies
Creation	By Agreement	By Law
Body Corporate	Cannot become a partner	Can become a partner
Separate Legal Entity	No	Yes
Perpetual Succession	No	Yes
Number of Partners	Minimum 2, Maximum 50	Minimum 2, No upper limit
Ownership of Assets	Partners own the assets	LLP owns its assets
Liability	Unlimited	Limited to their contribution to the LLP

Partnership Deed

- A **partnership** is formed through an agreement, which can be **oral or written**.
- Although a written agreement is not mandatory under the **Partnership Act**, it is advisable to **avoid disputes**.
- A written document outlining the terms and conditions of the partnership is called a **Partnership Deed**. It includes details about **business objectives, capital contributions, profit-loss sharing, and partner entitlements**.
- Any changes require **mutual consent** of all partners.

Contents of Partnership Deed

1. **Firm details** – Name, address, business type.
2. **Partner details** – Names, addresses.
3. **Capital Contribution** – Amount each partner contributes.
4. **Accounting period** of the firm.
5. **Date of commencement** of the firm.
6. **Banking rules** – Operation of accounts.

- 7. **Profit & Loss Sharing Ratio** among partners.
- 8. **Duration** of the partnership, if applicable.
- 9. **Interest rates** on capital, loans, drawings.
- 10. **Salaries, commissions** payable to partners, if any.
- 11. **Rights, duties, and liabilities** of each partner.
- 12. **Auditor appointment rules**, if applicable.
- 13. **Rules for admission, retirement, or death** of a partner.
- 14. **Insolvency rules** for partners.
- 15. **Settlement of accounts** in case of dissolution.
- 16. **Dispute resolution** mechanism.
- 17. **Bookkeeping and document safety** rules.
- 18. **Other operational guidelines** as required.

Provisions Affecting Partnership Accounting

In case of no specific agreement, the **Indian Partnership Act, 1932** applies:

- 1. **Profit Sharing – Equal** among partners unless otherwise specified.
- 2. **Interest on Capital – No interest** allowed unless specified. If mentioned but no rate given, **6% p.a. from profits** is applicable.
- 3. **Interest on Drawings – Not charged** by default.
- 4. **Interest on Loan – A partner** providing a loan (excluding capital) gets **6% p.a., payable even in case of losses**.
- 5. **Remuneration – No salary or commission** unless agreed upon.

Other Provisions

- A partner earning **profit through firm resources** must **return it to the firm**.
- A partner running a **competing business** must share **profits** with the firm.

Profit and Loss Account vs. Profit and Loss Appropriation Account

Basis of Distinction		Profit and Loss Account	Profit and Loss Appropriation Account
Stage of Preparation	of	After Trading A/c, starts with Gross Profit	After Profit & Loss A/c, starts with Net Profit
Objective		To calculate Net Profit or Net Loss	To distribute profit among partners
Opening/Closing Balance		No opening/closing balance	May have opening & closing balances
Charge or Appropriation	or	Expenses are charges against profits	Expenses are appropriations of profits
Partnership Agreement		Not based on agreement (except interest on partner loans)	Based on the Partnership Agreement

Matching Principle

- Matching principle means **matching revenue against expenses** while preparing accounts.
- **Followed:** When preparing Profit & Loss Account.
- **Not Followed:** In certain other accounts like the Balance Sheet.

Difference between Charge Against Profits and Appropriation out of Profit

Basis of Distinction	Charge Against Profits	Appropriation Out of Profit
----------------------	------------------------	-----------------------------

Nature	Expense deducted from profits while calculating net profit/loss.	Distribution of net profit to various heads.
Recording	Debited to Profit & Loss A/c.	Debited to Profit & Loss Appropriation A/c.
Necessary or Not	Necessary, even if there is a loss.	Only made if there is a profit.
Example	Interest on partner’s loan, rent paid to a partner.	Interest on capital, partner’s salary.

Maintenance of Capital Accounts of Partners

1. Fixed Capital Method

- Capital remains **fixed**, unless additional capital is introduced or withdrawn.
- Two accounts are maintained:
 - 1. **Capital Account** (Records capital introduced, remains unchanged).
 - 2. **Current Account** (Records drawings, interest, salary, profit/loss, etc.).
- **Balance Sheet Position:**
 - a. **Capital A/c:** Always appears on the **liabilities side**.
 - b. **Current A/c:**
 - **Credit balance** → Liabilities side.
 - **Debit balance** → Assets side.

2. Fluctuating Capital Method

- Only **one account** (Capital A/c) is maintained for each partner.
- Includes **all** transactions like interest on capital, salary, drawings, profit/loss, etc.
- The balance **fluctuates** every year.

Difference between Fixed and Fluctuating Capital Accounts

Basis		Fixed Capital A/c	Fluctuating Capital A/c
No. of Accounts	of	Two (Capital A/c & Current A/c)	One (Capital A/c only)
Change in Capital	in	Remains fixed unless altered by partners.	Changes every year.
Transaction Recording		Entries like drawings, interest, salary, profit are recorded in Current A/c.	All transactions recorded in Capital A/c.
Negative Balance		Never shows a negative balance.	Can show a negative balance.

Profit and Loss Appropriation Account

- Used to **distribute net profit** among partners after adjustments for interest, salary, commission, drawings, etc.
- **Not a charge against profit**, only prepared when there is profit.

Journal Entries for Profit & Loss Appropriation A/c

Profit & Loss Appropriation Account:

- Used in a **partnership firm** to distribute **net profit** among partners after all adjustments (salary, interest on capital/drawings, commission, etc.).
- It is an **extension** of the Profit & Loss Account.
- Shows how the net profit/loss is **shared or appropriated** among partners.

Journal Entries for Profit & Loss Appropriation Account

1 Transfer of Net Profit/Loss

Profit:

- Profit & Loss A/c Dr.
- To Profit & Loss Appropriation A/c

Loss:

- Profit & Loss Appropriation A/c Dr.
- To Profit & Loss A/c

2 Interest on Capital

Crediting to Partner's A/c:

- Interest on Capital A/c ▶
- To Partner's Capital/Current A/c

Transferring to P&L Appropriation A/c:

- Profit & Loss Appropriation A/c Dr.
- To Interest on Capital A/c

OR (combined entry):

- Profit & Loss Appropriation A/c Dr.
- To Partner's Capital/Current A/c

3 Salary to Partner(s)

Crediting to Partner's A/c:

- Salary to Partner A/c ▶
- To Partner's Capital/Current A/c

Transferring to P&L Appropriation A/c:

- Interest on Drawings A/c Dr.
- To Profit & Loss Appropriation A/c

OR (combined entry):

- Partner's Capital/Current A/c ▶ Dr.
- To Profit & Loss Appropriation A/c

4 In Case of Loss

- No salary/Interest to partners.
- No Profit & Loss Appropriation A/c is prepared.
- Loss is shared via Profit & Loss A/c.

5 Interest on Capital

- Allowed only if there is profit.
- Formula: $\text{Interest} = \frac{\text{Capital} \times \text{Rate} \times \text{Time}}{100}$
- Entry:
 - Rent A/c ▶ To Rent Payable A/c

6 In Case of Loss

- No salary/Interest to partners.
- No Profit & Loss Appropriation A/c

Additional Concepts

Manager's Commission

- On Profit before commission:
 $\text{Commission} = \text{Profit} \times \text{Rate} + 100$
E.g, 10% on ₹22,000 + ₹2,200
- On Profit after commission:
E.g, 10% on ₹22,000- ₹2,000

Q1) P and Q are partners sharing profits in the ratio of 3 : 2, with Capitals of ₹ 5,00,000 and ₹3,00,000 respectively. Interest on Capital is agreed @6% p.a. Q is to be allowed an annual salary of ₹60,000. During the year 2019–20, the profits prior to the calculation of interest on capital but after charging Q's salary amounted to ₹1,80,000. P provision of 5% of the profit is to be made in respect of commission to the Manager. Prepare Profit and Loss Appropriation account showing the distribution of profit and the partner's capital accounts for the year ending March 31, 2020.

Multiple Choice Questions (MCQs)

- What is the minimum number of partners required to form a partnership firm?
 - 1
 - 2
 - 5
 - 7
- What is the maximum number of partners allowed in a partnership as per Companies Act, 2013?
 - 10
 - 20
 - 50
 - Unlimited
- Partnership is governed under which Act?
 - Companies Act, 2013
 - Indian Contract Act, 1872
 - Indian Partnership Act, 1932
 - LLP Act, 2008
- LLP was introduced under which Act?
 - Companies Act, 2013
 - LLP Act, 2008
 - Indian Partnership Act, 1932
 - Contract Act, 1872
- A partnership must be formed for:
 - Any purpose

Step 1: Profit and Loss Account

Dr. (Expenses)	₹	Cr. (Incomes)	₹
To Manager's Commission	12,000	By Net Profit (before Q's salary)	2,40,000
To Net Profit Transferred to P&L Appropriation A/c	2,28,000		2,28,000
Total	2,40,000		2,40,000

Step 2: Profit and Loss Appropriation Account

Dr. (Appropriations)	₹	Cr.	₹
To Q's Salary	60,000	By P&L A/c (Net Profit)	2,28,000
To Interest on Capital: P – ₹ 30,000, Q – ₹ 18,000	48,000		
To Profit Transferred: P – ₹ 72,000, Q – ₹ 48,000	1,20,000	By Profit Transferred: P – ₹ 72,000	1,20,000
Total	2,28,000		2,28,000

• Interest on Capital:

P – ₹ 5,00,000 × 6% = ₹ 30,000

Q – ₹ 3,00,000 × 5% = ₹ 18,000

• Profit Transferred: P = ₹ 2,000 - ₹ 1,20,000

Divide in ratio 3:2:

o P + ₹ 1,20,000 : 3/5 = ₹ 72,000

• Remaining Profit (after salary & interest):

₹ 2,28,000 – ₹ 60,000 – ₹ 48,000 = ₹ 1,20,000

• Divide in ratio 3:2:

o P – ₹ 1,20,000 - 3/5 = ₹ 72,000

o Q – ₹ 1,20,000 : 2/5 = ₹ 48,000

Step 3: Partner's Capital Accounts

P's Capital Account			Q's Capital Account		
Date	Particulars	₹	Date	Particulars	₹
Apr 1	By Balance b/d	5,00,000	Apr 1	By Balance b/d	3,00,000
Mar 31	By Interest on Capital	30,000	Mar 31	By Salary	60,000
Mar 31	By Share of Profit	72,000	Mar 31	By Interest on Capital	18,000
Total		6,02,000	Total		4,26,000

- Charitable purpose
 - Lawful business
 - Gambling
- The business name of a partnership is known as:
 - Trade name
 - Partner name
 - Brand name
 - Firm name
 - Who is responsible for debts of the firm in a partnership?
 - Manager
 - Auditor
 - Only managing partner
 - All partners jointly and severally
 - A written partnership agreement is known as:
 - Deed of alliance
 - Memorandum
 - Partnership deed
 - Agreement form
 - A partnership firm has:
 - Separate legal entity
 - Unlimited life
 - No separate legal entity
 - None of the above
 - Profit sharing ratio among partners in absence of agreement is:
 - Equal

- b) Capital ratio
 - c) Decided by senior partner
 - d) Based on age
11. Interest on capital is allowed only when:
 - a) There is profit
 - b) Always allowed
 - c) Loss occurs
 - d) No capital introduced
 12. If no rate of interest is mentioned, interest on capital is:
 - a) 10%
 - b) 12%
 - c) 5%
 - d) 6%
 13. Interest on drawings is:
 - a) Always charged
 - b) Never charged
 - c) Charged only if agreed
 - d) Mandatory by law
 14. Partner's salary is:
 - a) Charge against profit
 - b) Appropriation of profit
 - c) Asset
 - d) None of these
 15. In the absence of agreement, interest on partner's loan is:
 - a) 10%
 - b) 6%
 - c) 12%
 - d) Not allowed
 16. Profit & Loss Appropriation A/c is prepared:
 - a) Before Trading A/c
 - b) After Balance Sheet
 - c) After Profit & Loss A/c
 - d) Before Journal
 17. Which account is debited to record interest on capital?
 - a) Capital A/c
 - b) Interest on Capital A/c
 - c) P&L Appropriation A/c
 - d) Partner's Drawing A/c
 18. Fixed Capital Method maintains:
 - a) One account
 - b) No account
 - c) Two accounts
 - d) Three accounts
 19. Fluctuating capital method shows:
 - a) Fixed balance
 - b) Fluctuating balance
 - c) No change
 - d) Credit balance only
 20. LLP is a:
 - a) Partnership firm
 - b) Body corporate
 - c) Hindu Undivided Family
 - d) Company
 21. Rent paid to a partner is:
 - a) Appropriation
 - b) Charge against profit
 - c) Distribution
 - d) Loan
 22. Salary to partners is transferred to:
 - a) Profit & Loss A/c
 - b) Capital A/c
 - c) Profit & Loss Appropriation A/c
 - d) Reserve A/c
 23. The profit-sharing agreement must be:
 - a) Verbal only
 - b) Written only
 - c) Oral or written
 - d) Not required
 24. Manager's commission on profit after commission formula is:
 - a) $\text{Profit} \times \text{Rate} \div 100$
 - b) $\text{Profit} \times \text{Rate} \div (100 + \text{Rate})$
 - c) $\text{Profit} + \text{Rate}$
 - d) $\text{Profit} - \text{Rate}$
 25. Interest on drawings is transferred to:
 - a) Capital A/c
 - b) Drawing A/c
 - c) P&L Appropriation A/c
 - d) Profit & Loss A/c
 26. Partnership deed is:
 - a) Optional
 - b) Compulsory
 - c) Prohibited
 - d) Government document
 27. In absence of partnership deed, interest on drawings is:
 - a) 5%
 - b) 10%
 - c) 0%
 - d) 6%
 28. Who can become a partner in LLP?
 - a) Minor
 - b) HUF
 - c) Body corporate
 - d) Foreigner only
 29. Profit and Loss A/c is prepared to:
 - a) Distribute profit
 - b) Calculate net profit/loss
 - c) Record income only
 - d) None
 30. Matching principle is followed in:
 - a) Balance Sheet
 - b) Profit & Loss A/c
 - c) Cash A/c
 - d) Ledger
 31. Interest on partner's loan is recorded in:
 - a) P&L Appropriation A/c
 - b) Drawing A/c
 - c) Profit & Loss A/c
 - d) Capital A/c
 32. Fluctuating capital method shows:
 - a) Constant capital
 - b) Two accounts
 - c) Changes in capital balance
 - d) Fixed current balance
 33. Drawing and interest on capital are recorded in:
 - a) Capital A/c only
 - b) Current A/c (under fixed capital)
 - c) Drawing A/c
 - d) Loan A/c
 34. LLP has:
 - a) Unlimited liability
 - b) No legal existence
 - c) Separate legal entity
 - d) Fixed capital only
 35. In case of loss, interest on capital:
 - a) Must be paid
 - b) May be paid
 - c) Is not paid
 - d) Is charged
 36. Commission to partner is shown in:
 - a) Trading A/c
 - b) Profit & Loss A/c
 - c) P&L Appropriation A/c
 - d) Capital A/c

37. Capital balance appears on:

a) Assets side

b) Liabilities side

c) Trading A/c

d) Profit & Loss A/c
38. Profit & Loss Appropriation A/c may show:

a) No balances

b) Only credit balance

c) Opening & closing balances

d) Negative capital
39. When capital is fixed, interest on drawings is recorded in:

a) Capital A/c

b) Current A/c

c) Drawing A/c

d) Loan A/c
40. In the absence of agreement, profit is shared:

a) As per investment

b) According to age

c) Equally

d) As per seniority

Answer Key

- | | | |
|-------|-------|-------|
| 1. B | 15. B | 29. B |
| 2. C | 16. C | 30. B |
| 3. C | 17. C | 31. C |
| 4. B | 18. C | 32. C |
| 5. C | 19. B | 33. B |
| 6. D | 20. B | 34. C |
| 7. D | 21. B | 35. C |
| 8. C | 22. C | 36. C |
| 9. C | 23. C | 37. B |
| 10. A | 24. B | 38. A |
| 11. A | 25. D | 39. B |
| 12. D | 26. A | 40. C |
| 13. C | 27. C | |
| 14. B | 28. C | |

CHAPTER-2:

CHANGE IN PROFIT SHARING RATIO AMONG THE EXISTING PARTNERS

Reconstitution occurs when there's a change in the existing agreement between partners. Though the firm continues, the change alters the relationship among partners and brings a new agreement into effect.

Situations Leading to Reconstitution:

1. Change in Profit Sharing Ratio:

○ Partners decide to change the existing ratio.

○ Example: A & B (2:1) change to (3:1).
2. Admission of a New Partner:

○ A new partner is added to the firm.

○ Example: Charu & Dinesh admit Sudha with 1/4th share.
3. Retirement of a Partner:

○ An existing partner leaves the firm.

○ Example: Sita retires from a 3-partner firm (1:2:3).
4. Death of a Partner:

○ A partner dies and remaining partners continue the firm.

○ Example: R dies, P & Q decide to share profits equally.
5. Amalgamation of Two Firms:

○ Two partnership firms merge.

○ Example: A & B (2:1) merge with C & D (3:1), forming a new ratio (2:1:3:1).

Change in Profit Sharing Ratio Among Existing Partners

- Happens due to change in capital contribution or participation in business.

- Requires adjustments for:
 - Goodwill
 - Revaluation of Assets & Liabilities
 - Reserves, Accumulated Profits/Losses
 - Capital Adjustments

Important Adjustments at the Time of Change in Ratio:

1. Sacrificing Ratio

○ Ratio in which partners give up their share.

○ Formula:
Sacrificing Ratio = Old Ratio – New Ratio

○ Used to calculate compensation (usually via goodwill).
2. Gaining Ratio

○ Ratio in which partners gain extra share.

○ Formula:
Gaining Ratio = New Ratio – Old Ratio
3. Accounting for Goodwill

○ Gaining partners compensate sacrificing partners based on goodwill.
4. Accounting for Reserves & Accumulated Profits

○ Shared in the old ratio before the change.
5. Revaluation of Assets & Liabilities

○ To reflect current market value.
6. Capital Adjustments

○ Done to bring capitals in proportion to new ratios.

Goodwill

1. Nature of Goodwill

- Intangible Asset:** Cannot be seen/touched but has value.
- Not a Fictitious Asset:** Fictitious assets have no real value; goodwill has value in profit-making firms.

- **Transferable:** Can be sold, but only along with the sale of the whole business.

2. Types of Goodwill

(A) Purchased Goodwill

- Arises when a business is purchased.
- Calculated as:

$$\text{Purchased Goodwill} = \text{Purchase Price} - \text{Net Assets (Assets} - \text{Liabilities)}$$
- **Accounting Treatment:**
 - Recorded in books (paid consideration).
 - Shown as an asset in Balance Sheet.
 - Amortised (depreciated) over time.
- **Characteristics:**
 - Arises on purchase.
 - Paid for in cash/kind.
 - Value is subjective (based on buyer-seller agreement).
 - Cannot be sold separately or in parts.

(B) Self-generated Goodwill (Inherent Goodwill)

- Arises internally due to reputation, efficiency, etc.
- Not recorded in books (no monetary consideration paid).
- **As per AS-26:** Cannot be recognized as an asset.
- **Characteristics:**
 - Built over time.
 - No exact cost/value.
 - Value based on judgment.

3. Factors Affecting Goodwill

1. **Efficient Management** – Increases profits and goodwill.
2. **Quality Products** – Encourages repeat customers, builds reputation.
3. **Business Location** – Prominent/convenient location attracts more customers.
4. **Longevity of Business** – Older businesses tend to have better reputation and goodwill.
5. **Monopoly & Special Rights** – Patents, trademarks, copyrights increase goodwill.
6. **Other Factors:**
 - ✓ Good industrial relations
 - ✓ Favourable govt. policies
 - ✓ Political stability
 - ✓ R&D efforts
 - ✓ Effective advertising
 - ✓ Product popularity & quality

Need for Valuing Goodwill

- Goodwill is valued when **mutual rights of partners change**.
- The **partner making a sacrifice** must be **compensated**.
- **Situations requiring goodwill valuation:**
 1. Change in profit-sharing ratio
 2. Admission of a partner
 3. Retirement or death of a partner
 4. Amalgamation of two firms
 5. Sale of partnership firm

Methods of Goodwill Valuation

1. **Average Profit Method**
 - $\text{Goodwill} = \text{Average Profits} \times \text{Number of Years' Purchase}$
 - $\text{Average Profits} = \text{Total Profits} / \text{Number of Years}$
 - Adjustments to be made before averaging:
 - Deduct **abnormal income**
 - Add **abnormal loss**
 - Deduct **non-business income** (e.g., investment income)
2. **Weighted Average Profit Method**
 - ✓ Assign **weights** to each year's profit (recent years get higher weights)
 - ✓ $\text{Weighted Avg. Profit} = \text{Sum of (Profit} \times \text{Weight)} / \text{Total Weights}$

- ✓ $\text{Goodwill} = \text{Weighted Avg. Profit} \times \text{Number of Years' Purchase}$

- ✓ **Preferred when profits are fluctuating**

3. Super Profit Method

- ✓ $\text{Super Profit} = \text{Average Profit} - \text{Normal Profit}$
- ✓ $\text{Normal Profit} = \text{Capital Employed} \times (\text{Normal Rate of Return} \div 100)$
- ✓ $\text{Goodwill} = \text{Super Profit} \times \text{Number of Years' Purchase}$
- ✓ **Used when firm earns more than normal profits**

4. Capitalization Method

(A) Capitalization of Average Profit Method

- $\text{Capitalized Value} = \text{Average Profit} \times 100 / \text{Normal Rate of Return}$
- $\text{Goodwill} = \text{Capitalized Value} - \text{Capital Employed}$

(B) Capitalization of Super Profit Method

- $\text{Goodwill} = \text{Super Profit} \times 100 / \text{Normal Rate of Return}$

Important Terms

- **Capital Employed** = Total Assets – Outside Liabilities
(Exclude goodwill, fictitious assets, and non-trade investments)
- **Number of Years' Purchase:** Years for which profit is expected to continue

Accounting for Partnership Firms

1. Goodwill

- $\text{Goodwill} = \text{Market value of firm's net assets} - \text{Book value of net assets}$.
- **Reason for Goodwill:** Paid when a partner gains a share from another partner.
- **Premium for Goodwill:** Compensation paid by gaining partner to sacrificing partner.
- **Formula:**

$$\text{Goodwill} = \text{Firm's goodwill} \times \text{Gained share}$$

Journal Entries:

A. Goodwill Adjusted through Capital A/c:

- **Fluctuating Capital:**
Gaining Partner's Capital A/c Dr.
To Sacrificing Partner's Capital A/c
- **Fixed Capital:**
Gaining Partner's Current A/c Dr.
To Sacrificing Partner's Current A/c

2. Reserves & Accumulated Profits/Losses

- **Reserves & Accumulated Profits:** Retained earnings, P&L Cr balance, WCR, IFR.
- **Accumulated Losses:** P&L Dr balance, advertisement suspense (Deferred Rev. Exp.).

Journal Entries:

- **Transfer of Profits:**
Reserves A/c Dr.
P&L A/c (Cr) Dr.
To All Partners' Capital/Current A/cs
- **Transfer of Losses:**
All Partners' Capital/Current A/cs Dr.
To P&L A/c (Dr)
To Advertisement Suspense A/c

Note: If reserves are **not distributed**, gaining partner compensates sacrificing partner.

Example:

Old Ratio A:B = 2:1, New = 1:1, Reserves = ₹60,000
A's share (old) = ₹40,000; New = ₹30,000
Compensation = ₹10,000 (from B to A)

3. Workmen Compensation Reserve (WCR)

- **Purpose:** To meet claims arising due to worker accidents.
- **Cases & Entries:**

Case 1: No Claim

WCR A/c Dr.

To Partners' Capital/Current A/cs (Old Ratio)

Case 2: Claim = WCR

WCR A/c Dr.

To Provision for W.C. Claim A/c

Case 3: Claim > WCR

(i) WCR A/c Dr.

Revaluation A/c Dr.

To Provision for W.C. Claim A/c

(ii) Partners' Capital A/c Dr.

To Revaluation A/c

Case 4: Claim < WCR

WCR A/c Dr.

To Provision for W.C. Claim A/c

To Partners' Capital A/cs

4. Investment Fluctuation Reserve (IFR)

- **Purpose:** To cover fall in investment value.
- **Cases & Treatment:**
 1. **No Change in Value:**
Transfer entire IFR to partners in old ratio.
 2. **Fall < IFR:**
Part used to adjust investment; rest distributed.
 3. **Fall = IFR:**
Entire IFR adjusted; nothing distributed.
 4. **Fall > IFR:**
Shortfall debited to Revaluation A/c.
 5. **Market Value Increases:**
Entire IFR distributed; increase credited to Revaluation A/c.

5. Revaluation of Assets & Liabilities

- **Purpose:** To reflect true value at time of change in profit-sharing ratio.
- **Methods:** a) **Revised values recorded** – via *Revaluation A/c*
b) **Revised values not recorded**

Revaluation Account Entries

1. **Decrease in Asset Value:**
Revaluation A/c Dr.
To Asset A/c
2. **Increase in Asset Value:**
Asset A/c Dr.
To Revaluation A/c
3. **Increase in Liability:**
Revaluation A/c Dr.
To Liability A/c
4. **Decrease in Liability:**
Liability A/c Dr.
To Revaluation A/c

Transfer of Profit/Loss on Revaluation:

- **Profit:**
Revaluation A/c Dr.
To Partners' Capital A/cs
- **Loss:**
Partners' Capital A/c Dr.
To Revaluation A/c

Revaluation A/c Format

Revaluation Account (Proforma)

Purpose: When a partner is admitted / retires / ratio changes, assets and liabilities may be revalued. The profit or loss on revaluation is transferred to **old partners' capital accounts in old ratio.**

Revaluation A/c (Format)

Dr. (Debit side)

- To **Decrease in value of Assets**
- To **Increase in value of Liabilities**
- To **Unrecorded Liabilities**
- To **Profit on Revaluation** (Transferred to old partners' Capital A/c in old ratio)

Cr. (Credit side)

- By **Increase in value of Assets**
- By **Decrease in value of Liabilities**
- By **Unrecorded Assets**
- By **Loss on Revaluation** (Transferred to old partners' Capital A/c in old ratio)

Solved Examples (Step-by-step)

Q1) Gain / Sacrifice on change in ratio

Given: A, B, C share profits in **3:2:1**. New ratio = **2:2:1**. Find gain/sacrifice.

Step 1: Convert to fractions

Old ratio total = 3+2+1 = 6

- A = $3/6 = 1/2$
- B = $2/6 = 1/3$
- C = $1/6$

New ratio total = 2+2+1 = 5

- A = $2/5$
- B = $2/5$
- C = $1/5$

Step 2: Sacrifice/Gain = Old share – New share

- A = $1/2 - 2/5 = 5/10 - 4/10 = 1/10$ (**Sacrifice**)
- B = $1/3 - 2/5 = 5/15 - 6/15 = -1/15 \Rightarrow 1/15$ (**Gain**)
- C = $1/6 - 1/5 = 5/30 - 6/30 = -1/30 \Rightarrow 1/30$ (**Gain**)

Answer: A sacrifices **1/10**, B gains **1/15**, C gains **1/30**.

Q2) Goodwill (Average Profit Method)

Given: Goodwill = **3 years' purchase** of average profits of last 5 years.

Profits (₹)

2013–14: 4,00,000

2014–15: 5,00,000

2015–16: (60,000) loss

2016–17: 1,50,000

2017–18: 2,50,000

Adjustments:

1. Fire loss (1 Jan 2016): Loss of goods ₹3,00,000, insurance claim received ₹70,000
Abnormal loss = 3,00,000 – 70,000 = **2,30,000** (add back to that year profit)
2. Tax refund received during 2017–18: ₹80,000 (abnormal gain, subtract)

Step 1: Adjust profits

2013–14 = 4,00,000

2014–15 = 5,00,000

2015–16 = $-60,000 + 2,30,000 = 1,70,000$

2016–17 = 1,50,000

2017–18 = $2,50,000 - 80,000 = 1,70,000$

Step 2: Total and Average Profit

Total = 4,00,000 + 5,00,000 + 1,70,000 + 1,50,000 + 1,70,000
= **13,90,000**

Average Profit = $13,90,000 \div 5$

= **2,78,000**

Step 3: Goodwill

Goodwill = Average Profit $\times$ 3

= $2,78,000 \times 3$

= **₹8,34,000**

Answer: Goodwill = ₹8,34,000

Q3) Goodwill (Super Profit Method)

Given: Goodwill = **2½ years' purchase** of average super profits

Capital invested = ₹12,00,000

Normal rate of return = 10%

Net profits (₹)

2015: 20,000 (Profit)

2016: 70,000 (Loss)

2017: 40,000 (Loss)

2018: 2,50,000 (Profit)

2019: 2,70,000 (Profit)

2020: 3,00,000 (Profit)

2021: 3,20,000 (Profit)

Step 1: Total profits

Total = 20,000 – 70,000 – 40,000 + 2,50,000 + 2,70,000 + 3,00,000 + 3,20,000
= **10,50,000**

Average Profit = 10,50,000 ÷ 7
= **1,50,000**

Step 2: Normal Profit

Normal Profit = Capital × Rate
= 12,00,000 × 10%
= **1,20,000**

Step 3: Super Profit

Super Profit = Average Profit – Normal Profit
= 1,50,000 – 1,20,000
= **30,000**

Step 4: Goodwill

Goodwill = Super Profit × 2.5
= 30,000 × 2.5
= **₹75,000**

Answer: Goodwill = ₹75,000

Q4) Goodwill by Capitalisation of Average Profits Method

Given:

Average profits = ₹72,000

Normal rate = 10%

Assets = ₹9,70,000

Liabilities = ₹4,00,000

Step 1: Capitalised value of average profits

= Average Profit × 100 / Normal rate
= 72,000 × 100 / 10
= **7,20,000**

Step 2: Capital employed / Net assets

= Assets – Liabilities
= 9,70,000 – 4,00,000
= **5,70,000**

Step 3: Goodwill

Goodwill = Capitalised value – Net assets
= 7,20,000 – 5,70,000
= **₹1,50,000**

Answer: Goodwill = ₹1,50,000

Q5) Goodwill by Capitalisation of Super Profit Method

(Using the same figures)

Step 1: Capital employed

= 9,70,000 – 4,00,000 = **5,70,000**

Step 2: Normal profit

= 10% of 5,70,000 = **57,000**

Step 3: Super profit

= 72,000 – 57,000 = **15,000**

Step 4: Goodwill

Goodwill = Super Profit × 100 / Normal rate
= 15,000 × 100 / 10
= **₹1,50,000**

Answer: Goodwill = ₹1,50,000

Q6) Goodwill adjustment journal entry (Change in ratio)

Given: P, Q, R share profits equally = 1/3 each

New: R will get 1/5 share

Goodwill = ₹3,00,000

Step 1: New ratio

Remaining share for P and Q = 1 – 1/5 = 4/5

P = 2/5, Q = 2/5, R = 1/5

Step 2: Gain/Sacrifice

Old shares (each) = 1/3 = 5/15

New shares: P = 2/5 = 6/15, Q = 6/15, R = 3/15

- P gain = 6/15 – 5/15 = **1/15**
- Q gain = 6/15 – 5/15 = **1/15**
- R sacrifice = 5/15 – 3/15 = **2/15**

Step 3: Journal entry (Gaining partners compensate sacrificing partner)

P's share of goodwill = 1/15 of 3,00,000 = **20,000**

Q's share of goodwill = 1/15 of 3,00,000 = **20,000**

R gets total = 40,000

Journal Entry:

- P's Capital A/c Dr. 20,000
- Q's Capital A/c Dr. 20,000
- To R's Capital A/c 40,000

Answer: P & Q debit ₹20,000 each, R credited ₹40,000.

CHAPTER – 3: ADMISSION OF A PARTNER

1. Partnership and Reconstitution

- **Partnership** is an agreement between partners to share profits and losses of a business run by all or any of them on behalf of all.
- Any **change in this agreement** leads to **reconstitution** of the firm. The firm continues, but a **new agreement** alters the internal relationships among partners.

2. Modes of Reconstitution of a Partnership Firm

Reconstitution occurs in the following cases:

1. Admission of a new partner
2. Change in the profit-sharing ratio among existing partners
3. Retirement of a partner
4. Death of a partner
5. Amalgamation with another firm

3. Admission of a New Partner

A new partner is admitted to:

- Bring in more capital
- Add managerial expertise
- Increase goodwill of the firm
- Reward capable employees

As per Section 31 of the Indian Partnership Act, 1932:

- A new partner can be admitted only with the **consent of all existing partners**, unless otherwise agreed.
- **Admission results in reconstitution** as the old agreement ends and a new one takes its place.

4. Rights of the New Partner

- **Right to share in the assets**

- **Right to share in the profits**

- New partner contributes:
- Capital (in cash or kind)
 - Goodwill (as premium) to compensate existing partners

5. Adjustments at the Time of Admission

- New Profit-Sharing Ratio
- Goodwill Accounting
- Revaluation of Assets and Liabilities
- Distribution of Accumulated Profits/Losses or Reserves
- Adjustment of Capital based on new ratio

6. New Profit-Sharing Ratio

It refers to the **future profit ratio** among all partners after admission.

Cases for calculating new ratio:

Case 1: Only New Partner's Share is Given

- Old partners share remaining profits in the old ratio.
Example: X, Y, Z share profits as 3:2:1. A is admitted for 1/6 share.
- Remaining = 5/6
- New ratio: X = 15/36, Y = 10/36, Z = 5/36, A = 6/36
- Final: **15:10:5:6**

Case 2: New Partner Acquires Share Equally from Old Partners

- Deduct acquired share equally from old partners' shares.
Example: Varun: Daksh = 5:3. Dhruv gets 1/4, equally from both.
- Varun = 4/8, Daksh = 2/8, Dhruv = 2/8
- Final: **2:1:1**

Case 3: New Partner Gets Share in a Specific Ratio from Old Partners

- Deduct given share from respective partners.
Example: Noni:Pony = 7:5. Tony gets 1/6 (1/24 from Noni, 1/8 from Pony).
- Noni = 13/24, Pony = 7/24, Tony = 1/6 = 4/24
- Final: **13:7:4**

Case 4: Old Partners Surrender a Fraction of Their Share

- Add surrendered shares for the new partner, deduct from old.
Example: Anu:Priti = 5:3. Anu surrenders 1/20 of her share, Priti 1/24.
- Anu = 19/32, Priti = 23/64, Kapil = 3/64
- Final: **38:23:3**

Case 5: New Partner Gets Entire Share from One Partner

- Deduct share from only that partner.
Example: Akshay:Anshul = 4:1. Shikha gets 1/4 from Akshay.
- Akshay = 11/20, Anshul = 1/5, Shikha = 1/4
- Final: **11:4:5**

7. Sacrificing Ratio

- Formula: **Sacrificing Ratio = Old Ratio – New Ratio**
- It shows how much profit share each old partner is giving up for the new partner.

Treatment of Goodwill

Goodwill is compensation paid by the new partner for acquiring a share in profits. It can be treated in the following ways:

(A) When Goodwill is Paid Privately

- No journal entry is passed.

- Payment is made outside the business between new and old partners.

(B) When Goodwill is Brought in Cash

Two Scenarios:

- Retained in Business**
 - *Journal Entries:*
 - Cash/Bank A/c Dr.
To Premium for Goodwill A/c
 - Premium for Goodwill A/c Dr.
To Old Partners' Capital A/c (in sacrificing ratio)
 - Withdrawn by Old Partners**
 - Additional Entry:
 - Old Partners' Capital A/c Dr.
To Cash/Bank A/c
- Note:** If goodwill already exists in books:
- Write it off:
 - Old Partners' Capital A/c Dr.
To Goodwill A/c (in old ratio)

(C) When Goodwill is Not Brought in Cash (AS-26)

- AS-26: Only purchased goodwill is recorded.
 - Adjust through Capital/Current Accounts:
 - New Partner's **Current A/c** Dr.
To Old Partners' Capital A/c (in sacrificing ratio)
- If goodwill exists in books and not brought in cash:
- Write off:
 - Old Partners' Capital A/c Dr.
To Goodwill A/c

Adjustment for Accumulated Profits & Losses

(A) For Accumulated Profits (Old Ratio)

- General Reserve A/c Dr.
- Reserve Fund A/c Dr.
- P&L A/c (Credit) Dr.
To Old Partners' Capital A/c

(B) For Accumulated Losses (Old Ratio)

- Old Partners' Capital A/c Dr.
To P&L A/c (Debit)
- To Advertisement Suspense A/c
- To Deferred Revenue Expenditure A/c

(C) Specific Reserves

Workmen Compensation Reserve:

- No Claim:**
 - Workmen Compensation Reserve A/c Dr.
To Old Partners' Capital A/c
- Claim < Reserve:**
 - Workmen Compensation Reserve A/c Dr.
To Provision for Claim A/c
To Capital A/c
- Claim = Reserve:**
 - Workmen Compensation Reserve A/c Dr.
To Provision for Claim A/c
- Claim > Reserve:**
 - Workmen Compensation Reserve A/c Dr.
Revaluation A/c Dr.
To Provision for Claim A/c
 - Capital A/c Dr.
To Revaluation A/c

Investment Fluctuation Reserve:

- No Change in Value:**
 - IFR A/c Dr.
To Capital A/c
- Market Value < Book Value:**
 - (i) Fall < IFR:

- IFR A/c Dr.
To Investments A/c
To Capital A/c
 - (ii) Fall = IFR:
 - IFR A/c Dr.
To Investments A/c
 - (iii) Fall > IFR:
 - IFR A/c Dr.
Revaluation A/c Dr.
To Investments A/c
3. **Market Value > Book Value:**
- IFR A/c Dr.
To Capital A/c
 - Investments A/c Dr.
To Revaluation A/c
 - Revaluation A/c Dr.
To Capital A/c

4. Revaluation of Assets and Liabilities

Used to record changes in value before a new partner is admitted.

1. **Entries: Asset Increase:**
- Asset A/c Dr.
To Revaluation A/c
2. **Asset Decrease:**
- Revaluation A/c Dr.
To Asset A/c
3. **Liability Increase:**
- Revaluation A/c Dr.
To Liability A/c
4. **Liability Decrease:**
- Liability A/c Dr.
To Revaluation A/c
5. **Unrecorded Asset:**
- Unrecorded Asset A/c Dr.
To Revaluation A/c
6. **Unrecorded Liability:**
- Revaluation A/c Dr.
To Unrecorded Liability A/c
7. **Sale of Unrecorded Asset:**
- Cash/Bank A/c Dr.
To Revaluation A/c
8. **Payment of Unrecorded Liability:**
- Revaluation A/c Dr.
To Cash/Bank A/c
9. **Transfer of Gain on Revaluation:**
- Revaluation A/c Dr.
To Old Partners' Capital A/c
10. **Transfer of Loss on Revaluation:**
- Old Partners' Capital A/c Dr.
To Revaluation A/c

Revaluation A/c Format:

Dr. Side	Amount	Cr. Side	Amount
Decrease in Assets	Xxxx	Increase in Assets	xxxx
Increase in Liabilities	Xxxx	Decrease in Liabilities	xxxx
Unrecorded Liabilities	Xxxx	Unrecorded Assets	xxxx
Loss (to Capital A/c)	Xxxx	Gain (to Capital A/c)	xxxx

Hidden Goodwill

- Occurs when goodwill is not directly mentioned.
- The amount of goodwill is calculated on the basis of total capital of the firm and the profit sharing ratio of partners. For

example, A and B are partners with capitals of ₹30,000

Example:

- ✓ A's Capital = ₹30,000, B's = ₹20,000
- ✓ C admitted with ¼ share, contributing ₹24,000
- ✓ Implied Capital = ₹24,000 × 4 = ₹96,000
- ✓ Actual Capital = ₹74,000
- ✓ **Hidden Goodwill** = ₹96,000 – ₹74,000 = ₹22,000

Solved Examples

Q1. (a) Ram and Bharat are partners sharing profits and losses in the ratio of 7 : 5. They admit Gopi as a new partner for 1/6 share, which he acquires equally from Ram and Bharat. Calculate the new profit-sharing ratio of the partners.

(b) A, B and C are partners in a firm sharing profits in the ratio 3 : 2 : 1. They admit D as a new partner for 1/8 share in profits, which he acquires 1/16 from B and 1/16 from C. Calculate the new profit-sharing ratio of A, B, C and D.

Q2. Rama and Mohini were partners in a firm sharing profits in the ratio 3 : 2. On 1st April 2020, they admitted Sita and Radha as new partners. Rama sacrificed 1/3 of her share in favour of Sita and Mohini sacrificed 1/2 of her share in favour of Radha. The profit of the firm for the year ended 31st March 2021 amounted to ₹3,60,000. Prepare the necessary journal entries for distribution of profit.

Q3. A and B are partners in a firm sharing profits and losses in the ratio 3 : 2. Their capitals are ₹1,80,000 and ₹1,40,000 respectively. They admit X into partnership on the condition that he will bring ₹67,500 as goodwill and ₹1,50,000 as capital, and will get 1/4 share in profits. Assuming that the capital and goodwill have been brought in cash by the new partner, pass the necessary journal entries and find out the new profit-sharing ratio of the partners when:

(a) Goodwill is retained in the firm

(b) Goodwill is withdrawn by the old partners

Q1. (a) Ram and Bharat are partners sharing profits and losses in the ratio of $\frac{7}{12} : \frac{5}{12}$.

They admit **Gopi** as a new partner for $\frac{1}{6}$ share, which he acquires **equally from Ram and Bharat**. Calculate the new profit-sharing ratio.

Solution

Share of profits given to Gopi = $\frac{1}{6}$

Share acquired by Gopi from Ram

$$= \frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$$

Share acquired by Gopi from Bharat

$$= \frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$$

Ram's new share

$$= \frac{7}{12} - \frac{1}{12} = \frac{6}{12}$$

Bharat's new share

$$= \frac{5}{12} - \frac{1}{12} = \frac{4}{12}$$

Gopi's share

$$= \frac{1}{6} = \frac{2}{12}$$

New ratio = $\frac{6}{12} : \frac{4}{12} : \frac{2}{12}$

$$= 6:4:2 = 3:2:1$$

New Profit-Sharing Ratio (Ram : Bharat : Gopi) = 3 : 2 : 1

(b) A, B and C share profits in 3 : 2 : 1.

They admit **D** for $\frac{1}{8}$ share, which D acquires $\frac{1}{16}$ from B and $\frac{1}{16}$ from C.

Calculate new profit-sharing ratio of A, B, C and D.

Solution

Old shares:

$$A = \frac{3}{6}, B = \frac{2}{6}, C = \frac{1}{6}$$

D's share:

$$D = \frac{1}{8}$$

B's new share:

$$B = \frac{2}{6} - \frac{1}{16} = \frac{16}{48} - \frac{3}{48} = \frac{13}{48}$$

C's new share:

$$C = \frac{1}{6} - \frac{1}{16} = \frac{8}{48} - \frac{3}{48} = \frac{5}{48}$$

A's share remains:

$$A = \frac{3}{6} = \frac{24}{48}$$

D's share:

$$D = \frac{1}{8} = \frac{6}{48}$$

New ratio:

$$A : B : C : D = 24 : 13 : 5 : 6$$

New Profit-Sharing Ratio (A : B : C : D) = 24 : 13 : 5 : 6

Q2. Rama and Mohini were partners sharing profits in 3 : 2.

On 1st April 2020, they admitted **Sita and Radha** as new partners.

Rama sacrificed $\frac{1}{3}$ of her share in favour of Sita and Mohini sacrificed $\frac{1}{2}$ of her share in favour of Radha.

Profit for the year ended 31st March 2021 = **₹3,60,000.**

Prepare necessary journal entries for distribution of profit.

Working Notes

Rama's old share = $\frac{3}{5}$

Rama surrenders $\frac{1}{3}$ of $\frac{3}{5}$ to Sita:

$$\frac{1}{3} \times \frac{3}{5} = \frac{1}{5}$$

Rama's new share:

$$\frac{3}{5} - \frac{1}{5} = \frac{2}{5}$$

Mohini's old share = $\frac{2}{5}$

Mohini surrenders $\frac{1}{2}$ of $\frac{2}{5}$ to Radha:

$$\frac{1}{2} \times \frac{2}{5} = \frac{1}{5}$$

Mohini's new share:

$$\frac{2}{5} - \frac{1}{5} = \frac{1}{5}$$

Sita's share = $\frac{1}{5}$

Radha's share = $\frac{1}{5}$

New ratio:

$$Rama : Mohini : Sita : Radha = \frac{2}{5} : \frac{1}{5} : \frac{1}{5} : \frac{1}{5} = 2 : 1 : 1 : 1$$

Distribution of Profit (₹3,60,000 in 2:1:1:1)

Total parts = 5

- Rama = $\frac{2}{5} \times 3,60,000 = 1,44,000$
- Mohini = $\frac{1}{5} \times 3,60,000 = 72,000$
- Sita = 72,000
- Radha = 72,000

Journal Entries (31 March 2021)

1. **Profit transferred to Profit & Loss Appropriation A/c**

- Profit & Loss A/c Dr. **3,60,000**

To Profit & Loss Appropriation A/c **3,60,000**

2. **Distribution of profit**

- Profit & Loss Appropriation A/c Dr. **3,60,000**

To Rama's Capital A/c **1,44,000**

To Mohini's Capital A/c **72,000**

To Sita's Capital A/c **72,000**

To Radha's Capital A/c **72,000**

Q3. A and B share profits and losses in 3 : 2.

Capitals: A = ₹1,80,000 and B = ₹1,40,000.

They admit **X** bringing **₹67,500 as goodwill** and **₹1,50,000 as capital** and will get $\frac{1}{4}$ share.

Pass journal entries and find new ratio when:

(A) Goodwill is retained in the firm

(B) Goodwill is withdrawn by old partners

New Profit Sharing Ratio

X gets $\frac{1}{4}$, remaining = $1 - \frac{1}{4} = \frac{3}{4}$

Old partners share $\frac{3}{4}$ in old ratio 3:2:

$$A = \frac{3}{5} \times \frac{3}{4} = \frac{9}{20}, B = \frac{2}{5} \times \frac{3}{4} = \frac{6}{20}, X = \frac{1}{4} = \frac{5}{20}$$

New Ratio (A : B : X) = 9 : 6 : 5

(A) When goodwill is not withdrawn by old partners

1) Cash brought by new partner

- Bank A/c Dr. **2,17,500**

To X's Capital A/c **1,50,000**

To Premium for Goodwill A/c **67,500**

2) Premium credited to old partners in sacrifice ratio (3:2)

- Premium for Goodwill A/c Dr. **67,500**

To A's Capital A/c **40,500**

To B's Capital A/c **27,000**

(B) When goodwill is withdrawn by old partners

1) Cash brought by new partner

- Bank A/c Dr. **2,17,500**

To X's Capital A/c **1,50,000**

To Premium for Goodwill A/c **67,500**

2) Premium credited to old partners

- Premium for Goodwill A/c Dr. **67,500**

To A's Capital A/c **40,500**

To B's Capital A/c **27,000**

3) Goodwill withdrawn by old partners

- A's Capital A/c Dr. **40,500**

- B's Capital A/c Dr. **27,000**

To Bank A/c **67,500**

CHAPTER – 4:

RETIREMENT OR DEATH OF A PARTNER

Reconstitution of a Partnership Firm: Retirement/Death of a Partner

- Reconstitution of a firm occurs when there is **retirement** or **death** of a partner.
- The **existing partnership deed ends**, and a **new deed** is formed among the remaining partners.
- Business continues with new terms and conditions.

Retirement of a Partner

- A partner may retire by giving **due notice**.
- A **new partnership** is formed among the remaining partners.
- The retiring partner is entitled to receive:

Entitlements of a Retiring Partner:

1. **Share in Goodwill** – Credited to capital account.
2. **Share in Reserves/Undistributed Profits** – Credited to capital account.
3. **Share in Revaluation Profit/Loss** – Profit credited; loss debited to capital account.
4. **Credit balance of Capital A/c.**
5. **Credit balance of Current A/c (if any).**
6. **Share of current year's profit and interest on capital** (till retirement).
7. **Any unpaid salary or commission.**

Deductions from Retiring Partner's Share:

1. Debit balance of Current A/c (if any).
2. Share of goodwill to be written off.
3. Share of accumulated losses.
4. Loss on revaluation of assets/liabilities.
5. Drawings and interest on drawings till retirement.

Death of a Partner

- Treated similarly to retirement.
- Amount due is paid to the **legal representatives** of the deceased partner.

Important Accounting Adjustments on Retirement/Death

1. **New Profit Sharing Ratio** – Among remaining partners.
2. **Gaining Ratio** – For goodwill adjustment.
3. Goodwill Treatment.
4. Distribution of Accumulated Profits/Losses.
5. Profit till the date of retirement/death.
6. Adjustment of Capitals.
7. Settlement of Amount Due to Retired/Deceased Partner.

New Profit-Sharing Ratio

- Ratio in which remaining partners share future profits.
- Formula:
New Share = Old Share + Acquired Share from Retiring/Deceased Partner

Case: If nothing is stated about new ratio:

- Remaining partners continue to share profits in their **old ratio**.

Example:

Kapil, Anu, and Priti share profits in **5:3:2**.

If Anu retires and nothing is mentioned, new ratio of Kapil and Priti = **5:2**

Adjustment in Profit Sharing Ratio on Retirement/Death of a Partner

(1) *When Remaining Partners Acquire the Outgoing Partner's Share in a Specified Ratio*

- If the continuing partners acquire the retiring/deceased partner's share in a specific ratio (not in old ratio), a **new profit sharing ratio (NPSR)** is calculated.
- **Formula:**
New Share = Old Share + Acquired Share
- **Example:**
Kapil, Anu, and Priti share profits in 5:3:2. Anu retires. Her share (3/10) is acquired by Kapil and Priti in 2:1 ratio.
 - Kapil's New Share = $5/10 + (3/10 \times 2/3) = 21/30$
 - Priti's New Share = $2/10 + (3/10 \times 1/3) = 9/30$
 - **New Ratio** = 7:3

(2) *When a New Ratio is Decided by Remaining Partners*

- If remaining partners agree on a new ratio, that becomes the new ratio.

Gaining Ratio

- Gaining Ratio = New Ratio – Old Ratio
- Used to determine how much of the retiring partner's share each continuing partner gains.

Cases:

- **Nothing mentioned:** Gain is assumed in old ratio.
- **New ratio given:** Gain is calculated using the formula.

Example:

X, Y, Z share in 5:3:2. Y retires. New ratio between X and Z = 7:3

- X's Gain = $7/10 - 5/10 = 2/10$
- Z's Gain = $3/10 - 2/10 = 1/10$

Difference between Sacrificing Ratio & Gaining Ratio

Basis	Sacrificing Ratio	Gaining Ratio
Meaning	Ratio in which old partners give up share for new partner	Ratio in which remaining partners gain from retiring partner
When Calculated	At time of admission	At time of retirement/death
Formula	Old Ratio – New Ratio	New Ratio – Old Ratio
Purpose	For adjusting goodwill for new partner	For adjusting goodwill for retiring partner

Goodwill Treatment on Retirement/Death

- Outgoing partner is entitled to share of goodwill.
- Goodwill adjusted through **capital accounts** of continuing partners in gaining ratio.

Journal Entry:

Continuing Partners' Capital A/cs Dr. (in gaining ratio)
To Retiring/Deceased Partner's Capital A/c

If goodwill already appears in books:

- Written off among all partners in old ratio.

Entry:

All Partner's Capital A/cs Dr.
To Goodwill A/c

Adjustment of Accumulated Profits/Reserves

1. **Distributing Reserves & Profits**
General Reserve/Reserve Fund/P&L A/c Dr.
To All Partners' Capital A/cs (in old ratio)
2. **Distributing Accumulated Losses**
All Partners' Capital A/cs Dr.
To P&L A/c
3. **Surplus of Specific Reserves**
Workmen Compensation/Investment Fluctuation Reserve A/c Dr.
To All Partners' Capital A/cs (in old ratio)

Payment to Retiring Partner

- **Paid in cash:**
Retiring Partner's Capital A/c Dr.
To Cash/Bank A/c
- **Transferred to Loan A/c:**
Retiring Partner's Capital A/c Dr.
To Retiring Partner's Loan A/c
- **Interest on Loan (if unpaid):**
As per **Section 37 of Indian Partnership Act**, 6% p.a.
or share of profits (optional)

Adjustment of Remaining Partners' Capital

When total capital of new firm is given:

Steps:

1. Divide total capital in new profit-sharing ratio
2. Adjust old capital after all necessary changes
3. Calculate excess/deficiency
4. Adjust through Cash or Current A/cs

Journal Entries:

- Excess Capital Withdrawn: Partner's Capital A/c Dr. → To Cash/Bank A/c
- Capital Brought In: Cash/Bank A/c Dr. → To Partner's Capital A/c
- If through Current A/c:
 - Excess: Partner's Capital A/c Dr. → To Partner's Current A/c
 - Short: Partner's Current A/c Dr. → To Partner's Capital A/c

Reconstitution of Partnership: Retirement and Death of a Partner

2. When Total Capital of New Firm is Not Specified

- Total capital of the new firm = Aggregate of **adjusted old capitals** of the continuing partners.
- Adjustments to be made before calculating total capital:
 - Goodwill
 - Accumulated profits/losses
 - Profit or loss on revaluation of assets and liabilities
- Once total capital is computed, follow the same steps as in **Case 1**.

3. When Retiring Partner's Payment is Borne by Continuing Partners in New Ratio

- Calculate total capital of reconstituted firm:
 - Add **adjusted old capitals** of continuing partners
 - Add **cash brought in** by continuing partners to pay the retiring/deceased partner
- Capitals of continuing partners are then **adjusted proportionately** to their new profit-sharing ratio.
- Follow same steps as discussed in **Case 1**.

Death of a Partner

- **Accounting treatment** is similar to that of retirement.
- Deceased partner's claim is transferred to **Executor's Account** and settled accordingly.
- Key difference:
 - **Retirement** occurs at end of accounting period.
 - **Death** can occur anytime; so the claim includes profit/loss till the date of death.

Calculation of Profit for the Intervening Period

- **Deceased Partner's Share of Profit**
= Profit of the firm till the date of death × Deceased partner's share

Calculation of Profit for the Intervening Period (Share of Profit of a Deceased Partner)

When a partner dies during the accounting year, his share of profit up to the date of death is calculated by either of the following methods:

(A) On the Basis of Time

Step 1: Calculate profit of the firm till the date of death

Profit of the firm till the date of death

Previous year's profit or Average profit of past years

×

Number of months from the last Balance Sheet date to the date of death

÷ 12

Step 2: Calculate share of the deceased partner

Share of deceased partner

Profit of the firm till the date of death

×

Deceased partner's profit-sharing ratio

(B) On the Basis of Turnover (Sales Basis)

Step 1: Calculate profit of the firm till the date of death

Profit of the firm till the date of death

Average profit of past years or Profit of previous year

÷

Sales of last year

×

Sales from the last Balance Sheet date till the date of death

Step 2: Calculate share of the deceased partner

Share of deceased partner

Profit of the firm till the date of death

×

Deceased partner's profit-sharing ratio

Accounting Treatment: Outgoing Partner's Share in Profit

- **In case of Profit:**
 - Profit and Loss Suspense A/c Dr.
To Deceased Partner's Capital A/c
- **In case of Loss:**
 - Deceased Partner's Capital A/c Dr.
To Profit and Loss Suspense A/c

Executor's Entitlement

Executor is entitled to:

1. Balance in Capital Account
2. Share of Goodwill
3. Share of Profit (till date of death)
4. Share in Revaluation Profit
5. Share in Accumulated Profits/Reserves
6. Interest on Capital (if allowed by deed)
7. Share of Joint Life Policy (if applicable)

- Salary/Commission due (if any)

Deductions from above:

- Drawings and interest on drawings (till death)
- Share of Loss (till death)
- Share of Loss on Revaluation
- Share of Reduction in Goodwill (if any)

Settlement of Executor’s Account

- Executor may receive:
 - Interest @ 6% p.a.** from the date of death till payment, **or**
 - Share of profit earned by the firm from the beginning of the year till date of death.

Q1. Sagar, Manu and Akanksha share profits in the ratio 20% : 30% : 50%. Sagar retires and sells his share to Manu. Goodwill is valued at 2½ years’ purchase of average profits.

Profits: ₹50,000, ₹70,000, ₹60,000

Reserve Fund = ₹30,000

Sagar’s capital before adjustments = ₹1,00,000

Calculation of Goodwill

Average Profit

$$= (50,000 + 70,000 + 60,000) \div 3$$

$$= ₹60,000$$

$$\text{Goodwill} = 60,000 \times 2.5 = \text{₹1,50,000}$$

$$\text{Sagar’s share} = 20\% \text{ of } 1,50,000 = \text{₹30,000}$$

Journal Entries

(i) Transfer of Reserve Fund

Particulars	Dr. (₹)	Cr. (₹)
Reserve Fund A/c	30,000	
To Sagar’s Capital A/c		6,000
To Manu’s Capital A/c		9,000
To Akanksha’s Capital A/c		15,000

(ii) Adjustment of goodwill

Particulars	Dr. (₹)	Cr. (₹)
Manu’s Capital A/c	30,000	
To Sagar’s Capital A/c		30,000

Sagar’s Capital Account

Dr.	₹	Cr.	₹
To Sagar’s Loan A/c (Balancing figure)	1,36,000	By Balance b/d	1,00,000
		By Reserve Fund	6,000
		By Manu’s Capital A/c	30,000
Total	1,36,000	Total	1,36,000

1. What does a change in profit sharing ratio among existing partners signify? a) Dissolution b) Reconstitution c) Retirement d) Sale of firm 2. A change in profit-sharing ratio requires: a) Dissolution of partnership b) Creation of a new firm c) A new agreement among partners d) Legal approval 3. Sacrificing Ratio is calculated as: a) Old Ratio + New Ratio b) New Ratio – Old Ratio c) Old Ratio – New Ratio d) Old Ratio × New Ratio 4. Gaining Ratio is calculated as: a) Old Ratio – New Ratio b) New Ratio + Old Ratio c) New Ratio – Old Ratio d) None of the above 5. If A and B change their ratio from 2:1 to 3:1, who is the gaining partner? a) A b) B c) Both d) None 6. Goodwill is considered as: a) Tangible Asset b) Fictitious Asset c) Intangible Asset d) Current Asset 7. Which type of goodwill is recorded in the books? a) Self-generated b) Inherent c) Purchased d) Estimated 8. According to AS-26, self-generated goodwill: a) Is recorded as an asset b) Is sold separately c) Cannot be recognized as an asset d) Is amortized 9. Which method of goodwill valuation is used when profits are fluctuating? a) Average Profit b) Super Profit c) Weighted Average d) Capitalization 10. Goodwill = Super Profit × Number of Years' Purchase is the formula for: a) Average Profit Method b) Capitalization Method c) Super Profit Method d) Weighted Average Method 11. What is the formula for Super Profit? a) Normal Profit – Average Profit b) Average Profit – Normal Profit	14. When gaining partner compensates sacrificing partner, the entry is: a) Cash A/c Dr. b) Gaining Partner's Capital A/c Dr. To Sacrificing Partner's Capital A/c c) Sacrificing Partner's A/c Dr. d) Goodwill A/c Dr. To Bank A/c 15. In case of fixed capitals, goodwill is adjusted through: a) Capital A/c b) Drawing A/c c) Current A/c d) Loan A/c 16. Reserves and Accumulated Profits are distributed: a) In new ratio b) In gaining ratio c) In sacrificing ratio d) In old ratio 17. If reserves are not distributed, the gaining partner must: a) Be penalized b) Receive compensation c) Compensate sacrificing partner d) Pay to the firm 18. Capital adjustment is made to: a) Balance liabilities b) Match capital to new ratio c) Equalize loans d) Avoid goodwill 19. Which reserve is used for worker-related claims? a) General Reserve b) IFR c) WCR d) DRR 20. If WCR = ₹10,000 and claim is ₹15,000, the shortfall is debited to: a) Revaluation A/c b) Capital A/c c) Goodwill A/c d) Investment A/c 21. When claim < WCR, the excess is: a) Transferred to Revaluation b) Distributed among partners c) Added to Capital Reserve d) Forfeited 22. IFR is maintained to cover: a) Profit loss b) Depreciation c) Fall in investment value d) Bad debts 23. If investment value falls by ₹2,000 and IFR is ₹3,000, ₹1,000 is: a) Transferred to Revaluation b) Debited to Capital A/c c) Distributed among partners d) Written off 24. Which entry is passed when asset value increases? a) Asset A/c Dr. To Revaluation A/c b) Revaluation A/c Dr. To Asset A/c c) Capital A/c Dr. To Asset A/c d) Asset A/c Dr. To Capital A/c	27. Which is not a reason for goodwill valuation? a) Change in ratio b) Amalgamation c) Increase in sales d) Retirement 28. Goodwill is not considered in: a) Change in ratio b) New partner admission c) Issue of shares d) Amalgamation 29. Gaining ratio is used for: a) Profit sharing b) Goodwill compensation c) Reserve transfer d) Salary payment 30. Revaluation loss is: a) Credited to partners b) Debited to partners c) Credited to assets d) Ignored 31. Net Assets = Assets – _____ a) Debtors b) Goodwill c) Liabilities d) Reserves 32. Purchased goodwill arises when: a) Partner retires b) Business is sold c) Goodwill is internally created d) Loan is taken 33. Sacrificing partner is the one who: a) Gains extra share b) Retires c) Admits new partner d) Gives up part of share 34. If capital employed is ₹2,00,000 and normal return is 10%, normal profit is: a) ₹10,000 b) ₹20,000 c) ₹30,000 d) ₹5,000 35. Firm's Goodwill is ₹1,00,000 and partner's gain is 1/5. Goodwill to be paid: a) ₹5,000 b) ₹20,000 c) ₹10,000 d) ₹25,000 36. Transfer of P&L Cr balance is done in: a) New ratio b) Old ratio c) Equal ratio d) Gaining ratio 37. Change in capital due to new ratio is: a) Restructuring b) Revaluation c) Capital adjustment d) Reserve creation 38. If A sacrifices 1/5th and B gains 1/5th, goodwill adjustment is in ratio: a) 1:1 b) 3:2
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c) Net Assets – Capital Employed d) Goodwill ÷ No. of Years 12. Normal Profit is calculated using: a) Average Profit × No. of Years b) Capital Employed × Rate of Return c) Profit × Weight d) Goodwill ÷ Rate of Return 13. Which of the following is NOT adjusted during a change in ratio? a) Goodwill b) Revaluation c) Reserves d) Creditors	25. Decrease in liability is credited to: a) Asset A/c b) Revaluation A/c c) Liability A/c d) Partner’s A/c 26. Revaluation profit is transferred to partners: a) In gaining ratio b) In new ratio c) In old ratio d) Equally	c) 2:3 d) 4:1 39. Capitalization of super profit method uses formula: a) Super Profit × No. of Years b) Super Profit × 100 / Rate of Return c) Average Profit × No. of Years d) Average Profit × Rate of Return 40. Gaining partner’s account is debited because: a) He retires b) He receives bonus c) He compensates for goodwill d) He is new
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Answers:

1. B
2. C
3. C
4. C
5. A
6. C
7. C
8. C
9. C
10. C
11. B
12. B
13. D
14. B
15. C
16. D
17. C
18. B
19. C
20. A
21. B
22. C
23. A
24. A
25. B
26. C
27. C
28. C
29. B
30. B
31. C
32. B
33. D
34. B
35. B
36. B
37. C
38. A
39. B
40. C

Multiple Choice Questions (MCQs)

1. Admission of a new partner results in:
a) Dissolution of the firm
b) Creation of a new firm
c) Reconstitution of the firm
d) Mere change in ownership
2. According to Section 31 of the Indian Partnership Act, 1932, a new partner may be admitted:
a) With majority approval
b) With two-thirds consent
c) With the consent of all existing partners
d) Automatically on bringing capital
3. One objective of admitting a new partner is to:
a) Reduce market competition
b) Increase business risk
c) Improve the firm’s goodwill
d) Escape tax liability
4. Reconstitution of a firm takes place when:
a) The firm’s name is changed
b) Business location is shifted
c) Profit-sharing ratio is altered
d) Assets alone are sold
5. A new partner contributes goodwill to compensate:
a) Creditors
b) Government authorities
c) Existing partners
d) Employees
6. Which of the following does not lead to reconstitution of a firm?
a) Admission of a partner
b) Death of a partner
c) Change in accounting period
d) Change in profit-sharing ratio
7. Sacrificing Ratio is computed as:
a) Old Ratio + New Ratio
b) New Ratio – Old Ratio
- c) Old Ratio – New Ratio
d) Old Ratio ÷ New Ratio
8. When goodwill is paid privately, the accounting treatment involves:
a) Recording it as an asset
b) Entry in the cash book
c) No journal entry
d) Debit to capital account
9. Which of the following is not a right of a newly admitted partner?
a) Right to profits
b) Right to participate in management
c) Right over existing assets
d) Right over past profits
10. Changes in asset values are recorded through:
a) Goodwill Account
b) Revaluation Account
c) Realisation Account
d) Capital Account
11. If goodwill is brought in cash and retained in the business, which account is credited?
a) Goodwill Account
b) Bank Account
c) New Partner’s Capital Account
d) Old Partners’ Capital Accounts
12. Investment Fluctuation Reserve is distributed among partners when:
a) Investment value remains unchanged
b) Investment becomes worthless
c) A partner retires
d) The firm is dissolved
13. Which of the following is not a method of reconstitution?
a) Amalgamation
b) Admission of a partner

- c) Change in profit-sharing ratio
 - d) Change in firm's logo
14. If a new partner acquires a 1/6 share, the remaining share equals:
 - a) 1/6
 - b) 5/6
 - c) 6/6
 - d) 1
 15. If goodwill already appears in the books at the time of admission:
 - a) It is capitalised
 - b) It is revalued
 - c) It is written off
 - d) It is treated as an expense
 16. When goodwill is not introduced in cash, adjustment is made through:
 - a) Revaluation Account
 - b) Drawings Accounts
 - c) Capital or Current Accounts
 - d) Realisation Account
 17. Accumulated profits are adjusted in the:
 - a) New ratio
 - b) Old ratio
 - c) Sacrificing ratio
 - d) Gaining ratio
 18. The reserve transferred when no liability arises is:
 - a) General Reserve
 - b) Workmen Compensation Reserve
 - c) Capital Reserve
 - d) Debenture Redemption Reserve
 19. Profit arising from revaluation is transferred to:
 - a) Revaluation Account
 - b) Old Partners' Capital Accounts
 - c) Profit and Loss Account
 - d) Reserve Fund
 20. Loss on revaluation is charged to:
 - a) New Partner's Capital Account
 - b) Revaluation Account
 - c) Old Partners' Capital Accounts
 - d) Cash Account
 21. For a decrease in asset value, which account is debited?
 - a) Revaluation Account
 - b) Asset Account
 - c) Goodwill Account
 - d) Capital Account
 22. When an unrecorded asset is discovered, the entry passed is:
 - a) Revaluation A/c Dr. To Asset A/c
 - b) Asset A/c Dr. To Revaluation A/c
 - c) Revaluation A/c Dr. To Partner's A/c
 - d) Bank A/c Dr. To Revaluation A/c
 23. In the case of hidden goodwill, the excess of implied capital over actual capital represents:
 - a) Interest
 - b) Hidden profit
 - c) Hidden goodwill
 - d) Capital reserve
 24. Hidden goodwill is calculated when:
 - a) Goodwill is not stated
 - b) A partner retires
 - c) The firm is dissolved
 - d) Profit-sharing ratio changes
 25. General Reserve is transferred in the:
 - a) Sacrificing ratio
 - b) Old ratio
 - c) New ratio
 - d) Equal ratio
 26. Premium for goodwill is credited to:
 - a) All partners equally
 - b) New partner only
 - c) Old partners in sacrificing ratio
 - d) Government
 27. When goodwill is brought in cash and later withdrawn, the entry is:
 - a) Capital A/c Dr. To Cash A/c
 - b) Cash A/c Dr. To Capital A/c
 - c) Capital A/c Dr. To Revaluation A/c
 - d) Cash A/c Dr. To Goodwill A/c
 28. Investment Fluctuation Reserve is created to cover:
 - a) Depreciation
 - b) Bad debts
 - c) Fluctuations in investment value
 - d) Tax liability
 29. Workmen Compensation Reserve is adjusted against claim when:
 - a) No claim exists
 - b) Claim equals the reserve
 - c) Claim exceeds the reserve
 - d) Claim is anticipated
 30. If a new partner acquires share from only one existing partner, the sacrificing ratio is:
 - a) Equal among partners
 - b) Of the sacrificing partner only
 - c) New ratio
 - d) Old ratio
 31. Goodwill brought in by a new partner is treated as:
 - a) Income
 - b) Expense
 - c) Capital receipt
 - d) Revenue income
 32. A new partner's capital is adjusted according to the:
 - a) Old profit-sharing ratio
 - b) Equal ratio
 - c) New profit-sharing ratio
 - d) Gaining ratio
 33. If the fall in investment value exceeds IFR, the excess is transferred to:
 - a) Goodwill Account
 - b) Capital Account
 - c) Revaluation Account
 - d) Bank Account
 34. Profit on sale of an unrecorded asset is:
 - a) Debited to Revaluation Account
 - b) Credited to Cash Account
 - c) Credited to Revaluation Account
 - d) Debited to Partners' Accounts
 35. Which item is not credited to the Revaluation Account?
 - a) Increase in asset value
 - b) Decrease in liabilities
 - c) Unrecorded liabilities
 - d) Sale proceeds of unrecorded assets
 36. The ratio applicable for sharing future profits after admission is the:
 - a) Sacrificing ratio
 - b) Old ratio
 - c) New ratio
 - d) Gaining ratio
 37. Gaining Ratio is mainly used at the time of:
 - a) Retirement of a partner
 - b) Admission of a partner
 - c) Dissolution of firm
 - d) Amalgamation
 38. Accounting treatment of goodwill is governed by:
 - a) AS-6
 - b) AS-10

- c) AS-26
 - d) AS-18
39. Premium for Goodwill Account is classified as a:
- a) Real account
 - b) Nominal account
 - c) Personal account
 - d) Suspense account
40. When hidden goodwill is identified, it is shared in the:
- a) New ratio
 - b) Equal ratio
 - c) Sacrificing ratio
 - d) New partner's share only

Answer Key

1. C	11. D	21. A	31. C
2. C	12. D	22. B	32. C
3. C	13. D	23. C	33. C
4. C	14. B	24. A	34. C
5. C	15. C	25. B	35. C
6. C	16. C	26. C	36. C
7. C	17. B	27. A	37. A
8. C	18. B	28. C	38. C
9. D	19. B	29. B	39. B
10. B	20. C	30. B	40. C

MCQs

- Reconstitution of a partnership firm takes place when:
 - A new partner is admitted
 - An existing partner retires
 - A partner passes away
 - Both (b) and (c)
- At the time of retirement or death of a partner, the existing partnership deed:
 - Continues without any change
 - Is altered by the outgoing partner
 - Comes to an end
 - Is filed with the Registrar
- A partner can retire from the firm by:
 - Giving notice to the police
 - Retiring at will without any notice
 - Giving proper notice according to the partnership deed
 - Obtaining permission from the court
- On retirement, a partner is entitled to receive:
 - His or her share of goodwill
 - Share in accumulated reserves
 - Balance of capital account
 - All of the above
- The share of goodwill payable to a retiring partner is:
 - Debited to the capital account
 - Ignored completely
 - Credited to the capital account
 - Paid only in cash
- Which of the following is deducted while settling a retiring partner's dues?
 - Share of goodwill
 - Accumulated profits
 - Drawings
 - Revaluation profit
- The amount due to a deceased partner is paid to:
 - The spouse
 - The legal representative or executor
 - The nominee
 - The surviving partners
- Gaining ratio is calculated at the time of:
 - Admission of a partner
 - Retirement or death of a partner
 - Dissolution of the firm
 - Revaluation of assets
- The formula for gaining ratio is:
 - New ratio minus old ratio
 - Old ratio minus new ratio
 - Old ratio plus new ratio
 - None of these
- If the new ratio is not mentioned, the remaining partners share profits in:
 - A new equal ratio
 - Their old profit-sharing ratio

- A new unequal ratio
 - Sacrificing ratio
- When goodwill already appears in the books, it is:
 - Distributed among partners
 - Written off in the new ratio
 - Written off in the old ratio
 - Ignored
 - In case of loss on revaluation, it is:
 - Ignored
 - Debited to partners' capital accounts
 - Credited to partners' capital accounts
 - Transferred to goodwill account
 - Interest on loan given to a retiring partner is governed by the:
 - Partnership Act
 - Income Tax Act
 - Companies Act
 - Banking Regulation Act
 - The rate of interest on loan to a retiring partner is:
 - 12% per annum
 - 6% per annum
 - 10% per annum
 - Only as specified in the deed
 - Goodwill adjustment on retirement is made in the:
 - Old ratio
 - Gaining ratio
 - New ratio
 - Equal ratio
 - In case of death of a partner, profit up to the date of death is calculated on a:
 - Monthly basis
 - Quarterly basis
 - Proportionate basis
 - Year-end basis
 - The executor's account is finally settled through:
 - Loan account
 - Profit and loss account
 - Deceased partner's account
 - Partners' capital accounts
 - After reconstitution of the firm, capital accounts are:
 - Left unchanged
 - Closed
 - Adjusted
 - Ignored
 - Revaluation profit at the time of retirement is:
 - Credited to goodwill account
 - Credited to all partners' capital accounts
 - Paid to the government
 - Transferred to suspense account
 - If a retiring partner's capital account shows a debit balance, it is:
 - Paid in cash
 - Adjusted through current account

- c) Deducted from reserves
d) Ignored
21. Profit up to the date of death is transferred to:
a) Revaluation account
b) Profit and Loss Suspense account
c) General reserve
d) Profit and loss account
22. Deceased partner's share of goodwill is adjusted through:
a) Loan account
b) Executor's account
c) Remaining partners' capital accounts
d) Cash account
23. The capital of remaining partners may be adjusted:
a) Equally
b) According to the new ratio
c) Randomly
d) In the old ratio
24. If nothing is mentioned regarding goodwill, it should be:
a) Ignored
b) Adjusted in old ratio
c) Adjusted in gaining ratio
d) Paid in cash to the outgoing partner
25. Accumulated losses at the time of retirement are:
a) Credited to partners
b) Ignored
c) Debited to partners' capital accounts
d) Paid by the bank
26. Increase in liability on revaluation results in:
a) Loss
b) Profit
c) Expense
d) Income
27. When a new ratio is given, gain is calculated as:
a) Old ratio minus new ratio
b) New ratio minus old ratio
c) Old ratio plus new ratio
d) New ratio multiplied by old ratio
28. Retirement of a partner results in:
a) Dissolution of the firm
b) Reconstitution of the firm
c) Formation of a new partnership
d) Both (b) and (c)
29. Goodwill adjustment on retirement is done through:
a) Realisation account
b) Profit and loss suspense account
c) Capital accounts
d) Memorandum account
30. Accumulated profits are distributed in the:
a) New ratio
b) Gaining ratio
c) Old ratio
d) Sacrificing ratio
31. When total capital of the new firm is not specified, it is taken as:
a) Zero
b) Equal to one partner's capital
c) The total of adjusted capitals
d) Given by the bank
32. Executor's share of Joint Life Policy is:
a) Credited to goodwill
b) Added to reserves
c) Paid separately
d) Added to the amount payable
33. Profit for the intervening period is:
a) Transferred to reserve
b) Debited to all partners
c) Shared in old ratio
d) Ignored
34. Excess capital brought in by a partner is recorded in the:
a) Revaluation account
b) Suspense account
c) Cash account
d) Capital account
35. Goodwill is written off in old ratio when:
a) A partner dies
b) A partner retires
c) Goodwill already exists in books
d) In all cases
36. Which of the following accounts is not credited on retirement?
a) Goodwill
b) Capital
c) Drawings
d) Reserves
37. Profit and Loss Suspense Account is used in case of:
a) Retirement
b) Depreciation
c) Death of a partner
d) Interest calculation
38. The executor of a deceased partner receives share of:
a) Capital
b) Goodwill
c) Reserves
d) All of these
39. Profit for the intervening period equals firm's profit till date multiplied by:
a) Old ratio
b) Deceased partner's share
c) Revaluation loss
d) New ratio
40. Joint Life Policy proceeds are shared among:
a) The bank
b) Surviving partners
c) Legal heirs
d) All partners

Answer Key

1. D	11. C	21. B	31. C
2. C	12. B	22. C	32. D
3. C	13. A	23. B	33. C
4. D	14. B	24. C	34. C
5. C	15. B	25. C	35. C
6. C	16. C	26. A	36. C
7. B	17. D	27. B	37. C
8. B	18. C	28. B	38. D
9. B	19. B	29. C	39. B
10. B	20. B	30. C	40. D

CHAPTER – 5:
DISSOLUTION OF PARTNERSHIP FIRM

Dissolution

Dissolution means the termination or ending of an existing arrangement or relationship.

In a partnership, it refers to the ending of the relationship between partners.

Types of Dissolution

1. Dissolution of Partnership

Only the partnership agreement changes; the firm continues to exist.

2. Dissolution of Firm

The entire business comes to an end and the firm ceases to exist.

Dissolution of Partnership

Dissolution of partnership occurs when there is a change in the relationship among partners, but the business continues. The firm is **reconstituted**, not closed.

Causes:

1. Change in profit-sharing ratio
2. Admission of a new partner
3. Retirement of a partner
4. Expulsion of a partner
5. Death of a partner (Section 42)
6. Insolvency of a partner
7. Expiry of partnership term

Dissolution of Firm

Defined under **Section 39 of the Indian Partnership Act, 1932**.

It involves termination of both the business and the relationship among all partners.

Assets are realised and liabilities are settled.

Modes of Dissolution of a Firm

A. Without Court Intervention

1. By Mutual Agreement (Section 40)

The firm is dissolved with the consent of all partners.

2. Compulsory Dissolution (Section 41)

Occurs when:

- ✓ All partners or all except one become insolvent
- ✓ Business becomes unlawful

3. On Happening of Certain Events (Section 42)

- Death or insolvency of a partner
- Completion of the objective of partnership
- Expiry of partnership term

4. Dissolution by Notice (Section 43)

In a partnership at will, any partner may dissolve the firm by giving notice.

B. By Court's Order (Section 44)

The court may order dissolution on the following grounds:

1. Partner becomes of unsound mind
2. Permanent incapacity of a partner
3. Misconduct affecting business
4. Persistent breach of agreement
5. Transfer of interest to a third party
6. Business can be carried on only at a loss
7. Any other just and equitable reason

Difference: Dissolution of Partnership vs Dissolution of Firm

Basis	Dissolution of Partnership	Dissolution of Firm
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Meaning	Change in partnership agreement	Complete termination of firm
Business continuity	Continues	Ends completely
Economic relationship	Changes but continues	Ends permanently
Closure of books	Not required	Mandatory
Assets & liabilities	Revaluation only	Assets sold, liabilities paid
Court involvement	Not required	May involve court

Settlement of Accounts (Section 48)

Losses are paid in the following order:

1. Profits
2. Capital
3. Partners (in profit-sharing ratio)

Assets realised are applied in the following order:

1. Payment of external liabilities
2. Repayment of partners' loans
3. Return of capital
4. Remaining balance shared among partners (PSR)

Firm's Debts vs Private Debts (Section 49)

Firm's Debts

- ✓ Paid first out of firm's assets
- ✓ Surplus, if any, goes to partners

Private Debts

- ✓ Paid out of partner's personal assets
- ✓ Surplus may be used to pay firm's debts if firm assets are insufficient

Accounting Treatment on Dissolution of a Firm

Accounts Involved

1. Realisation Account
2. Loan by Firm to Partner
3. Loan by Partner to Firm
4. Partner's Capital Account
5. Cash/Bank Account

1. Realisation Account

A nominal account prepared to determine profit or loss on realisation of assets and settlement of liabilities.

Transfer of Assets

(All assets except cash/bank at book value)

Entry:

Realisation A/c Dr.

To Asset A/c

Fictitious assets are transferred to Partner's Capital A/c

Provision against assets is transferred to Realisation A/c

Transfer of Liabilities

Only third-party liabilities are transferred.

Entry:

Liabilities A/c Dr.

To Realisation A/c

- ✓ Partner's loans are not transferred
- ✓ Reserves and accumulated profits go to partners' capital accounts.

2. Workmen Compensation Reserve

No liability → Entire reserve to partners’ capital
Liability < Reserve →
Reserve A/c Dr. → Realisation A/c + Capital A/cs
Liability = Reserve →
Reserve A/c Dr. → Realisation A/c
Liability > Reserve →
Entire reserve transferred to Realisation A/c

3. Realisation of Assets

- ✓ Sold for cash:
Cash/Bank A/c Dr. → Realisation A/c
- ✓ Taken over by partner:
Partner’s Capital A/c Dr. → Realisation A/c
- ✓ If not mentioned: assume realised at **nil value**

4. Payment of Liabilities

- ✓ Paid in cash:
Realisation A/c Dr. → Cash/Bank A/c
- ✓ Taken over by partner:
Realisation A/c Dr. → Partner’s Capital A/c

5. Realisation Expenses

- ✓ Paid by firm:
Realisation A/c Dr. → Cash/Bank A/c
- ✓ Paid by partner:
Realisation A/c Dr. → Partner’s Capital A/c
- ✓ Paid by firm but borne by partner:
Partner’s Capital A/c Dr. → Cash/Bank A/c
- ✓ Paid and borne by partner: **No entry**

6. Closing Realisation Account

- ✓ Profit on realisation:
Realisation A/c Dr. → Partners’ Capital A/cs
- ✓ Loss on realisation:
Partners’ Capital A/cs Dr. → Realisation A/c

Partner’s Capital Accounts

- ✓ Debit balance: partner brings cash
- ✓ Credit balance: partner is paid off

Cash / Bank Account

- ✓ Prepared last
- ✓ All receipts on debit side
- ✓ All payments on credit side
- ✓ Only one account prepared if both cash and bank balances exist

Treatment of Goodwill

- ✓ Appears in Balance Sheet:
Realisation A/c Dr. → Goodwill A/c
- ✓ Not appearing: No entry
- ✓ Sold for cash:
Cash/Bank A/c Dr. → Realisation A/c
- ✓ Taken over by partner:
Partner’s Capital A/c Dr. → Realisation A/c

Difference: Revaluation A/c vs Realisation A/c

Basis	Revaluation A/c	Realisation A/c
When prepared	Admission, retirement, death	Dissolution
Purpose	Adjust change in values	Ascertain profit/loss
Continuity of firm	Continues	Ends
Frequency	Multiple times	Only once
Values recorded	Changes only	Book and realised values

Difference: Revaluation A/c vs Realisation A/c

Basis	Revaluation A/c	Realisation A/c
When prepared	At the time of admission, retirement, or death of a partner	At the time of dissolution of the firm
Main purpose	To adjust changes in the values of assets and liabilities	To determine profit or loss on realisation of assets and settlement of liabilities
Continuity of firm	The firm continues to operate	The firm comes to an end
Number of times prepared	Can be prepared multiple times during the life of the firm	Prepared only once, at dissolution
Values recorded	Only increase or decrease in asset and liability values	Book values and actual realised or paid amounts

Question: Workmen Compensation Reserve (Dissolution)

Lavanya and Priya are partners in a firm sharing profits and losses in the ratio of **2 : 1**. The firm is dissolved. Pass the necessary **journal entries** in each of the following independent cases relating to **Workmen Compensation Reserve**:

1. The Workmen Compensation Reserve appears in the Balance Sheet at **₹1,80,000**. There is **no liability** in respect of workmen compensation.
2. The Workmen Compensation Reserve appears at **₹1,50,000**. The liability for workmen compensation is ascertained at **₹90,000**.
3. The Workmen Compensation Reserve appears at **₹1,50,000**. The liability for workmen compensation is also **₹1,50,000**.
4. The Workmen Compensation Reserve appears at **₹1,50,000**. The liability for workmen compensation is ascertained at **₹2,00,000**.
5. There is **no Workmen Compensation Reserve** in the Balance Sheet, but the firm has to pay **₹60,000** as workmen compensation.

Solution: Partners: Lavanya and Priya

Profit-sharing ratio: **2 : 1**

(i) Reserve exists, but NO liability exists

Reserve = ₹1,80,000

Liability = Nil

Meaning: The reserve is no longer needed. So it becomes a **profit**.

Treatment

Transfer the entire reserve to partners’ capital accounts in PSR.

Entry

Workmen Compensation Reserve A/c Dr. 1,80,000
 To Lavanya’s Capital A/c 1,20,000
 To Priya’s Capital A/c 60,000

Reason:

2:1 ratio →

Lavanya = 2/3 of 1,80,000

Priya = 1/3 of 1,80,000

(ii) Reserve MORE than liability

Reserve = ₹1,50,000
Liability = ₹90,000

Here two things happen.

Step 1: Liability portion

Transfer liability to Realisation A/c.

Workmen Compensation Reserve A/c Dr. 90,000
 To Realisation A/c 90,000

Step 2: Surplus reserve

Surplus = 1,50,000 – 90,000 = **60,000**
This surplus is profit.

Workmen Compensation Reserve A/c Dr. 60,000
 To Lavanya’s Capital A/c 40,000
 To Priya’s Capital A/c 20,000

Step 3: Payment of liability

Realisation A/c Dr. 90,000
 To Bank A/c 90,000

(iii) Reserve EQUAL to liability

Reserve = ₹1,50,000
Liability = ₹1,50,000
No profit. No loss.

Entries

Workmen Compensation Reserve A/c Dr. 1,50,000
 To Realisation A/c 1,50,000

Realisation A/c Dr. 1,50,000
 To Bank A/c 1,50,000

Nothing goes to partners’ capital accounts.

(iv) Reserve LESS than liability

Reserve = ₹1,50,000
Liability = ₹2,00,000

Here there is a **loss** of ₹50,000.

Step 1: Transfer reserve

Workmen Compensation Reserve A/c Dr. 1,50,000
 To Realisation A/c 1,50,000

Step 2: Pay full liability

Realisation A/c Dr. 2,00,000
 To Bank A/c 2,00,000

The difference (₹50,000) becomes a **loss**, shared by partners through Realisation A/c automatically.

(v) No reserve, but liability exists

Reserve = Nil
Liability = ₹60,000

This is a **pure loss**.

Entry

Realisation A/c Dr. 60,000
 To Bank A/c 60,000

Loss will be shared by partners in PSR through Realisation A/c.

One-look exam summary (VERY IMPORTANT)

Situation	Treatment
Reserve, no liability	Transfer to partners
Reserve > liability	Liability → Realisation, surplus → partners
Reserve = liability	Only Realisation entries
Reserve < liability	Loss via Realisation
No reserve, liability	Loss via Realisation

MCQs

1. Dissolution of partnership refers to:
a) Closure of the entire business
b) Change in the profit-sharing arrangement
c) Sale of all firm assets
d) Settlement of liabilities

2. Dissolution of a firm means:
a) Retirement of any one partner
b) Reconstitution of the partnership
c) Complete termination of the partnership business
d) Change in the place of business

3. Dissolution of partnership takes place when:
a) The firm is closed permanently
b) Relationship among all partners comes to an end
c) Business continues under a revised agreement
d) All assets are realised

4. Which of the following is **not** a reason for dissolution of partnership?
a) Admission of a new partner
b) Change in profit-sharing ratio
c) Death of a partner
d) Sale of machinery

5. Dissolution of a firm is defined under which section of the Indian Partnership Act, 1932?
a) Section 40
b) Section 39
c) Section 42
d) Section 44

6. During dissolution of a firm, which activity is essential?
a) Revaluation of assets only

b) Change in partnership structure
c) Realisation of assets and payment of liabilities
d) Opening of new capital accounts

7. Dissolution by mutual consent of partners is provided under:
a) Section 39
b) Section 40
c) Section 41
d) Section 42

8. Dissolution resulting from all partners becoming insolvent is known as:
a) Voluntary dissolution
b) Legal dissolution
c) Compulsory dissolution
d) Mutual dissolution

9. Which of the following can lead to dissolution by court order?
a) Change in profit-sharing ratio
b) Admission of a new partner
c) Misconduct of a partner
d) Completion of partnership objective

10. Dissolution by notice is possible only when the firm is a:
a) Registered firm
b) Partnership at will
c) Government undertaking
d) Public limited company

11. Which account is prepared to determine profit or loss on dissolution?

- a) Revaluation Account
 - b) Profit and Loss Account
 - c) Realisation Account
 - d) Reserve Account
12. Which of the following is **not** transferred to the Realisation Account?
 - a) Cash
 - b) Machinery
 - c) Debtors
 - d) Stock
 13. On dissolution, fictitious assets like debit balance of P&L account are:
 - a) Transferred to Realisation Account
 - b) Ignored completely
 - c) Transferred to partners' capital accounts
 - d) Transferred to reserves
 14. Provision for doubtful debts is transferred to:
 - a) Asset account
 - b) Capital account
 - c) Realisation account
 - d) Ignored
 15. Which item is **not** transferred to the Realisation Account?
 - a) Bills payable
 - b) Partner's loan
 - c) Creditors
 - d) Outstanding expenses
 16. Undistributed profits and reserves are transferred to:
 - a) Realisation Account
 - b) Partners' capital accounts
 - c) Bank account
 - d) Loan account
 17. When a partner takes over an asset, the journal entry is:
 - a) Realisation A/c Dr. to Partner's Capital A/c
 - b) Partner's Capital A/c Dr. to Realisation A/c
 - c) Cash A/c Dr. to Realisation A/c
 - d) No journal entry
 18. Sale of an asset for cash is recorded as:
 - a) Realisation A/c Dr. to Asset A/c
 - b) Realisation A/c Dr. to Cash A/c
 - c) Cash A/c Dr. to Realisation A/c
 - d) Asset A/c Dr. to Cash A/c
 19. By default, realisation expenses are borne by the:
 - a) Government
 - b) Partner
 - c) Firm
 - d) Bank
 20. If a partner both bears and pays the realisation expenses, the entry is:
 - a) Cash A/c Dr. to Partner
 - b) No entry
 - c) Realisation A/c Dr. to Capital A/c
 - d) Bank A/c Dr. to Realisation A/c
 21. Profit on realisation is credited to:
 - a) Realisation Account
 - b) Profit and Loss Account
 - c) Partners' capital accounts
 - d) Revaluation Account
 22. Realisation Account is prepared at the time of:
 - a) Admission of a partner
 - b) Retirement of a partner
 - c) Dissolution of the firm
 - d) Reconstitution of the firm
 23. The main difference between Revaluation and Realisation Account is based on:
 - a) Number of partners
 - b) Purpose and timing of preparation
 - c) Accounting year end
 - d) Amount of reserves
 24. Loss on realisation is debited to:
 - a) Realisation Account
 - b) Cash Account
 - c) Partners' capital accounts
 - d) Reserve Account
 25. Realisation Account is classified as a:
 - a) Real account
 - b) Personal account
 - c) Nominal account
 - d) Capital account
 26. Workmen Compensation Reserve with no related liability is transferred to:
 - a) Realisation Account
 - b) Partners' capital accounts
 - c) Cash Account
 - d) Asset Account
 27. When Workmen Compensation Reserve exceeds the liability, the surplus is transferred to:
 - a) Realisation Account
 - b) Liability Account
 - c) Partners' capital accounts
 - d) Cash Account
 28. Which of the following accounts is **not** prepared on dissolution of a firm?
 - a) Realisation Account
 - b) Revaluation Account
 - c) Capital Account
 - d) Cash Account
 29. Firm's debts are settled first out of:
 - a) Partners' personal assets
 - b) Reserve fund
 - c) Firm's assets
 - d) Bank borrowings
 30. Private debts of a partner are paid first from:
 - a) Firm's assets
 - b) Partner's personal assets
 - c) Capital account
 - d) Realisation account

Answers

1. B	11. C	21. C
2. C	12. A	22. C
3. C	13. C	23. B
4. D	14. C	24. C
5. B	15. B	25. C
6. C	16. B	26. B
7. B	17. B	27. C
8. C	18. C	28. B
9. C	19. C	29. C
10. B	20. B	30. B

CHAPTER – 6:
RETIREMENT OR DEATH OF A PARTNER

Accounting for Share Capital

- With large-scale business growth, sole proprietorships and partnerships became insufficient in meeting capital needs.
- This led to the emergence of a new form – the **Company**.

Company:

- A **Company** is an artificial person created by law.
- It has a **separate legal identity**, **perpetual succession**, and a **common seal**.

Features of a Company:

1. **Separate Legal Entity:**
 - Company is distinct from its members.
 - It can own property, sue and be sued in its own name.
2. **Limited Liability:**
 - Shareholders' liability is limited to the unpaid value of shares.
 - E.g., For a ₹10 share, if ₹8 is paid, max ₹2 can be demanded.
3. **Perpetual Succession:**
 - Company continues irrespective of changes in membership (death, insolvency, etc.).
4. **Common Seal:**
 - Official signature used by company through its directors.
5. **Transferability of Shares:**
 - Shares can be transferred freely, subject to certain conditions.
6. **Separation of Ownership and Management:**
 - Shareholders (owners) elect a **Board of Directors** to manage the company.

Types of Companies:

A. Based on Liability:

1. **Company Limited by Shares:**
 - Liability limited to nominal value of shares held.
2. **Company Limited by Guarantee:**
 - Liability limited to amount guaranteed at winding up.
3. **Unlimited Company:**
 - No limit on members' liability.

B. Based on Membership:

4. **Public Company:**
 - Not a private company.
 - Can invite the public to subscribe to shares/debentures.
5. **Private Company:**
 - As per its Articles of Association:
 - Restricts transfer of shares.
 - Limits members to 50.
 - Prohibits public invitation to subscribe.
6. **One Person Company (OPC):**
 - A private limited company with only **one member**.
 - Paid-up capital ≤ ₹50 lakhs; Avg. turnover ≤ ₹2 crores.
 - Not required to prepare a cash flow statement.
 - Exempted from AGM and some meeting-related provisions.

Difference between Private and Public Company

Basis of Distinction	Private Company	Public Company
Number of Members	Minimum: 2, Maximum: 200 (excluding present and past employees)	Minimum: 7, No maximum limit
Invitation to Public	Cannot invite the public to subscribe to its shares	Can invite the public to subscribe to its shares
Transfer of Shares	Restricted	Freely transferable
Preparation of Articles	Mandatory	Not mandatory
Number of Directors	Minimum 2	Minimum 3
Statutory Meeting	Not required	Required within 6 months of Certificate of Commencement
Use of the word 'Limited'	Must use "Private Limited"	Must use "Limited"

Share Capital of a Company

- A company raises funds by issuing **shares** as it does not have capital of its own.
- Capital is divided into **equal units called shares**.

Types of Share Capital

1. **Authorised Capital:**
 - Stated in the Memorandum of Association.
 - Maximum amount a company can raise.
2. **Issued Capital:**
 - Portion of authorised capital offered to the public.
 - Remaining is unissued capital.
3. **Subscribed Capital:**
 - Part of issued capital actually subscribed by the public.
 - Categories:
 - *Subscribed and fully paid-up*
 - *Subscribed but not fully paid-up*
4. **Called-up Capital:**
 - Portion of subscribed capital demanded by the company from shareholders.
5. **Paid-up Capital:**
 - Portion of called-up capital that has actually been paid by shareholders.
 - Unpaid portion is called **call-in-arrears**.
6. **Uncalled Capital:**
 - Part of subscribed capital not yet demanded by the company.
7. **Reserve Capital:**
 - Part of uncalled capital reserved to be called only in case of winding up.

Capital Reserves

- Created from **capital profits** (not earned from regular business).
- Not used for dividend distribution.

Sources of Capital Reserves:

- Profit on sale or revaluation of fixed assets
- Premium on issue of shares/debentures
- Profit before incorporation
- Profit on forfeiture or reissue of shares

Extract of Balance Sheet:

Shareholder’s Funds:

- (a) Share Capital
- (b) Reserves & Surplus
- (c) Money received against share warrants

Note to Accounts:

Classes of Shares

1. **Preference Shares:**

Have preferential rights regarding dividend and repayment of capital.

Types:

- **Cumulative:** Dividend accumulates if unpaid
- **Non-cumulative:** No accumulation of unpaid dividend
- **Participating:** Share in surplus profits after equity dividend
- **Non-participating:** Only fixed dividend
- **Redeemable:** Repaid within a fixed time
- **Irredeemable:** Cannot be redeemed before winding up
- **Convertible:** Can be converted into equity shares
- **Non-convertible:** Cannot be converted

2. **Equity Shares:**

- ✓ No fixed dividend
- ✓ Shareholders receive dividend after preference shares
- ✓ Enjoy voting rights and management participation

Difference between Preference and Equity Shares

Basis	Preference Shares	Equity Shares
Dividend Rate	Fixed	Not fixed
Dividend Arrears	May accumulate (if cumulative)	Cannot accumulate
Dividend Priority	Paid before equity shareholders	Paid after preference shareholders
Voting Rights	Usually none	Full voting rights
Management Participation	No right	Right to participate
Capital Return (Winding-up)	Returned before equity shareholders	Paid after preference capital is returned

Issue of Shares

1. Modes of Issue of Shares

A company may issue shares in the following ways:

A. Issue for Cash

(i) Private Placement of Shares (Section 42, Companies Act 2013):

- Shares offered privately to selected individuals or institutions.
- No public invitation is made.
- Offered to: promoters, friends, relatives, mutual funds, LIC, UTI, NRIs, etc.
- No need to issue a prospectus.
- A draft prospectus, called "**Statement in Lieu of Prospectus**", must be filed with the Registrar at least 3 days before the allotment.

Shown under: *Reserves & Surplus* on liabilities side of the Balance Sheet.

Presentation in Balance Sheet (as per Schedule III of Companies Act, 2013)

EQUITY AND LIABILITIES:

- Authorised Capital
- Issued Capital
- Subscribed Capital (Fully paid & Partly paid)
- Calls in arrears
- Forfeited shares

(ii) Public Issue of Shares (For Cash):

Steps Involved:

- Issue of Prospectus:**
 - Contains details of the company and terms of issue.
- Receipt of Application:**
 - Applications are received with application money deposited in a scheduled bank.
- Minimum Subscription:**
 - At least 90% of the issued capital must be subscribed.
- Allotment of Shares:**
 - Allotment is done after receiving minimum subscription.
- Making Calls:**
 - Remaining amounts can be collected in instalments as First Call, Second Call, etc.

(iii) Preliminary Expenses:

Expenses incurred in forming a company, e.g.,

- Document preparation and printing
- Stamp duty, registration fees
- Valuer/accountant charges
- Written off as per AS-26 using Securities Premium Reserve or Statement of Profit and Loss.

Issue of Shares at Par

Meaning

- Shares issued at face value.
- Minimum application money: **25% of face value.**

Accounting Entries

- Application money received**
Bank A/c Dr.
To Share Application A/c
- Transfer of application money to capital**
Share Application A/c Dr.
To Share Capital A/c
- Refund of rejected applications**
Share Application A/c Dr.
To Bank A/c
- Allotment due**
Share Allotment A/c Dr.
To Share Capital A/c
- Adjustment of excess application money**
Share Application A/c Dr.
To Share Allotment A/c
- Allotment money received**
Bank A/c Dr.
To Share Allotment A/c

Combined Account

- Share Application and Allotment A/c may be maintained when application and allotment are recorded together.

Calls on Shares

- Call money cannot exceed **25% of face value**.
- Reasonable time gap required between calls unless Articles provide otherwise.

Accounting Entries

1. **Call due**
Share Call A/c Dr.
To Share Capital A/c
2. **Call received**
Bank A/c Dr.
To Share Call A/c
(Specify the call: First Call / Final Call)

Sweat Equity Shares (Section 54, Companies Act, 2013)

- Issued to employees or directors.
- Issued at discount or for non-cash consideration (IPR, know-how, services).
- Lock-in period: **3 years**.
- Only exception where issue below face value is allowed.

Employee Stock Option Plan (ESOP)

Meaning

- Option given to employees/directors to buy shares in future at a pre-determined price.

Features

- Voluntary scheme.
- Special resolution required.
- Shares locked for **1 year**.

Conditions

1. Same class of shares.
2. Special resolution compulsory.
3. Resolution must specify number of shares, exercise price, market price, eligible employees.
4. Company must be at least **1 year old**.
5. Issued as per SEBI guidelines.

Objectives

- Employee participation.
- Long-term wealth creation.
- Retention of skilled employees.

Issue of Shares at Premium

Meaning

- Issue price exceeds face value.
Example: ₹10 face value issued at ₹12 → Premium ₹2.

Nature

- Capital profit.

Accounting Treatment

- Credited to **Securities Premium Reserve A/c**.
- Shown under **Reserves & Surplus**.

Utilisation of Securities Premium

1. Write-off preliminary expenses.
2. Issue fully paid bonus shares.
3. Buy-back of shares/securities.
4. Write-off discount or commission on issue.
5. Premium on redemption of preference shares/debentures.

Accounting Entries

If premium received with application

- Bank A/c Dr.
To Share Application A/c
- Share Application A/c Dr.
To Share Capital A/c
To Securities Premium A/c

If premium received with allotment

- Share Allotment A/c Dr.
To Share Capital A/c
To Securities Premium A/c

- Bank A/c Dr.
To Share Allotment A/c

Note: If not specified, assume premium is due on allotment.

Issue of Shares at Discount

- Prohibited under **Section 53** of Companies Act, 2013.
- Only allowed in case of **Sweat Equity Shares** under Section 54.

Calls-in-Arrears

Meaning

- Unpaid amount on allotment or calls.

Balance Sheet

- Deducted from paid-up capital.

Journal Entry

Calls-in-Arrears A/c Dr.

To Share Allotment A/c / Share Call A/c

Interest

- Maximum **10% p.a.** (as per Articles / Table A)

On receipt of interest

Bank A/c Dr.

To Calls-in-Arrears A/c

To Interest A/c

Calls-in-Advance

Meaning

- Amount received for calls not yet made.

Nature

- Liability, not part of share capital.

Balance Sheet

- Shown separately under Share Capital.

Interest

- Maximum **12% p.a.** (Table F).

Entries

- Bank A/c Dr.
To Calls-in-Advance A/c
- On adjustment
Calls-in-Advance A/c Dr.
To Relevant Call A/c

Oversubscription of Shares

Meaning

- Applications received exceed shares offered.

Methods of Allotment

1. Full allotment to some, rejection of others.
2. Pro-rata allotment.
3. Combination of both.

Accounting Treatment

Applications received

Bank A/c Dr.

To Share Application A/c

Pro-rata adjustment

Share Application A/c Dr.

To Share Capital A/c

To Share Allotment A/c

Allotment due

Share Allotment A/c Dr.

To Share Capital A/c

Allotment received

Bank A/c Dr.

To Share Allotment A/c

Under-Subscription of Shares

- Applications received are less than shares offered.
- Allotment allowed only if **minimum subscription** is received.

Issue of Shares for Consideration Other Than Cash

(A) Issued to Promoters

Incorporation Expenses A/c Dr.

To Share Capital A/c

(B) Issued for Purchase of Assets

1. Purchase of assets

Assets A/c Dr.

To Vendor's A/c

2. Issue of shares

At par

Vendor's A/c Dr.

To Share Capital A/c

At premium

Vendor's A/c Dr.

To Share Capital A/c

To Securities Premium A/c

Forfeiture of Shares

Meaning

- Cancellation of shares due to non-payment of allotment or calls.

Shares Issued at Par

Share Capital A/c Dr. (called-up amount)

To Share Forfeiture A/c (amount received)

To Share Allotment / Share Call A/c (unpaid)

Shares Issued at Premium

Premium unpaid

Share Capital A/c Dr.

Securities Premium A/c Dr.

To Share Allotment / Call A/c

To Share Forfeiture A/c

Premium paid

Share Capital A/c Dr.

To Share Allotment / Call A/c

To Share Forfeiture A/c

Reissue of Forfeited Shares

- Can be reissued at par, premium, or discount.
- Discount ≤ amount forfeited.

Entries

At par

Bank A/c Dr.

To Share Capital A/c

At premium

Bank A/c Dr.

To Share Capital A/c

To Securities Premium A/c

At discount

Bank A/c Dr.

Share Forfeiture A/c Dr.

To Share Capital A/c

Transfer to Capital Reserve

Share Forfeiture A/c Dr.

To Capital Reserve A/c

(Only the balance relating to shares reissued)

Buy-Back of Shares

Meaning

- Company repurchases its own shares.

Legal Provision

- Section 68 of Companies Act, 2013.

Sources

1. Free reserves
2. Securities premium
3. Proceeds of earlier issue

Modes

1. Proportionate buy-back from shareholders

2. Open market
3. Odd-lot holders
4. Employees

Question

Radha Ltd. invited applications for 30,000 equity shares of ₹10 each. The payment was to be made as follows:

- ₹3 on Application
- ₹3 on Allotment
- ₹2 on First Call
- ₹2 on Final Call

All the shares were applied for. Assume that all amounts due on allotment and calls were received in full.

Share issue expenses amounted to ₹8,000.

Further, 4,000 fully paid shares were issued to promoters for their services.

You are required to pass the necessary journal entries.

Answer

Journal Entries in the books of Radha Ltd.

(1) Application Money Received

(30,000 shares × ₹3)

Bank A/c	Dr.	90,000	
	To Equity Share Application A/c		90,000

(2) Transfer of Application Money

Equity Share Application A/c	Dr.	90,000	
	To Equity Share Capital A/c		90,000

(3) Allotment Money Due

(30,000 shares × ₹3)

Equity Share Allotment A/c	Dr.	90,000	
	To Equity Share Capital A/c		90,000

(4) Allotment Money Received

Bank A/c	Dr.	90,000	
	To Equity Share Allotment A/c		90,000

(5) First Call Due

(30,000 shares × ₹2)

Equity Share First Call A/c	Dr.	60,000	
	To Equity Share Capital A/c		60,000

(6) First Call Money Received

Bank A/c	Dr.	60,000	
	To Equity Share First Call A/c		60,000

(7) Final Call Due

(30,000 shares × ₹2)

Equity Share Final Call A/c	Dr.	60,000	
	To Equity Share Capital A/c		60,000

(8) Final Call Money Received

Bank A/c	Dr.	60,000	
	To Equity Share Final Call A/c		60,000

(9) Share Issue Expenses Paid

Share Issue Expenses A/c	Dr.	8,000	
	To Bank A/c		8,000

(10) Shares Issued to Promoters for Services

(4,000 shares × ₹10)

Incorporation Costs A/c	Dr.	40,000	
	To Equity Share Capital A/c		40,000

If you want, I can also:

- Reduce this into **board-answer length**,
- Add **working notes**, or
- Convert it into a **practice question with solution** for students.

Multiple Choice Questions (MCQs):

1. What is the maximum amount a shareholder can be required to pay on a ₹10 share if ₹8 has already been paid?
 - a) ₹10
 - b) ₹2
 - c) ₹8
 - d) ₹0
2. Which of the following is not a basic feature of a company?
 - a) Perpetual succession
 - b) Unlimited liability
 - c) Common seal
 - d) Separate legal entity
3. The liability of a company is:
 - a) Unlimited
 - b) Equal to the total debt
 - c) Limited to the unpaid value of shares
 - d) Completely borne by shareholders
4. The term perpetual succession refers to:
 - a) A fixed life span
 - b) Continuity limited to directors' tenure
 - c) Continuous existence despite changes in members
 - d) Termination on the death of a member
5. A company can initiate legal action and face legal action in its own name because it is:
 - a) A partnership firm
 - b) A legal entity
 - c) Owned by shareholders
 - d) A public institution
6. Shareholders appoint the ____ to run the affairs of the company.
 - a) CEO
 - b) Managing partner
 - c) Board of Directors
 - d) Trustees
7. Which type of company restricts the transfer of shares and does not invite the public to subscribe?
 - a) Public company
 - b) Private company
 - c) Government company
 - d) One Person Company
8. What is the minimum number of members required to form a public company?
 - a) 1
 - b) 2
 - c) 5
 - d) 7
9. Which of the following is a characteristic of a One Person Company (OPC)?
 - a) It has multiple members
 - b) There is no turnover limit
 - c) It is exempted from holding an AGM
 - d) Preparation of a cash flow statement is compulsory
10. Which type of capital is stated in the Memorandum of Association?
 - a) Subscribed capital
 - b) Authorised capital
 - c) Paid-up capital
 - d) Reserve capital
11. The portion of authorised capital offered for subscription is known as:
 - a) Paid-up capital
 - b) Issued capital
 - c) Subscribed capital
 - d) Reserve capital
12. Which capital represents the actual amount paid by shareholders?
 - a) Subscribed capital
 - b) Called-up capital
 - c) Paid-up capital
 - d) Authorised capital
13. Which capital is callable only at the time of winding up?
 - a) Called-up capital
 - b) Paid-up capital
 - c) Reserve capital
 - d) Issued capital
14. Profit arising from forfeiture of shares is treated as:
 - a) Revenue reserve
 - b) Capital reserve
 - c) General reserve
 - d) Investment reserve
15. Capital reserves are:
 - a) Created from operational profits
 - b) Used for dividend distribution
 - c) Created from capital profits
 - d) Compulsory to disclose
16. Preference shareholders are entitled to:
 - a) No dividend
 - b) Dividend after equity shareholders
 - c) A fixed preferential dividend
 - d) Double dividend
17. Dividend is paid to which shareholders after preference shareholders?
 - a) Bonus shareholders
 - b) Equity shareholders
 - c) Participating shareholders
 - d) Debenture holders
18. Preference shares that can be converted into equity shares are called:
 - a) Redeemable
 - b) Irredeemable
 - c) Convertible
 - d) Non-convertible
19. Equity shareholders usually have:
 - a) No voting rights
 - b) Voting rights and control in management
 - c) Fixed rate of dividend
 - d) Right of redemption
20. Minimum subscription should be at least:
 - a) 75%
 - b) 50%
 - c) 90%
 - d) 100%
21. Which capital is partly paid and partly unpaid?
 - a) Subscribed capital
 - b) Issued capital
 - c) Called-up capital
 - d) Authorised capital
22. Profit earned before incorporation is shown as:
 - a) Revenue reserve
 - b) General reserve
 - c) Capital reserve
 - d) Dividend
23. Which of the following does not form part of shareholders' funds?
 - a) Share capital
 - b) Reserves and surplus
 - c) Share warrants
 - d) Secured loans

24. Shares on which unpaid dividends accumulate are known as:
a) Non-cumulative preference shares
b) Cumulative preference shares
c) Redeemable preference shares
d) Convertible preference shares

25. Which type of company is required to use the word “Limited” in its name?
a) Private company
b) Public company
c) One Person Company
d) Partnership firm

26. The unpaid portion of called-up capital is termed as:
a) Reserve capital
b) Uncalled capital
c) Calls-in-arrears
d) Subscribed capital

27. Issuing shares to selected persons without a public invitation is known as:
a) Public issue
b) Rights issue
c) Bonus issue
d) Private placement

28. A statement in lieu of prospectus is filed in the case of:
a) Public issue
b) Rights issue
c) Private placement
d) ESOP

29. Which capital is never demanded during the lifetime of a company?
a) Reserve capital
b) Issued capital
c) Paid-up capital
d) Called-up capital

30. Fully paid-up shares are shown under:
a) Issued capital
b) Subscribed capital
c) Reserve capital
d) Uncalled capital

31. Which shares are repayable after a fixed period?
a) Equity shares
b) Irredeemable preference shares
c) Redeemable preference shares
d) Participating shares

32. Preference shares that carry the right to share surplus profits are called:
a) Non-participating
b) Participating
c) Redeemable
d) Convertible

33. The maximum amount of capital a company is authorised to raise is called:
a) Paid-up capital
b) Issued capital
c) Authorised capital
d) Subscribed capital

34. The official seal of a company is known as:
a) Stamp
b) Director’s signature
c) Common seal
d) None of the above

35. Subscribed capital can be:
i) Fully paid-up only
ii) Partly paid-up only
iii) Either fully or partly paid-up

36. Which journal entry is passed when shares are issued to promoters for services rendered?
A) Incorporation Expenses A/c Dr. To Share Capital A/c
B) Share Capital A/c Dr. To Vendor’s A/c
C) Asset A/c Dr. To Share Capital A/c
D) Share Forfeiture A/c Dr. To Share Capital A/c

37. When assets are purchased by issuing shares, the journal entry for recording the purchase is:
A) Assets A/c Dr. To Share Capital A/c
B) Assets A/c Dr. To Vendor’s A/c
C) Vendor’s A/c Dr. To Share Premium A/c
D) Vendor’s A/c Dr. To Share Capital A/c

38. What action is taken if a shareholder fails to pay allotment or call money on shares issued at par?
A) Shares are reissued at a discount
B) Shares are forfeited
C) Extension of time is granted
D) Company buys back the shares

39. If forfeited shares are reissued at a premium, which entry is correct?
A) Bank A/c Dr. To Share Capital A/c
B) Bank A/c Dr. To Share Capital A/c and Securities Premium A/c
C) Bank A/c Dr. To Share Forfeiture A/c
D) Bank A/c Dr. To Share Capital A/c and Share Forfeiture A/c

40. What is the maximum discount allowed on the reissue of forfeited shares?
A) Entire premium amount
B) Amount originally paid plus original discount
C) Par value of shares
D) Face value of securities
- Answers:
- | | | | |
|-------|-------|-------|---------|
| 1. B | 11. B | 21. C | 31. C |
| 2. B | 12. C | 22. C | 32. B |
| 3. C | 13. C | 23. D | 33. C |
| 4. C | 14. B | 24. B | 34. C |
| 5. B | 15. C | 25. B | 35. III |
| 6. C | 16. C | 26. C | 36. A |
| 7. B | 17. B | 27. D | 37. B |
| 8. D | 18. C | 28. C | 38. B |
| 9. C | 19. B | 29. A | 39. B |
| 10. B | 20. C | 30. B | 40. B |
- CHAPTER – 7:
ISSUE OF DEBENTURES
- DEBENTURES
- The term “Debenture” comes from the Latin word “**debere**” meaning *to borrow*.
 - It is a written acknowledgment of debt issued by a company under its seal, promising to repay a specific
- sum on a future date with interest (usually paid half-yearly) at a fixed rate.
- As per Section 2(30) of the Companies Act, 2013, “*Debenture includes debenture stock, bonds and any other securities of a company whether or not they constitute a charge on the company’s assets.*”
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Features / Characteristics of Debentures

- 1. Issued by a company as a certificate acknowledging debt.
- 2. Seal of the company is required.
- 3. Contains a contract of repayment at a fixed date.
- 4. As per Companies Act, 2013, maximum maturity is 10 years, extendable to 30 years for infrastructure companies.
- 5. Interest is fixed (coupon rate) and paid regardless of profits, usually every six months.
- 6. Debentures are generally secured by a charge on the company’s assets.
- 7. Funds raised are long-term in nature (loan capital).

Difference Between Shares and Debentures

Basis	Shareholders	Debenture Holders
Ownership	Owners of the company	Creditors of the company
Capital Type	Share Capital	Loan Capital
Return	Dividend (only if profits)	Fixed interest (paid regardless of profits)
Security	Usually unsecured	Usually secured
Repayment	Paid after debentures during liquidation	Paid before share capital
Redemption	Optional (buy-back)	Mandatory as per terms
Voting Rights	Yes	No
Issue at Discount	Not allowed (except sweat equity)	Allowed

Types of Debentures

1. Secured / Mortgage Debentures

- ✓ Backed by a charge on assets (fixed or floating).
- ✓ Fixed charge restricts asset use; floating charge does not.
- ✓ Includes first and second mortgage debentures.

2. Unsecured / Naked Debentures

- ✓ No specific charge on assets.
- ✓ Treated as unsecured creditors during liquidation.

3. Registered Debentures

- ✓ Holder’s details recorded in the Register of Debentureholders.
- ✓ Not freely transferable without proper deed.

4. Bearer Debentures

- ✓ No record of holders maintained.
- ✓ Transferable by delivery; interest paid through coupons.

5. Redeemable Debentures

- ✓ Repaid in lump sum or instalments.
- ✓ Most common type.

6. Irredeemable (Perpetual) Debentures

- ✓ Not repaid during the company’s lifetime.
- ✓ Repaid only on liquidation.

7. Convertible Debentures

- ✓ Option to convert into equity shares after a specified period.
- ✓ May be fully convertible or partly convertible.

Accounting for Debentures

1. Bonds vs Debentures

- ✓ Bonds are similar to debentures.
- ✓ Bonds may not carry a predetermined rate (e.g., deep discount or zero coupon bonds).

Deep Discount / Zero Coupon Bonds

- ✓ Issued at heavy discount.

- ✓ No regular interest.
- ✓ Difference between issue price and redemption price is treated as total interest and charged annually to the Statement of Profit and Loss.

2. Issue of Debentures

Debentures may be issued:

- At par
- At premium
- At discount
- For consideration other than cash
- As collateral security

2.1 Issue of Debentures at Par (Journal Entries)

- 1. Bank A/c Dr.
 To 11% Debenture Application A/c
- 2. 11% Debenture Application A/c Dr.
 To 11% Debentures A/c
- 3. 11% Debenture Application A/c Dr.
 To Bank A/c
- 4. 11% Debenture Application A/c Dr.
 To Debenture Allotment A/c
- 5. 11% Debenture Allotment A/c Dr.
 To 11% Debentures A/c
- 6. Bank A/c Dr.
 To 11% Debenture Allotment A/c
- 7. 11% Debenture First Call A/c Dr.
 To 11% Debentures A/c
- 8. Bank A/c Dr.
 To 11% Debenture First Call A/c

2.2 Issue of Debentures at Premium

- ✓ Example: ₹100 debenture issued at ₹110.
- ✓ Premium is capital profit and used to write off capital losses.

Entry:

Debenture Allotment A/c Dr.
To Debentures A/c
To Securities Premium A/c

2.3 Issue of Debentures at Discount

- ✓ Example: ₹100 debenture issued at ₹95.
- ✓ Discount is a capital loss.

Entry:

Securities Premium A/c Dr.
To Discount on Issue of Debentures A/c

3. Over-Subscription

- ✓ When applications exceed debentures offered.
- ✓ Excess money is adjusted towards allotment/calls or refunded.

4. Issue of Debentures for Consideration Other Than Cash

- 1. Assets A/c Dr.
 To Vendor’s A/c
- 2. Vendor’s A/c Dr.
 To Debentures A/c
- 3. Vendor’s A/c Dr.
 To Debentures A/c
 To Securities Premium A/c
- 4. Vendor’s A/c Dr.
 Discount on Issue of Debentures A/c Dr.
 To Debentures A/c

If Purchase Consideration > Net Assets

Difference = Goodwill

If Purchase Consideration < Net Assets

Difference = Capital Reserve

5. Issue of Debentures as Collateral Security

First Method (No entry):

Bank A/c Dr.
To Bank Loan A/c

Second Method:

Debenture Suspense A/c Dr.
To Debentures A/c
On repayment:
Debentures A/c Dr.
To Debenture Suspense A/c

6. Issue and Redemption of Debentures

Case	Issue Price	Redemption Price
At par, redeemable at par	₹100	₹100
At discount, redeemable at par	₹95	₹100
At premium, redeemable at par	₹105	₹100
At par, redeemable at premium	₹100	₹105
At discount, redeemable at premium	₹98	₹105
At premium, redeemable at premium	₹106	₹110

7. Interest on Debentures

- ✓ Charge against profit.
- ✓ Calculated on face value.
- ✓ TDS applicable.

Entries:

Interest on Debentures A/c Dr.
To Debentureholders A/c
To TDS Payable A/c
Debentureholders A/c Dr.
To Bank A/c
TDS Payable A/c Dr.
To Bank A/c
Statement of Profit and Loss A/c Dr.
To Debenture Interest A/c

8. Writing Off Discount / Loss on Issue of Debentures

- ✓ Treated as capital loss.
- ✓ Written off before redemption.

Entry:

Statement of Profit and Loss A/c Dr.
To Discount/Loss on Issue of Debentures A/c

Accounting for Issue of Debentures Considering the Terms and Conditions of Redemption

1. When debentures are issued at par and are redeemable at par:

For example, if a debenture of ₹100 is issued at ₹100 and is redeemable at ₹100, the following entries will be passed:

Entries for Issue:

Bank A/c Dr. 100
To Debenture Application & Allotment A/c 100
Debenture Application & Allotment A/c Dr. 100
To Debentures A/c 100

Entries for Redemption:

Debentures A/c Dr. 100
To Debentureholders A/c 100
Debentureholders A/c Dr. 100
To Bank A/c 100

2. When debentures are issued at a discount and are redeemable at par:

For example, if a debenture of ₹100 is issued at ₹95 and is redeemable at ₹100, the following entries will be passed:

Entries for Issue:

Bank A/c Dr. 95
To Debenture Application & Allotment A/c 95
Debenture Application & Allotment A/c Dr. 95
Discount on Issue of Debentures A/c Dr. 5
To Debentures A/c 100

Entries for Redemption:

Debentures A/c Dr. 100
To Debentureholders A/c 100
Debentureholders A/c Dr. 100
To Bank A/c 100

3. When debentures are issued at a premium and are redeemable at par:

For example, if a debenture of ₹100 is issued at ₹105 and is redeemable at ₹100, the following entries will be passed:

Entries for Issue:

Bank A/c Dr. 105
To Debenture Application & Allotment A/c 105
Debenture Application & Allotment A/c Dr. 105
To Debentures A/c 100
To Securities Premium Reserve A/c 5

Entries for Redemption:

Debentures A/c Dr. 100
To Debentureholders A/c 100
Debentureholders A/c Dr. 100
To Bank A/c 100

4. When debentures are issued at par and are redeemable at a premium:

Sometimes the debentures are issued with the specific condition that the company will pay a premium at the time of their redemption. Although such premium will be paid at the time of actual redemption, but as it is a known loss, the company records such loss at the time of issue by debiting an account called “Loss on Issue of Debentures A/c”. It is done in keeping with the convention of conservatism.

For example, if a debenture of ₹100 is issued at ₹100 and is redeemable at ₹105, the following entries will be passed:

Entries for Issue:

Bank A/c Dr. 100
To Debenture Application & Allotment A/c 100
Debenture Application & Allotment A/c Dr. 100
Loss on Issue of Debentures A/c Dr. 5
To Debentures A/c 100
To Premium on Redemption of Debentures A/c 5

Entries for Redemption:

Debentures A/c Dr. 100
Premium on Redemption of Debentures A/c Dr. 5
To Debentureholders A/c 105
Debentureholders A/c Dr. 105
To Bank A/c 105

5. When debentures are issued at a discount and are redeemable at a premium:

For example, if a debenture of ₹100 is issued at ₹98 and is redeemable at ₹105, the following entries will be passed:

Entries for Issue:

Bank A/c Dr. 98
To Debenture Application & Allotment A/c 98
Debenture Application & Allotment A/c Dr. 98
Loss on Issue of Debentures A/c Dr. 7
To Debentures A/c 100
To Premium on Redemption of Debentures A/c 5

Entries for Redemption:

Debentures A/c Dr. 100
Premium on Redemption of Debentures A/c Dr. 5
To Debentureholders A/c 105

Debentureholders A/c Dr. 105
To Bank A/c 105

6. When debentures are issued at a premium and are redeemable at a premium:

For example, if a debenture of ₹100 is issued at ₹106 and is redeemable at ₹110, the following entries will be passed:

Entries for Issue:

Bank A/c Dr. 106
To Debenture Application & Allotment A/c 106
Debenture Application & Allotment A/c Dr. 106
Loss on Issue of Debentures A/c Dr. 10
To Debentures A/c 100
To Premium on Redemption of Debentures A/c 10
To Securities Premium Reserve A/c 6

Entries for Redemption:

Debentures A/c Dr. 100
Premium on Redemption of Debentures A/c Dr. 10
To Debentureholders A/c 110
Debentureholders A/c Dr. 110
To Bank A/c 110

Solved Examples

Q1. Ram Ltd. issued 5,000, 12% Debentures of ₹100 each, at par, payable as follows:

On Application ₹20; On Allotment ₹20; On First Call ₹30; and On Final Call ₹30.

Public applied for 6,000 debentures. Applications for 4,500 debentures were accepted in full. Applications for 800 debentures were allotted 500 debentures and applications for 700 debentures were rejected. Money overpaid on applications was utilised towards allotment.

Pass journal entries assuming that all moneys due were duly received, except final call on 200 debentures.

Solution:

JOURNAL OF RAM LTD.

Bank A/c Dr. ₹1,20,000
To 12% Debenture Application A/c ₹1,20,000
(Application money received on 6,000 debentures @ ₹20 each)
12% Debenture Application A/c Dr. ₹1,20,000
To 12% Debentures A/c ₹1,00,000
To 12% Debenture Allotment A/c ₹6,000
To Bank A/c ₹14,000
(Application money transferred)
12% Debenture Allotment A/c Dr. ₹1,00,000
To 12% Debentures A/c ₹1,00,000
(Allotment money due on 5,000 debentures @ ₹20 each)
Bank A/c Dr. ₹94,000
To 12% Debenture Allotment A/c ₹94,000
(Balance of allotment money received, i.e., ₹1,00,000 – ₹6,000)
12% Debenture First Call A/c Dr. ₹1,50,000
To 12% Debentures A/c ₹1,50,000
(First Call due)
Bank A/c Dr. ₹1,50,000
To 12% Debenture First Call A/c ₹1,50,000
(First Call money received)
12% Debenture Second & Final Call A/c Dr. ₹1,50,000
To 12% Debentures A/c ₹1,50,000
(Second & Final Call due)
Bank A/c Dr. ₹1,44,000
To 12% Debenture Second & Final Call A/c ₹1,44,000
(Second & Final Call money received on 4,800 debentures @ ₹30 per debenture)

Q2. Mega Ltd. issued 2,500, 15% Debentures of ₹100 each at a discount of 10% payable as follows: ₹25 on application; ₹25 on

allotment and the balance on First Call.

Applications were received for 2,000 debentures and the allotment was made. All the moneys were duly received.

Expenses on issue of debentures amounted to ₹8,000. Directors decided to write off 1/5th of “Expenses on Issue A/c” and “Discount on Debentures A/c” from Statement of Profit and Loss each year.

Pass journal entries (for first year only).

Solution:

JOURNAL OF MEGA LTD.

Bank A/c Dr. ₹50,000
To 15% Debenture Application A/c ₹50,000
(Application money received for 2,000 debentures @ ₹25 each)
15% Debenture Application A/c Dr. ₹50,000
To 15% Debentures A/c ₹50,000
(Application money transferred)
15% Debenture Allotment A/c Dr. ₹50,000
Discount on Debentures A/c Dr. ₹20,000
To 15% Debentures A/c ₹70,000
(Allotment due)
Bank A/c Dr. ₹50,000
To 15% Debentures Allotment A/c ₹50,000
(Amount received on allotment)
15% Debentures First & Final Call A/c Dr. ₹80,000
To 15% Debentures A/c ₹80,000
(First & Final Call due)
Bank A/c Dr. ₹80,000
To 15% Debentures First & Final Call A/c ₹80,000
(Amount received on First & Final Call)
Expenses on Issue A/c Dr. ₹8,000
To Bank A/c ₹8,000
(Expenses paid on issue of debentures)
Statement of Profit & Loss Dr. ₹5,600
To Discount on Debentures A/c ₹4,000
To Expenses on Issue A/c ₹1,600
(1/5 of ‘Discount on Debentures’ and 1/5th of ‘Expenses on Issue’ written off).

MCQs

- The word “Debenture” has its origin in which Latin word?
 - Debit
 - Debitum
 - Debere
 - Debitumus
- Debentures issued by a company signify:
 - Evidence of ownership
 - Proof of income earned
 - A written acknowledgement of borrowing
 - A deposit receipt
- According to the Companies Act, 2013, the maximum maturity period of debentures for a normal company is:
 - 5 years
 - 10 years
 - 15 years
 - 30 years
- The interest payable on debentures is:
 - Paid only when profits are earned
 - Paid every quarter
 - Fixed and payable even in the absence of profits
 - Paid at the company’s choice
- Debenture holders are treated as:
 - Owners of the enterprise
 - Equity shareholders
 - Creditors of the company
 - Members of the board

6. Voting rights are enjoyed by:
 - a) Debenture holders only
 - b) Shareholders only
 - c) Both shareholders and debenture holders
 - d) Neither of the two
7. Debentures that are backed by a charge on company assets are called:
 - a) Unsecured debentures
 - b) Bearer debentures
 - c) Secured or mortgage debentures
 - d) Registered debentures
8. Bearer debentures are those which are:
 - a) Entered in the register of the company
 - b) Transferable only through a legal deed
 - c) Transferable simply by delivery
 - d) Not transferable at all
9. Which category of debentures is repayable only on liquidation of the company?
 - a) Redeemable debentures
 - b) Convertible debentures
 - c) Irredeemable or perpetual debentures
 - d) Bearer debentures
10. Fully convertible debentures can be converted into:
 - a) Preference shares
 - b) Equity shares
 - c) Debenture stock
 - d) Non-convertible instruments
11. Debentures issued at ₹100 and redeemed at ₹105 indicate:
 - a) Issue at discount
 - b) Redemption at discount
 - c) Redemption at premium
 - d) Issue at par
12. Which of the following instruments does not carry a fixed rate of interest?
 - a) Mortgage debenture
 - b) Zero coupon bond
 - c) Convertible debenture
 - d) Bearer debenture
13. Interest on deep discount bonds is:
 - a) Paid monthly
 - b) Paid quarterly
 - c) Not paid at regular intervals
 - d) Paid in advance
14. Issuing debentures to acquire assets instead of cash is termed as:
 - a) Issue as collateral security
 - b) Issue for cash
 - c) Issue for consideration other than cash
 - d) Public issue
15. When debentures are issued at a premium, the premium amount is credited to:
 - a) Bank Account
 - b) Debentures Account
 - c) Debenture Allotment Account
 - d) Securities Premium Account
16. Discount on the issue of debentures is treated as a:
 - a) Revenue loss
 - b) Capital loss
 - c) Interest expense
 - d) Capital gain
17. If applications received exceed the number of debentures offered, the issue is known as:
 - a) Under-subscription
 - b) Full subscription
 - c) Over-subscription
 - d) Deferred issue
18. Under the second method of issuing debentures as collateral security, which account is created?
 - a) Debenture Issue Account
 - b) Debenture Suspense Account
 - c) Bank Loan Account
 - d) Loan Suspense Account
19. Registered debentures are those which are:
 - a) Transferable by delivery
 - b) Issued exclusively to the public
 - c) Recorded in the company's register
 - d) Issued without interest
20. Which of the following is not a feature of debentures?
 - a) Fixed rate of return
 - b) Ownership rights
 - c) Long-term source of finance
 - d) Security against assets
21. In case of issue of debentures at a discount, which account is debited?
 - a) Securities Premium Account
 - b) Discount on Issue of Debentures Account
 - c) Debenture Suspense Account
 - d) Bank Account
22. Which of the following can be issued at a discount as per law?
 - a) Equity shares
 - b) Preference shares
 - c) Debentures
 - d) Sweat equity shares only
23. When goodwill arises on purchase of assets, the accounting entry involves:
 - a) Credit to Goodwill Account
 - b) Debit to Goodwill Account
 - c) Debit to Capital Reserve
 - d) Credit to Vendor's Account
24. Capital reserve is created when:
 - a) Purchase consideration exceeds net assets
 - b) Purchase consideration equals net assets
 - c) Net assets exceed purchase consideration
 - d) Goodwill is written off
25. If a debenture of ₹100 is issued at ₹95, the discount amounts to:
 - a) ₹5
 - b) ₹100
 - c) ₹95
 - d) ₹105
26. In case of over-subscription of debentures, excess application money is:
 - a) Treated as interest income
 - b) Refunded or adjusted
 - c) Ignored
 - d) Added to share capital
27. The correct journal entry for issue of debentures at par is:
 - a) Bank A/c Dr. To Debentures A/c
 - b) Debentures A/c Dr. To Bank A/c
 - c) Debentures A/c Dr. To Vendor's A/c
 - d) Vendor's A/c Dr. To Debentures A/c
28. Issue of debentures at a premium and redemption at par results in:
 - a) Loss on issue
 - b) Discount on issue
 - c) Securities premium
 - d) Debenture suspense
29. Debentures constitute a part of a company's:
 - a) Share capital
 - b) Loan capital
 - c) Working capital
 - d) Fixed capital

30. Interest on debentures is recorded in the accounts as:
- a) Capital expenditure
 - b) Operating income
 - c) Operating expense
 - d) Reserve

5. C	15. D	25. A
6. B	16. B	26. B
7. C	17. C	27. A
8. C	18. B	28. C
9. C	19. C	29. B
10. B	20. B	30. C

ANSWER KEY

1. C	11. C	21. B
2. C	12. B	22. C
3. B	13. C	23. B
4. C	14. C	24. C

CHAPTER – 8:
REDEMPTION OF DEBENTURES

Redemption of Debentures

Redemption of debentures refers to the repayment of the borrowed amount by a company to its debenture holders. According to the Companies Act, 2013, debentures must be redeemed strictly in accordance with the terms and conditions stated in the debenture certificate or the trust deed.

Sources of Finance for Redemption

1. Redemption out of Capital

- No portion of profits is set aside.
- No Debenture Redemption Reserve (DRR) is created.

2. Redemption out of Profits

- Amount is transferred from divisible profits to DRR.
- This reduces the profits available for declaration of dividend.

3. Redemption partly out of Capital and Profits

- A portion is redeemed from profits and the remaining from capital.
- Example: If 10% of outstanding debentures is covered through DRR and 90% through capital.

SEBI Guidelines and Companies Act, 2013

1. Listed Companies

- Not required to create DRR.
- Redemption may be made entirely out of capital.

2. Unlisted Companies

- Required to create DRR equal to 10% of the nominal value of debentures out of profits.
- Remaining amount may be redeemed out of capital.

3. Institutions Exempted from DRR Requirement

- All India Financial Institutions regulated by RBI
- Banking Companies
- Financial Institutions under Section 2(72)
- Housing Finance Companies registered with NHB
- Non-Banking Financial Companies registered with RBI

Transfer of DRR to General Reserve

- After redemption, the proportionate amount of DRR is transferred to General Reserve.
- Example: If total debentures are ₹10,00,000 and DRR is ₹1,00,000, redemption of ₹5,00,000 requires transfer of ₹50,000 to General Reserve.

Mandatory Investment of 15%

(Rule 18(7)(C), Companies Rules, 2014)

- Companies must invest at least 15% of the amount of debentures maturing during the year.
- Such investment must be made by 30th April.
- Investment should be in specified securities and can be used only for redemption purposes.

Companies Exempted from 15% Investment

- All India Financial Institutions regulated by RBI

- Banking Companies
- Financial Institutions under Section 2(72)

Companies Required to Make 15% Investment

- Listed companies (including NBFCs and HFCs)
- Unlisted companies

Methods of Redemption of Debentures

1. Redemption by Lump Sum

- Entire amount is paid on a specified date.
- DRR (10%) is created from divisible profits.
- Full DRR is transferred to General Reserve after redemption.

2. Redemption by Instalments (Draw of Lots)

- Debentures are redeemed in annual instalments.
- Selection of debentures is done by lottery.
- DRR transfer is required every year before redemption.

3. Redemption by Purchase in Open Market

- Permitted if allowed by the Articles of Association.
- Purchased debentures are cancelled immediately.

4. Redemption by Conversion

- Convertible debentures are converted into equity shares or new debentures.

Accounting Entries

1. Transfer to DRR (Unlisted Company – 31st March)

Profit & Loss A/c Dr.

To Debenture Redemption Reserve A/c

2. Investment of 15% (By 30th April)

Debenture Redemption Investment A/c Dr.

To Bank A/c

3. On Encashment of Investment

Bank A/c Dr.

To Debenture Redemption Investment A/c

4. Payment of Debentures

Debentures A/c Dr.

To Debentureholders A/c

Debentureholders A/c Dr.

To Bank A/c

5. Transfer of DRR to General Reserve

Debenture Redemption Reserve A/c Dr.

To General Reserve A/c

Q1. (Question)

Ganga Ltd. (an unlisted company) issued 20,000 6% Debentures of ₹100 each at a premium of 10% on 1st April, 2017 redeemable on March 31, 2022. The issue was all subscribed. It was decided to invest 15% of the face value of debentures to be redeemed towards Debenture Redemption Investment on 30th April, 2021. Investments were encashed and Debentures were redeemed on due date. Record necessary entries for issue and redemption of debentures.

Answer (Journal Entries)

2017 April 1

Bank A/c Dr. ₹22,00,000
 To 6% Debenture Application & Allotment A/c
₹22,00,000
6% Debenture Application & Allotment A/c Dr.
₹22,00,000
 To 6% Debentures A/c ₹20,00,000
 To Securities Premium Reserve A/c ₹2,00,000

2021 March 31

Surplus in Statement of Profit & Loss A/c Dr. ₹2,00,000
 To Debenture Redemption Reserve A/c ₹2,00,000

2021 April 30

Debenture Redemption Investment A/c Dr. ₹3,00,000
 To Bank A/c ₹3,00,000

2022 March 31

Bank A/c Dr. ₹3,00,000
 To Debenture Redemption Investment A/c
₹3,00,000
6% Debentures A/c Dr. ₹20,00,000
 To Debentureholders A/c ₹20,00,000
Debentureholders A/c Dr. ₹20,00,000
 To Bank A/c ₹20,00,000
Debenture Redemption Reserve A/c Dr. ₹2,00,000
 To General Reserve A/c ₹2,00,000

Q2. (Question)

Punjab National Bank issued 10,000, 8% Debentures of ₹50 each at a premium of 8% on June 30, 2010 redeemable on June 30, 2020. The issue was fully subscribed. Record necessary entries for issue and redemption of debentures.

Answer (Journal Entries)

2010 June 30

Bank A/c Dr. ₹5,40,000
 To 8% Debenture Application & Allotment A/c
₹5,40,000
8% Debenture Application & Allotment A/c Dr.
₹5,40,000
 To 8% Debentures A/c ₹5,00,000
 To Securities Premium Reserve A/c ₹40,000

MCQs

- Redemption of debentures refers to:
 - Issuing additional debentures
 - Repayment of the amount borrowed
 - Converting debentures into equity shares
 - Issue of bonus shares
- According to the Companies Act, 2013, debentures must be redeemed in accordance with:
 - Articles of Association
 - Memorandum of Association
 - Debenture certificate or trust deed
 - Information given on the company's website
- In case of redemption out of capital:
 - Debenture Redemption Reserve is created
 - Debenture Redemption Reserve is not created
 - The entire amount is paid from profits
 - Debentures are not redeemed
- Redemption out of profits requires:
 - Creation of Debenture Redemption Reserve
 - No utilisation of profits
 - Conversion of debentures into shares
 - Issue of fresh debentures
- Mixed mode of redemption means redemption is made:
 - Entirely out of capital
 - Entirely out of profits
 - Partly out of profits and partly out of capital
 - Only by issuing new debentures

2020 June 30

8% Debentures A/c Dr. ₹5,00,000
 To Debentureholders A/c ₹5,00,000
Debentureholders A/c Dr. ₹5,00,000
 To Bank A/c ₹5,00,000

Q3. (Question)

On 1st April 2015, Wipro Ltd., which is listed on the stock exchange, issued 10,000, 10% Debentures of ₹100 each at a discount of 4%, redeemable at a premium of 5% after 5 years. The issue was fully subscribed. Debentures were redeemed on due date. Pass necessary entries for issue and redemption of debentures, assuming that the loss on issue was written off at the end of first year.

Answer (Journal Entries)

2015 April 1

Bank A/c Dr. ₹9,60,000
 To Debenture Application & Allotment A/c
₹9,60,000
Debenture Application & Allotment A/c Dr. ₹9,60,000
Loss on Issue of Debentures A/c Dr. ₹90,000
 To 10% Debentures A/c ₹10,00,000
 To Premium on Redemption of Debentures A/c
₹50,000

2016 March 31

Statement of Profit & Loss A/c Dr. ₹90,000
 To Loss on Issue of Debentures A/c ₹90,000

2019 April 30

Debenture Redemption Investment A/c Dr. ₹1,50,000
 To Bank A/c ₹1,50,000

2020 March 31

Bank A/c Dr. ₹1,50,000
 To Debenture Redemption Investment A/c
₹1,50,000
10% Debentures A/c Dr. ₹10,00,000
Premium on Redemption of Debentures A/c Dr. ₹50,000
 To Debentureholders A/c ₹10,50,000
Debentureholders A/c Dr. ₹10,50,000
 To Bank A/c ₹10,50,000

6. Listed companies are:

- Required to create Debenture Redemption Reserve
- Not required to create Debenture Redemption Reserve
- Required to create DRR of 25%
- Required to redeem debentures only through conversion

7. Unlisted companies are required to create DRR equal to:

- 25%
- 15%
- 10%
- 5%

8. Debenture Redemption Reserve is created out of:

- Share capital
- Debentures
- Divisible profits
- Borrowed funds

9. After debentures are redeemed, DRR is:

- Written off
- Converted into shares
- Transferred to General Reserve
- Paid back to shareholders

10. If debentures worth ₹5,00,000 are redeemed and DRR amounts to ₹1,00,000, the amount transferred to General Reserve will be:

- ₹1,00,000
- ₹50,000

- (c) ₹25,000
(d) ₹10,000
11. Rule 18(7)(C) requires investment of:
(a) 10%
(b) 15%
(c) 5%
(d) 25%
12. The required 15% investment must be made on or before:
(a) 31st March
(b) 1st April
(c) 30th April
(d) 15th May
13. The mandatory 15% investment is to be made in:
(a) Any government development project
(b) Specified approved securities
(c) Gold or real estate
(d) Shares of the issuing company
14. Which of the following is exempted from creation of DRR?
(a) Listed companies
(b) Private companies
(c) Banking companies
(d) Partnership firms
15. DRR is not required to be created by:
(a) Public unlisted companies
(b) Housing Finance Companies
(c) Private companies
(d) Listed NBFCs
16. The method under which debentures are redeemed in a single payment is known as:
(a) Conversion method
(b) Lump sum payment method
(c) Instalment payment method
(d) Buy-back method
17. Instalment method of redemption generally involves:
(a) No creation of DRR
(b) Arbitrary cancellation
(c) Selection through draw of lots
(d) Conversion into equity shares
18. Under draw of lots method, debentures are selected:
(a) Alphabetically
(b) In serial order
(c) By lottery system
(d) On the basis of seniority
19. Purchase of debentures from the open market is allowed only if it is:
(a) Permitted by the Memorandum of Association
(b) Permitted by the Articles of Association
(c) Approved by the government
(d) Recommended by the auditor
20. Debentures purchased by the company from the open market are:
(a) Reissued
(b) Shown as investment
(c) Cancelled
(d) Sold to shareholders
21. The conversion method of redemption applies to:
(a) Convertible debentures
(b) Non-convertible debentures
(c) Preference shares
(d) Bank borrowings

22. The journal entry passed on 31st March for transfer to DRR is:
(a) DRR A/c Dr. To Profit & Loss A/c
(b) Profit & Loss A/c Dr. To DRR A/c
(c) Profit & Loss A/c Dr. To General Reserve A/c
(d) Debenture A/c Dr. To Profit & Loss A/c
23. The journal entry for making the 15% investment is:
(a) Bank A/c Dr. To DRR Investment A/c
(b) DRR Investment A/c Dr. To Bank A/c
(c) DRR A/c Dr. To Bank A/c
(d) DRR A/c Dr. To Investment A/c
24. The journal entry for encashment of investment is:
(a) Investment A/c Dr. To Debenture A/c
(b) Investment A/c Dr. To Bank A/c
(c) Bank A/c Dr. To DRR Investment A/c
(d) Bank A/c Dr. To DRR A/c
25. The correct entry for payment of debentures is:
(a) Debentureholders A/c Dr. To Bank A/c
(b) Debentures A/c Dr. To Debentureholders A/c
(c) Both (a) and (b)
(d) None of these
26. Transfer of DRR to General Reserve is recorded as:
(a) DRR A/c Dr. To General Reserve A/c
(b) General Reserve A/c Dr. To DRR A/c
(c) Profit & Loss A/c Dr. To General Reserve A/c
(d) DRR A/c Dr. To Profit & Loss A/c
27. Debenture Redemption Reserve is created:
(a) After redemption of debentures
(b) Before redemption of debentures
(c) Only in case of listed companies
(d) Only after completion of audit
28. Creation of DRR results in reduction of:
(a) Share capital
(b) Distributable profits
(c) Total assets
(d) Total liabilities
29. Redemption of debentures is compulsory:
(a) Only when DRR is created
(b) According to the terms of issue
(c) Only if the company earns profit
(d) Only for public limited companies
30. DRR stands for:
(a) Debenture Redemption Record
(b) Debenture Reserve Ratio
(c) Debenture Redemption Reserve
(d) Debenture Return Reserve

Answer Key

1. B	11. B	21. A
2. C	12. C	22. B
3. B	13. B	23. B
4. A	14. C	24. C
5. C	15. C	25. C
6. B	16. B	26. A
7. C	17. C	27. B
8. C	18. C	28. B
9. C	19. B	29. B
10. A	20. C	30. C

CHAPTER – 9: FINANCIAL STATEMENTS OF NOT-FOR-PROFIT ORGANISATIONS

Meaning of Not-For-Profit Organisation

- **Profit vs Service Motive:** Business organizations aim to earn profit, but **Not-For-Profit Organisations (NPOs)** are formed **to serve society or their members**, not to earn profit.
- **Objective:** Their main goal is to provide services (like education, health, welfare) rather than generating income.
- **Capital Fund:** Funds raised are recorded as **Capital Fund/General Fund**.
- **Sources of Income:**
 - Membership subscriptions
 - Donations
 - Grants
 - Income from investments
- **Accounting:** NPOs maintain records to:
 - Meet **statutory/legal requirements**
 - **Monitor fund usage**
 - Prepare **financial statements** at year-end for submission to authorities like the **Registrar of Societies**

Characteristics of Not-for-Profit Organisations

1. **Service Motive**
 - Aim is to provide services either **free or at nominal charges** (e.g., schools, hospitals).
2. **Form of Organisation**
 - Usually set up as **Trusts or Societies**
 - Members subscribe to the objective of the organisation
3. **Management**
 - Managed by an **elected committee** (e.g., Managing/Executive Committee)
4. **Sources of Income**
 - **Member subscriptions**
 - **Life-membership fees**
 - **Government grants (Grant-in-Aid)**
 - **Donations**
 - **Legacies** (gifts made through wills)
 - **Income from investments**
5. **Separate Legal Entity**
 - Treated as **distinct from its members**
 - Not affected by **admission, death, or insolvency** of members
6. **Surplus Treatment**
 - Any **excess of income over expenditure** is **added to Capital/General Fund**
 - **Not distributed** as profit among members
7. **Form of Accounts**
 - Prepare:
 - **Receipts & Payments Account**
 - **Income & Expenditure Account**
 - **Balance Sheet** (same as business organisations)
 - Do **not prepare** Trading A/c or Profit & Loss A/c
8. **Accounting Requirement**
 - Proper books are maintained for:
 - **Legal compliance**
 - **Fund control & transparency**

Distinction: Not-for-Profit vs Profit-Earning Organisations

Basis	Not-for-Profit Organisation	Profit-Earning Organisation
1. Primary Motive	The main objective is to	The main objective is to earn profits.

	provide service to the community.	
2. Capital Fund vs Capital Account	Do not maintain a capital account. Instead, maintain a Capital Fund comprising life membership fees, donations, legacies, and surpluses.	Maintain a Capital Account representing owner’s investment.
3. Financial Statements	(i) Receipts & Payments A/c (ii) Income & Expenditure A/c (iii) Balance Sheet	(i) Manufacturing A/c (ii) Trading A/c (iii) Profit & Loss A/c (iv) Balance Sheet
4. Surplus vs Profit	The net result is Surplus or Deficit (from Income & Expenditure A/c).	The net result is Profit or Loss (from Profit & Loss A/c).
5. Distribution of Profit	Surplus is not distributed. It is added to the Capital Fund .	Profit is distributed among the owners of the business.

Accounting Records of Not-for-Profit Organisations

- These organisations are not involved in trading; their income comes mainly from:
 - Subscriptions
 - Donations
 - Grants from government
- Major transactions are in **cash** or **bank**.
- Maintain:
 - **Cash Book:** To record all receipts and payments.
 - **Ledger Accounts:** For all incomes, expenses, assets, and liabilities.
 - **Stock Register:** To record fixed assets and consumables.
- Instead of a Capital Account, they maintain a **Capital Fund**, which increases through surpluses, life membership fees, donations, etc.

Final Accounts of Not-for-Profit Organisations

- These organisations **do not prepare** Trading or P&L Account.
- They prepare the following to assess financial performance:
 1. **Receipts and Payments Account**
 2. **Income and Expenditure Account**
 3. **Balance Sheet**
- General accounting principles are applicable.
- A **Trial Balance** is also prepared to ensure accuracy and aid in final accounts preparation.

Receipts and Payments Account: Meaning & Features

It is a **summary of cash and bank transactions** during an accounting period, classified under proper heads.

Features:

1. **Real Account:** Follows the rule – *Debit what comes in, Credit what goes out.*
2. **Opening Balance:** Starts with opening cash/bank balances.
 - Overdraft is shown on the **credit side**.
3. **Debit Side (Receipts):**
 - All cash/bank receipts are recorded here.
 - No distinction is made between **capital** or **revenue** nature or **time period**.

4. **Credit Side (Payments):**
 - All payments, whether capital or revenue, are recorded here.
5. **Closing Balance:**
 - Represents cash in hand/bank at the end.
 - If overdraft, shown on **debit side**.
6. **Non-Cash Items Not Shown:**
 - E.g., depreciation, outstanding expenses, etc.
7. **Purpose:**
 - Does **not** show surplus or deficit.
 - Used to prepare Income & Expenditure A/c with necessary adjustments.

Income and Expenditure Account (Not-for-Profit Organisations)

- **Definition:** It is a **nominal account** prepared by Not-for-Profit Organisations. It is similar to the **Profit and Loss Account** used in trading businesses.
- **Purpose:** To show **surplus (excess of income over expenditure)** or **deficit (excess of expenditure over income)** for an accounting period.
- **Basis of Accounting:** Prepared on an **accrual basis** — only **revenue items** of the current period are recorded.

Features:

1. **Nominal Account**
 - Follows the rule:
“**Debit all expenses and losses, Credit all incomes and gains.**”
2. **Only Revenue Items Recorded**
 - Capital items are **ignored**.
Example: Sale of furniture is not recorded, but profit/loss on sale is.
3. **Cash & Bank Balances Not Shown**
 - **Opening and closing balances** of cash and bank are not recorded.
4. **Adjustments Made**
 - Similar to Profit & Loss Account.
Includes depreciation, accrued income, outstanding expenses, etc.
5. **Only Current Period Items Considered**
 - **No previous or future period items** are included.
6. **Final Result – Surplus or Deficit**
 - **Surplus** (Credit > Debit) is **added** to Capital Fund.
 - **Deficit** (Debit > Credit) is **deducted** from Capital Fund.

Preparation of Balance Sheet for Not-for-Profit Organisations

- Purpose: To ascertain the financial position of the organisation at the end of the accounting period.
- Structure: Assets are shown on the right-hand side
- Liabilities are shown on the left-hand side
- Capital is replaced by Capital Fund / General Fund

Distinction between Income & Expenditure Account and Receipts & Payments Account

Basis of Distinction	Income and Expenditure Account	Receipts and Payments Account
Nature	Similar to Profit & Loss Account of a profit-oriented entity	Summary of Cash Book

Sides	Debit side: Expenses & Losses Credit side: Incomes & Gains	Debit side: Receipts Credit side: Payments
Type of Account	Nominal Account	Real Account
Opening Balance	No opening balance	Starts with cash & bank balances
Closing Balance	Indicates surplus or deficit	Shows closing cash/bank or bank overdraft
Items Recorded	Only revenue items	Both capital and revenue items
Period Covered	Current year only (accrual basis)	All receipts/payments irrespective of period (cash basis)
Adjustments	Adjustments (like outstanding, prepaid, etc.) are considered	No adjustments are made
Balance Sheet	Accompanied by Balance Sheet	May not be accompanied
Transfer of Closing Balance	Transferred to Capital Fund	Transferred to next period’s opening balance

Treatment of Specific Items in Balance Sheet

Assets Side

1. Fixed Assets:
 - Adjust for purchases, sales, and depreciation
 - Purchases are taken from the credit side of Receipts & Payments A/c
 - Sale proceeds are taken from the debit side of Receipts & Payments A/c
 - Depreciation is deducted from the asset value
2. Other Assets:
 - Prepaid Expenses
 - Accrued Incomes
 - Investments
 - Cash & Bank Balance (as per Receipts & Payments A/c)

Liabilities Side

1. Capital Fund / General Fund:
 - Opening balance is given or derived from opening Balance Sheet
 - Add: Surplus from Income & Expenditure A/c
 - Less: Deficit from Income & Expenditure A/c
2. Outstanding Expenses:Expenses due but not yet paid
 - Shown as a liability
3. Income Received in Advance:
 - Income received for the next accounting period
 - Shown as a liability
4. Specific Funds:
 - Examples: Prize Fund, Sports Fund, Building Fund
 - Shown separately on the liabilities side
 - Related investments (if any) shown on assets side
5. Loans and Other Liabilities:
 - Bank Loan
 - Creditors for expenses
 - Any other outstanding liability

1. **Loans:**

- Check old and new loans (Receipts & Payments A/c)
- Show net amount on liabilities side

2. **Special Receipts/Funds:**

- Donations for specific purposes (e.g. building)
- Prize Fund, Tournament Fund, etc.

3. **Other Liabilities:**

- Outstanding Expenses
 - Unearned Incomes (advance incomes)
4. **Capital Fund:**
- Opening Capital Fund = Opening Assets – Opening Liabilities
 - Add surplus or deduct deficit (from Income & Expenditure A/c)
 - Show net Capital Fund on liabilities side

Important Items Relating to Non-Profit Organisations

1. Subscription

- Main income source for NPOs.
- Appears on **debit side** of Receipts & Payments A/c.
- Only **current year’s subscription** goes to **credit side** of Income & Expenditure A/c.

2. Life Membership Fees

- One-time fee for lifelong membership.
- **Non-recurring** nature.
- Shown in **Receipts & Payments A/c (receipt side)**.
- Added to **Capital Fund** in Balance Sheet.
- **Not** credited to Income & Expenditure A/c.

3. Endowment Fund

- Gift/bequest with income for a specific purpose.
- Treated as **capital receipt**.
- Shown on **liabilities side** of Balance Sheet.

4. Entrance Fees (Admission Fees)

- Paid once at the time of becoming a member.
- **Two treatments:**
 - If **large & non-recurring**: Added to Capital Fund.
 - If **small & recurring**: Treated as revenue income.
- Always shown on **receipt side** of Receipts & Payments A/c.
- If no instruction: treat as **revenue income**.

5. Donations

- Gift in cash/property.
- Shown on **receipt side** of Receipts & Payments A/c.
- **Types:**
 - **Specific Donation** (e.g., building, lab): **Capital Receipt** → Shown in liabilities.
 - **General Donation:**
 - **Large Amount:** Capital Receipt → Liabilities side.
 - **Small Amount:** Revenue Receipt → Income side of Income & Expenditure A/c.

6. Legacies

- Gift received through a will.
- **Rare and non-recurring** → Capital nature.
- Appears on **receipt side** and added to Capital Fund in Balance Sheet.
- **Small legacies** can be treated as income.

7. Sale of Old Assets

- Capital Receipt → **Receipts & Payments A/c** (receipt side).
- **Profit/Loss** from sale goes to **Income & Expenditure A/c**.

8. Sale of Old Newspapers & Sports Material

- **Regular income** → Revenue receipt.
- Shown in **credit side** of Income & Expenditure A/c.

9. Payment of Honorarium

- Payment for specific services (not regular employment).
- Treated as **expenditure** → **Debit side** of Income & Expenditure A/c.

General & Specific Funds

- No Capital A/c in NPOs.

- Difference between assets & liabilities = **Capital Fund**.
- Capital Fund is also called **General Fund**.
- Specific Funds (e.g., Tournament, Charity Fund) shown in **liabilities**, after deducting related expenses.

Preparation of Accounts

1. Opening Balance Sheet

- Prepared to determine **opening Capital Fund**.

2. Income & Expenditure Account

- Similar to Profit & Loss A/c.
- Only **revenue items** included.

3. Closing Balance Sheet

- Prepared using:
 - Closing cash/bank balances.
 - Capital & revenue classification of receipts and payments.

Classification of Receipts (from Receipts & Payments A/c)

A. Capital Receipts

- Non-recurring; benefits extend beyond current year.
- Shown on **liabilities side**:
 - Life Membership Fee
 - Endowment Fund
 - Specific Donations
 - Legacies
 - Sale of Assets (except profit/loss)

B. Revenue Receipts

- Recurring; benefits for current year only.
- Shown in **Income & Expenditure A/c (credit side)**:
 - Subscriptions
 - Rent, Interest, Entrance Fees
 - Sale of old newspapers/materials

Subscription Adjustments

Treatment of Subscriptions (Quick Adjustment Table)

Type	Adjustment in Income & Expenditure A/c	Treatment in Balance Sheet
Subscription Outstanding (End)	Add	Shown as Asset
Subscription Outstanding (Start)	Deduct	Shown as Asset (Opening)
Subscription Received in Advance (End)	Deduct	Shown as Liability
Subscription Received in Advance (Start)	Add	Shown as Liability (Opening)

One-Line Logic (Very Important)

- **Outstanding** = income earned but not received → **Asset**
- **Advance** = income received but not earned → **Liability**

Memory Trick for Exams

End adjustments affect **current year income**

Start adjustments remove **previous year effects**

Outstanding → Think “**due**” → Asset

Advance → Think “**extra received**” → Liability

Classification of Payments (from Receipts & Payments A/c)

A. Capital Expenditure

- Benefits for multiple years (e.g., assets).
- Shown on **assets side** of Balance Sheet (after depreciation).

B. Revenue Expenditure

- For current year’s functioning.
- Shown in **Income & Expenditure A/c (debit side)**.

Examples:

Outstanding Expenses

Add: Outstanding (End)

Less: Outstanding (Start)

= Net expense to be transferred to I&E A/c

- Outstanding (End): Shown in **Closing Balance Sheet (liability)**.
- Outstanding (Start): Shown in **Opening Balance Sheet (liability)**.

Prepaid Expenses

Less: Prepaid (End)

Add: Prepaid (Start)

= Net expense to be transferred to I&E A/c

- Prepaid (End): **Asset in Closing Balance Sheet**.
- Prepaid (Start): **Asset in Opening Balance Sheet**.

Surplus / Deficit

- **Surplus** (Income > Expenditure): Added to Capital Fund.
- **Deficit** (Expenditure > Income): Deducted from Capital Fund.

Cost of Consumable Goods (e.g., stationery, medicines)

= Payment during year

+ Opening Stock

- Closing Stock

= Expense to be shown in I&E A/c

- Opening Stock: **Asset in Opening Balance Sheet**.
- Closing Stock: **Asset in Closing Balance Sheet**.

Key Rules for Not-for-Profit Organisations

(based on the solved examples you shared)

1. Specific Funds

- Examples: Sports Fund, Prize Fund, Building Fund
- Shown on the **Liabilities side** of the Balance Sheet
- Treated **separately** from Capital Fund
- Related income and expenses are **adjusted in the fund itself**, not in Income & Expenditure A/c

Add to Specific Fund:

- Donations for that fund
- Interest on fund investments
- Accrued interest (if any)

Less from Specific Fund:

- Expenses or prizes related to that fund

Related investments appear on the **Assets side**

2. Interest on Specific Fund Investments

- Total interest is calculated on investment value
- Interest **received** appears in Receipts & Payments A/c
- Balance interest is treated as **Interest Accrued**

MCQs

1. The primary aim of a Not-for-Profit Organisation is to:
 - a) Earn the highest possible profit
 - b) Serve society
 - c) Increase the owners' wealth
 - d) Carry on trading activities
2. Instead of a Capital Account, Not-for-Profit Organisations maintain a:
 - a) General Reserve
 - b) Profit Account
 - c) Capital Fund
 - d) Equity Share Capital
3. Which of the following does **not** constitute income for an NPO?
 - a) Donations
 - b) Sale of goods
 - c) Subscriptions
 - d) Government grants
4. Financial statements of an NPO include all of the following except:
 - a) Receipts and Payments Account
 - b) Income and Expenditure Account

Accounting treatment:

- Add total interest (received + accrued) to the Specific Fund
- Show accrued interest on the Assets side

3. When No Specific Fund Exists

- Example: Prizes awarded without a Prize Fund
- Expense is charged to **Income & Expenditure A/c**
- No Balance Sheet adjustment for fund

4. Subscriptions

Income for the year =

Subscriptions received

- Outstanding at end
 - Outstanding at beginning
- Advance at beginning
 - Advance at end

Balance Sheet treatment:

- Outstanding subscriptions → Asset
- Subscriptions received in advance → Liability

5. Life Membership Fees

- Treated as **Capital receipt**
- Shown on the **Liabilities side**
- Not credited to Income & Expenditure A/c

6. Sale of Fixed Assets

- Cash received shown in Receipts & Payments A/c
- Profit or loss transferred to Income & Expenditure A/c
- Asset removed from Balance Sheet at book value

7. Outstanding and Accrued Items

Outstanding Expenses:

- Added to expense in Income & Expenditure A/c
- Shown as Liability

Accrued Income:

- Added to income
- Shown as Asset

8. Opening Capital Fund

Capital Fund = Total Assets – Total Liabilities

(prepared through Opening Balance Sheet)

9. Stationery / Consumable Items

Stationery Consumed =

Opening Stock

- Purchases
 - Closing Stock

- Creditors ignored if purchases figure is given

10. Final Flow in Exam

1. Prepare Opening Balance Sheet
2. Prepare Income & Expenditure A/c
3. Find Surplus or Deficit
4. Adjust Capital Fund
5. Prepare Closing Balance Sheet

- c) Balance Sheet
- d) Trading Account
5. Which account records only cash and bank transactions of an NPO?
 - a) Profit and Loss Account
 - b) Income and Expenditure Account
 - c) Receipts and Payments Account
 - d) Capital Fund Account
6. Which of the following is classified as a real account?
 - a) Capital Fund Account
 - b) Income and Expenditure Account
 - c) Receipts and Payments Account
 - d) Subscription Account
7. A Receipts and Payments Account begins with:
 - a) Opening Capital Fund
 - b) Surplus or Deficit
 - c) Opening cash or bank balance
 - d) Outstanding subscriptions
8. In the Receipts and Payments Account, bank overdraft is shown on the:
 - a) Debit side
 - b) Credit side
 - c) Asset side
 - d) Liability side
9. The Income and Expenditure Account records:
 - a) Only cash-based entries
 - b) Capital receipts only
 - c) Revenue items on accrual basis
 - d) Only capital payments
10. Subscription received in advance is treated as a:
 - a) Asset
 - b) Revenue
 - c) Liability
 - d) Income
11. Income and Expenditure Account is a:
 - a) Real account
 - b) Personal account
 - c) Nominal account
 - d) Capital account
12. Which item is **not** included in the Income and Expenditure Account?
 - a) Depreciation
 - b) Accrued subscription
 - c) Capital purchases
 - d) Outstanding salary
13. Surplus shown by the Income and Expenditure Account is transferred to the:
 - a) Reserve Fund
 - b) Profit Account
 - c) Capital Fund
 - d) Income Account
14. The management of an NPO is generally carried out by a:
 - a) Board of Directors
 - b) Managing Committee
 - c) Body of shareholders
 - d) Board of Trustees
15. A Trust is an example of a:
 - a) Profit-oriented enterprise
 - b) Company
 - c) Not-for-Profit Organisation
 - d) Government undertaking
16. Accrual basis of accounting is followed in the:
 - a) Receipts and Payments Account
 - b) Balance Sheet
 - c) Income and Expenditure Account
 - d) Cash Book
17. Which of the following is **not** a characteristic of a Receipts and Payments Account?
 - a) Shows surplus or deficit
 - b) Summarises cash and bank receipts
 - c) Excludes non-cash items
 - d) Includes both capital and revenue items
18. Donation received for construction of a building is treated as a:
 - a) Capital receipt
 - b) Revenue income
 - c) Expense
 - d) Deficit
19. The balance of the Receipts and Payments Account represents the:
 - a) Cash surplus
 - b) Closing stock
 - c) Closing cash or bank balance
 - d) Net profit
20. Outstanding expenses are shown in the:
 - a) Receipts and Payments Account
 - b) Cash Book
 - c) Balance Sheet
 - d) Subscription Account
21. Depreciation is recorded in the:
 - a) Receipts and Payments Account
 - b) Income and Expenditure Account
 - c) Cash Book
 - d) Ledger
22. A Trial Balance is prepared to:
 - a) Determine profit
 - b) Show receipts
 - c) Verify arithmetical accuracy
 - d) Ascertain surplus
23. Not-for-Profit Organisations are required to submit accounts to the:
 - a) Income Tax Department
 - b) Registrar of Societies
 - c) Ministry of Finance
 - d) Reserve Bank of India
24. Which of the following is treated as a capital item?
 - a) Entrance fee
 - b) Sale of old newspapers
 - c) Donation towards building fund
 - d) Annual subscription
25. Receipts and Payments Account closely resembles a:
 - a) Balance Sheet
 - b) Trial Balance
 - c) Cash Book
 - d) Profit and Loss Account
26. Which item is excluded from the Receipts and Payments Account?
 - a) Salary paid
 - b) Donation received
 - c) Outstanding expenses
 - d) Entrance fees received
27. Sale of fixed assets is recorded in the:
 - a) Balance Sheet
 - b) Income and Expenditure Account
 - c) Receipts and Payments Account
 - d) Trial Balance
28. Life membership fees are regarded as:
 - a) Revenue income
 - b) Capital receipt
 - c) Deficit
 - d) Liability
29. A specific donation received for sports equipment appears under:
 - a) Income and Expenditure Account

- b) Profit and Loss Account
 - c) Capital Fund
 - d) Liabilities side of Balance Sheet
30. Accrued subscription is considered as:
- a) Revenue expense
 - b) Outstanding income
 - c) Capital income
 - d) Asset

1. B	11. C	21. B
2. C	12. C	22. C
3. B	13. C	23. B
4. D	14. B	24. C
5. C	15. C	25. C
6. D	16. C	26. C
7. C	17. A	27. C
8. B	18. A	28. B
9. C	19. C	29. D
10. C	20. C	30. D

Answer Key

CHAPTER – 10:

Financial Statements of Companies

Financial Statements – Fundamentals

- Financial statements are the **final output** of the accounting process.
- They are prepared at the end of an accounting period to show:
 - **Financial position** on a particular date
 - **Business performance** (profit/loss) for the period

As per Section 2(40) of the Companies Act, 2013, Financial Statements include:

1. Balance Sheet
2. Statement of Profit and Loss
3. Notes to Accounts
4. Cash Flow Statement
5. Explanatory Notes

Objectives of Financial Statements

1. To present a **true and fair view** of:
 - Financial performance (profit or loss)
 - Financial position (assets, liabilities, equity)

Characteristics of Financial Statements

- **Historical in nature** (based on past records)
- Prepared in **monetary terms**
- Help in knowing:
 - **Profitability** (from Statement of Profit & Loss)
 - **Financial position** (from Balance Sheet)

Nature of Financial Statements

1. **Recorded facts:** based on actual accounting records (like cash, bank, etc.)
2. **Accounting conventions:** follow principles such as conservatism (inventory at cost or NRV, whichever is lower)
3. **Personal judgement:** used where estimates are needed (like choosing depreciation method)

Balance Sheet (Schedule III, Companies Act, 2013 – Part I)

- Shows **assets, liabilities and equity** on a specific date
- Only **vertical format** is used

Format / Structure of Balance Sheet

1) Equity and Liabilities

(a) Shareholders’ Funds

(i) Share Capital

- **Authorised capital:** maximum limit as per MOA
- **Issued capital:** offered for subscription
- **Subscribed capital:** actually subscribed by the public
 - Fully paid-up
 - Not fully paid-up (calls unpaid)
- **Forfeited shares** are added to subscribed capital

(ii) Reserves and Surplus

- Reserves: Capital Reserve, Securities Premium, Revaluation Reserve, etc.
- Surplus: retained profit after appropriations
- Debit balance of P&L means **negative surplus**

(iii) Money received against Share Warrants

- Amount received for an option to buy equity shares later at a fixed price

(b) Share Application Money Pending Allotment

- **Non-refundable** amount is shown here
- **Refundable** amount is shown under **Other Current Liabilities**

2) Non-Current Liabilities

Liabilities not payable within 12 months. Includes:

1. **Long-term borrowings:** term loans, bonds, deposits
2. **Deferred tax liabilities (net):** when accounting income > taxable income
3. **Other long-term liabilities:** e.g., premium payable on redemption
4. **Long-term provisions:** gratuity, leave encashment, etc.

3) Current Liabilities

A liability is current if it:

- is expected to be settled in the **operating cycle**, or
- is held mainly for trading, or
- is payable within **12 months**, or
- the company does not have an unconditional right to defer settlement beyond 12 months

Note: Settlement through issue of equity does not change classification.

Operating cycle: time between purchase of assets and realization in cash. If not known, assume **12 months**.

Components of Current Liabilities

1. **Short-term borrowings** (due within 12 months)
 - loans repayable on demand
 - bank overdraft/cash credit
 - deposits and other short-term loans
2. **Trade payables:** dues for goods/services in normal business
3. **Other current liabilities** include:
 - current maturities of long-term debt
 - interest accrued (due/not due)
 - income received in advance
 - unpaid dividend
 - refundable excess application money
 - matured deposits/debentures unpaid + interest
 - outstanding expenses, unclaimed dividends, VAT payable, etc.
4. **Short-term provisions** (expected within 12 months)
 - provision for doubtful debts

- employee benefit provisions (due within 12 months)
- proposed dividend, tax provision, warranty, etc.

Rule:

- If amount is definite → **liability**
- If uncertain → **provision**

2) Assets

(A) Non-Current Assets

1. Fixed Assets

(i) Tangible assets (physical)

- land, building, plant, furniture, vehicles, computers, etc.

(ii) Intangible assets (no physical form)

- goodwill, trademarks, software, patents, copyrights, licenses

(iii) Capital work-in-progress

- under-construction tangible assets

(iv) Intangible assets under development

- in-progress intangible assets

2. Non-current investments

- not meant for resale
- trade investments (for business relations) and other investments (property, shares, bonds, mutual funds, etc.)

3. Deferred tax assets (net)

- when accounting income < taxable income

4. Long-term loans and advances

- recoverable after 12 months
- capital advances, security deposits (electricity/telephone, etc.)

5. Other non-current assets

- trade receivables due after 12 months
- unamortized expenses like share issue expenses

(B) Current Assets

An asset is current if it:

- will be realized in the operating cycle, or
- is held for trading, or
- will be realized within 12 months, or
- is cash/cash equivalent and not restricted

Types of Current Assets

1. **Current investments:** realizable within 12 months
2. **Inventories:** raw material, WIP, finished goods, stock-in-trade, stores/spares, loose tools, goods in transit
3. **Trade receivables:** debtors and bills receivable (collectible within 12 months)
4. **Cash and cash equivalents (AS-3):** highly liquid items
 - cash in hand, bank balances, cheques/drafts in hand, etc.
5. **Short-term loans and advances:** recoverable within 12 months
6. **Other current assets:** prepaid expenses, interest accrued, advance tax, short-term unamortized expenses

Contingent Liabilities

- Possible obligations depending on future events
- Not recorded in the balance sheet, only disclosed in **Notes to Accounts**

Examples:

1. Claims not accepted as debt
2. Guarantees given by the company
3. Any other possible liabilities

Commitments

- Future obligations based on agreements
- Disclosed in Notes to Accounts (not shown in main balance sheet)

Types:

1. Capital contracts remaining to be executed (not provided for)
2. Uncalled liability on shares/partly paid investments
3. Arrears of dividend on cumulative preference shares and other commitments

Statement of Profit and Loss (Schedule III – Part II)

- Shows business performance for the year
- Includes income earned and expenses incurred
- Helps determine net profit or net loss

FORMAT OF BALANCE SHEET

(As per Schedule III, Companies Act, 2013 – Part I)

Name of the Company _____

Balance Sheet as at _____

(₹ in _____)

Particulars Note No. Current Year Previous Year

I. EQUITY AND LIABILITIES

1. Shareholders' Funds

- (a) Share Capital
- (b) Reserves and Surplus
- (c) Money received against share warrants

2. Share Application Money Pending Allotment

3. Non-Current Liabilities

- (a) Long-term borrowings
- (b) Deferred tax liabilities (net)
- (c) Other long-term liabilities
- (d) Long-term provisions

4. Current Liabilities

- (a) Short-term borrowings
- (b) Trade payables
- (c) Other current liabilities
- (d) Short-term provisions

TOTAL

II. ASSETS

1. Non-Current Assets

- (a) Fixed Assets
 - (i) Tangible assets
 - (ii) Intangible assets
 - (iii) Capital work-in-progress
 - (iv) Intangible assets under development
- (b) Non-current investments
- (c) Deferred tax assets (net)
- (d) Long-term loans and advances
- (e) Other non-current assets

2. Current Assets

- (a) Current investments
- (b) Inventories
- (c) Trade receivables
- (d) Cash and cash equivalents
- (e) Short-term loans and advances
- (f) Other current assets

TOTAL

STATEMENT OF PROFIT & LOSS

(Schedule III – Part II)

For the year ended _____
(₹ in _____)

| Particulars | Note No. | Current Year | Previous Year |

I. Revenue from Operations

II. Other Income

III. Total Revenue (I + II)

IV. Expenses

- Cost of materials consumed
- Purchases of stock-in-trade

- Change in inventories
- Employee benefit expenses
- Finance costs
- Depreciation and amortisation
- Other expenses

Total Expenses

V. Profit before Tax (III – IV)

VI. Tax Expense

VII. Profit after Tax (V – VI)

Multiple Choice Questions (MCQs)

- Financial statements are prepared at the close of:
 - Each month
 - Each week
 - An accounting period
 - Only the financial year
- Financial statements present information relating to:
 - Inventory position only
 - Cash movements only
 - Financial position and operating performance
 - Tax obligations
- Which of the following does **not** form part of financial statements under Section 2(40) of the Companies Act, 2013?
 - Balance Sheet
 - Statement of Profit and Loss
 - Directors' Report
 - Cash Flow Statement
- The Balance Sheet mainly reflects the:
 - Net sales of the business
 - Financial position of the company
 - Daily operating expenses
 - Investment details alone
- The Statement of Profit and Loss shows details of:
 - Assets owned
 - Liabilities payable
 - Income earned and expenses incurred
 - Shareholding structure
- The term "true and fair view" implies:
 - Disclosure of profits only
 - Manipulated accounting figures
 - Correct presentation of financial position and results
 - Mere estimates
- One of the key characteristics of financial statements is that they are:
 - Speculative in nature
 - Entirely assumption-based
 - Historical in character
 - Focused only on future outcomes
- Financial statements are prepared and presented in:
 - Physical quantities
 - Descriptive form
 - Monetary values
 - Ratio form only
- As per the Companies Act, 2013, the Balance Sheet is prepared in:
 - Horizontal format
 - T-format
 - Vertical format only
 - Both horizontal and vertical formats
- The prescribed format of the Balance Sheet is given in:
 - Schedule I
 - Schedule III
 - Schedule V
 - Schedule II
- Share capital consists of:
 - Authorised, issued and subscribed capital
 - Unsecured loans
 - Working capital
 - Share warrants alone
- Fully paid-up share capital forms part of:
 - Reserves
 - Share capital
 - Secured loans
 - Current liabilities
- Non-refundable share application money pending allotment is shown under:
 - Current liabilities
 - Share capital
 - Shareholders' funds
 - A separate head under Equity and Liabilities
- Long-term borrowings are shown as:
 - Current liabilities
 - Provisions
 - Non-current liabilities
 - Reserves
- Deferred tax liability arises when:
 - Accounting income equals taxable income
 - Accounting income is less than taxable income
 - Accounting income exceeds taxable income
 - No tax is payable
- Which of the following is **not** treated as a current liability?
 - Trade payables
 - Long-term borrowings
 - Outstanding expenses
 - Bank overdraft
- When the operating cycle cannot be determined, it is assumed to be:
 - 24 months
 - 3 months
 - 6 months
 - 12 months
- Loans repayable on demand are classified as:
 - Long-term borrowings
 - Trade receivables
 - Short-term borrowings
 - Deferred assets
- Provision for doubtful debts is included under:
 - Reserves
 - Short-term provisions
 - Long-term provisions
 - Trade payables
- Which of the following is a tangible asset?
 - Patents
 - Goodwill

- c) Land and building

d) Trademark

21. Which of the following is **not** an intangible asset?

a) Software

b) Copyrights

c) Furniture

d) Licenses

22. Capital work-in-progress represents:

a) Completed capital projects

b) Tangible assets under construction

c) Inventory held for sale

d) Trade debtors

23. Deferred tax assets arise when:

a) Accounting income is higher than taxable income

b) Tax is not paid

c) Accounting income is lower than taxable income

d) Profits increase

24. Inventories include:

a) Land

b) Software

c) Raw materials

d) Marketable securities

25. Trade receivables are treated as current assets when they are:

a) Recoverable after 12 months

b) Recoverable within 12 months

c) Irrecoverable

d) Refunded

26. Which of the following qualifies as cash or cash equivalent?

a) Machinery

b) Goodwill

c) Cheques in hand

d) Bonds

27. Contingent liabilities are:

a) Recorded in the Balance Sheet

b) Not disclosed anywhere

c) Disclosed in the Notes to Accounts

d) Treated as current liabilities

28. A commitment of a company refers to:

a) A definite liability

b) A secret reserve

c) An agreed future obligation

d) An asset

29. The Statement of Profit and Loss is prepared according to:

a) Part I of Schedule III

b) Part II of Schedule III

c) Part IV of Schedule III

d) Section 2(40) only

30. Which of the following is **not** shown in the Balance Sheet?

a) Authorised share capital

b) Forfeited shares

c) Profit or loss for the year

d) Contingent liabilities
- Answer Key

1. C	11. A	21. C
2. C	12. B	22. B
3. C	13. D	23. C
4. B	14. C	24. C
5. C	15. C	25. B
6. C	16. B	26. C
7. C	17. D	27. C
8. C	18. C	28. C
9. C	19. B	29. B
10. B	20. C	30. D

CHAPTER – 11:

Financial Statement Analysis

- Financial Analysis

 - Financial statements contain complex monetary data which alone do not reveal much about a firm’s **liquidity**, **solvency**, and **profitability**.
 - Financial analysis** simplifies this data by classifying it into logical groups and making comparisons to evaluate strengths and weaknesses.
 - Quote (Finney & Miller):** Financial analysis involves separating facts systematically and presenting them in an understandable form.
- Features of Financial Analys

1. Simplifies complex financial data.

2. Classifies items into logical groups.

3. Helps in comparing data to draw conclusions.
- Types/Methods of Financial Analysis

1. Horizontal Analysis (Dynamic Analysis)

○ Compares financial data over **multiple years**.

○ Shows **increase/decrease** in absolute and percentage terms.

○ Identifies **trends** in sales, profits, costs, etc.

2. Vertical Analysis (Static Analysis)

○ Studies financial statements for a **single year**.

○ Expresses each item as a **percentage of a total** (e.g., total sales or total assets).

○ Uses **Common Size Statements**:

▪ *Common Size P&L:* Costs as % of sales.

▪ *Common Size Balance Sheet:* Assets/liabilities as % of total.

○ Useful for **inter-firm or departmental comparison**, but limited to single-period data.

Objectives of Financial Analysis

1. To Measure Profitability

○ Assesses returns on investment and whether profits are increasing or decreasing.

2. To Measure Solvency

○ Checks the firm’s ability to meet **short-term** (e.g., Current Ratio) and **long-term** (e.g., Debt-Equity Ratio) obligations.

3. To Assess Financial Strength

○ Determines if funds for future needs (e.g., new machinery) are available internally or need external sourcing.

4. Comparative Study with Other Firms

○ Compares sales, profits, expenses, working capital, etc., with competitors in the same industry.

5. To Check Capability of Paying Interest & Dividend

○ Evaluates whether the firm can meet its **interest obligations** and **distribute dividends** regularly.

6. To Identify Business Trends
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- Analyzes multi-year data to observe the **direction of growth** (e.g., rising sales/profits).
- 7. **To Judge Management Efficiency**
 - Verifies if actual performance aligns with **standard ratios** and reflects effective financial policies.
- 8. **To Provide Useful Insights to Management**
 - Highlights weaknesses in operations, helping management take **corrective actions**.

Uses of Financial Analysis

Financial analysis is useful for decision-making in the following areas:

1. **Investment Decisions:**
Helps investors assess dividend potential, value appreciation, and investment safety.
2. **Credit Decisions:**
Assists creditors in evaluating whether to grant or extend credit.
3. **Dividend Decisions:**
Helps management decide how much profit to distribute and how much to retain.
4. **Trend Estimation:**
Reveals trends in production cost, sales, and profits to predict business growth.
5. **Managerial Decisions:**
Aids management in assessing liquidity, solvency, profitability, and weak areas.

Significance / Importance of Financial Analysis

1. **For Management:**
Ensures business is solvent and profitable; helps in planning future earnings and capital structure.
2. **For Investors:**
Determines the earning capacity and safety of their investment; aids in dividend expectations.
3. **For Creditors:**
 - *Short-term:* Focus on liquidity (Current & Quick Ratios).
 - *Long-term:* Focus on debt repayment and interest payment ability (Debt-Equity & Interest Coverage Ratios).
4. **For Government:**
Helps decide tax/duty policies and identify industries needing support.

MCQs

1. Financial analysis assists in assessing a firm's:
 - a) Physical resources
 - b) Workforce satisfaction
 - c) Liquidity, solvency and profitability
 - d) Market goodwill
2. Who described financial analysis as the process of "systematically separating facts and presenting them in a meaningful manner"?
 - a) Kohler
 - b) Finney and Miller
 - c) Karl Marx
 - d) John Hicks
3. Which of the following is **not** a characteristic of financial analysis?
 - a) Simplification of complex financial data
 - b) Identification of business risks
 - c) Classification of financial items
 - d) Facilitation of comparison
4. Horizontal analysis is also known as:
 - a) Common size analysis
 - b) Ratio analysis

5. **For Financial Institutions:**
Evaluate profit potential and long-term solvency before lending.
6. **For Employees:**
Assesses profitability for bonuses, salary hikes, and job security.
7. **For Stock Exchange Authorities:**
Uses ratios like EPS and P/E to determine share price and market performance.
8. **For Taxation Authorities:**
Ensures compliance with tax laws and correct reporting of sales, production, and profit.
9. **For Researchers:**
Useful for analyzing a company's efficiency, solvency, and growth potential.
10. **For Other Stakeholders:**
Includes economists, trade associations, and consumer bodies studying the firm for various interests.

Limitations of Financial Analysis

1. **Depends on Financial Statements:**
Inaccurate/incomplete statements lead to misleading analysis.
2. **Window-Dressing:**
Manipulated data (e.g., inflated stock value) misrepresents financial health.
3. **Ignores Price Level Changes:**
Inflation or deflation is not reflected, affecting comparison over years.
4. **Different Accounting Policies:**
Comparisons between firms become unreliable due to varied methods (e.g., depreciation).
5. **Subjectivity of Analysts:**
Interpretations vary based on analyst's perspective and method.
6. **Limited for Forecasting:**
Based on historical data, which may not reflect future scenarios.
7. **Ignores Qualitative Aspects:**
Factors like management efficiency or customer satisfaction are not measurable in monetary terms.
8. **Single-Year Data is Inadequate:**
Analysis is meaningful only when compared with past years or industry benchmarks.

- c) Static analysis
- d) Dynamic analysis
5. Horizontal analysis involves comparison of financial data over:
 - a) One financial year
 - b) Different industries
 - c) Several accounting periods
 - d) A single operating cycle
6. Vertical analysis makes use of financial data relating to:
 - a) More than one year
 - b) Two different firms
 - c) A single accounting period
 - d) Inventory records
7. In a common-size income statement, each item is expressed as a percentage of:
 - a) Total assets
 - b) Net profit
 - c) Sales
 - d) Shareholders' equity
8. Which type of analysis is suitable for inter-firm comparison during the same period?

- a) Horizontal analysis
 - b) Ratio analysis
 - c) Trend analysis
 - d) Vertical analysis
9. One of the main objectives of financial analysis is to:
- a) Recruit employees
 - b) Study consumer behaviour
 - c) Measure profitability
 - d) Audit accounts
10. Solvency indicates a firm's capacity to:
- a) Increase turnover
 - b) Expand business activities
 - c) Meet both short-term and long-term obligations
 - d) Compute tax liability
11. The current ratio is primarily used to evaluate:
- a) Profit-earning capacity
 - b) Long-term financial stability
 - c) Liquidity position
 - d) Owners' equity
12. Analysis of working capital and reserves is related to which financial objective?
- a) Profitability
 - b) Financial strength
 - c) Management control
 - d) Operating efficiency
13. Financial analysis helps management in:
- a) Fixing employee targets
 - b) Evaluating managerial efficiency
 - c) Filing statutory returns
 - d) Determining wages
14. Comparative analysis in financial analysis refers to comparison with:
- a) Government standards
 - b) Past internal benchmarks
 - c) Other business enterprises
 - d) Lending institutions
15. Which of the following decisions is **not** directly influenced by financial analysis?
- a) Investment decision
 - b) Recruitment decision
 - c) Credit decision
 - d) Dividend decision
16. Forecasting future trends in sales and profits is useful for:
- a) Return filing
 - b) Trend analysis
 - c) Auditing purposes
 - d) Cost control
17. Financial analysis is important for management as it helps in:
- a) Increasing market rivalry
 - b) Planning profits and capital structure
 - c) Monitoring market share
 - d) Training the workforce
18. Creditors rely on financial analysis to judge:
- a) Quality of products
 - b) Liquidity and repayment ability
 - c) Brand reputation
 - d) Advertising effectiveness
19. Employees may use financial analysis to evaluate:
- a) Management performance
 - b) Future sales growth
 - c) Profitability and job security
 - d) Government labour policies
20. EPS and P/E ratio are used by which authority to assess market performance?
- a) Income Tax Department
 - b) Stock Exchange authorities
 - c) Commercial banks
 - d) SEBI
21. Financial institutions apply financial analysis to determine:
- a) Dividend distribution
 - b) Profit-earning capacity
 - c) Audit planning
 - d) Shareholding pattern
22. Which of the following is **not** a purpose of financial analysis?
- a) Making investment decisions
 - b) Maintaining inventory records
 - c) Granting credit
 - d) Framing dividend policy
23. One major limitation of financial analysis is:
- a) Absence of demand
 - b) Incorrect ratio computation
 - c) Window dressing of accounts
 - d) Difference in accounting periods
24. Financial analysis becomes difficult when firms follow:
- a) Uniform accounting policies
 - b) Different accounting methods
 - c) Similar depreciation practices
 - d) Standard government rules
25. A drawback of financial analysis is its:
- a) Strong forecasting power
 - b) Subjective nature
 - c) High cost
 - d) Operational difficulty
26. Financial analysis generally overlooks:
- a) International company data
 - b) Statutory regulations
 - c) Qualitative factors
 - d) Industry standards
27. One limitation of vertical analysis is that it is based on:
- a) Multi-year financial data
 - b) Historical ratios
 - c) Single-period figures
 - d) Estimated information
28. Which of the following users is least concerned with financial analysis?
- a) Shareholders
 - b) Consumers
 - c) Tax authorities
 - d) Employees
29. Financial analysis becomes unreliable when it is based on:
- a) Qualified audit reports
 - b) Incomplete or manipulated information
 - c) Financial principles
 - d) Audited accounts
30. Financial analysis mainly provides guidance for:
- a) Statutory audits
 - b) Managerial corrective actions
 - c) Loan guarantees
 - d) Outsourcing decisions

CHAPTER – 12:
TOOLS FOR FINANCIAL ANALYSIS.

Financial statements show **absolute figures** relating to assets, liabilities, income, expenses, and profit or loss of a business. However, these figures **do not by themselves reveal** the real earning capacity, liquidity position, or overall financial health of the enterprise.

To make financial statements **more meaningful, comparable, and useful for decision-making**, they are analysed using various **tools of financial analysis**.

TOOLS / METHODS OF FINANCIAL ANALYSIS

1. Comparative Statement Analysis (Horizontal Analysis)

Comparative statements present financial data of **two or more accounting periods side by side**.

They help in analysing **changes in financial position and operating results** over time.

Also called: Horizontal Analysis

Basis: Comparison across years

Features

- Shows increase or decrease in absolute figures
- Highlights percentage changes
- Helps identify trends and variations

2. Common Size Statement Analysis (Vertical Analysis)

Common size statements express each item of a financial statement as a **percentage of a common base**.

Also called: Vertical Analysis

Basis: Comparison within the same year

Common Base

- **Statement of Profit & Loss:** Revenue from Operations = 100
- **Balance Sheet:** Total Assets / Total Equity & Liabilities = 100

This method standardises financial data and enables **easy comparison across firms and periods**.

3. Trend Analysis

Trend analysis studies financial data over **several years** to identify the **direction of change**.

Purpose

- To observe long-term movements
- To identify rising, falling, or stable trends
- To forecast future performance

Formula

Trend Percentage = (Base Year Figure / Current Year Figure) × 100

Example

Year	Revenue (₹)	Trend %
2014	2,00,000	100
2015	2,50,000	125
2016	2,80,000	140
2017	3,00,000	150

4. Ratio Analysis

Ratio analysis involves establishing **quantitative relationships** between different items of financial statements.

Purpose

- To evaluate **profitability**
- To assess **liquidity**
- To judge **solvency**
- To measure **operational efficiency**

Ratios convert large absolute figures into **meaningful relationships**, making interpretation easier.

5. Cash Flow Analysis

Cash Flow Analysis studies the **actual inflow and outflow of cash** during an accounting period.

Importance

- Explains changes in cash balance
- Assesses liquidity position
- Helps in cash planning and control

The **Cash Flow Statement** shows cash flows from:

1. Operating activities
2. Investing activities
3. Financing activities

6. Fund Flow Statement

A Fund Flow Statement explains **changes in financial position** between two balance sheet dates.

Focus

- Sources of funds
- Applications (uses) of funds
- Changes in working capital

It helps understand **how funds were generated and utilised** during a period.

7. Break-Even Point (BEP) Analysis

The break-even point is the level of sales at which **total costs equal total revenue**.

Key Feature

- No profit
- No loss

Importance

- Determines minimum sales required to avoid loss
- Assists in pricing and cost control decisions

COMPARATIVE STATEMENTS

Meaning

Comparative financial statements present data of **two or more years** to study changes in financial performance and position.

Purpose / Advantages of Comparative Statements

1. Simplifies financial data for easy understanding
2. Highlights trends in income, expenses, and profits
3. Identifies strengths and weaknesses
4. Enables industry comparison
5. Helps in forecasting future performance

Comparative Balance Sheet vs Single-Year Balance Sheet

Basis	Comparative Balance Sheet	Single-Year Balance Sheet
Focus	Change over time	Position on one date
Usefulness	Trend analysis	Status reporting
Decision making	More effective	Limited

Utility of Comparative Statements

- Makes interpretation easier
- Reveals growth or decline patterns
- Highlights problem areas
- Supports planning and control
- Useful for internal and external users

COMPARATIVE STATEMENT OF PROFIT & LOSS

Meaning

A Comparative Statement of Profit & Loss shows income and expenses of **two or more years**, enabling comparison in:

- Absolute terms (₹)
- Percentage terms (%)

Insights Provided

1. Change in revenue from operations
2. Change in cost of materials consumed
3. Change in incomes and expenses
4. Change in net profit

Objectives

1. To compare income and expenditure across years
2. To analyse variations in figures and percentages
3. To assess profit trends
4. To forecast future profitability

COMMON SIZE STATEMENTS

Common size statements express each item as a **percentage of a common total**.

Common Size Balance Sheet

- Total Assets or Total Equity & Liabilities = 100%
- Each asset or liability shown as a percentage of the total

Utility

1. Analyses changes in assets and liabilities
2. Identifies financial structure trends
3. Enables inter-firm comparison
4. Assesses financial soundness

Format – Common Size Balance Sheet

Column	Description
1	Balance Sheet Items
2	Previous Year Amount
3	Current Year Amount
4	% of Previous Year
5	% of Current Year

Common Size Statements

- Common Size Statements convert each item into a percentage of a common base.
- Shows the relation of each item to its total.
- It is a form of **Vertical Analysis** (analysing data column-wise).
- Prepared for:
 - **Balance Sheet**
 - **Statement of Profit & Loss**

Components:

1. **Absolute figures** of items (for two or more years)
2. **Percentages** based on a common base:
 - **Profit & Loss Statement:** Revenue from operations = 100
 - **Balance Sheet:** Total Assets or Total Equity & Liabilities = 100

Purpose / Utility:

1. **To show changes** in items relative to total figures (Revenue/Assets/Liabilities)
2. **To observe trends & relationships:**
 - E.g., If Material Cost = 40% of Revenue usually, and it rises, it needs attention.
3. **To enable comparison:**
 - Common format allows comparison across companies of different sizes.

Common Size Balance Sheet

- Total of **Assets** or **Equity & Liabilities** = 100%
- Each item shown as % of the total
- E.g., if Cash = ₹10,000 and Total Assets = ₹1,00,000 ⇒ Cash = 10%

Purpose / Utility:

1. Analyse changes in individual items over time
2. Identify trends in Assets and Liabilities
3. Compare financial soundness across firms in the same industry
4. Assess financial strategies used by different firms

Form of Common Size Balance Sheet:

Column No.	Description
1	Items of Balance Sheet
2	Previous Year's Amounts
3	Current Year's Amounts
4	% of each item (Previous Year) to total (100%)
5	% of each item (Current Year) to total (100%)

Trend Analysis

- Trend Analysis is used to make a comparative study of financial statements over multiple years. It helps in identifying the **direction of change** (increase or decrease) in various items over time.
- **Purpose:**
 - To understand whether **favourable or unfavourable trends** are developing in a business.
 - To assist in **forecasting future performance** based on past data.
- **Method of Calculation:**
- *Trend Percentage = (Figure of Current Year ÷ Figure of Base Year) × 100*
- It shows how much a particular item has increased or decreased compared to the base year. The base year is always taken as 100.
- **Example**
Sales in base year (2020) = ₹50,000
Sales in current year (2024) = ₹65,000
- Trend Percentage
 $= (65,000 \div 50,000) \times 100$
 $= 130\%$
- Sales have increased by 30% compared to the base year.
- If you want, I can also convert this into a one-line MCQ note or a short numerical question for JMI or other entrance exams.
- **Example:**

Year	Revenue from Operations (₹)	Trend Percentage (Base Year 2014 = 100)
2014	2,00,000	100
2015	2,50,000	125
2016	2,80,000	140
2017	3,00,000	150

Calculation of Trend Percentages (Base Year = 2014 = ₹2,00,000)

- **2015:** $= (2,50,000 \div 2,00,000) \times 100$
 $= 125$
- **2016:** $= (2,80,000 \div 2,00,000) \times 100$
 $= 140$
- **2017:** $= (3,00,000 \div 2,00,000) \times 100$
 $= 150$
Sales show a continuous increasing trend over the years when compared with the base year.

Q4. Rama Ltd., a company manufacturing high-quality sanitary equipment, decided to appoint instructors to impart free training to the youth of the city so that they may get suitable employment in various industrial units.

The following information is obtained from the books of the company:

Given Information

Particulars	31.03.2017 (₹)	31.03.2016 (₹)
Revenue from Operations	12,00,000	10,00,000
Cost of Materials Consumed	6,60,000	6,00,000
Employee Benefit Expenses	1,20,000	1,20,000
Other Expenses	96,000	50,000

You are required to prepare a Common Size Statement of Profit & Loss.

Answer:

RAMA LTD.

COMMON SIZE STATEMENT OF PROFIT & LOSS

(for the years ended 31st March 2016 and 2017)

Particulars	Absolute Amounts (₹)	Percentage of Revenue from Operations
	2015–16	2016–17
I. Revenue from Operations	10,00,000	12,00,000
II. Less: Expenses		
Cost of Materials Consumed	6,00,000	6,60,000
Employee Benefit Expenses	1,20,000	1,20,000
Other Expenses	50,000	96,000

Multiple Choice Questions (MCQs)

- Which of the following is another name for **Horizontal Analysis**?
 - Trend Analysis
 - Comparative Statement Analysis
 - Common Size Statement
 - Ratio Analysis
- In a Common Size Statement, each item is expressed as a percentage of:
 - Total revenue
 - Total assets only
 - A common base figure
 - Total liabilities only
- Comparative financial statements are useful for:
 - Showing only the liquidity position
 - Forecasting sales alone
 - Identifying trends and variations over time
 - Cutting down operating costs
- Common Size Analysis is also referred to as:
 - Horizontal Analysis
 - Trend Analysis
 - Ratio Analysis
 - Vertical Analysis
- Which tool is mainly used to assess the cash position of a business?
 - Ratio Analysis
 - Fund Flow Statement
 - Cash Flow Statement
 - Common Size Statement
- Trend percentages are calculated by taking which year as the reference?
 - Current year
 - Future year

Total Expenses	7,70,000	8,76,000
III. Profit before Tax (I – II)	2,30,000	3,24,000

Note: All percentages are calculated on the basis of Revenue from Operations.

Q5. Calculate the trend percentages from the following information by taking the year ending 2014 as the base year.

Given Information (Current Assets)

Particulars	2014 (₹)	2015 (₹)	2016 (₹)	2017 (₹)
Inventory	1,00,000	1,30,000	1,50,000	1,70,000
Trade Receivables	50,000	65,000	75,000	95,000
Cash & Cash Equivalents	10,000	12,000	14,000	17,500
Other Current Assets	40,000	28,000	36,000	48,000

Answer:

TREND PERCENTAGE STATEMENT

(Base Year 2014 = 100)

Current Assets	Absolute Amounts (₹)	Trend Percentages
	2014	2015
Inventory	1,00,000	1,30,000
Trade Receivables	50,000	65,000
Cash & Cash Equivalents	10,000	12,000
Other Current Assets	40,000	28,000

- Base year
 - Average year
- The primary objective of Ratio Analysis is:
 - To calculate asset percentages
 - To study only trend movements
 - To evaluate profitability, solvency and efficiency
 - To compare cash receipts and payments
 - A Fund Flow Statement explains:
 - Cash transactions only
 - Sources and applications of funds
 - Profit earned during the year
 - Revenue generation
 - The break-even point is reached when:
 - Profit is at its maximum
 - Total cost equals total revenue
 - Loss exceeds revenue
 - Total assets equal total liabilities
 - In a Common Size Statement of Profit and Loss, which item is taken as 100%?
 - Net profit
 - Total expenses
 - Revenue from operations
 - Gross profit
 - Which financial analysis tool is most useful for forecasting future performance?
 - Fund Flow Analysis
 - Common Size Statement
 - Trend Analysis
 - Break-even Analysis
 - A Comparative Balance Sheet is mainly prepared for:
 - Showing closing balances
 - Studying changes over different periods

- c) Preparing cash budgets
d) Computing tax liability

13. Which ratio measures a firm’s ability to meet its short-term liabilities?
a) Profitability ratio
b) Liquidity ratio
c) Turnover ratio
d) Leverage ratio

14. Changes in the cost of materials consumed are best analysed through:
a) Trend Analysis
b) Ratio Analysis
c) Comparative Statement of Profit and Loss
d) Fund Flow Statement

15. The common base used in a Common Size Balance Sheet is:
a) Total assets or total equity and liabilities
b) Net profit
c) Total income
d) Gross revenue

16. Which method of analysis helps compare the performance of firms of different sizes?
a) Ratio Analysis
b) Fund Flow Analysis
c) Common Size Analysis
d) Break-even Analysis

17. Which of the following does **not** involve comparison with a base year?
a) Trend Analysis
b) Ratio Analysis
c) Comparative Statements
d) Common Size Statements

18. A Comparative Statement of Profit and Loss helps in:
a) Evaluating tax returns
b) Calculating break-even sales
c) Analysing changes in profits and expenses
d) Measuring liquidity alone

19. The formula for calculating Trend Percentage is:
a) $(\text{Base year} \div \text{Current year}) \times 100$
b) $(\text{Current year} \div \text{Base year}) \times 100$
c) $(\text{Current year} \div \text{Total assets}) \times 100$
d) $(\text{Revenue} \div \text{Expenses}) \times 100$

20. Vertical Analysis is best illustrated through:
a) Ratio Analysis
b) Trend Analysis
c) Common Size Statement
d) Comparative Statement

21. Which of the following is **not** included in a Common Size Balance Sheet?
a) Previous year figures
b) Current year percentages
c) Tax payable
d) Total revenue

22. Which financial tool focuses mainly on changes in working capital?
a) Break-even Analysis
b) Fund Flow Statement
c) Trend Analysis
d) Ratio Analysis

23. Break-even analysis is useful for:
a) Forecasting budgets
b) Determining cash flows
c) Finding minimum sales required to avoid loss
d) Calculating depreciation

24. Year-to-year changes in revenue are best shown through:
a) Common Size Analysis
b) Fund Flow Statement
c) Comparative Statement
d) Ratio Analysis

25. Which of the following is a limitation of financial statements?
a) Lack of complete comparability
b) Presence of explanatory notes
c) Audit verification
d) Preparation as per accounting standards

26. Which statement is based on actual cash inflows and outflows?
a) Fund Flow Statement
b) Cash Flow Statement
c) Comparative Balance Sheet
d) Common Size Statement

27. Which analysis provides insight into financial strategies over a long period?
a) Break-even Analysis
b) Common Size Statement
c) Trend Analysis
d) Cash Flow Analysis

28. Revenue and expenses over different years are best analysed using:
a) Ratio Analysis
b) Common Size Balance Sheet
c) Comparative Statement of Profit and Loss
d) Fund Flow Statement

29. Which tool is most useful to a creditor for assessing short-term liquidity?
a) Profitability ratio
b) Liquidity ratio
c) Debt-equity ratio
d) Trend Analysis

30. In Trend Analysis, a trend percentage of 150 indicates that:
a) The item has increased by 50% over the base year
b) The item equals 150% of total revenue
c) The base year figure was 150
d) Profit has increased by 150%
- Answer Key
- | | | |
|-------|-------|-------|
| 1. B | 11. C | 21. D |
| 2. C | 12. B | 22. B |
| 3. C | 13. B | 23. C |
| 4. D | 14. C | 24. C |
| 5. C | 15. A | 25. A |
| 6. C | 16. C | 26. B |
| 7. C | 17. B | 27. C |
| 8. B | 18. C | 28. C |
| 9. B | 19. B | 29. B |
| 10. C | 20. C | 30. A |
- CHAPTER – 13:
ACCOUNTING RATIOS
- Ratio Analysis
- It is a technique of financial analysis that expresses the relationship between two related accounting figures.
- Accounting Ratios
- Derived from financial statements
 - Used to evaluate financial performance and position
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Forms of Expression

- **Pure ratio:** 2:1
- **Percentage:** 25%
- **Time:** Inventory turned over 6 times a year
- **Fraction:** Net profit is $\frac{1}{4}$ of sales

Types of Ratio Analysis

1. Cross-Sectional Analysis

- Comparison of ratios with other firms or industry averages at the same point of time
- Useful for benchmarking and identifying weaknesses

2. Time-Series Analysis

- Comparison of a firm's ratios over different accounting periods
- Helps in identifying trends such as growth, decline, or stability

Objectives of Ratio Analysis

1. Identify weak areas needing improvement
2. Analyse liquidity, solvency, efficiency, and profitability
3. Compare performance of different divisions within the firm
4. Compare performance with other firms
5. Assist in forecasting and planning

Advantages of Ratio Analysis

1. Simplifies financial data
2. Measures operational efficiency
3. Summarises complex information
4. Facilitates inter-firm and intra-firm comparison
5. Helps management control and decision-making
6. Identifies strengths and weaknesses
7. Aids future planning
8. Highlights business trends
9. Helps in setting standards and benchmarks

Limitations of Ratio Analysis

1. Ignores qualitative factors
2. Depends on accuracy of accounting data
3. Does not consider price-level changes
4. Affected by different accounting policies
5. May be misleading without absolute figures
6. Window dressing can distort results
7. No universally accepted standard ratios
8. Ratios alone are not final conclusions
9. Subject to personal interpretation
10. Must be analysed collectively, not individually

Classification of Ratios

1. Liquidity Ratios (Short-Term Solvency)

(i) Current Ratio

Formula:

Current Assets / Current Liabilities

Ideal Ratio: 2 : 1

Current Assets: Cash, Bank, Debtors, Inventory, Prepaid Expenses

Current Liabilities: Creditors, Bills Payable, Outstanding Expenses, Bank OD

(ii) Quick Ratio (Acid Test Ratio)

Formula:

(Current Assets – Inventory – Prepaid Expenses) / Current Liabilities

Ideal Ratio: 1 : 1

2. Solvency Ratios (Long-Term Solvency)

(i) Debt-Equity Ratio

Formula:

Long-term Debts / Shareholders' Funds

Alternate Formula:

External Funds / Internal Funds

Ideal Ratio: 2 : 1

Significance

- Lower ratio indicates safety for creditors
- Higher ratio shows higher dependence on debt

(ii) Total Assets to Debt Ratio

Formula:

Total Assets / Long-term Debts

Total Assets = Fixed Assets + Current Assets – Fictitious Assets

Significance

- Higher ratio indicates lower reliance on long-term debt

(iii) Proprietary Ratio

Formula:

Shareholders' Funds / Total Assets

Significance

- Higher ratio shows greater financial stability
- Lower ratio increases risk for creditors

(iv) Interest Coverage Ratio

Formula:

EBIT / Fixed Interest Charges

Significance

- Shows ability to pay interest
- Higher ratio indicates better debt-servicing capacity

3. Activity (Turnover) Ratios

(i) Inventory Turnover Ratio

Formula:

Cost of Revenue from Operations / Average Inventory

Average Inventory:

(Opening Inventory + Closing Inventory) / 2

Significance

- Measures speed of inventory conversion into sales
- Higher ratio indicates efficient inventory management

Average Age of Inventory:

365 / Inventory Turnover Ratio

(ii) Debtors Turnover Ratio

Formula:

Net Credit Revenue from Operations / Average Trade Receivables

Significance

- Indicates efficiency of collection
- Higher ratio means faster cash inflow

Average Collection Period:

365 / Debtors Turnover Ratio

(iii) Creditors Turnover Ratio

Formula:

Net Credit Purchases / Average Trade Payables

Significance

- Shows payment pattern to suppliers
- Very high ratio may affect goodwill

Average Payment Period:

365 / Creditors Turnover Ratio

(iv) Working Capital Turnover Ratio

Formula:

Net Revenue from Operations / Working Capital

Working Capital:

Current Assets – Current Liabilities

Significance

- Higher ratio indicates efficient use of working capital

Profitability Ratios

1. Gross Profit Ratio

Formula:

$(\text{Gross Profit} / \text{Revenue from Operations}) \times 100$

Gross Profit:

$\text{Revenue from Operations} - \text{Cost of Goods Sold}$

COGS:

$\text{Opening Inventory} + \text{Purchases} + \text{Direct Expenses} - \text{Closing Inventory}$

Significance

- Indicates production and pricing efficiency

2. Operating Ratio

Formula:

$(\text{COGS} + \text{Operating Expenses}) / \text{Revenue from Operations} \times 100$

Significance

- Lower ratio indicates better operating efficiency

3. Operating Profit Ratio

Formula:

$(\text{Operating Profit} / \text{Revenue from Operations}) \times 100$

Significance

- Measures operational performance

4. Net Profit Ratio

Formula:

$(\text{Net Profit} / \text{Revenue from Operations}) \times 100$

Significance

- Indicates overall profitability
- Higher ratio supports dividends and reserves

5. Return on Investment (ROI)

Formula:

$(\text{Net Profit before Interest and Tax} / \text{Capital Employed}) \times 100$

Capital Employed

- Shareholders' Funds + Non-Current Liabilities
or
- Non-Current Assets + Working Capital

Significance

- Measures overall return on total investment

Q. Calculate Current Ratio and Quick Ratio from the given data and comment on them.

Given Information

Current Assets

- Cash and Cash Equivalentents = ₹46,000
- Inventory:
 - Raw Materials = ₹1,10,000
 - Work-in-Progress = ₹30,000

- Finished Goods = ₹1,20,000
- Trade Receivables = ₹2,00,000
- Short-term Investments = ₹50,000
- Prepaid Expenses = ₹20,000

(Loose tools are excluded from inventory for ratio purposes)

Current Liabilities

- Trade Payables = ₹1,70,000
- Liability for Current Taxation = ₹30,000
- Bank Overdraft = ₹60,000
- Dividend Payable = ₹50,000
- Outstanding Expenses = ₹10,000

Step 1: Calculation of Current Assets

Inventory (excluding loose tools):

$\text{₹1,10,000} + \text{₹30,000} + \text{₹1,20,000} = \text{₹2,60,000}$

Current Assets =

$\text{Cash} + \text{Inventory} + \text{Trade Receivables} + \text{Short-term}$

$\text{Investments} + \text{Prepaid Expenses}$

$= \text{₹46,000} + \text{₹2,60,000} + \text{₹2,00,000} + \text{₹50,000} + \text{₹20,000}$

$= \text{₹5,76,000}$

Step 2: Calculation of Current Liabilities

Current Liabilities =

$\text{Trade Payables} + \text{Current Tax Liability} + \text{Bank Overdraft} +$

$\text{Dividend Payable} + \text{Outstanding Expenses}$

$= \text{₹1,70,000} + \text{₹30,000} + \text{₹60,000} + \text{₹50,000} + \text{₹10,000}$

$= \text{₹3,20,000}$

Step 3: Current Ratio

Formula:

$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$

$= \text{₹5,76,000} / \text{₹3,20,000}$

$= \text{1.8 : 1}$

Step 4: Quick Ratio

Quick Assets =

$\text{Current Assets} - \text{Inventory} - \text{Prepaid Expenses}$

$= \text{₹5,76,000} - \text{₹2,60,000} - \text{₹20,000}$

$= \text{₹2,96,000}$

Formula:

$\text{Quick Ratio} = \text{Quick Assets} / \text{Current Liabilities}$

$= \text{₹2,96,000} / \text{₹3,20,000}$

$= \text{0.925 : 1}$

Comments

- The ideal **Current Ratio** is **2 : 1**.
Here, it is **1.8 : 1**, which is below the ideal standard.
- The ideal **Quick Ratio** is **1 : 1**.
Here, it is **0.925 : 1**, which is also below the standard.

Conclusion:

The short-term financial position of the company is **not satisfactory**.

MCQ

- Which of the following ratios mainly measure returns earned by a business?
 - Liquidity ratios
 - Activity ratios
 - Debt ratios
 - Profitability ratios
- Which group of ratios primarily helps in assessing risk?
 - Liquidity, activity and profitability ratios
 - Liquidity, activity and inventory ratios
 - Liquidity, activity and debt ratios
 - Liquidity, debt and profitability ratios
- Which ratio shows the percentage of each rupee of sales left after paying the cost of goods sold?
 - Net profit margin
 - Operating profit margin
 - Gross profit margin
 - Earnings available to equity shareholders
- M/s Dinesh & Sons had credit sales of ₹21,00,000. The average debtors and bills receivable during the year were ₹2,00,000 and ₹1,50,000 respectively. What will be the debtors turnover ratio?
 - 4 times
 - 5 times

- (c) 6 times
(d) 7 times
5. Total purchases amounted to ₹1,70,000, cash purchases were ₹16,000 and purchase returns were ₹8,000. Creditors at the beginning and end of the year were ₹24,000 and ₹32,000 respectively. What is the creditors turnover ratio?
(a) 5.12 times
(b) 5.16 times
(c) 5.21 times
(d) 5.25 times
6. A firm has long-term borrowings of ₹2,00,000, long-term provisions of ₹1,00,000, current liabilities of ₹50,000, non-current assets of ₹3,60,000 and current assets of ₹90,000. What is the proprietary ratio?
(a) 22.2%
(b) 21.8%
(c) 36%
(d) None of these
7. Cost of revenue from operations is ₹50,000, revenue from operations is ₹1,50,000 and operating expenses are ₹20,000. What will be the operating ratio?
(a) 45%
(b) 46.7%
(c) 48.1%
(d) 42.2%
8. ABC Co. allows a credit period of 45 days to its customers. Its credit collection will be considered poor if the average collection period is
(a) 30 days
(b) 36 days
(c) 47 days
(d) 37 days
9. Who are most interested in the average payment period, as it reflects the firm's payment behaviour?
(a) Customers
(b) Shareholders
(c) Lenders and suppliers
(d) Borrowers and buyers
10. Which ratios provide information essential for the long-term survival of a business?
(a) Liquidity ratios
(b) Activity ratios
(c) Solvency ratios
(d) Profitability ratios
11. Which of the following are objectives of ratio analysis?
(a) Identifying areas that need managerial attention
(b) Analysing liquidity, profitability, solvency and efficiency
(c) Comparing performance with industry standards
(d) All of the above
12. Which of the following explains the usefulness of ratio analysis?
(a) It helps in identifying problem areas
(b) It ignores price-level changes
(c) It ignores qualitative factors
(d) All of the above
13. APE Ltd. has current assets of ₹6,00,000, current liabilities of ₹2,00,000, inventories of ₹1,50,000, prepaid expenses of ₹50,000 and cash & cash equivalents of ₹1,00,000. What is the quick ratio?
(a) 1 : 1

- (b) 2 : 1
(c) 1.5 : 1
(d) 3 : 1
14. The current ratio of Vidur Pvt. Ltd. is 3 : 2. The accountant wants to improve it to 2 : 1. Which of the following actions would help?
(i) Repayment of bills payable
(ii) Taking a short-term loan
(iii) Purchase of goods on credit
Choose the correct option:
(a) Only (i)
(b) Only (ii)
(c) Only (i) and (iii)
(d) Only (ii) and (iii)
15. Calculate the debt–equity ratio if total assets are ₹35,00,000, total debts are ₹25,00,000 and current liabilities are ₹8,00,000.
(a) 1.7 : 1
(b) 2 : 1
(c) 3 : 1
(d) 3 : 2
16. Which debt–equity ratio is generally considered satisfactory?
(a) 1 : 1
(b) 4 : 1
(c) 2 : 1
(d) There is no fixed standard
17. A very high working capital turnover ratio indicates
(a) Undertrading
(b) Overtrading
(c) Optimum trading
(d) None of these
18. A company has a debt–equity ratio of 1 : 2. If it purchases a fixed asset worth ₹5,00,000 on long-term deferred payment basis, the ratio will
(a) Increase
(b) Decrease
(c) Remain unchanged
(d) Either increase or decrease
19. The cost of goods sold is ₹1,50,000. Closing inventory is ₹60,000 and exceeds opening inventory by ₹20,000. What is the inventory turnover ratio?
(a) 3 times
(b) 2.14 times
(c) 1.5 times
(d) 4 times
20. If the current ratio is 4 : 2 and current liabilities are ₹6,20,000, what is the amount of current assets?
(a) ₹12,40,000
(b) ₹3,10,000
(c) ₹6,00,000
(d) ₹24,80,000

Answer Key

1. (d)	8. (c)	15. (a)
2. (c)	9. (c)	16. (c)
3. (c)	10. (c)	17. (b)
4. (c)	11. (d)	18. (a)
5. (c)	12. (a)	19. (a)
6. (a)	13. (b)	20. (a)
7. (b)	14. (a)	

CHAPTER – 14:

CASH FLOW STATEMENT

A **Cash Flow Statement** shows the inflows (receipts) and outflows (payments) of **cash and cash equivalents** during a specific accounting period. It is prepared in accordance with **Accounting Standard (AS)–3 (Revised)** issued by the ICAI.

Terms

1. **Cash**
Cash in hand and demand deposits with banks.
2. **Cash Equivalents**
Short-term, highly liquid investments with a maturity of **three months or less**, readily convertible into cash and subject to insignificant risk.
3. **Cash Flows**
Movement of cash and cash equivalents.
 - Inflow → increases cash
 - Outflow → decreases cash

Objectives of Cash Flow Statement

1. To identify cash inflows and outflows from operating, investing, and financing activities.
2. To show the net change in cash and cash equivalents between two balance sheet dates.
3. To highlight major sources and uses of cash.
4. To provide historical information about cash movements.

Uses of Cash Flow Statement

- Helps in short-term financial planning
- Assists in preparation of cash budgets
- Explains the difference between cash profits and accounting profits
- Reveals trends in cash receipts and payments
- Facilitates comparison with cash budget
- Shows activity-wise cash flows (operating, investing, financing)
- Supports dividend decisions
- Evaluates managerial decisions regarding financing and investment
- Useful to investors, lenders, and bankers

Limitations of Cash Flow Statement

- Does not reflect the true liquidity position
- May be subject to window dressing
- Ignores non-cash transactions
- Does not follow accrual concept
- Not a substitute for income statement
- Historical in nature and not predictive unless projected

Cash Flow Statement vs Cash Budget

- **Cash Flow Statement:** Prepared for a past period using actual data.
- **Cash Budget:** Prepared for a future period using estimated data.

Classification of Cash Flows (As per AS-3)

1. Operating Activities

Activities related to the principal revenue-generating operations of the business.

Cash Inflows

- Cash from sale of goods and services
- Royalties, commissions, fees
- Receipts from trading contracts
- Income tax refunds not related to investing or financing activities

Cash Outflows

- Payments to suppliers and employees
- Income tax payments
- Interest payments
- Payments related to trading contracts

2. Investing Activities

Activities involving acquisition or disposal of long-term assets and investments.

Examples

- Purchase or sale of land, building, plant, machinery
- Purchase or sale of shares, debentures, or other investments

3. Financing Activities

Activities resulting in changes in the capital structure of the enterprise.

Examples

- Issue or buy-back of shares
- Borrowing or repayment of loans
- Payment of dividends

Cash Flows from Investing Activities

Inflows

1. Sale of fixed assets
2. Sale of shares, warrants, or debt instruments (excluding cash equivalents)
3. Repayment of loans and advances given
4. Interest received on loans and advances
5. Dividend received from investments

Outflows

1. Purchase of fixed assets
2. Capitalised research and development expenditure
3. Purchase of shares, warrants, or debentures
4. Loans and advances given to third parties

Cash Flows from Financing Activities

Inflows

1. Issue of equity shares or similar instruments
2. Issue of debentures, bonds, and loans

Outflows

1. Repayment of borrowings
2. Payment of dividends and interest
3. Redemption of preference shares

Definition

(AS-3):

Financing activities are those that result in changes in the size and composition of owners' capital and borrowings.

Format of Cash Flow Statement

(Indirect Method)

A. Cash Flow from Operating Activities

1. **Net Profit before Tax**
2. **Add Non-Cash and Non-Operating Expenses**
 - Depreciation
 - Amortisation of goodwill or patents
 - Preliminary expenses written off
 - Interest on long-term borrowings
 - Loss on sale of fixed assets
3. **Less Non-Operating Incomes**
 - Interest income
 - Dividend income
 - Rental income
 - Profit on sale of fixed assets
4. **Operating Profit before Working Capital Changes**
5. **Adjust for Changes in Working Capital**

- Add: Decrease in current assets, Increase in current liabilities
 - Less: Increase in current assets, Decrease in current liabilities
6. **Cash Generated from Operations**
 7. **Less: Income tax paid**
 8. **Net Cash from Operating Activities**

B. Cash Flow from Investing Activities

- Sale of tangible and intangible assets
- Sale of non-current investments
- Interest and dividend received

Treatment of Important Items

1. Interest and Dividend

- Received → Investing Activities (Inflow)
- Paid → Financing Activities (Outflow)
- Must be shown separately

2. Taxes on Income

- Income tax paid → Operating Activities

3. Extraordinary Items

- Shown separately under relevant activity
- Example: Insurance claim for stock destroyed → Operating Activities

4. Significant Non-Cash Transactions

- Not included in cash flow statement
- Disclosed separately
- Examples:
 - Purchase of assets by issue of shares
 - Conversion of debentures into shares

Cash Flow from Operating Activities (Indirect Method)

Step 1: Net Profit before Tax

Adjust P&L items:

- Add: Proposed dividend, interim dividend, transfer to reserves, tax provision

- Less: Tax refund credited to P&L

Step 2: Adjust for Non-Cash Items

Add

- Depreciation and amortisation
- Bad debts written off
- Loss on sale of assets
- Interest on borrowings
- Creation of provisions

Less

- Profit on sale of assets
- Interest and dividend income
- Rent received
- Excess provision written back

Step 3: Adjust for Working Capital Changes

- Add: Decrease in current assets, Increase in current liabilities
- Less: Increase in current assets, Decrease in current liabilities

Step 4: Deduct Income Tax Paid

Result = Cash Flow from Operating Activities

Fixed Asset Account for Missing Figures

Case 1: Written Down Value Method

- No provision for depreciation shown
- Depreciation credited to asset account
- Credit side > Debit side → Purchase
- Debit side > Credit side → Sale
- Profit on sale → Debit side
- Loss on sale → Credit side

Case 2: Original Cost Method

- Provision for depreciation shown separately
- Prepare:
 1. Fixed Asset Account
 2. Provision for Depreciation Account

Multiple-Choice Questions (MCQs)

1. The Cash Flow Statement is prepared in accordance with:
 - a) AS-1
 - b) AS-2
 - c) AS-3 (Revised)
 - d) AS-6
2. A Cash Flow Statement presents:
 - a) Cash receipts only
 - b) Cash payments only
 - c) Inflows and outflows of cash and bank balances
 - d) Inflows and outflows of cash and cash equivalents
3. Which of the following qualifies as a cash equivalent?
 - a) Stock-in-trade
 - b) Marketable securities with maturity above six months
 - c) Fixed deposits for five years
 - d) Treasury bills maturing within three months
4. Which transaction results in cash inflow from operating activities?
 - a) Disposal of machinery
 - b) Dividend income
 - c) Cash collected from customers
 - d) Issue of equity shares
5. Which of the following falls under investing activities?
 - a) Payment made to suppliers
 - b) Acquisition of land
 - c) Loan repayment
 - d) Issue of shares
6. The issue of debentures is treated as a:
 - a) Operating activity
 - b) Investing activity
 - c) Financing activity
 - d) Non-cash activity
7. Cash Flow Statement is mainly helpful for:
 - a) Forecasting profits
 - b) Preparing balance sheet figures
 - c) Short-term financial planning
 - d) Computing depreciation
8. One limitation of the Cash Flow Statement is that it:
 - a) Shows actual liquidity
 - b) Can be manipulated through window dressing
 - c) Includes non-cash items
 - d) Is prepared on accrual basis
9. Dividend paid by a company is classified under:
 - a) Operating activities
 - b) Investing activities
 - c) Financing activities
 - d) Extraordinary items
10. Which of the following is not treated as a cash equivalent?
 - a) Treasury bills
 - b) Commercial paper
 - c) Six-month term deposit
 - d) Three-month certificate of deposit
11. Cash Flow Statement differs from a Cash Budget because it:

- a) Is based on future estimates

b) Follows accrual accounting

c) Is prepared using past data

d) Records non-cash items

12. Bad debts recovered are shown under:

a) Operating activities

b) Investing activities

c) Financing activities

d) Non-cash transactions

13. Interest income received is classified as:

a) Operating activity

b) Investing activity

c) Financing activity

d) Extraordinary item

14. As per AS-3, cash flows from operating activities can be calculated using:

a) Direct method

b) Indirect method

c) Historical method

d) Cash basis method

15. Depreciation while preparing Cash Flow Statement is:

a) Added back to operating profit

b) Deducted from operating profit

c) Treated as investing activity

d) Ignored completely

16. An increase in current assets results in:

a) Addition to net profit

b) Deduction from net profit

c) No adjustment

d) Addition under financing activities

17. A decrease in current liabilities is:

a) Added under operating activities

b) Deducted under operating activities

c) Shown as financing activity

d) Treated as investing activity

18. Which of the following is not a purpose of Cash Flow Statement?

a) Comparison with cash budget

b) Explaining earnings

c) Long-term performance evaluation

d) Assisting dividend decisions

19. Cash Flow Statement is best described as:

a) An alternative to income statement

b) Forward-looking

c) Based on historical data

d) Prepared on accrual basis

20. Which of the following represents a major non-cash transaction?

a) Sale of land

b) Purchase of building through issue of shares

c) Salary payment

d) Interest received

21. Insurance claim received for loss of stock is recorded under:

a) Operating activity

b) Financing activity

c) Investing activity

d) Non-cash item

22. Interest paid on long-term borrowings is classified as:

a) Operating activity

b) Investing activity

c) Financing activity

d) Extraordinary item

23. Which transaction leads to cash outflow from investing activities?

a) Repayment of loan

b) Purchase of shares

c) Payment to creditors

d) Dividend payment

24. Redemption of preference shares is shown as:

a) Investing activity

b) Financing activity

c) Operating activity

d) Extraordinary item

25. Net profit before tax is adjusted for:

a) Only cash items

b) Only accrual items

c) Non-cash and non-operating items

d) Dividends paid

26. Dividend received by a company is treated as:

a) Operating activity

b) Investing activity

c) Financing activity

d) Non-cash transaction

27. An increase in current liabilities results in:

a) Cash inflow

b) Cash outflow

c) No effect on cash

d) Non-cash transaction

28. Which item is not shown in a Cash Flow Statement?

a) Depreciation

b) Issue of shares

c) Cash spent on research and development

d) Cash received from customers

29. Loans and advances given to outsiders are classified as:

a) Operating activity

b) Financing activity

c) Investing activity

d) Non-cash transaction

30. Cash received from the sale of investments is shown under:

a) Operating activities

b) Financing activities

c) Investing activities

d) Extraordinary items

Answer Key

1. c	11. c	21. a
2. d	12. a	22. c
3. d	13. b	23. b
4. c	14. a	24. b
5. b	15. a	25. c
6. c	16. b	26. b
7. c	17. b	27. a
8. b	18. c	28. a
9. c	19. c	29. c
10. c	20. b	30. c

CHAPTER – 15:

COMPUTERIZED ACCOUNTING SYSTEM (CAS)

Meaning

A Computerized Accounting System (CAS) refers to the use of computer hardware and accounting software to record, process, and report financial transactions. It automatically generates accounting records such as journals, cash books, ledgers, and financial statements.

CAS produces the following reports:

1. Journals / Day Books
2. Ledger Accounts
3. Trial Balance
4. Balance Sheet (Position Statement)
5. Profit and Loss Account / Income Statement

Process of Computerized Accounting System

The accounting cycle in CAS consists of these stages:

1. **Transaction Analysis** – Identifying and understanding business transactions.
2. **Journal Entry** – Recording transactions in electronic journals.
3. **Ledger Posting** – Transferring journal entries to ledger accounts.
4. **Trial Balance Preparation** – Checking arithmetic accuracy of accounts.
5. **Review and Adjustments** – Identifying necessary adjustments.
6. **Posting Adjustments** – Updating ledger accounts for adjustments.
7. **Financial Statements Preparation** – Preparing Profit & Loss Account and Balance Sheet.
8. **Finalization of Accounts** – Final presentation of financial results.

Salient Features of CAS

1. **Simple and Integrated**
Integrates accounting, inventory, sales, and purchases into one system.
2. **Transparency and Control**
Improves data accessibility, monitoring, and managerial control.
3. **Accuracy and Speed**
Reduces human errors and generates reports quickly.
4. **Scalability**
Can be expanded as business size and data volume grow.
5. **Reliability**
Ensures secure, consistent, and controlled financial information.

Types of Computerized Accounting Systems

1. **Ready-to-Use CAS**
Pre-designed software, low cost, limited customization.
2. **Designed CAS**
Semi-customized systems suitable for small and medium businesses.
3. **Customized CAS**
Fully tailored systems for large organizations with complex needs.

Components of CAS

1. **Procedures** – Defined steps to perform accounting operations.
2. **Data** – Raw financial information entered into the system.
3. **People** – Users such as accountants and managers.
4. **Hardware** – Computers, servers, printers, and networks.
5. **Software** – Accounting and system software.

Grouping of Accounts

Based on the accounting equation:

Assets = Liabilities + Capital

Expanded form:

Assets = Liabilities + Capital + (Income – Expenses)

Accounts are grouped hierarchically to maintain systematic classification.

Codification of Accounts

Codification means assigning unique numeric or alphanumeric codes to accounts for easy identification and processing.

Example of Coding Structure:

- **Equity & Liabilities**
11 – Shareholders' Funds
13 – Non-Current Liabilities
14 – Current Liabilities
- **Assets**
21 – Non-Current Assets
23 – Current Assets
- **Income**
31 – Revenue
- **Expenses**
41 – Expenses

Methods of Codification

1. **Sequential Coding** – Continuous numbering system.
2. **Block Coding** – Codes assigned in blocks to categories.
3. **Mnemonic Coding** – Alphabetic abbreviations (e.g., SJ for Sales Journal).

Advantages of CAS

1. Quick generation of reports.
2. Efficient record maintenance.
3. Better internal control.
4. Cost-effective data processing.
5. Ensures confidentiality of data.

Limitations of CAS

1. Frequent technology upgrades required.
2. Risk of data loss due to power failure.
3. Vulnerable to cyber threats.
4. Cannot produce reports beyond programmed limits.

Accounting Information System (AIS)

AIS uses CAS to process accounting data through various subsystems:

- Cash & Bank System
- Sales & Receivables System
- Inventory System
- Purchase & Payables System
- Payroll System
- Fixed Assets System
- Expense Accounting
- Tax Accounting
- Final Accounts System
- Budgeting System
- Management Information System (MIS)

Security Features of CAS

1. **Password Protection** – Controls system access.
2. **Audit Trail** – Tracks changes in data.
3. **Data Encryption (Data Vault)** – Protects sensitive information.

Database Management System (DBMS)

DBMS manages large volumes of data efficiently and supports data storage, retrieval, and analysis.

Examples: MS-Access, Oracle, SQL Server, IBM-DB2.

DBMS Objects

1. Tables
2. Queries
3. Forms
4. Reports

Database Requirement Analysis

Before database creation, requirements must be defined:

- **Desktop Database** – Simple, low cost, limited users.
- **Server Database** – Complex, costly, multi-user environment.

MICROSOFT ACCESS

Queries in MS Access

- Used to extract specific data using conditions.
- Can combine data from multiple tables.

Steps:

1. Create → Query Design
2. Add required tables
3. Select fields in design grid
4. Add calculated fields (DA, HRA, Gross Salary, Net Salary)
5. Save and run query
6. Apply sorting if required

Forms in MS Access

- Used for easy and structured data entry.
- Types: Simple Form, Split Form
- Entry can be done directly or through forms.

Reports in MS Access

- Used for formatted printing and summaries.

Using Report Wizard:

- Select query
- Choose fields
- Group and sort data
- Select layout and orientation
- Generate report

SPREADSHEET BASICS

Introduction

A spreadsheet is a grid of rows and columns used to store, calculate, and analyze data.

Key Terms

- **Cell** – Intersection of row and column
- **Range** – Group of cells
- **Relative Reference** – Changes automatically
- **Absolute Reference** – Fixed using \$

Features of Electronic Spreadsheet

1. Easy to learn and use
2. Efficient data organization
3. Supports automatic calculations
4. Provides charts and graphs
5. Allows sorting, filtering, and functions

Excel Cell Navigation Shortcuts

- Ctrl + Home – First cell
- Ctrl + End – Last used cell
- Arrow keys – Move cell by cell
- Home – Start of row

Compound Interest Example

Headings:

PA, R, NY, CP, MA, CI

Formula:

$MA = PA \times (1 + R / (100 \times CP))^{(NY \times CP)}$

$CI = MA - PA$

What-If Analysis:

Analyzes impact of changing inputs on results.

Spreadsheet Terminologies

Labels

- Text entries
- Not used in calculations

Formulas

- Start with =
- Use cell references
- Auto-update results

Order of Operations

Brackets → Exponents → Multiply/Divide → Add/Subtract
(Mnemonics: GEMS, PEMDAS, BEMDAS)

Functions in Excel

- SUM, AVERAGE, COUNT
- AutoSum for quick calculations

IF Function

Used for decision making.

Syntax: IF(condition, true_value, false_value)

Data Entry and Validation

- **Fast Entry** – Auto-fill, copy, import
- **Data Validation** – Restricts incorrect data entry
- **Data Forms** – User-friendly record entry

Data Formatting

Improves readability using:

- Conditional formatting
- Number/text formatting

Pivot Tables

Used to summarize large data sets.

Advantages:

- Quick analysis
- Drill-down capability
- Flexible reporting
- Sorting, filtering, grouping

Data Tables in Excel

- **One-Variable Data Table** – Changes one input
- **Two-Variable Data Table** – Changes two inputs
- Used for scenario analysis.

ECONOMICS

CHAPTER – 1:

MICROECONOMICS

Understanding the Economy

- **Economy** deals with how people earn and use resources for survival and well-being.
- **Branches of Economics:**
 - **Microeconomics** – Studies individual units like consumers, firms, and markets.
 - **Macroeconomics** – Focuses on the economy as a whole (GDP, inflation, unemployment).

Simple Economy & Basic Needs

- People need various **goods & services** – food, clothing, shelter, transport, education, etc.
- No individual can fulfill all their needs alone – thus, **interdependence** exists.
- **Example:** A teacher earns by teaching and uses income to buy other goods/services.

Definition of Economics

- Economics studies **scarcity of resources** vs. **unlimited human wants**.
- It addresses how to **allocate scarce resources** among alternative uses.

Scarcity & Choice

- **Scarcity:** Resources are limited in comparison to wants.
 - **More Scarcity** → **Higher Price** (e.g., petrol, diamonds)
 - **Less Scarcity** → **Lower Price** (e.g., water)
 - **No Scarcity** → **Free** (e.g., air)
- **Opportunity Cost:** The next best alternative foregone while making a choice.

Efficient Use of Resources

- **Saving resources** means using them efficiently to get **maximum output**.
- This requires **full and optimal utilization** of land, labor, capital, and enterprise.

CENTRAL PROBLEMS OF AN ECONOMY

Due to limited resources, every economy faces three central problems:

(a) What to Produce?

- Decide which goods/services to produce (consumer goods, capital goods, luxury items, etc.).
- **Goal:** Maximize community welfare using limited resources.

(b) How to Produce?

- Choose the production technique:
 - **Labour-intensive** (more human labor)
 - **Capital-intensive** (more machines)
- **Goal:** Select the technique that minimizes **cost per unit**.

(c) For Whom to Produce?

- Decide how goods/services will be distributed:
 - **Rich vs. Poor**
- **Purchasing power** depends on **income distribution** (rent, wages, interest, profit).
- **Goal:** Ensure essential needs of citizens are met.

Production Possibility Frontier (PPF) / Production Possibility Curve (PPC)

- **Definition:** A curve showing all possible combinations of two goods/services that an economy can produce using available resources and technology, assuming full and efficient utilization.
- **Economizing Resources:** Using resources in a way that maximizes productivity.

Features of PPF:

1. **Downward Sloping:** To produce more of one good, production of the other must be reduced due to limited resources.
2. **Concave to Origin:** Due to the **increasing Marginal Opportunity Cost (MRT)**.

Changes in PPF:

- **Rightward Shift:** Indicates economic growth (increase in resources or technological advancement).
 - Examples: Improved skills, new technology, higher land productivity.
- **Leftward Shift:** Reflects economic decline (loss of resources or outdated technology).
- **Outward Rotation:**
 - (a) Technological improvement in one good.
 - (b) Growth in facilities producing only one good.

Marginal Rate of Transformation (MRT) / Marginal Opportunity Cost

- Amount of one good sacrificed to produce one more unit of another.
- **MRT = Units of Good A foregone / Units of Good B gained**

Basic Economic Terms:

- **Economy:** A system reflecting economic activities in a specific area.
- **Services:** Intangible economic activities (e.g., retail, medical).
- **Wants:** Desires to purchase goods/services, regardless of ability to pay.
- **Resources:** Inputs used to produce goods and services (e.g., land, labor).
- **Goods:** Tangible items that satisfy human wants (e.g., books).
- **Household:** Group living under one roof sharing resources/cooking.
- **Firms:** Organizations using resources to produce goods/services for profit.
- **Product:** Output obtained by converting inputs through production.
- **Consumption:** Use of goods/services to satisfy needs directly.

Opportunity Cost – Examples:

1. **Mohan's Transport Decision:**
 - Train Cost = ₹350; Car Saving = ₹275 ⇒ Opportunity Cost = ₹75
2. **Ruth's Employee Training:**
 - Without Training = ₹39,000; With Training = ₹39,520
⇒ Opportunity Cost of Not Training = ₹520
3. **Jim Watching a Match:**

- Earnings Lost = ₹170; Match Ticket = ₹55
⇒ Opportunity Cost = ₹225

Production Possibility

Production possibility refers to the various combinations of goods and services that an economy can produce using its existing resources and level of technology.

Significance of PPF / PPC

- Explains the problem of **scarcity** and the need for **choice**.
- Helps in understanding **opportunity cost**.
- Shows efficient and inefficient use of resources.
- Also known as the **Transformation Curve** or **Production Boundary**.

Types of Technology Used in Production

1. Labour-Intensive Technology

- Greater use of human labour compared to machines.
- Suitable for labour-abundant economies.
- Involves higher labour costs and lower capital investment.

2. Capital-Intensive Technology

- Greater reliance on machinery and equipment than labour.
- Requires heavy investment in capital and advanced technology.
- Emphasizes automation and modern production techniques.

Causes of the Economic Problem

1. **Scarcity of Resources**
Resources are limited and cannot satisfy all wants.
2. **Unlimited Human Wants**
Human needs and desires continue to grow endlessly.
3. **Resources Have Alternative Uses**
The same resource can be used for different purposes, making choice unavoidable.

Features of Resources

- Limited in availability
- Capable of being used for multiple purposes

Features of Human Wants

- Unlimited in nature
- Recur again and again
- Can be satisfied only through goods and services

Central Economic Problems

1. **What to Produce?**
 - Consumer goods or capital goods?
 - Peace-time production or war-time goods?
2. **How to Produce?**
 - Using labor-intensive or capital-intensive techniques?
 - Efficient use of available technology?
3. **For Whom to Produce?**
 - Distribution among different sections of society (personal or collective distribution)

Efficient Use of Resources

- Avoid **wastage, overuse, or underuse**
- Focus on **economic efficiency** in:
 - **Production** – Minimum input, maximum output
 - **Distribution** – Fair allocation of resources

Growth of Resources

- Increasing the **productivity** of existing resources
- Use of **improved technologies** for better output

Opportunity Cost

- The **value of the next best alternative** that is forgone when a choice is made

Sacrifice of Resources

- Choosing one use of a resource means giving up its use in another area due to **scarcity**.

Practice MCQs

1. Economics is mainly concerned with the study of:
 - (a) Wealth creation
 - (b) Scarcity and choice
 - (c) National income
 - (d) Economic growth
2. Microeconomics deals with the study of:
 - (a) National income
 - (b) General price level
 - (c) Individual consumers and firms
 - (d) Economic development
3. Macroeconomics focuses on:
 - (a) Individual markets
 - (b) Household behavior
 - (c) Economy as a whole
 - (d) Consumer choice
4. The basic economic problem arises because:
 - (a) Wants are limited
 - (b) Resources are unlimited
 - (c) Resources have alternative uses
 - (d) Goods are scarce
5. Which of the following best explains scarcity?
 - (a) High prices
 - (b) Unlimited resources
 - (c) Limited resources relative to wants
 - (d) Free availability of goods
6. Opportunity cost refers to:
 - (a) Total cost of production
 - (b) Cost paid in money
 - (c) Next best alternative forgone
 - (d) Cost of all alternatives
7. If a resource has alternative uses, it implies:
 - (a) No choice is required
 - (b) Scarcity does not exist
 - (c) Opportunity cost arises
 - (d) Resources are abundant
8. Which good is generally considered free due to no scarcity?
 - (a) Petrol
 - (b) Diamonds
 - (c) Water
 - (d) Air
9. Production Possibility Curve (PPC) shows:
 - (a) Demand for goods
 - (b) Supply of goods
 - (c) Alternative production combinations
 - (d) Cost of production
10. PPC assumes:
 - (a) Idle resources
 - (b) Full and efficient utilization of resources
 - (c) Unlimited resources
 - (d) Constant opportunity cost
11. A downward sloping PPC indicates:
 - (a) Increasing resources
 - (b) Scarcity of resources
 - (c) No opportunity cost
 - (d) Economic growth
12. Concave shape of PPC is due to:
 - (a) Law of diminishing returns
 - (b) Increasing marginal opportunity cost
 - (c) Constant cost
 - (d) Unlimited resources
13. Marginal Rate of Transformation (MRT) measures:
 - (a) Total cost of production

- (b) Marginal utility
 - (c) Opportunity cost
 - (d) Price elasticity
14. MRT is defined as:
- (a) Units produced ÷ Units consumed
 - (b) Units gained ÷ Units sacrificed
 - (c) Units of one good foregone ÷ Units of another gained
 - (d) Output ÷ Input
15. A rightward shift of PPC indicates:
- (a) Economic recession
 - (b) Underutilization of resources
 - (c) Economic growth
 - (d) Inefficient production
16. Which of the following can cause an outward shift of PPC?
- (a) Loss of skilled labour
 - (b) Technological advancement
 - (c) Natural disaster
 - (d) Obsolete machinery
17. Labour-intensive technology mainly uses:
- (a) Advanced machines
 - (b) Automated tools
 - (c) More human labour
 - (d) High capital investment
18. Capital-intensive technology is most suitable for:
- (a) Labour-abundant economies
 - (b) Capital-rich economies
 - (c) Small households
 - (d) Subsistence production
19. Which central problem of an economy deals with choice of technique?
- (a) What to produce
 - (b) How to produce
 - (c) For whom to produce
 - (d) What not to produce
20. “For whom to produce” depends mainly on:
- (a) Production technique
 - (b) Government policy

- (c) Income distribution
 - (d) Cost of production
21. Efficient use of resources means:
- (a) Maximum waste
 - (b) Full utilization with maximum output
 - (c) Higher prices
 - (d) Unlimited production
22. Which of the following is a feature of human wants?
- (a) Limited
 - (b) Non-recurring
 - (c) Satisfiable
 - (d) Unlimited
23. Which is NOT a feature of resources?
- (a) Scarce
 - (b) Alternative uses
 - (c) Unlimited supply
 - (d) Limited availability
24. Services are best described as:
- (a) Tangible goods
 - (b) Physical products
 - (c) Intangible economic activities
 - (d) Natural resources
25. The economic problem is essentially a problem of:
- (a) Growth
 - (b) Inflation
 - (c) Choice
 - (d) Production

Answer Key

1. b	9. c	17. c
2. c	10. b	18. b
3. c	11. b	19. b
4. c	12. b	20. c
5. c	13. c	21. b
6. c	14. c	22. d
7. c	15. c	23. c
8. d	16. b	24. c
		25. c

CHAPTER – 2:
CONSUMER BEHAVIOR AND DEMAND

1. Consumer Behavior

- The study of how individuals, groups, or organizations choose, buy, use, and dispose of goods, services, and ideas to fulfill their needs and wants.
- **Focus:** It emphasizes the actions of consumers in the marketplace and the reasons (motives) behind those actions.

2. Utility

- **Definition:** Utility refers to the satisfaction or benefit a consumer derives from consuming a good or service.
- The **greater** the utility from an item, the **stronger** the consumer's desire for it.
- **Subjective Nature:** Utility varies from person to person depending on their preferences and needs.

3. Types of Utility Analysis

A. Cardinal Utility Analysis

- Assumes utility can be **measured in numbers** (utils).
- **Total Utility (TU):**
 - Total satisfaction from consuming a certain quantity of a good.

- Here’s a clean, exam-ready rephrased version with correct notation and clear wording.

Total Utility (TU)

- Total Utility is the sum of satisfaction obtained from consuming all units of a good.
- **Formula:**
 $TU = MU_1 + MU_2 + MU_3 + \dots + MU_n$
or
 $TU = \sum MU$

Marginal Utility (MU)

- Marginal Utility refers to the additional satisfaction gained from consuming one extra unit of a good.
- **Formula:**
 $MU_n = TU_n - TU_{n-1}$

B. Ordinal Utility Analysis

- Assumes utility **cannot be measured numerically**, but can be **ranked** or ordered based on preference.
- Focuses on comparing satisfaction levels, not measuring them.

- **Indifference Curve:** A tool used in ordinal utility analysis to represent combinations of goods giving equal satisfaction.

4. Relationship between TU and MU

- **When MU is positive**, TU increases.
- **When MU starts declining**, TU still increases but at a **diminishing rate**.
- **When MU = 0**, TU reaches its **maximum** (called the **saturation point**).
- **When MU is negative**, TU starts to **decline**.

Law of Diminishing Marginal Utility

- As a consumer consumes more units of a good, the *marginal utility* (MU) derived from each additional unit decreases.
- The law explains the **increasing unwillingness of a consumer to pay the same price for extra units** of a good due to reduced satisfaction.

Key Assumptions:

1. Standard units of the good are consumed.
2. The consumption is continuous and regular.

Utility Table:

Units	Total Utility (TU)	Marginal Utility (MU)
1	10	10
2	19	9
3	25	6
4	28	3
5	28	0
6	27	-1

Observations:

- TU increases at a diminishing rate.
- MU decreases and becomes zero at the 5th unit.
- When MU becomes negative, TU starts declining.
- TU increases only when MU is positive.

Indifference Curve Analysis

- An **Indifference Curve (IC)** shows various combinations of two goods that give the consumer equal satisfaction or utility.

Key Points:

- The consumer is **indifferent** between all combinations on the same IC.
- A two-dimensional graph is used, with each axis representing a different good.

Example Table (Indifference Combinations):

Combination	Good Y (Bananas)	Good X (Mangoes)
A	1	-
B	2	10
C	3	10

Graph Interpretation:

- A higher indifference curve (e.g., IC3) represents a higher satisfaction level.
- Point C on IC3 (3 Bananas, 10 Mangoes) gives more utility than point B or A.

Marginal Rate of Substitution (MRS)

- **Definition:** MRS is the rate at which a consumer is willing to substitute one good for another while maintaining the same level of satisfaction.

- **Formula:**
 $MRS = - \Delta Y / \Delta X$
(Units of Good Y sacrificed for each additional unit of Good X)

Characteristics of Indifference Curves

1. **Downward Sloping:** To maintain the same utility, consuming more of one good requires consuming less of the other.
2. **Convex to the Origin:** Due to diminishing MRS.
3. **Do Not Intersect:** Each IC represents a different level of satisfaction.
4. **Higher IC = Higher Satisfaction**
5. **Do Not Touch Axis:** IC assumes consumption of both goods, so it never touches x-axis or y-axis.

Indifference Map.

- A group of indifference curves showing different levels of satisfaction.
- Helps represent a **complete picture of consumer preferences**.

Consumer Budget and Budget Set

Consumer Budget:

- Represents the **maximum quantity of goods and services** a consumer can buy with their income at given prices.
- Shows the consumer’s **purchasing power**.

Budget Set:

- The **set of all possible combinations** (bundles) of two goods a consumer can afford with their income.
- Bundles must cost **less than or equal to** the consumer’s income.

This is a great compilation of microeconomic concepts related to **consumer theory**, particularly around the **budget line**, **consumer choice**, and **demand**.

1. Budget Line

- **Equation:**
 $p_1x_1 + p_2x_2 = M$
Where:
 - p_1, p_2 represent the prices of Good 1 and Good 2
 - x_1, x_2 denote the quantities of Good 1 and Good 2
 - M stands for the consumer’s income
 - **Graphically:** The budget line shows all **combinations of two goods** that the consumer can purchase with the given income.

2. Attainable vs. Non-attainable Combinations

- **Attainable:** Points **on or inside** the budget line — affordable.
- **Unattainable:** Points **outside** the budget line — not affordable.

3. Budget Constraint

The **budget constraint** is the **limit** on consumption bundles that a consumer can afford.

4. Slope of Budget Line

To derive the slope of the budget line, we start with the budget equation:

$$p_1x_1 + p_2x_2 = M$$

When income (M) remains constant, any change in consumption must satisfy:

$$p_1\Delta x_1 + p_2\Delta x_2 = 0$$

Rearranging, we get:

$$\Delta x_2 / \Delta x_1 = - p_1 / p_2$$

4. Slope of the Budget Line

$$\text{Slope} = -p_1 / p_2$$

The slope indicates the rate at which a consumer must sacrifice units of **Good 2** to obtain an additional unit of **Good 1**, given constant income and prices.

5. Shifts in Budget Line

- **Income increase** → Budget line shifts **rightward** (parallel shift).
- **Income decrease** → Budget line shifts **leftward**.
- **Price change** → Rotation of budget line:
 - If p_1/p_2 decreases, line rotates **outward** from Good 1 axis.
 - If p_2/p_1 increases, line rotates **inward** from Good 2 axis.

6. Consumer's Optimum Choice

- Achieved when the **budget line is tangent** to the **highest possible indifference curve**.

Consumer's Optimum Choice

A consumer attains equilibrium or optimum choice when the **budget line** is tangent to the **highest attainable indifference curve**, given income and prices.

Condition for Consumer's Equilibrium:

At the optimal bundle $((x_1^*, x_2^*))$, the slope of the indifference curve equals the slope of the budget line.

Mathematical Condition:

$$MRS = p_2/p_1$$

Where:

- MRS = Marginal Rate of Substitution
- p_1, p_2 = prices of Good 1 and Good 2

Interpretation:

At equilibrium, the consumer's willingness to substitute one good for another exactly equals the market's rate of substitution based on prices.

7. Demand and Demand Function

- **Demand:** Quantity of a good a consumer is willing and able to buy at a given price.
- **Demand Function:**
 $D_x = f(P_x, P_R, Y, T, E)$

Where:

- D_x : Quantity demanded of Good X
- P_x : Price of Good X
- P_R : Prices of related goods (substitutes or complements)
- Y : Consumer income
- T : Tastes and preferences
- E : Expectations about future prices

Factors Affecting Demand

1. Price of the Product

- There is an **inverse relationship** between the price of a product and its quantity demanded.
- As **price decreases, demand increases**, and vice versa.
- This is known as the **Law of Demand**.

2. Consumer's Income

- Impact of income on demand varies by type of good:
 - **Normal Goods:**
 - Demand increases with rising income.

- E.g., branded clothes, smartphones.

▪ Inferior Goods:

- Demand decreases with rising income.
- E.g., coarse grains, local transport.
- Classification depends on personal preferences.

3. Prices of Related Goods

- Two types of related goods affect demand:

▪ Complementary Goods:

- Used together (e.g., car and petrol).
- Price increase of one reduces demand for the other.

▪ Substitute Goods:

- Used in place of each other (e.g., tea and coffee).
- Price increase of one increases demand for the other.

4. Consumer Tastes and Preferences

- Positive change in preferences → **increase in demand**.
- Negative change → **decrease in demand**.

5. Consumer Expectations

- If consumers expect **future price rise** or **supply shortage**, current demand increases.
- If future prices are expected to fall, current demand decreases.

Derivation of the Demand Curve (Using Indifference Curve Analysis)

- Assume a consumer has income **M** and consumes two goods: **Bananas (X_1)** and **Mangoes (X_2)**. Prices are **P_1** and **P_2** respectively.
- At initial equilibrium (**point C**), consumer buys certain quantities of X_1 and X_2 .
- When **price of X_1 (bananas) falls**, budget line shifts outward → new equilibrium at **point D** → consumer buys **more bananas**.
- As P_1 continues to fall, consumption of bananas increases further (points plotted to form **downward-sloping demand curve**).

Why is the Demand Curve Downward Sloping?

1. Substitution Effect:

- As bananas become cheaper, consumers substitute them for mangoes, increasing banana demand.

2. Income Effect:

- Lower price increases real income (purchasing power), allowing purchase of more goods, including bananas.

Law of Demand

- The **Law of Demand** states that, *ceteris paribus* (i.e., all other factors being constant), **when the price of a good decreases, its quantity demanded increases**, and vice versa.
- This implies a **negative (inverse) relationship between price and quantity demanded**.

Exceptions to the Law of Demand

1. Prestige Goods / Articles of Distinction:

- Demand increases with price due to the *status symbol* associated (e.g., antiques, diamonds).

- 2. **Necessities:**
 - Even if prices rise, demand remains steady or increases (e.g., medicines, salt).
- 3. **Giffen Goods:**
 - Inferior goods for which demand rises as price rises due to the **income effect outweighing the substitution effect**.

Types of Goods

- **Normal Goods:** Demand increases as consumer income increases.
- **Inferior Goods:** Demand decreases as consumer income increases (e.g., low-quality staples).
- **Giffen Goods:** A rare type of inferior good where demand increases with price.
- **Substitute Goods:** Goods that can replace each other (e.g., tea and coffee).
- **Complementary Goods:** Goods used together (e.g., car and petrol).

Demand Curve Changes

Shift in Demand Curve (Change in Demand):

- Caused by **non-price factors** such as:
 - Income
 - Tastes and preferences
 - Expectations
 - Population
 - Prices of related goods
- **Rightward Shift:** Increase in demand
- **Leftward Shift:** Decrease in demand
- **Price remains constant**

Relationship Between Total Expenditure and Price Elasticity of Demand

Elasticity Type	Notation	Effect on Total Expenditure When Price Changes
-----------------	----------	--

Unitary Elastic Demand	$E_d = 1$	Total expenditure remains unchanged when price increases or decreases.
Elastic Demand	$E_d > 1$	When price falls, total expenditure increases ; when price rises, total expenditure decreases .
Inelastic Demand	$E_d < 1$	When price rises, total expenditure increases ; when price falls, total expenditure decreases .

Factors Influencing Price Elasticity of Demand

1. **Availability of Close Substitutes**
 - The more substitutes available, the more elastic the demand.
 - *Example:* Coke, Pepsi, Limca – if Coke becomes expensive, people can switch to Pepsi.
2. **Nature of the Commodity**
 - **Necessities** (e.g., medicines, food grains) have **inelastic** demand.
 - **Luxuries** (e.g., refrigerators, ACs) have **elastic** demand as their use can be postponed.
3. **Price Level of the Commodity**
 - Expensive goods (e.g., cars, ACs) tend to have more **elastic** demand.
 - Cheap goods (e.g., pencils, matchboxes) have **inelastic** demand.
4. **Income Level of Consumers**
 - **High-income groups:** Less sensitive to price changes → demand is **inelastic**.
 - **Low-income groups:** More sensitive to price changes → demand is **elastic**.

CHAPTER –3:
MACROECONOMICS – NATIONAL INCOME AND RELATED AGGREGATES
(INTRODUCTION):

Introduction to National Income

National Income accounting deals with **measuring a country’s total income and output** during an accounting year. It mainly uses **numerical methods** to estimate income generated in the economy.

Methods of Measurement

National income is calculated through:

1. **Income Method**
2. **Expenditure Method**
3. **Value Added (Output/Product) Method**

Income Concepts Covered

National Income accounting includes computation and comparison of:

- National Income (Gross & Net)
- Domestic Income
- Personal Income
- Private Income

Gross and Net Concepts

Gross

- Includes **depreciation**
- Represents total output before wear and tear adjustment

Net

- Excludes depreciation

- Shows actual contribution to income

Depreciation

- Expected reduction in value of fixed assets due to use and wear
- Considered a **part of production cost**

Formulas

- **Gross = Net + Depreciation**
- **Net = Gross – Depreciation**

Other Names of Depreciation

- Consumption of Fixed Capital
- Capital Consumption Allowance
- Current Replacement Cost

National Income vs Domestic Income

National Income (NI)

- Income earned by **normal residents**, including income from abroad

Domestic Income (DI)

- Income earned **within domestic territory**, by residents and non-residents

Net Factor Income from Abroad (NFIA)

NFIA=Income from abroad–Income paid abroad

Relationship

$DI = NI - NFIA$

NFIA Special Cases

- Only payment abroad given → NFIA is negative
- Only income from abroad given → NFIA is positive
- Both given → $NFIA = \text{Income} - \text{Payment}$
- NFPA given → Reverse the sign to get NFIA

Factor Cost vs Market Price

Factor Cost (FC)

- Payments to factors of production
- Includes wages, rent, interest, profit

Market Price (MP)

- Price paid by consumers
- Includes indirect taxes, excludes subsidies

Net Indirect Taxes (NIT)

$NIT = \text{Indirect Taxes} - \text{Subsidies}$

Relationship

$$FC = MP - NIT$$

NIT Special Situations

- Only subsidy → NIT negative
- Only indirect tax → NIT positive
- Net subsidy given → reverse sign
- Ignore IT if Net Subsidy already given

Major National Income Aggregates

GDP at Market Price (GDPMP)

- Value of **final goods and services**
- Produced **within domestic territory**
- Includes depreciation and indirect taxes

GDP at Factor Cost (GDPFC)

$$GDPFC = GDPMP - \text{Indirect Taxes} + \text{Subsidies}$$

Net Domestic Product at Market Price (NDPMP)

$$NDPMP = GDPMP - \text{Depreciation}$$

Net Domestic Product at Factor Cost (NDPFC)

$$NDPFC = GDPMP - \text{Depreciation} - NIT$$

Also known as **Domestic Income**

Gross National Product at Market Price (GNPMP)

$$GNPMP = GDPMP + NFIA$$

Gross National Product at Factor Cost (GNPFC)

$$GNPFC = GNPMP - NIT$$

Net National Product at Market Price (NNPMP)

$$NNPMP = GNPMP - \text{Depreciation}$$

Net National Product at Factor Cost (NNPFC)

$$NNPFC = GNPMP - \text{Depreciation} - NIT$$

Also called **National Income**

Real vs Nominal National Income

Nominal National Income

- Calculated at **current prices**
- Affected by inflation

Real National Income

- Calculated at **base year prices**
- Shows real growth in output

GNP Deflator

- Measures price changes in GNP

$$\text{GNP Deflator} = \text{Nominal GNP} / \text{Real GNP} \times 100$$

Green GNP

- Adjusted GNP accounting for:
 - Environmental degradation
 - Depletion of natural resources

Activities Excluded from GDP/GNP

Excluded Items

1. Financial transactions (shares, bonds)
2. Government transfer payments (pensions, scholarships)
3. Private transfers (gifts, donations)
4. Sale of second-hand goods
5. Non-market activities (household work)
6. Illegal activities
7. Leisure activities

Limitations of GDP as Welfare Indicator

1. Ignores non-market services
2. Ignores externalities (pollution, benefits)
3. Unequal income distribution
4. Counts harmful goods
5. Not all goods add equally to welfare

Methods of Calculating National Income

1. **Income Method**
2. **Expenditure Method**
3. **Value Added / Output Method**

Income Method

Concept

“**Production creates income**”

Components

1. **Compensation of Employees (COE)**
 - Wages, salaries, bonuses
 - Employer’s social security contribution
 - Benefits in kind (excluding job-specific items)
2. **Operating Surplus (OS)**
 - Rent (including imputed rent)
 - Interest on productive loans
 - Profit (distributed + undistributed + corporate tax)
3. **Mixed Income (MI)**
 - Income of self-employed persons

Formula

$$NDPFC = COE + OS + MI$$

$$NNPFC = NDPFC + NFIA$$

Expenditure Method

Concept

“**Production creates expenditure**”

Components

1. Private Final Consumption Expenditure (PFCE)
2. Government Final Consumption Expenditure (GFCE)
3. Gross Domestic Capital Formation (GDCF)
4. Net Exports ($X - M$)

Formula

$$GDPMP = PFCE + GFCE + GDCF + (\text{Exports} - \text{Imports})$$

Precautions in Expenditure Method

- Include only final expenditure
- Avoid double counting
- Adjust inventories correctly
- Exports added, imports deducted.

MACROECONOMICS – MONEY AND BANKING

Meaning of Money

Money refers to anything that is **generally accepted** in an economy as:

- a **medium of exchange**
- a **measure (unit) of value**
- a **store of value**
- a **standard for deferred payments**

Functions of Money

A. Primary Functions

1. **Medium of Exchange**
Money enables the buying and selling of goods and services and removes the limitations of barter.
2. **Unit of Value (Measure of Value)**
Money provides a common unit to express and compare the value of different goods and services.

B. Secondary Functions

1. **Store of Value**
Money preserves purchasing power and can be saved for future use.
2. **Standard of Deferred Payments**
Money facilitates future payments such as loans, credit purchases, and instalments.
3. **Transfer of Value**
Money allows purchasing power to be transferred from one person or place to another.

C. Contingent Functions

1. Forms the **basis of credit**
2. Acts as a **source of liquidity**
3. Supports the **price mechanism**
4. Helps both producers and consumers in decision-making
5. Serves as a **basis for distribution of national income**

Barter System

Barter system refers to the **direct exchange of goods and services without the use of money**.

Drawbacks of Barter System

1. No common measure of value
2. Lack of double coincidence of wants
3. Absence of deferred payment system
4. No store of value
5. Difficulty in dividing goods
6. Limited transferability

Demand for Money

Demand for money means the **desire to hold money** for making transactions and meeting future uncertainties.

Motives for Demand for Money

1. **Transaction Motive (MdT)**
 - Money held for routine transactions
 - Depends on income level and GDP
2. **Speculative Motive (MdS)**
 - Money held for investment opportunities
 - Inversely related to the rate of interest

Aggregate Demand for Money

$$Md = MdT + MdS$$

Fiat Money

- Money declared **legal tender by the government**
- Not backed by any physical commodity
- Value depends on **government authority and public confidence**

Money Supply

Money supply refers to the **total amount of money available with the public** at a given point of time.

Includes

- Currency with the public
- Bank deposits

Excludes

- Government deposits
- Inter-bank deposits

Measures of Money Supply (as per RBI)

Components

- **CU** – Currency with Public
- **DD** – Demand Deposits
- **OD** – Other Deposits

Classification

- **M1 and M2** → Narrow Money
- **M3 and M4** → Broad Money
- **M3** is the most commonly used measure

$$M1 > M2 > M3 > M4$$

Banking System

Commercial Banks

Commercial banks accept deposits, provide loans, and offer financial services with the objective of earning profit.

Examples: SBI, Canara Bank

Functions of Commercial Banks

Primary Functions

1. Acceptance of deposits
2. Granting loans and advances
3. Creation of credit

Secondary Functions

A. Agency Services

- Transfer of funds
- Collection of rent, interest, and dividends
- Buying and selling of securities
- Payment of insurance premiums
- Acting as trustee or executor

B. General Utility Services

- Foreign exchange transactions
- Issuing traveller's cheques
- Providing safe deposit lockers
- Underwriting securities

Central Bank

The central bank is the **apex monetary authority** responsible for regulating the banking and financial system of the country.

Functions of Central Bank

1. Issuer of currency
2. Banker to the government
3. Bankers' bank and supervisor
4. Controller of credit
5. Lender of last resort
6. Custodian of foreign exchange

Credit Creation by Commercial Banks

Meaning of Credit

Credit refers to the **lending of funds by banks**, leading to the creation of money in the economy.

Factors Affecting Credit Creation

1. Initial deposit
2. Legal Reserve Ratio (LRR)

Components of LRR

- **CRR** – Cash reserves kept with RBI
- **SLR** – Liquidity maintained by banks

Credit Creation Formula

Credit Multiplier = $1/\text{LRR}$

Total Credit Creation = Initial Deposit $\times 1/\text{LRR}$

Monetary Policy Tools

Repo Rate

- Rate at which RBI lends to commercial banks
- Used to control inflation
- Higher repo rate $\rightarrow$ reduced borrowing

Reverse Repo Rate

- Rate at which RBI borrows from banks
- Used to manage liquidity
- Higher reverse repo $\rightarrow$ less money in circulation

Regulation of Money Supply by RBI

A. Quantitative Tools (General Controls)

1. Cash Reserve Ratio (CRR)
2. Statutory Liquidity Ratio (SLR)
3. Open Market Operations (OMO)

B. Qualitative Tools (Selective Controls)

1. Moral suasion
2. Selective credit controls
3. Credit rationing

Monetary Policy Measures

I. Qualitative Measures

1. **CRR** – Regulates liquidity
2. **SLR** – Ensures solvency of banks
3. **Bank Rate** – Influences cost of borrowing
4. **High-Powered Money**
 - Currency with public + bank reserves
 - Base for credit creation

II. Quantitative Measures

1. **Open Market Operations**
 - Purchase of securities $\rightarrow$ increases liquidity
 - Sale of securities $\rightarrow$ absorbs liquidity
2. **Bank Rate Policy**
 - Increase in bank rate discourages borrowing
3. **Sterilisation**
 - Neutralises excess liquidity from foreign capital inflows
 - Achieved through sale of government securities

RBI – RESERVE BANK OF INDIA

- **Established:** 1935
- **Based on:** RBI Act, 1934
- **Headquarters:** Mumbai
- **Ownership:** Fully owned by Government of India (nationalised in 1949)

1. RBI's Role:

RBI is India's **central bank** and the apex authority for **monetary policy, banking regulation, and currency management**.

2. Core Objectives of RBI

- Maintain **price stability** (control inflation)
- Ensure **financial stability**
- Regulate **money supply and credit**
- Promote **economic growth**
- Maintain **exchange rate stability**

3. Functions of RBI

A. Issuer of Currency

- Issues **₹ notes** (except ₹1 note and coins, issued by Govt of India)
- Ensures **adequate supply of clean currency**
- Uses **Minimum Reserve System**:

- ₹200 crore total reserve
- ₹115 crore in gold
- ₹85 crore in foreign securities

B. Banker to the Government

- Maintains accounts of **Central and State Governments**
- Receives and makes payments on their behalf
- Manages **public debt**
- Provides **Ways and Means Advances (WMA)** to governments

C. Banker's Bank

- Commercial banks keep **CRR** with RBI
- Acts as **custodian of bank reserves**
- Provides refinance facilities

D. Lender of Last Resort

- Provides emergency liquidity to banks during financial stress
- Prevents bank failures and panic

E. Controller of Credit

RBI controls credit to:

- Control inflation/deflation
- Ensure balanced growth

Tools of Credit Control

1. Quantitative (General) Tools

Affect overall money supply.

- **Repo Rate:**
Rate at which RBI lends to banks
 $\uparrow$ Repo $\rightarrow$ borrowing $\downarrow \rightarrow$ inflation control
- **Reverse Repo Rate:**
Rate at which RBI borrows from banks
 $\uparrow$ Reverse repo $\rightarrow$ liquidity $\downarrow$
- **CRR (Cash Reserve Ratio):**
% of deposits banks keep with RBI
 $\uparrow$ CRR $\rightarrow$ lending capacity $\downarrow$
- **SLR (Statutory Liquidity Ratio):**
% of deposits kept in liquid assets
 $\uparrow$ SLR $\rightarrow$ credit creation $\downarrow$
- **Open Market Operations (OMO):**
 - RBI buys securities $\rightarrow$ liquidity $\uparrow$
 - RBI sells securities $\rightarrow$ liquidity $\downarrow$

2. Qualitative (Selective) Tools

Affect specific sectors.

- **Moral Suasion:** Persuasion/advice to banks
- **Selective Credit Control:** Directing credit to priority sectors
- **Margin Requirements:**
Higher margin $\rightarrow$ borrowing discouraged

F. Custodian of Foreign Exchange

- Manages **Forex reserves**
- Regulates foreign exchange under **FEMA**
- Maintains balance of payments stability

4. Monetary Policy

Monetary policy is the use of **interest rates and liquidity tools** by RBI to regulate money supply.

Objectives

- Control inflation
- Promote growth
- Maintain liquidity balance

Monetary Policy Committee (MPC)

- **Introduced:** 2016
- **Members:** 6 (3 RBI + 3 Govt nominees)
- **Target:** Inflation targeting ($4\% \pm 2\%$)

5. Repo Corridor (Advanced Concept)

Repo Corridor =

Reverse Repo Rate < Repo Rate < MSF Rate

- **MSF (Marginal Standing Facility):**
Emergency borrowing rate (higher than repo)

RBI and Inflation Control

Inflation Types:

- **Demand-pull inflation:**
RBI increases repo, CRR, SLR
- **Deflation:**
RBI lowers repo rate, injects liquidity

7. RBI vs Commercial Banks (COMPARISON)

RBI	Commercial Banks
-----	------------------

Apex monetary authority	Profit-oriented institutions
Issues currency	Cannot issue currency
Controls money supply	Create credit
Lender of last resort	Borrower of last resort

Frequently Asked in MCQs

- RBI **does not** print ₹1 notes
- RBI **does not** deal directly with public
- CRR is **kept with RBI**, SLR **with banks**
- RBI regulates banks, **SEBI regulates capital markets**
- Repo ↑ → Inflation ↓
- CRR ↑ → Credit ↓
- OMO purchase → Liquidity ↑
- Reverse Repo ↑ → Money supply ↓

RBI vs SEBI vs NABARD

Basis	Reserve Bank of India (RBI)	Securities and Exchange Board of India (SEBI)	National Bank for Agriculture and Rural Development (NABARD)
Year of Establishment	1935	1992	1982
Governing Act	RBI Act, 1934	SEBI Act, 1992	NABARD Act, 1981
Nature	Central Bank	Capital Market Regulator	Development Financial Institution
Headquarters	Mumbai	Mumbai	Mumbai
Main Objective	Monetary stability & financial system regulation	Protect investors & regulate capital markets	Promote agriculture & rural development
Primary Role	Controls money supply and credit	Regulates stock markets & securities	Provides credit to rural/agricultural sector
Area of Control	Banks, NBFCs, monetary policy	Stock exchanges, brokers, mutual funds	Rural banks, cooperative banks, RRBs
Currency Issue	Yes (except ₹1 note)	No	No
Monetary Policy	Formulates & implements	No role	No role
Regulation Type	Monetary & banking regulation	Market & investor regulation	Developmental & refinancing role
Lender of Last Resort	Yes	No	No
Investor Protection	Indirect	Direct responsibility	Not applicable
Refinance Facility	Limited	No	Major function
Target Sector	Entire economy	Capital market participants	Farmers, SHGs, rural institutions

SEBI – Securities and Exchange Board of India

- Regulates **capital markets**
- Protects **investor interests**
- Oversees:
 - Stock exchanges (NSE, BSE)
 - Mutual funds
 - Brokers, merchant bankers
- Prevents **insider trading & market manipulation**
- *SEBI does NOT control money supply or banks*

NABARD – National Bank for Agriculture and Rural Development

- Focuses on **rural & agricultural finance**
- Provides **refinance** to:
 - Cooperative banks
 - Regional Rural Banks (RRBs)
- Supports:
 - Farmers
 - SHGs & microfinance
 - Rural infrastructure
- *NABARD does NOT regulate capital markets*

Quick Memory Hook

- **RBI** = Money + Banks + Inflation
- **SEBI** = Shares + Investors + Markets
- **NABARD** = Agriculture + Rural Credit

CHAPTER-5
MACROECONOMICS
DETERMINATION OF INCOME AND
EMPLOYMENT (KEYNESIAN MODEL)

Aggregate Demand (AD)

Aggregate demand is the **total planned expenditure** on final goods and services in an economy at a given income level during a given period.

Components of AD

Open Economy (4-sector):

$AD = C + I + G + (X - M)$

Where:

- **C** = Consumption expenditure
- **I** = Investment expenditure
- **G** = Government expenditure

- **X** = Exports, **M** = Imports

Closed Economy:

- **Three-sector:** $AD = C + I + G$
- **Two-sector:** $AD = C + I$

Ex-ante and Ex-post AD

- **Ex-ante AD:** Planned or intended spending (expected).
- **Ex-post AD:** Actual spending that takes place.

Aggregate Supply (AS)

Meaning: Aggregate supply is the **total value of final output produced** in an economy during a period.

Key identity: National income equals output.

$$AS = Y$$

In a two-sector model:

$$AS = C + S$$

Consumption Function

Consumption depends on income.

$$C = \bar{C} + cY$$

Where:

- **C** = Total consumption
- **$\bar{C}$** = Autonomous consumption (even when income is zero)
- **cY** = Induced consumption (depends on income)
- **Y** = Income

Note: Consumption curve starts above origin because $\bar{C}$ exists.

Types of Consumption

- **Autonomous Consumption $\bar{C}$** = independent of income
- **Induced Consumption (cY):** rises with income

Propensity to Consume

(a) Average Propensity to Consume (APC)

$$APC = C/Y$$

Key points:

- **APC > 1** at low income (consumption may exceed income)
- **APC = 1** when ($C = Y$)
- **APC < 1** at higher income
- APC generally **falls as income rises**
- APC is **not zero** due to autonomous consumption

(b) Marginal Propensity to Consume (MPC)

$$MPC = \Delta C / \Delta Y$$

Key points:

- **MPC = 1** → whole additional income is consumed
- **MPC = 0** → whole additional income is saved
- MPC is constant in short run and equals **slope of consumption curve**
- Generally **MPC < APC**

Saving Function

Saving is the part of income not consumed.

$$S = Y - C$$

If $C = \bar{C} + bY$, then:

$$S = -\bar{C} + (1-b)Y$$

Where:

- **$((1-b)) = MPS$ (Marginal Propensity to Save)**

Propensity to Save

(a) Average Propensity to Save (APS)

$$APS = S/Y$$

Key points:

- **APS = 0** when ($C = Y$)
- **APS < 0** when ($C > Y$) (dissaving)
- APS generally **rises with income**

(b) Marginal Propensity to Save (MPS)

$$MPS = \Delta S / \Delta Y$$

- Lies between 0 and 1
- Equals **slope of saving curve**
- Generally constant in short run

Relationships

APC and APS

Since $Y = C + S$:

$$APC + APS = 1$$

MPC and MPS

$$MPC + MPS = 1$$

Also:

$$(\text{Delta}) \Delta Y = \Delta C + \Delta S$$

Investment (I)

Meaning: Investment is spending on assets to earn profit or create future income (machines, buildings, infrastructure).

Appreciation: rise in asset value over time.

Types of Investment

1. **Induced Investment:** depends on income/profits
2. **Autonomous Investment:** independent of income (often govt/infrastructure)

Ex-ante vs Ex-post Investment

- **Ex-ante:** planned investment
- **Ex-post:** actual investment

Equilibrium Level of Income

Equilibrium occurs when:

$$AD = AS$$

or equivalently (two-sector):

$$S = I$$

Note: Equilibrium does not necessarily mean full employment.

Two-Sector Model Assumptions

1. Closed economy (only households + firms)
2. ($AD = C + I$)
3. Investment is autonomous
4. Short-run framework

AD–AS Situations

(a) $AD > AS$

- Excess demand → inventories fall/shortage
- Firms increase output → income rises until equilibrium

(b) $AD < AS$

- Excess supply → inventories rise
- Firms cut output → income falls until equilibrium

Saving–Investment Approach

Equilibrium at point where:

$$S = I$$

- If $S > I$ → unsold stock → output falls → income falls → savings fall
- If $S < I$ → demand exceeds supply → output rises → income rises → savings rise

Types of Employment

- **Full employment:** all willing and able workers get work at prevailing wage
- **Voluntary unemployment:** refuses work at current wage
- **Involuntary unemployment:** wants work but can't get it
- **Underemployment:** employed but skills not fully used

Multiplier

Meaning: A change in investment causes a **larger change in income** due to repeated rounds of spending.

$$K = \Delta Y / \Delta I$$

Also:

$$K = 1 / 1 - MPC$$

Example (correct method): if $MPC = 0.45$

$$K = 1 / 1 - 0.45 = 1 / 0.55 = 1.818$$

Excess Demand and Deficient Demand

Excess Demand ($AD > AS$ at full employment)

- leads to **inflation**
- output and employment don't rise further (already full capacity)

Deficient Demand ($AD < AS$)

- leads to **deflation**
- output falls and unemployment rises

Inflationary Gap and Deflationary Gap

- **Inflationary gap:** AD exceeds full-employment output demand
- **Deflationary gap:** AD is short of full-employment demand

Policies to Correct Demand Gaps

A) Fiscal Policy

- **Taxes:**
 - Excess demand → raise taxes
 - Deficient demand → lower taxes
- **Public expenditure:**
 - Excess demand → cut spending
 - Deficient demand → increase spending
- **Public borrowing:**
 - Excess demand → borrow more
 - Deficient demand → borrow less

B) Monetary Policy (RBI)

Quantitative tools: Bank rate, CRR, SLR, OMO

- Excess demand → tighten money supply
- Deficient demand → expand money supply

Qualitative tools: margin requirements, selective credit control, moral suasion

Paradox of Thrift (Keynes)

If everyone saves more:

- consumption falls
 - demand falls
 - output and income fall
- So total saving may not rise, and unemployment can increase.

Bonds and Masala Bonds

Bond (Debt Security)

- Investor lends to government/company
- Gets fixed interest + principal at maturity

Masala Bonds

- Issued outside India but in **Indian Rupees**
- Exchange-rate risk differs since repayment is in INR
- Term "Masala" was coined by IFC

- Minimum maturity commonly stated as **3 years** (with typical 3/5/7 years).

CHAPTER – 6

GOVERNMENT BUDGET AND THE ECONOMY

Meaning of Budget

A **government budget** is an **annual financial statement** that shows the **estimated receipts (income)** and **expenditure** of the government for a particular financial year.

It indicates how the government plans to **mobilise and allocate resources** to achieve economic and social objectives.

Objectives of Government Budget

The major objectives of the budget are:

- **Redistribution of resources** in the economy
- **Redistribution of income and wealth** to reduce inequality
- **Efficient management of public sector enterprises**
- **Economic stability** by controlling inflation and deflation
- **Promotion of economic growth and development**
- **Generation of employment opportunities**

Components of Government Budget

A. Revenue Budget

- Deals with **revenue receipts** and **revenue expenditure**
- Related to **day-to-day operations** of the government

B. Capital Budget

- Includes **capital receipts** and **capital expenditure**
- Related to **creation of assets** and **reduction or creation of liabilities**

Budget Receipts

A. Revenue Receipts

(Do **not** create liabilities or reduce assets)

1. Tax Revenue

- **Direct Taxes:** Paid directly by individuals or firms
Examples: Income tax, corporate tax
- **Indirect Taxes:** Paid indirectly through goods and services
Examples: GST, excise duty

2. Non-Tax Revenue

- Interest receipts
- Fees, fines, penalties
- Grants and dividends from public enterprises

B. Capital Receipts

(Create liabilities or reduce assets)

- Borrowings (market loans, foreign loans, RBI loans, bank loans)
- Recovery of loans
- Disinvestment in public sector undertakings (PSUs)
- Provident funds and small savings

Budget Expenditure

A. Revenue Expenditure

- **Recurring expenses** incurred for administration and welfare
- Does **not** result in asset creation
- *Examples:* Salaries, pensions, interest payments, subsidies

B. Capital Expenditure

- **Long-term investment** by the government
- Leads to **asset creation** or **repayment of loans**
- *Examples:* Infrastructure, roads, machinery, loan repayment

Budget Deficit

A **budget deficit** occurs when:
Total Expenditure > Total Receipts
It reflects the **overall fiscal imbalance** in the government budget.

Revenue Deficit

Revenue deficit arises when **revenue expenditure exceeds revenue receipts**.
Formula
Revenue Deficit = Revenue Expenditure – Revenue Receipts
Implications

- Government’s **current income is insufficient** for current expenses
- Indicates **dissaving** by the government
- Leads to **use of capital receipts** for revenue spending
- Reduces capital formation
- Reflects **poor fiscal discipline**

Fiscal Deficit

Fiscal deficit shows the **total borrowing requirement** of the government.
Formula
Fiscal Deficit = Total Expenditure – Total Receipts (excluding borrowings)
Implications

- May lead to **inflationary pressure**
- Increases public debt
- Reduces future development spending
- Can result in a **debt trap**
- Highlights need for **fiscal responsibility**

Primary Deficit

Primary deficit measures the fiscal imbalance **excluding interest payments**.

Formula
Primary Deficit = Fiscal Deficit – Interest Payments
Implication

- Shows the extent of borrowing for **current expenditure**
- Indicates the government’s **fiscal effort**

Measures to Reduce Fiscal and Primary Deficits

- Rationalise subsidies and grants
- Recover idle or misused assets
- Increase tax revenue and curb tax evasion
- Broaden the tax base
- Use domestic and foreign borrowings judiciously

Fiscal Policy

Fiscal policy refers to the use of **government expenditure and taxation** to influence economic activity.

Theoretical Basis

- Based on **Keynesian economics** (J.M. Keynes)

Objectives

- Control inflation and deflation
- Promote employment
- Maintain economic stability
- Encourage economic growth

Relation with Monetary Policy

- Fiscal policy works along with **monetary policy**, which is managed by the **central bank**

Public Debt

Public debt refers to the **money borrowed by the government** to finance its expenditure.

Forms

- Loans
- Government bonds and securities

Purpose

- Finance revenue and capital expenditure
- Bridge fiscal deficit
- Support development programmes

CHAPTER 7: Indian Economy on the Eve of Independence

Agricultural Sector

Major Problems

- Very **low productivity**, reflected in poor output per hectare
- **Heavy dependence on monsoons**, making agriculture risky and uncertain
- **Exploitative land relations**, especially between zamindars and tenants

Reasons for Agricultural Backwardness

- **Land Revenue Systems**
 - Under the **Zamindari system**, landlords were permanent owners who extracted high rents and exploited cultivators
 - **Ryotwari** and **Mahalwari** systems also placed heavy financial burdens on farmers
- **High Rent (Lagaan)**
 - Farmers were left with little or no surplus for seeds, irrigation, or land improvement
- **Commercialisation of Agriculture**
 - Shift from food crops to cash crops like cotton and indigo
 - Benefited British industries, not Indian farmers
- **Poor Infrastructure**
 - Lack of state support for irrigation, technology, and agricultural development.

Land Revenue Systems in British India

Basis	Zamindari System	Ryotwari System	Mahalwari System
Introduced by	Lord Cornwallis (Permanent Settlement, 1793)	Thomas Munro & Alexander Read	Holt Mackenzie (later modified by Lord William Bentinck)
Ownership of land	Zamindars were the permanent owners of land	Cultivators (ryots) were recognized as landowners	Village community or group (mahal) owned the land
Revenue payer to government	Zamindar paid land revenue to the British government	Ryot paid land revenue directly to the government	Village head or group paid revenue on behalf of the village
Fixity of revenue	Revenue was fixed permanently	Revenue was periodically revised	Revenue was periodically revised
Area of implementation	Bengal, Bihar, Odisha, parts	Madras, Bombay,	Punjab, Haryana, parts of

	of Uttar Pradesh	parts of Assam	Uttar Pradesh
Role of intermediaries	Intermediaries present (zamindars)	No intermediaries	Intermediaries existed at village level
Impact on cultivators	Severe exploitation, high rents, insecurity of tenure	Heavy tax burden on peasants; frequent revisions caused distress	Collective responsibility increased pressure on villages

Quick Exam Points

- **Zamindari System** → Maximum exploitation due to intermediaries
- **Ryotwari System** → Direct farmer–government relation but heavy tax burden
- **Mahalwari System** → Village-level responsibility increased pressure on cultivators

Industrial Sector

Systematic De-industrialisation

- Sharp decline of **traditional handicrafts and cottage industries**
- **Modern industries grew very slowly** due to low investment and colonial neglect

British Industrial Policy

- Two main objectives:
 - Extraction of **raw materials** from India
 - Use of India as a **market for British manufactured goods**

Foreign Trade

- **Before British rule:** India enjoyed a strong and favourable position in world trade
- **During British rule:**
 - Trade policies were designed to serve British interests
 - India became an **exporter of raw materials** and an **importer of finished British goods**

Demographic Conditions

- **High birth rate:** about 48 per 1000
- **High death rate:** about 40 per 1000
- These reflected **economic backwardness**, poor medical facilities, and weak sanitation

Occupational Structure

- Around **85% of the population depended on agriculture**
- Very limited employment opportunities in industry and services

Infrastructure

- Some development occurred, especially **railways**, but:
 - Infrastructure mainly served **British economic and administrative interests**
 - Focused on transporting raw materials and troops
 - Provided **little real benefit** to the Indian economy or common people

National Income and Per Capita Income

- No official estimates prepared by the colonial government
- Estimates were made by individuals like **Dadabhai Naoroji** and **V. K. R. V. Rao**

- **National income and per capita income were extremely low** due to:
 - Colonial exploitation
 - Lack of productive and industrial investment

Low Economic Growth

- India was largely **self-sufficient before colonial rule**
- British policies converted India into:
 - A **supplier of raw materials**
 - A **consumer of British manufactured goods**
- There were **no serious efforts to modernise or State of the Industrial Sector before Independence**

Decline of Handicraft Industries

- India was internationally famous for its handicrafts such as cotton and silk textiles, metal goods, jewellery, carpets, and fine furniture.
- British colonial policies caused **systematic de-industrialisation**, leading to the collapse of traditional cottage industries.

Reasons for Decline:

- **Discriminatory Tax Policy:** Indian handicrafts faced heavy export duties, while British manufactured goods entered India with little or no import duty.
- **Competition from Machine-made Goods:** British factory products were cheaper, mass-produced, and uniform in quality, making Indian handmade goods uncompetitive.
- **Expansion of Railways:** Railways helped British goods reach even remote Indian markets, sharply reducing demand for local handicrafts.

Slow Growth of Modern Industries

- Industrial development remained sluggish until the late 19th century.
- Early modern industries included **cotton and jute textiles**, followed later by iron and steel industries.
- **TISCO (Tata Iron and Steel Company)** was established in **1907 at Jamshedpur**, marking a major milestone.

Bengal’s Textile Industry (Muslin)

- **Daccai Muslin**, produced in Dhaka (present-day Bangladesh), enjoyed worldwide fame.
- The finest varieties were called **malma shahi** or **malma khas**, used exclusively by royalty and aristocracy.
- British policies and competition led to the near extinction of this prestigious industry.

Status of Foreign Trade under Colonial Rule

- India’s foreign trade was reshaped to suit British economic interests.

Main Features:

- Exporter of Raw Materials and Importer of Finished Goods**
 - Exports: Cotton, jute, indigo, sugar, raw silk.
 - Imports: British-manufactured consumer goods.
- British Monopoly over Trade**
 - Britain dominated India’s overseas trade.
 - Opening of the **Suez Canal in 1869** strengthened British control.
- Drain of Wealth**
 - Trade surpluses were used to finance British administration and wars.

- No reinvestment was made for India’s economic development.

Occupational Structure before Independence

- The economy was **agriculture-dominated**.
 - Agriculture: **70–75%**
 - Manufacturing: **Around 10%**
 - Services: **15–20%**

Regional Variations:

- Increase in agricultural labourers in **Orissa, Rajasthan, Punjab**.
- Decline in agricultural workforce in **Bombay Presidency, Madras Presidency, Bengal**, due to limited industrial absorption.

Infrastructure Development under British Rule

Colonial infrastructure development primarily served British administrative and commercial objectives.

Roads

- Built mainly for military movement and transport of raw materials.
- Poor rural connectivity and limited support for domestic trade.

Railways

- Introduced in **1853**.
- Integrated Indian markets and improved mobility.
- Economically exploitative as they promoted export of agricultural raw materials.

Water and Air Transport

- Inland waterways received minimal attention.
- **Tata Airlines (1932)** marked the beginning of civil aviation, mainly for colonial needs.

Communication

- **Postal services** introduced in 1837.
- **Telegraph system** introduced in 1857, largely for administrative control and military use.

Demographic Conditions at the Time of Independence

- First all-India census conducted in **1881**.
- Major population growth began after **1921**, known as the second phase of demographic transition.
- Average annual population growth till 1951 was about **1.2%**.

Key Indicators (1947):

- Literacy Rate: **Below 16%** (female literacy around **7%**)
- Infant Mortality Rate: **218 per 1000 live births**
- Life Expectancy: **44 years**
- Birth Rate: **48 per thousand**
- Death Rate: **40 per thousand**
- Public healthcare facilities were scarce and largely inaccessible.

Economic Planning in India

Economic planning refers to the **deliberate and systematic allocation of national resources** by the government to achieve specific **economic and social objectives** within a fixed time period.

Objectives of Economic Planning

Long-Term Goals (20 Years)

1. **Modernisation**
Adoption of new technology and progressive social outlook.
2. **Self-Reliance**
Reducing dependence on imports and foreign aid.

3. **Economic Growth**

Increase in GDP and production of goods and services.

4. **Equity**

Reduction in income and wealth inequalities.

5. **Full Employment**

Providing productive employment to all willing workers.

Short-Term Goals (Five-Year Plans)

- Objectives differed according to economic needs of each plan.
- **First Plan (1951–56):** Agriculture-focused.
- **Second Plan (1956–61):** Emphasis on industrialisation.
- **Common focus of all plans:** Growth with equity.
- **Twelfth Plan (2012–17):** Inclusive and sustainable development.

Agriculture in India: Key Features

1. Low agricultural productivity
2. Disguised unemployment
3. Heavy dependence on monsoons
4. Subsistence-level farming
5. Use of traditional methods
6. Small and fragmented land holdings
7. Obsolete technology
8. Tenant exploitation and insecurity

Major Problems of Indian Agriculture

General Problems

- High population pressure on land
- Land degradation
- Natural calamities and pest attacks

Institutional Problems

- Fragmentation of land holdings
- Ineffective implementation of land reforms
- Lack of institutional credit and market access

Technical Problems

- Inadequate irrigation facilities
- Unscientific cropping patterns
- Outdated production techniques

Agricultural Reforms in India

A. Institutional Reforms (Land Reforms)

1. Abolition of intermediaries
2. Regulation of tenancy
3. Consolidation of land holdings
4. Land ceiling laws
5. Promotion of cooperative farming

B. General Reforms

1. Expansion of irrigation facilities
2. Strengthening rural credit institutions
3. Development of regulated markets
4. Introduction of Minimum Support Price (MSP)

C. Technological Reforms (Green Revolution)

1. Use of High-Yielding Variety (HYV) seeds
2. Chemical fertilisers and pesticides
3. Crop rotation and multiple cropping
4. Scientific farming techniques

Green Revolution

Achievements

- Significant rise in agricultural productivity
- Increase in farmers’ income
- Expansion of commercial farming
- Social transformation in rural areas
- Growth in employment and cultivated area

Limitations

- Confined mainly to wheat and rice regions (Punjab, Haryana, U.P., Andhra Pradesh)
- Limited impact on poverty reduction
- Widened income inequality between large and small farmers
- Environmental degradation due to excessive chemical use

Role of the Industrial Sector in India

Importance of Industrial Development

1. Raises national income
2. Creates employment opportunities
3. Promotes regional balance
4. Introduces modern technology
5. Supports agricultural modernisation
6. Encourages exports
7. Drives economic growth
8. Strengthens economic structure
9. Enhances living standards
10. Facilitates sustainable development

Industrial Development after Independence

Major Developments

- Industrial sector's share in GDP rose to about **20% by 2013–14**.
- Growth in:
 1. Infrastructure (power, transport, banking, skilled labour)
 2. Research and development
 3. Public sector enterprises
 4. Consumer goods industries
 5. Production of non-essential goods

Problems of Industrial Development

1. **Sectoral Imbalance** – Weak linkage with agriculture
2. **Regional Imbalance** – Concentration in few states
3. **Industrial Sickness** – Inefficient units causing unemployment
4. **High Cost Structure** – Lack of competition
5. **Dependence on Government Support**
6. **Public Sector Inefficiency**
7. **Power Shortages**
8. **Liquidity and cash-flow problems**

Role of the Public Sector in Industrial Development

Need for State Intervention

1. Inadequate private investment
2. Welfare orientation of the government
3. Development of infrastructure and backward regions
4. Prevention of economic concentration
5. Conservation of foreign exchange

Industrial Policy Resolution (IPR), 1956

Objectives

1. Rapid industrial growth
2. Development of heavy and basic industries
3. Expansion of the public sector
4. Reduction of income inequalities
5. Prevention of concentration of economic power

Classification of Industries

- **Schedule A:** 17 industries exclusively under state control
- **Schedule B:** 12 industries with mixed public-private participation
- **Schedule C:** Industries open to private sector

Other Features

- Licensing system for private industries

- Support to small industries
- Incentives like tax concessions and power supply

Small Scale Industries (SSI)

Industries with investment up to **₹5 lakh**.

Importance

1. Generates self-employment
2. Promotes regional development
3. Encourages innovation
4. Supports large industries

Problems

1. Financial constraints
2. Shortage of raw materials
3. Marketing difficulties
4. Obsolete technology
5. Competition from large industries

Foreign Trade in India

Pre-Independence

- Export of raw materials
- Import of finished goods
- Trade surplus favoured Britain

Post-Independence Changes

1. Decline in agricultural exports
2. Rise in manufactured exports
3. Reduced dependence on Britain

Trade Policy: Import Substitution Strategy

Replacing imports with domestically produced goods to promote self-reliance.

Impact

1. Saved foreign exchange
2. Protected domestic industries
3. Strengthened industrial base

Criticism

1. Reduced competition and efficiency
2. Slow industrial growth
3. Misallocation of resources

Industrial Licensing and IDRA, 1951

Industrial Licensing System

- Introduced to **regulate and control industrial expansion** in India.
- Aimed to ensure that **scarce resources** were used in **priority sectors**.
- Required government permission for setting up, expanding, or changing industrial units.

Industries Development and Regulation Act (IDRA), 1951

- Enacted to provide a **legal framework for industrial regulation** through licensing.
- Sought to align industrial growth with **national economic objectives**.

Objectives of IDRA

1. Planned and systematic industrial development
2. Prevention of monopoly and concentration of economic power
3. Balanced regional development
4. Avoidance of unhealthy competition between large and small industries
5. Efficient use of foreign exchange

Provisions of IDRA

- Compulsory registration of all organised industries
- Mandatory licensing for:
 - New industries
 - Expansion of existing industries
- Government empowered to:
 - Inspect industrial performance

- Regulate production and prices
- Authority to **take over mismanaged or inefficient industries**

Criticism of Industrial Licensing Policy

1. Licensing decisions were arbitrary and lacked transparency
2. Poor techno-economic evaluation of projects
3. Led to underutilisation of industrial capacity
4. Favoured large firms over small enterprises
5. Increased concentration of economic power

License Raj

- System where industrial licenses were often granted to a few big business houses
- Discouraged competition and entrepreneurship

Economic Reforms in India (1991 Onwards)

Basis of Reforms

- Shift from state control to **market-oriented economy**
- Greater reliance on **market forces** for growth and efficiency

Need for Economic Reforms

- Large fiscal deficit
- Balance of Payments crisis
- Impact of Gulf War and rising oil prices
- Declining foreign exchange reserves
- Rising inflation and import bill

Features of Economic Reforms: LPG Model

1. Liberalization

Reduction of government controls and regulations.

Industrial Reforms

- Abolition of industrial licensing (except for 5 hazardous industries)
- Reduction of public sector monopoly
- Freedom to expand production and import capital goods

Financial Sector Reforms

- SLR reduced from 38.5% to 25%
- CRR reduced from 15% to 4.1%
- Entry of private banks
- Deregulation of interest rates
- RBI's role shifted from controller to facilitator

Tax Reforms

- Simplification of tax structure
- Reduction in tax rates
- Measures to curb tax evasion
- Widening of tax base

External Sector Reforms

- Devaluation of rupee to promote exports
- Abolition of import licensing
- Reduction in tariffs
- Export promotion measures

2. Privatization

- Transfer of ownership or management of Public Sector Undertakings (PSUs) to private sector
- **Disinvestment:** Sale of government shareholding in PSUs

3. Globalization

- Integration of Indian economy with the global economy
- Promotion of:
 - Foreign Direct Investment (FDI)
 - Free trade
 - Import liberalization

Policy Measures

- Increase in FDI limits
- Trade policy reforms

- Tariff reduction
- Removal of quantitative restrictions

World Trade Organization (WTO)

- Established in **1995**
- Successor to **GATT (1948)**

Objectives

- Promote free and fair international trade
- Reduce trade barriers
- Improve efficiency in global resource allocation

Functions

1. Implements multilateral trade agreements
2. Conducts Trade Policy Review Mechanism
3. Settles trade disputes among member countries
4. Acts as global trade regulator
5. Provides guidance on trade-related issues

India's Role in WTO

- Protects interests of developing countries
- Supports trade liberalization with safeguards

Impacts of LPG Policies

Positive Impacts

- Higher economic growth
- Rise in industrial production
- Increase in foreign investment
- Wider consumer choices
- Growth in exports

Negative Impacts

- Neglect of agriculture
- Widening rural–urban divide
- Rising income inequality
- Cultural and social erosion

1991 Economic Crisis and New Economic Policy (NEP)

Causes of the Crisis

- Excessive government spending
- Heavy borrowing and inefficient PSUs
- Decline in exports
- Loss of foreign investor confidence

NEP Measures

Stabilization Measures (Short-Term)

- Control inflation
- Correct Balance of Payments imbalance

Structural Reforms (Long-Term)

- Liberalization
- Privatization
- Globalization

Key Economic Terms

- **Balance of Payments (BoP):** Record of a country's transactions with the rest of the world
- **Inflation:** Continuous rise in general price level
- **Disinvestment:** Sale of government stake in PSUs
- **Devaluation:** Official reduction in value of domestic currency

Forms of Privatization

1. **Denationalization:** Full transfer of ownership to private sector
2. **Partial Privatization:** Government retains minority stake
3. **Token Privatization:** 5–10% stake sold mainly to cover budget deficit

Navratna Policy and PSU Reforms

- Introduced to provide autonomy to PSUs

Categories

- **Maharatnas:** IOC, SAIL

- **Navratnas:** BHEL, MTNL
- **Miniratnas:** BSNL, AAI

Outsourcing

- Contracting services to foreign firms
- Driven by IT growth and cost advantages
- Examples: BPOs, call centres

Economic Growth During Reforms

- GDP growth increased from **5.6% (1980–91)** to **8.2% (2007–12)**
- Services sector showed fastest growth
- Increase in FDI and foreign exchange reserves

Failures of Economic Reforms

I. Neglect of Agriculture

- Reduced public investment
- Rising input costs
- Exposure to global competition

II. Unequal Industrial Growth

- Cheap imports hurt domestic producers
- Infrastructure constraints
- Export restrictions by developed nations

Example: Tragedy of Sircilla

- Privatization of electricity led to high tariffs
- Closure of power looms caused unemployment and distress

III. Other Criticisms

- Urban-centric growth
- Increased consumerism
- Growing economic inequality

CHAPTER - 8

INDIAN ECONOMY: POVERTY

Poverty

Poverty refers to a condition in which people are unable to fulfil their basic necessities such as food, clothing, shelter, health care, and education.

Characteristics of the Poor

1. **Malnutrition and Hunger**
Insufficient intake of calories and essential nutrients, leading to poor physical and mental health.
2. **Illiteracy and Low Skills**
Limited access to education and skill training reduces employment opportunities.
3. **Lack of Basic Amenities**
Absence of clean drinking water, sanitation, electricity, and healthcare services.
4. **Poor Health Status**
High incidence of disease, especially among women and children due to weak health infrastructure.
5. **Unemployment and Underemployment**
Rural poor mostly work as landless labourers; urban poor are engaged in informal and insecure jobs.
6. **Debt Trap**
Dependence on moneylenders charging high interest rates keeps the poor in continuous debt.

Types of Poverty

1. Relative Poverty

- Exists when a household's income is less than 50% of the average income.
- People can meet only minimum requirements.
- Changes with economic growth and income distribution.

2. Absolute Poverty

- Income is insufficient to meet basic survival needs.
- Measured using:

Calorie Norms

- Rural: Less than 2400 calories per day
- Urban: Less than 2100 calories per day

Expenditure Criteria (2011–12)

- Rural: ₹972 per month (₹32 per day)
- Urban: ₹1407 per month (₹47 per day)

Categories of Poor People

1. **Chronic Poor** – Remain poor throughout life
2. **Occasionally Poor** – Move above and below the poverty line
3. **Emerging Poor** – Gradually moving out of poverty (e.g., small farmers)
4. **Temporary Poor** – Poor due to accidents, illness, crop failure
5. **Never Poor** – Always remain above the poverty line

Poverty Line

- A threshold that separates the poor from the non-poor.
- Based mainly on calorie intake and minimum consumption expenditure.

Criticism of Poverty Line

- Ignores education, health, sanitation, social exclusion, and quality of life.
- Does not reflect regional price differences adequately.

Trends in Poverty in India

- ✓ **1973–74:** About 320 million people (around 55%) were poor.
- ✓ **2011–12:** Poverty declined to about 270 million (around 22%).
- ✓ Rural poverty remains dominant, with over 75% of the poor living in villages.
- ✓ Urban poverty is rising in absolute numbers due to migration.

State-wise Distribution of Poverty

- States with high poverty levels: Bihar, Uttar Pradesh, Madhya Pradesh, Odisha, West Bengal, Tamil Nadu.
- Overall decline in poverty observed between 1973 and 2012.

Vicious Circle of Poverty

Poverty → Low income → Poor health → Low productivity → Low education → Unemployment → Poverty

This cycle keeps individuals and economies trapped in underdevelopment.

Causes of Poverty in India

1. Rapid population growth
2. Low productivity in agriculture and industry
3. Inflation and rising prices
4. High unemployment and underemployment
5. Slow economic growth
6. Shortage of capital and credit
7. Household indebtedness
8. Colonial exploitation during British rule
9. Poor access to quality education
10. Excessive rural-urban migration
11. Weak adjustment to global economic changes

Government Strategy for Poverty Alleviation

Three-Dimensional Approach

1. Economic Growth

- ✓ Focus on inclusive GDP growth and rising per capita income
 - ✓ Industrial expansion and agricultural development (Green Revolution)
- 2. Employment Generation**
- ✓ Job creation through public works and self-employment schemes
- 3. Provision of Basic Services**
- ✓ Food security, nutrition, education, health, and housing support

Major Poverty Alleviation Programmes

1. Swarna Jayanti Gram Swarozgar Yojana (SGSY)
2. Sampoorna Gramin Rozgar Yojana (SGRY)
3. Pradhan Mantri Gramodaya Yojana (PMGY)
4. Jawahar Gram Samridhi Yojana (JGSY)
5. Swarna Jayanti Shahri Rozgar Yojana (SJSRY)
6. Prime Minister's Rozgar Yojana (PMRY)
7. Jai Prakash Rozgar Yojana (JPRGY)
8. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
9. Twenty-Point Programme
10. Small-scale and micro-enterprise development schemes

Social Assistance for Vulnerable Sections

1. National Social Assistance Programme (NSAP)

- Old Age Pension Scheme
- National Family Benefit Scheme
- National Maternity Benefit Scheme

2. Annapurna Yojana

- Free food grains to poor senior citizens

3. Skill Development and Training Programmes

- Promote self-employment and income generation

- Movement in search of better employment opportunities.
- Includes rural-to-urban migration and international migration.

5. Information Expenditure:

- Costs to acquire knowledge about job markets, education, and health services.
- Helps in better decision-making for career and personal development.

4. Importance of Human Capital in Economic Growth

- **Boosts Productivity:** Skilled labor increases production efficiency.
- **Encourages Innovation:** Education and training foster creativity and technical advancement.
- **Promotes Employment:** Skill development leads to more job creation and economic equity.
- **Positive Link:** Human capital and economic growth are mutually reinforcing.

5. Problems in Human Capital Formation in India

- Rapid **population growth**.
- **Brain drain** (migration of skilled labor to other countries).
- Underutilization of **needy populations**.
- Poor **quality of legal and professional education**.

6. Human Capital vs. Human Development

- **Human Capital:** A means to achieve economic growth (focus on investment).
- **Human Development:** The **end goal**, focusing on overall well-being and capabilities.

7. Role of Education in Human Capital Formation

- Central to skill development and innovation.
- Covers:
 - ✓ Primary, Secondary & Higher Education.
 - ✓ Technical & Vocational Education.
 - ✓ Reforms and expansion in access and quality.

8. Definition by G.M. Meier

“Human capital formation is the process of acquiring and increasing the number of persons with education, skills, and experience that are critical for the economic and political development of a country.”

Human Capital and Economic Growth

Link between Human Capital & Economic Growth

- **Importance Recognized:** India, since the 7th Five-Year Plan, has emphasized human resource development as vital for economic growth.
- **Key Contributions:**
 - ✓ **High Production Capacity:** Skilled workers increase productivity by efficiently managing machinery and strategies.
 - ✓ **Advanced Skills:** Human capital fosters innovation and new production methods, leading to GDP growth.
 - ✓ **Employment & Equity:** More employment opportunities reduce income inequality and enhance national development.
 - ✓ **Positive Social Outlook:** Education and training shift societal thinking towards productivity and inclusive growth.

India as a Knowledge Economy

- India's **software sector** has seen rapid growth.
- Efforts to convert India into a **knowledge-based economy** via Information Technology (IT).
- **Examples:** Rural use of email, electronic governance, digital platforms.
- The **value of IT** is linked to overall economic progress.

CHAPTER 9

HUMAN CAPITAL FORMATION IN INDIA

1. Human Capital: Meaning

- Refers to the **stock of skills and competencies** possessed by people.
- It includes **education, training, health**, and experience, contributing to economic productivity.
- **Human Resource Development (HRD):** Continuous process of improving human capital through education, health, training, etc.

2. Misleading Concepts (Clarification)

- **Physical Capital (Concurrent Reference):** Includes machinery, equipment, and infrastructure.
- **Financial Capital (Big Money Species):** Refers to financial investments like company shares and assets.

3. Sources of Human Capital

1. **Expenditure on Education:**
 - Increases knowledge and productivity.
 - Leads to higher earnings and better employment.
 - Reduces birth rate and brings social benefits.
2. **Health Expenditure:**
 - Healthy individuals are more productive.
 - Includes preventive care, treatment, sanitation, and clean drinking water.
3. **On-the-Job Training:**
 - Enhances skills directly at the workplace.
 - Can be conducted in-house or through external programs.
4. **Migration:**

Human Capital vs Human Development

- **Human Development:** Broader than human capital; focuses on health, education, and well-being.
- **Perspective:**
 - Education and health are **intrinsic rights**.
 - Investment in these areas is essential even if not immediately economically productive.
 - **Human uniqueness** justifies investment in basic education and healthcare.

Reports Supporting Human Capital Growth

- **Deutsche Bank Report:**
 - ✓ India to be a top 4 global growth centre by 2020.
 - ✓ Predicted 40% rise in average years of education (to over 7 years).
- **World Bank Report:**
 - ✓ Advocates for transition to a **knowledge economy**.
 - ✓ Projected rise in per capita income from \$1,000 (2002) to \$3,000 (by 2020).
 - ✓ India has necessary resources: large workforce, democracy, science infrastructure.

Problems of Human Capital Formation

1. **Population Growth:** Strains resources like education, health, housing.
2. **Brain Drain:** Skilled workforce migrating abroad hampers local development.
3. **Poor Planning:** Inadequate alignment between education quality and labour market demand.
4. **Long-Term Nature:** Human capital development takes time.
5. **Poverty:** Limits access to basic education and healthcare for a large section.

Human Development Index (HDI)

- Measures: **Life expectancy, education, income**.
- Developed by Mahbub ul Haq & Amartya Sen (1990).
- Published by UNDP.
- **India's rank:** 136th globally.

Education Sector in India

Importance of Education:

- Produces informed citizens.
- Supports science and technology.
- Enhances use of human and natural resources.
- Increases intellectual and economic potential.

Government Expenditure on Education:

- Measured as:
 - % of total govt expenditure.
 - % of GDP.
- From 1952 to 2010:
 - **Govt expenditure share:** rose from 7.92% to 11.1%.
 - **GDP share:** rose from 0.64% to 3.25%.

Expenditure by Level:

- **Primary education** receives the most funds.
- **Higher education** cost per student is higher.
- Disparity in cost per student across states:
 - Highest: Rs. 2005 (Himachal Pradesh)
 - Lowest: Rs. 515 (Bihar)

Free and Compulsory Education

- **Education Commission (1964-66):** Recommended 6% of GDP for education.
- **86th Constitutional Amendment (2002):** Made free and compulsory education a fundamental right for children aged 6–14.
- **Tapas Majumdar Committee (1998):** Estimated Rs. 1.37 lakh crore over 10 years to universalize elementary education.

Current Education Spending

- Still below the 6% GDP target.
- Education cess (2% of union taxes) introduced to support **primary education**.

Educational Achievements (1990–2010 Indicators):

- **Adult Literacy Rate**
- **Youth Literacy Rate**
- **Primary School Completion Rate**

These indicators highlight progress in human capital and reflect the potential for economic transformation through education.

CHAPTER-9

PROSPECTS FOR THE FUTURE OF EDUCATION IN INDIA

1. Education as a Priority Sector

- The Indian government identifies education as a key area for development.
- Policy planning focuses on expanding and improving the education system for future needs.

2. Education for All: A Long-Term Goal

- **Progress Made:** Literacy has improved since independence for both adults and youth.
- **Persistent Challenges:**
 - The total number of illiterate people remains nearly the same as in 1950.
 - The Constitution (1950) mandated free and compulsory education for all children up to age 14 within 10 years—still unfulfilled.
- **Barriers to Universal Education:**
 - High number of illiterates.
 - Lack of vocational training.
 - Gender discrimination.
 - Limited access in rural areas.
 - Societal prejudices.
 - Low government spending on education.

3. Gender Equality in Education

- **Positive Trend:** Gender gap in literacy is narrowing.
- **Ongoing Needs:**
 - Promote women's economic independence.
 - Improve women's social status.
 - Enhance healthcare awareness for women and children.
- **High Literacy States:** Kerala, Mizoram, Goa, Delhi.
- **Low Literacy States:** Bihar, Uttar Pradesh, Rajasthan, Arunachal Pradesh.
- **Cause of Backwardness:** Social and economic poverty.

4. Higher Education: Limited Access

- The Indian education system resembles a **pyramid**, with fewer individuals at the top pursuing higher education.
- **NSSO (2007–08) Data:**
 - Youth unemployment with higher education: 18.1%
 - Youth unemployment with only primary education: 11.6%
- **Conclusion:**
 - Government needs to enhance access and quality of higher education.
 - Focus on skill development and employment readiness in higher institutions.

CHAPTER 10

INDIAN ECONOMY – RURAL DEVELOPMENT

Rural Development

Rural development refers to the overall improvement in the economic and social conditions of people living in rural areas. It focuses on raising living standards, reducing poverty, and strengthening rural livelihoods.

Major objectives include infrastructure creation, poverty reduction, efficient use of productive resources, human development, and adaptation to global economic changes.

Core Areas of Rural Development

Rural development covers multiple interrelated areas such as physical infrastructure like roads, electricity, irrigation and transport; productive resources including land, water, seeds and tools; human resource development through education, healthcare and women empowerment; land reforms for equitable ownership; and poverty alleviation through employment generation.

Rural Credit

Rural credit refers to loans provided to farmers and rural households to meet agricultural and personal needs.

Purposes of rural credit

Productive loans are used for seeds, fertilizers, machinery and irrigation, while non-productive loans meet social needs such as marriages and festivals.

Types of rural credit

Short-term loans (6–12 months) are used for inputs, medium-term loans (1–5 years) for wells and fencing, and long-term loans (5–20 years) for land and heavy machinery.

Sources of Rural Credit

Non-Institutional Sources

These include moneylenders, traders, landlords, friends and relatives. They once dominated rural lending, supplying over 90% of credit in the early 1950s. Although their share has declined, they still meet a large portion of short-term credit needs. Major problems include high interest rates, land seizure on default, and lack of transparency.

Example: Kudumbashree in Kerala is a women-led community thrift and credit initiative that has mobilized large savings and empowered rural women.

Institutional Sources

Institutional credit expanded after bank nationalization and includes cooperative societies, commercial banks, RRBs, NABARD, SHGs and Kisan Credit Cards. NABARD, established in 1982, acts as the apex institution for rural finance and supervises rural banks and cooperatives. SHGs promote savings and microcredit, especially among women. RRBs focus on small farmers and artisans. The Kisan Credit Card scheme provides flexible credit to farmers. Commercial banks and cooperative societies also play a major role in agricultural financing.

Agricultural Marketing

Agricultural marketing includes storage, grading, packaging, transportation, pricing and sale of farm produce from producers to consumers.

Problems in agricultural marketing include lack of price information, inadequate storage, high commission charges, poor grading, and distress sales due to urgent cash needs.

Government Measures to Improve Agricultural Marketing

The government has introduced regulated markets, cooperative marketing, improved rural infrastructure, MSP, buffer stock policies, and public distribution systems. Direct marketing channels such as Apni Mandi, Rythu Bazaar and Uzhavar Sandies reduce middlemen and improve farmer incomes.

Diversification of the Rural Economy

Diversification reduces dependence on agriculture and creates alternative income sources.

Crop diversification involves growing multiple or commercial crops to reduce risk.

Non-farm activities include animal husbandry, fisheries, horticulture, cottage industries and rural services.

The livestock sector provides large-scale employment and income support. Fisheries support coastal and inland populations. Horticulture, boosted during the Golden Revolution, generates employment and export income. Rural IT initiatives improve access to information and create new job opportunities.

Sustainable Development and Organic Farming

Sustainable development aims to meet present needs without harming future generations.

Organic farming avoids chemical fertilizers and pesticides and relies on natural inputs. It preserves soil fertility, reduces environmental damage and produces healthier food. However, it faces challenges such as lower initial yields and limited crop coverage.

Golden Revolution

The Golden Revolution refers to rapid growth in horticulture between 1991 and 2003. It increased rural employment, income and export potential, especially in fruits, vegetables and floriculture.

Assessment of Rural Banking

Achievements include higher agricultural productivity, increased rural income, expansion of self-employment and improved food security.

Limitations include inadequate access for small farmers, high loan defaults, regional disparities and limited institutional outreach. Strengthening rural banking infrastructure remains essential.

Agriculture and Economic Contribution

Although agriculture's share in GDP has declined, it continues to support a large rural population. After economic reforms, agricultural growth slowed, highlighting the need for renewed public investment and policy support.

MCQs

- Consumer behavior studies how consumers:
 - Maximize profits
 - Produce goods
 - Choose, buy, use, and dispose goods and services
 - Control markets
- Utility means:
 - Price of a commodity
 - Satisfaction derived from consumption
 - Quantity demanded
 - Purchasing power
- Utility is said to be subjective because it:
 - Depends on market price
 - Depends on income only
 - Varies from person to person
 - Is measured in money
- Cardinal utility analysis assumes that utility:
 - Cannot be measured
 - Can be ranked only
 - Can be measured numerically
 - Is constant
- The unit used to measure utility in cardinal analysis is called:
 - Rupees
 - Units
 - Utils
 - Margins
- Total Utility (TU) refers to:
 - Utility from last unit consumed
 - Average satisfaction
 - Sum of utilities from all units consumed
 - Utility foregone

7. Marginal Utility (MU) is the:
(a) Total satisfaction
(b) Change in total utility due to one more unit
(c) Utility from first unit
(d) Average utility

8. The formula for Marginal Utility is:
(a) $MU = TU / Q$
(b) $MU = TU_n - TU_{n-1}$
(c) $MU = Q / TU$
(d) $MU = \sum TU$

9. When Marginal Utility is positive, Total Utility:
(a) Decreases
(b) Remains constant
(c) Increases
(d) Becomes zero

10. Total Utility is maximum when Marginal Utility is:
(a) Positive
(b) Negative
(c) Zero
(d) Increasing

11. The Law of Diminishing Marginal Utility states that:
(a) TU always falls
(b) MU increases with consumption
(c) MU declines as consumption increases
(d) TU becomes negative

12. Which of the following is an assumption of the Law of Diminishing MU?
(a) Goods are indivisible
(b) Consumption is continuous
(c) Tastes change rapidly
(d) Income is constant

13. Ordinal utility analysis is based on:
(a) Measurement of utility
(b) Ranking of preferences
(c) Money value
(d) Market demand

14. An Indifference Curve shows combinations of goods that give:
(a) Maximum satisfaction
(b) Minimum satisfaction
(c) Equal satisfaction
(d) Zero satisfaction

15. A higher indifference curve represents:
(a) Lower satisfaction
(b) Same satisfaction
(c) Higher satisfaction
(d) Zero utility

16. Indifference curves slope downward because:
(a) Utility is constant
(b) Both goods are free
(c) One good must be sacrificed to gain more of the other
(d) Income is fixed

17. Convex shape of an indifference curve is due to:
(a) Increasing MU
(b) Constant MRS
(c) Diminishing MRS
(d) Increasing prices

18. Marginal Rate of Substitution (MRS) shows:
(a) Price ratio of goods
(b) Utility gained
(c) Rate of substitution between two goods
(d) Cost of production

19. MRS is defined as:
(a) $\Delta X / \Delta Y$
(b) $-\Delta Y / \Delta X$
(c) $\Delta TU / \Delta Q$
(d) MU / TU

20. The budget line represents:
(a) Consumer preferences
(b) Production possibilities
(c) Income constraint of the consumer
(d) Demand curve

21. The budget equation is:
(a) $x_1 + x_2 = M$
(b) $p_1x_1 + p_2x_2 = M$
(c) $p_1 + p_2 = M$
(d) $x_1 / x_2 = p_1 / p_2$

22. The slope of the budget line is equal to:
(a) MRS
(b) $-p_1 / p_2$
(c) p_2 / p_1
(d) Income

23. A rightward parallel shift of the budget line is caused by:
(a) Increase in price of a good
(b) Decrease in income
(c) Increase in income
(d) Change in tastes

24. Consumer equilibrium occurs when:
(a) MU is maximum
(b) Budget line cuts IC
(c) Budget line is tangent to the highest IC
(d) Price equals income

25. At consumer equilibrium:
(a) $MRS > p_1 / p_2$
(b) $MRS < p_1 / p_2$
(c) $MRS = p_1 / p_2$
(d) $MU = TU$

26. Demand refers to quantity of a good that consumers are:
(a) Willing to buy
(b) Able to buy
(c) Willing and able to buy
(d) Forced to buy

27. The demand function is expressed as:
(a) $Q = f(P)$
(b) $D_x = f(P_x, P_R, Y, T, E)$
(c) $D_x = P_x + Y$
(d) $Q_d = Q_s$

28. Law of Demand shows a relationship between:
(a) Income and demand
(b) Price and quantity demanded
(c) Utility and price
(d) Cost and output

29. Which of the following is a substitute good?
(a) Car and petrol
(b) Tea and coffee
(c) Pen and ink
(d) Shoe and socks

30. Giffen goods are those in which demand:
(a) Falls when price rises
(b) Rises when price rises
(c) Remains constant
(d) Becomes zero
- Answer Key
- | | | |
|------|-------|-------|
| 1. C | 11. C | 21. B |
| 2. B | 12. B | 22. B |
| 3. C | 13. B | 23. C |
| 4. C | 14. C | 24. C |
| 5. C | 15. C | 25. C |
| 6. C | 16. C | 26. C |
| 7. B | 17. C | 27. B |
| 8. B | 18. C | 28. B |
| 9. C | 19. B | 29. B |
- 172

10. C	20. C	30. B
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MCQs

- National income accounting mainly uses which methods?
 - Income, Consumption, Saving
 - Income, Expenditure, Value Added
 - Output, Saving, Investment
 - Production, Distribution, Exchange
- Depreciation refers to:
 - Increase in asset value
 - Loss due to price rise
 - Wear and tear of fixed assets
 - Capital gain
- Which of the following is true?
 - Net = Gross + Depreciation
 - Gross = Net – Depreciation
 - Gross = Net + Depreciation
 - Net = Gross + Subsidy
- Another name for depreciation is:
 - Net Indirect Tax
 - Consumption of Fixed Capital
 - Operating Surplus
 - Capital Formation
- National Income includes income earned:
 - Only within domestic territory
 - Only by non-residents
 - By residents including from abroad
 - Only by government
- Domestic Income refers to income earned:
 - By residents abroad
 - Within domestic territory
 - Only by citizens
 - From exports
- NFIA stands for:
 - Net Fixed Investment Abroad
 - Net Factor Income from Abroad
 - Net Financial Income Abroad
 - National Factor Income Abroad
- If income from abroad is ₹100 and income paid abroad is ₹140, NFIA is:
 - +40
 - 40
 - +240
 - 0
- Relationship between NI and DI is:
 - $NI = DI - NFIA$
 - $DI = NI + NFIA$
 - $NI = DI + NFIA$
 - $DI = NI - Depreciation$
- Net Indirect Taxes (NIT) equals:
 - Subsidy – Indirect Tax
 - Indirect Tax + Subsidy
 - Indirect Tax – Subsidy
 - Direct Tax – Subsidy
- Market Price differs from Factor Cost due to:
 - Direct taxes
 - Net indirect taxes
 - Depreciation
 - Operating surplus
- GDP at Market Price includes:
 - Only factor incomes
 - Indirect taxes and depreciation
 - Subsidies only
 - Net factor income from abroad
- GDPFC can be derived from GDPMP by:
 - Adding NIT
 - Subtracting NIT
 - Adding NFIA
 - Subtracting depreciation
- NDP at Factor Cost is also known as:
 - National Income
 - Domestic Income
 - Personal Income
 - Private Income
- GNP differs from GDP because GNP includes:
 - Depreciation
 - Indirect taxes
 - NFIA
 - Subsidies
- NNP at Factor Cost is called:
 - GDP
 - GNP
 - National Income
 - Domestic Income
- Nominal National Income is measured at:
 - Base year prices
 - Constant prices
 - Current prices
 - Discounted prices
- GNP Deflator measures:
 - Real output
 - Inflation
 - Employment
 - Growth rate
- Which item is excluded from GDP?
 - Government expenditure on defence
 - Sale of shares
 - Export of goods
 - Construction of roads
- Which is NOT included in GNP?
 - Imputed rent of owner-occupied house
 - Sale of second-hand goods
 - Wages and salaries
 - Profits
- GDP as a welfare measure is limited because it ignores:
 - Market activities
 - Externalities
 - Factor incomes
 - Capital formation
- Which method is based on the idea “production creates income”?
 - Expenditure method
 - Income method
 - Value added method
 - Cost method
- Compensation of Employees includes:
 - Employee’s PF contribution only
 - Employer’s contribution to social security
 - Capital gains
 - Transfer payments
- Income of self-employed persons is treated as:
 - Operating surplus
 - Compensation of employees
 - Mixed income
 - Rent
- Which of the following is a component of Expenditure Method?
 - Operating surplus
 - Mixed income
 - Private Final Consumption Expenditure
 - Net Factor Income
- Net exports are calculated as:
 - Imports – Exports
 - Exports + Imports

- (c) Exports – Imports
- (d) Imports – Domestic output
- 27. GDCF includes:
 - (a) Only business investment
 - (b) Only inventory change
 - (c) Fixed capital formation and stock change
 - (d) Only public investment
- 28. Which precaution is necessary in the Expenditure Method?
 - (a) Include intermediate goods
 - (b) Include transfer payments
 - (c) Exclude final expenditure
 - (d) Avoid double counting
- 29. Green GNP adjusts GNP for:
 - (a) Inflation
 - (b) Income inequality
 - (c) Environmental degradation
 - (d) Population growth
- 30. Which is a transfer payment?
 - (a) Salary
 - (b) Pension
 - (c) Rent
 - (d) Interest on loan

Answer Key

1. B	11. B	21. B
2. C	12. B	22. B
3. C	13. B	23. B
4. B	14. B	24. C
5. C	15. C	25. C
6. B	16. C	26. C
7. B	17. C	27. C
8. B	18. B	28. D
9. C	19. B	29. C
10. C	20. B	30. B

MCQs

- 1. Money is best defined as anything that is generally accepted as:
 - (a) A commodity
 - (b) A medium of exchange only
 - (c) A medium of exchange, store of value, unit of account, and standard of deferred payments
 - (d) A source of income
- 2. Which of the following is a **primary function** of money?
 - (a) Transfer of value
 - (b) Store of value
 - (c) Medium of exchange
 - (d) Basis of credit
- 3. The function of money that allows it to be used for future payments is called:
 - (a) Store of value
 - (b) Unit of value
 - (c) Medium of exchange
 - (d) Standard of deferred payments
- 4. Which of the following is **not** a secondary function of money?
 - (a) Store of value
 - (b) Transfer of value
 - (c) Basis of credit
 - (d) Standard for deferred payments
- 5. The barter system suffers from which major drawback?
 - (a) Inflation
 - (b) Excess supply
 - (c) Lack of double coincidence of wants
 - (d) High prices

- 6. In a barter economy, the absence of money creates difficulty in:
 - (a) Production
 - (b) Storage of goods
 - (c) Measurement of value
 - (d) Transportation
- 7. Demand for money refers to the desire to:
 - (a) Spend money immediately
 - (b) Save money in banks only
 - (c) Hold money for various purposes
 - (d) Invest in shares
- 8. Money held for daily transactions is known as demand for money under:
 - (a) Speculative motive
 - (b) Precautionary motive
 - (c) Transaction motive
 - (d) Income motive
- 9. Speculative demand for money is mainly influenced by:
 - (a) Income level
 - (b) GDP
 - (c) Rate of interest
 - (d) Consumption
- 10. The aggregate demand for money is expressed as:
 - (a) $M_d = M_dT$
 - (b) $M_d = M_dS$
 - (c) $M_d = M_dT + M_dS$
 - (d) $M_d = Y - r$
- 11. Fiat money derives its value mainly from:
 - (a) Gold backing
 - (b) Government order and public confidence
 - (c) Bank deposits
 - (d) Foreign exchange reserves
- 12. Which of the following is **not included** in money supply?
 - (a) Currency with the public
 - (b) Demand deposits
 - (c) Government deposits
 - (d) Bank deposits of the public
- 13. Which measure of money supply is most widely used in India?
 - (a) M1
 - (b) M2
 - (c) M3
 - (d) M4
- 14. M1 and M2 are collectively known as:
 - (a) Broad money
 - (b) Narrow money
 - (c) Near money
 - (d) Virtual money
- 15. Commercial banks are institutions that mainly aim to:
 - (a) Control inflation
 - (b) Issue currency
 - (c) Earn profit through financial services
 - (d) Regulate money supply
- 16. Which of the following is a **primary function** of commercial banks?
 - (a) Safe custody
 - (b) Credit creation
 - (c) Foreign exchange services
 - (d) Acting as trustee
- 17. The central bank of a country acts as the:
 - (a) Banker to individuals
 - (b) Banker’s bank
 - (c) Private lender
 - (d) Investment bank
- 18. Which of the following is **not** a function of the central bank?
 - (a) Issuer of currency

- (b) Custodian of foreign exchange
 - (c) Credit creation
 - (d) Lender of last resort
19. Credit creation by commercial banks depends mainly on:
- (a) Interest rate
 - (b) Initial deposits and LRR
 - (c) Public confidence
 - (d) Government expenditure
20. Legal Reserve Ratio (LRR) consists of:
- (a) CRR only
 - (b) SLR only
 - (c) CRR and SLR
 - (d) Repo rate and reverse repo rate
21. Cash Reserve Ratio (CRR) is the proportion of deposits kept with:
- (a) Commercial banks
 - (b) Government
 - (c) RBI
 - (d) Public
22. Statutory Liquidity Ratio (SLR) is maintained in the form of:
- (a) Cash only
 - (b) Gold and approved securities
 - (c) Foreign currency
 - (d) Shares and debentures
23. The credit multiplier is equal to:
- (a) LRR
 - (b) $1 / \text{LRR}$
 - (c) $\text{CRR} \times \text{SLR}$
 - (d) Initial deposit
24. Repo rate is the rate at which RBI:
- (a) Borrows from banks
 - (b) Lends to banks
 - (c) Borrows from government
 - (d) Lends to public
25. An increase in repo rate will generally lead to:
- (a) Increase in money supply
 - (b) Increase in borrowing
 - (c) Reduction in inflation
 - (d) Increase in liquidity
26. Reverse repo rate refers to the rate at which RBI:
- (a) Lends to banks
 - (b) Borrows from banks
 - (c) Lends to government
 - (d) Borrows from public
27. Open Market Operations involve:
- (a) Printing of currency
 - (b) Buying and selling of government securities
 - (c) Changing repo rate
 - (d) Regulating foreign exchange
28. Qualitative credit control measures aim to:
- (a) Control total money supply
 - (b) Affect specific sectors of the economy
 - (c) Increase inflation
 - (d) Stabilize exchange rate only
29. Moral suasion is a method used by RBI to:
- (a) Legally force banks
 - (b) Persuade banks through advice
 - (c) Penalize banks
 - (d) Print money
30. High-powered money includes:
- (a) Currency with public only
 - (b) Bank deposits only
 - (c) Currency with public and bank reserves
 - (d) Demand deposits only

1. C	11. B	21. C
2. C	12. C	22. B
3. D	13. C	23. B
4. C	14. B	24. B
5. C	15. C	25. C
6. C	16. B	26. B
7. C	17. B	27. B
8. C	18. C	28. B
9. C	19. B	29. B
10. C	20. C	30. C

MCQs

1. Aggregate Demand refers to:
- a) Total supply of goods
 - b) Total planned expenditure in the economy
 - c) Total production cost
 - d) National income only
2. In a closed two-sector economy, Aggregate Demand is equal to:
- a) $C + G$
 - b) $C + I$
 - c) $C + S$
 - d) $C + I + G$
3. Which of the following is included in Aggregate Demand of an open economy?
- a) Savings
 - b) Depreciation
 - c) Net exports
 - d) Transfer payments
4. Ex-ante Aggregate Demand means:
- a) Actual demand
 - b) Past demand
 - c) Planned demand
 - d) Excess demand
5. Ex-post Aggregate Demand refers to:
- a) Intended expenditure
 - b) Expected income
 - c) Actual expenditure
 - d) Autonomous expenditure
6. Aggregate Supply in a two-sector model is equal to:
- a) $C + I$
 - b) $C + S$
 - c) $Y - T$
 - d) $I + G$
7. National income is equal to Aggregate Supply because:
- a) Income equals savings
 - b) Output creates income
 - c) Consumption equals income
 - d) Demand equals supply
8. The consumption function is expressed as:
- a) $C = aY$
 - b) $C = Y - S$
 - c) $C = \bar{C} + cY$
 - d) $C = I + G$
9. Autonomous consumption occurs when:
- a) Income is high
 - b) Income is zero
 - c) Savings are zero
 - d) Investment is constant
10. Induced consumption depends on:
- a) Price level
 - b) Income
 - c) Interest rate
 - d) Government policy
11. The consumption curve cuts the Y-axis because:
- a) $\text{MPC} = 1$
 - b) $\text{APC} = 1$

Answer Key

- c) Autonomous consumption exists
d) Savings are zero
12. Average Propensity to Consume (APC) is defined as:
a) $\Delta C / \Delta Y$
b) $C - Y$
c) C / Y
d) Y / C
13. APC is greater than 1 when:
a) Income equals consumption
b) Consumption exceeds income
c) Income exceeds consumption
d) Savings are positive
14. As income increases, APC generally:
a) Increases
b) Remains constant
c) Decreases
d) Becomes zero
15. Marginal Propensity to Consume (MPC) is:
a) C / Y
b) $\Delta C / \Delta Y$
c) $\Delta Y / \Delta C$
d) $Y - C$
16. MPC equals 1 when:
a) Entire additional income is saved
b) Entire additional income is consumed
c) Income does not change
d) Consumption is constant
17. Which of the following is always true?
a) $APC > MPC$
b) $MPC > APC$
c) $APC = MPC$ always
d) $APS = MPC$
18. Saving function shows the relationship between:
a) Saving and investment
b) Saving and consumption
c) Saving and income
d) Saving and prices
19. Average Propensity to Save (APS) is equal to:
a) S / Y
b) Y / S
c) $\Delta S / \Delta Y$
d) C / Y
20. APS can be negative when:
a) Income is high
b) Consumption equals income
c) Consumption exceeds income
d) Savings are positive
21. Marginal Propensity to Save (MPS) is:
a) $\Delta S / \Delta Y$
b) S / Y
c) $Y - S$
d) $\Delta Y / \Delta S$
22. The relationship between MPC and MPS is:
a) $MPC - MPS = 1$
b) $MPC \times MPS = 1$
c) $MPC + MPS = 1$
d) $MPC / MPS = 1$
23. Investment refers to:
a) Purchase of shares
b) Saving money
c) Acquisition of capital assets
d) Consumption of goods
24. Induced investment depends mainly on:
a) Interest rate
b) Income level
c) Government policy
d) Population
25. Autonomous investment is:
a) Income-dependent
b) Profit-dependent
c) Income-independent
d) Always private
26. Ex-ante investment refers to:
a) Actual investment
b) Planned investment
c) Past investment
d) Forced investment
27. Equilibrium level of income is achieved when:
a) $AD > AS$
b) $AD < AS$
c) $AD = AS$
d) $C = Y$
28. In the saving–investment approach, equilibrium occurs when:
a) $C = I$
b) $S = I$
c) $Y = C$
d) $AD > AS$
29. Equilibrium does not necessarily mean:
a) Price stability
b) Income stability
c) Full employment
d) Output balance
30. If $AD > AS$, the economy faces:
a) Excess supply
b) Deficient demand
c) Excess demand
d) Full employment
31. Excess supply leads to:
a) Rise in output
b) Inventory accumulation
c) Inflation
d) Increase in prices
32. Full employment means:
a) No unemployment
b) Only voluntary unemployment exists
c) All labour is employed regardless of wage
d) No frictional unemployment
33. Involuntary unemployment occurs when:
a) A person refuses to work
b) A person cannot find work at prevailing wages
c) Skills are underutilised
d) Income is low
34. Underemployment refers to:
a) Seasonal unemployment
b) Disguised unemployment only
c) Inefficient use of labour skills
d) Voluntary unemployment
35. Multiplier shows the relationship between:
a) Income and consumption
b) Investment and income
c) Saving and investment
d) Demand and supply
36. The multiplier formula is:
a) $1 / MPC$
b) $1 / MPS$
c) $1 / (1 - MPC)$
d) MPC / MPS
37. Higher MPC leads to:
a) Lower multiplier
b) Higher multiplier
c) Constant multiplier
d) Zero multiplier
38. Excess demand at full employment results in:
a) Increase in output

- b) Increase in employment
c) Inflation
d) Deflation
39. Deficient demand results in:
a) Inflation
b) Full employment
c) Unemployment
d) Rise in prices
40. Inflationary gap refers to:
a) Gap between saving and investment
b) Gap between AD and AS at full employment
c) Gap between exports and imports
d) Gap between income and consumption
41. Deflationary gap indicates:
a) Excess demand
b) Excess supply
c) Full employment
d) Inflation
42. Which policy tool is used to reduce excess demand?
a) Decrease taxes
b) Increase government spending
c) Increase CRR
d) Decrease bank rate
43. Fiscal policy mainly operates through:
a) Interest rate
b) Taxes and public expenditure
c) CRR and SLR
d) Open market operations
44. Monetary policy is controlled by:
a) Government
b) Commercial banks
c) Central bank
d) Planning commission
45. Open Market Operations involve:
a) Buying and selling of foreign currency
b) Buying and selling of government securities
c) Changing bank rate
d) Changing margin requirements
46. An increase in CRR will:
a) Increase credit creation
b) Reduce money supply
c) Increase investment
d) Increase AD
47. Moral suasion refers to:
a) Legal compulsion
b) Physical force
c) Persuasion by central bank
d) Fiscal pressure
48. Paradox of thrift explains that:
a) Saving always increases income
b) Saving increases employment
c) Excess saving may reduce income
d) Consumption has no effect on income
49. A bond is:
a) An equity instrument
b) A debt instrument
c) A currency note
d) A derivative
50. Masala bonds are denominated in:
a) US Dollars
b) Euro
c) Indian Rupees
d) Pound Sterling

ANSWER KEY

1. B	11. C	21. A	31. B	41. B
2. B	12. C	22. C	32. B	42. C

3. C	13. B	23. C	33. B	43. B
4. C	14. C	24. B	34. C	44. C
5. C	15. B	25. C	35. B	45. B
6. B	16. B	26. B	36. C	46. B
7. B	17. A	27. C	37. B	47. C
8. C	18. C	28. B	38. C	48. C
9. B	19. A	29. C	39. C	49. B
10. B	20. C	30. C	40. B	50. C

Practice MCQs

1. Which institution is responsible for controlling inflation in India?
a) SEBI
b) NABARD
c) RBI
d) Ministry of Finance
2. Mutual funds in India are regulated by:
a) RBI
b) SEBI
c) NABARD
d) IRDAI
3. Refinance facility to Regional Rural Banks (RRBs) is mainly provided by:
a) RBI
b) SEBI
c) NABARD
d) SIDBI
4. Currency notes in India are issued by:
a) Government of India
b) RBI
c) SEBI
d) NABARD
5. Protection of investors in the securities market is the responsibility of:
a) RBI
b) NABARD
c) SEBI
d) Finance Ministry
6. Which body regulates stock exchanges like NSE and BSE?
a) RBI
b) SEBI
c) NABARD
d) MCA
7. The apex institution for rural development and agricultural finance is:
a) RBI
b) SIDBI
c) NABARD
d) SEBI
8. Which of the following does not fall under RBI's functions?
a) Issuing currency
b) Controlling credit
c) Regulating stock markets
d) Banker to banks
9. Who supervises commercial banks in India?
a) SEBI
b) NABARD
c) RBI
d) IRDAI
10. Which institution formulates monetary policy in India?
a) Finance Ministry
b) RBI
c) SEBI
d) NABARD
11. Regulation of insider trading is done by:
a) RBI
b) SEBI

- c) NABARD
d) CCI
12. Which of the following institutions provides refinance to cooperative banks?
a) SEBI
b) RBI
c) NABARD
d) EXIM Bank
13. Who acts as the lender of last resort to commercial banks?
a) SEBI
b) NABARD
c) RBI
d) Finance Ministry
14. Which organization ensures orderly functioning of capital markets?
a) RBI
b) SEBI
c) NABARD
d) IRDAI
15. Which of the following is a development financial institution?
a) RBI
b) SEBI
c) NABARD
d) NSE
16. Which authority regulates mutual fund AMCs in India?
a) RBI
b) SEBI
c) NABARD
d) MCA
17. Agricultural credit planning in India is mainly associated with:
a) RBI
b) SEBI
c) NABARD
d) SIDBI
18. Which of the following does not issue guidelines for banks?
a) RBI
b) SEBI
c) NABARD
d) Finance Ministry
19. Who manages India's foreign exchange reserves?
a) SEBI
b) NABARD
c) RBI
d) World Bank
20. Which body was established to protect the interests of investors?
a) RBI
b) NABARD
c) SEBI
d) IRDAI

ANSWER KEY

1. C	9. C	17. C
2. B	10. B	18. B
3. C	11. B	19. C
4. B	12. C	20. C
5. C	13. C	
6. B	14. B	
7. C	15. C	
8. C	16. B	

MCQs

- Q1. Fiscal deficit in a government budget is:
(a) Shortfall in taxes
(b) Shortfall in disinvestment

- (c) Disinvestment requirement
(d) Borrowing requirement
Q2. Disinvestment by the government refers to:
(a) Selling of fixed capital assets by government
(b) Selling of shares of public enterprises held by government
(c) Selling of plants of government
(d) Selling of buildings and shares of government
Q3. The correct measure of primary deficit is:
(a) Fiscal deficit minus revenue deficit
(b) Revenue deficit minus interest payments
(c) Fiscal deficit minus interest payments
(d) Capital expenditure minus revenue expenditure
Q4. Cost of tax collection, audit, printing currency, pensions, and defence are treated as:
(a) Government expenditure
(b) Revenue expenditure
(c) Non-development expenditure
(d) All of the above
Q5. Zero primary deficit means government has to borrow only to make:
(a) Interest payments
(b) Fiscal payments
(c) Capital payments
(d) Primary payments
Q6. Government selling securities to the private sector is called:
(a) Open market operation
(b) Disinvestment
(c) Monetary expansion
(d) All of the above
Q7. If government borrowings = ₹800 crore and interest payments = ₹155 crore, primary deficit equals:
(a) ₹800 crore
(b) ₹155 crore
(c) ₹645 crore
(d) ₹955 crore
Q8. When government spends more than it earns in revenue, it leads to:
(a) Revenue expenditure
(b) Capital expenditure
(c) Budget deficit
(d) Budget surplus
Q9. In hyperinflation, the suitable budget is:
(a) Balanced budget
(b) Deficit budget
(c) Capital budget
(d) Surplus budget
Q10. Which of the following is a combination of direct taxes?
(a) Excise duty and wealth tax
(b) Service tax and income tax
(c) Excise duty and service tax
(d) Wealth tax and income tax
Q11. Which of the following is a non-tax revenue?
(a) Export duty
(b) Import duty
(c) Dividends
(d) Excise duty
Q12. Borrowings in a government budget are classified as:
(a) Revenue deficit
(b) Fiscal deficit
(c) Primary deficit
(d) Deficit in taxes
Q13. Zero primary deficit means:
(a) Fiscal deficit is zero
(b) No interest payments
(c) Borrowings only for interest payments
(d) No borrowings

Q14. Government budget is prepared for the fiscal year:

- (a) 1 Jan – 31 Dec
- (b) 1 Apr – 31 Dec
- (c) 1 Apr – 31 Mar
- (d) 1 Jan – 30 Apr

Q15. Duration of the government budget is:

- (a) 1 year
- (b) 2 years
- (c) 5 years
- (d) 10 years

Q16. Formula for primary deficit is:

- (a) Borrowings
- (b) Fiscal deficit + interest payments
- (c) Fiscal deficit – interest payments
- (d) Revenue deficit – interest payments

Q17. Fiscal deficit can be calculated as:

- (a) Borrowings
- (b) Primary deficit + interest payments
- (c) Total expenditure – total receipts (excluding borrowings)
- (d) All of the above

Q18. Revenue deficit equals:

- (a) Borrowings
- (b) Fiscal deficit + interest payments
- (c) Primary deficit – interest payments
- (d) Revenue expenditure – revenue receipts

Q19. GST stands for:

- (a) Goods and Sales Tax
- (b) Goods and Services Tax
- (c) Good and Simple Tax
- (d) None of these

Q20. Which statement is true?

- (a) Fiscal deficit = Total expenditure – total receipts
- (b) Primary deficit = Total receipts – interest payments
- (c) Fiscal deficit = Primary deficit + interest payment
- (d) None of the above

Q21. Which of the following is true?

- (a) Loans from IMF are revenue receipts
- (b) Higher revenue deficit leads to higher fiscal deficit
- (c) Government borrowing indicates fiscal surplus
- (d) Revenue deficit = Capital receipts – revenue receipts

Q22. Increasing income tax rate serves which objective?

- (a) Resource allocation
- (b) Economic stability
- (c) Reducing regional disparities
- (d) Reducing income inequality

Q23. Objectives of government budget include:

- (a) Economic development
- (b) Regional balance
- (c) Redistribution of income
- (d) All of the above

Q24. If revenue deficit = ₹50,000 crore and borrowings = ₹75,000 crore, fiscal deficit equals:

- (a) ₹25,000 crore
- (b) ₹75,000 crore
- (c) ₹1,25,000 crore
- (d) ₹50,000 crore

Q25. A progressive tax is one where:

- (a) Tax rate decreases with income
- (b) Tax rate increases with income
- (c) Fixed percentage tax
- (d) None of these

Q26. Union Budget is presented by the:

- (a) President
- (b) Home Minister
- (c) Finance Minister
- (d) Prime Minister

Q27. Government affecting personal disposable income through taxes and transfers reflects:

- (a) Allocation function
- (b) Stabilisation function
- (c) Redistribution function
- (d) Welfare function

Q28. Which affects national income directly?

- (a) GST
- (b) Corporation tax
- (c) Subsidies
- (d) None of these

Q29. A tax whose burden can be shifted is:

- (a) Indirect tax
- (b) Direct tax
- (c) Wealth tax
- (d) None of these

Q30. Non-development expenditure includes:

- (a) Scientific research
- (b) Social welfare
- (c) Administration
- (d) None of these

ANSWER KEY

1. D	11. C	21. B
2. B	12. B	22. D
3. C	13. C	23. D
4. D	14. C	24. B
5. A	15. A	25. B
6. A	16. C	26. C
7. C	17. D	27. C
8. C	18. D	28. D
9. D	19. B	29. A
10. D	20. C	30. C

MCQs

- During British rule in India, which indicator was notably high?
 - Literacy rate
 - Female literacy rate
 - Infant mortality rate
 - Life expectancy
- Farming done mainly to meet a family's basic needs is known as:
 - Stagnant agriculture
 - Subsistence farming
 - Commercial farming
 - None of these
- Which of these are examples of land tenure systems?
 - Zamindari system
 - Mahalwari system
 - Ryotwari system
 - All of the above
- Commercialisation of agriculture under British rule mainly resulted in:
 - Higher output of food grains
 - Better living standards for farmers
 - Greater cultivation of cash crops for British industries
 - Expansion of total cultivated area
- Under colonial rule, which sector suffered the biggest decline?
 - Cement
 - Cotton textiles
 - Paper
 - Iron and steel
- During colonial times, the birth and death rates were:
 - Both high
 - Both low

- c) Birth rate high, death rate low
d) Birth rate low, death rate high
7. In colonial India, agriculture continued to employ the highest share of the workforce, usually around i) ____%. Manufacturing and services accounted for ii) ____% and iii) ____% respectively.
a) i) 55–60 ii) 8 iii) 5–10
b) i) 60–65 ii) 9 iii) 10–15
c) i) 65–70 ii) 10 iii) 15–20
d) i) 70–75 ii) 10 iii) 15–20
8. The overall literacy rate during the British period was around:
a) 10%
b) 12%
c) 14%
d) 16%
9. TISCO (Tata Iron and Steel Company) was established in:
a) 1807
b) 1870
c) 1907
d) 1970
10. India's demographic situation before independence showed:
a) High literacy, high mortality, high life expectancy, high poverty
b) Low literacy, low mortality, low life expectancy, low poverty
c) Low literacy, low mortality, high life expectancy, high poverty
d) Low literacy, high mortality, low life expectancy, high poverty
11. Consider these statements on Green Revolution outcomes:
1. Low-income groups did not benefit.
2. HYV crops were more vulnerable to pests.
Which statement(s) is/are NOT correct?
a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2
12. Match the following:
13. Marketed surplus — A. Big rise in food grain output due to HYV seeds (wheat/rice)
14. Green Revolution — B. Part of output sold in markets by farmers
15. HYV seeds — C. Seeds giving higher output
16. Land reforms — D. Improvements in agriculture for higher productivity
Which are mismatched?
a) 1, 2 and 4
b) 3 and 4
c) 1 and 2
d) 2 and 4
17. Which statements about HYV seeds are correct?
i) No need for fertilizers/pesticides
ii) No need for regular water supply
iii) Phase 1 benefited mainly wheat regions; Phase 2 covered more crops
iv) Phase 1 mostly benefited richer states like Punjab, Andhra Pradesh, Tamil Nadu
a) i and iii
b) iii and iv
c) i, ii, iii and iv
d) ii, iii and iv
18. Agriculture's share in GDP in 1990–91 was:
a) 24.6%
b) 34.9%
c) 40.5%
d) 59.0%
19. Protection against floods, droughts, locusts, storms etc. is best ensured by:
a) Multiple cropping
b) Green Revolution
c) Crop insurance
d) HYV
20. Under IPR 1956, how many industries were reserved for the public sector?
a) 17
b) 21
c) 15
d) 2
21. Which helped the overall economy by boosting industrial and service sectors?
a) Independence
b) Economic planning
c) Colonial rule
d) Green Revolution
22. A major reason for heavy debt burden and interest payments is:
a) BoP deficit
b) BoP surplus
c) BoP equilibrium
d) None of these
23. Soviet agriculture performed poorly despite fertile land because:
i) Farmers didn't own land and enjoyed profits without losses
ii) Lack of ownership reduced efficiency incentives
Which are correct?
a) Only i
b) Only ii
c) Both i and ii
d) Neither i nor ii
24. Post-independence agriculture:
i) Low productivity forced food imports under PL-480
ii) Intermediaries collected rent and improved farms but not farmers
Which are NOT correct?
a) Only i
b) Only ii
c) Both i and ii
d) Neither i nor ii
25. Land reforms were most successful in:
a) Maharashtra and Tamil Nadu
b) Karnataka and West Bengal
c) Uttar Pradesh and Bihar
d) West Bengal and Kerala
26. A widely used indicator of a country's economic growth is:
a) GDP
b) GNP
c) NDP
d) NNP
27. Taxes imposed on imported goods are called:
a) Quotas
b) Tariffs
c) Lagaan
d) None of these
28. India adopted the HYV programme first in:
a) 1977
b) 1966
c) 1986
d) 1956
29. The first Industrial Policy Resolution after independence came in:

- a) 1948
 - b) 1950
 - c) 1954
 - d) 1956
30. The most immediate reason for NEP 1991 was:
- a) Poor PSU performance
 - b) Foreign exchange crisis
 - c) High tax rates and evasion
 - d) All of these
31. Industrial policy before 1991 was mainly:
- a) Pro-private
 - b) Anti-public
 - c) Pro-public
 - d) Anti-private
32. A key foreign trade policy change after 1991 was:
- a) Relaxing import restrictions
 - b) Relaxing export restrictions
 - c) Both a and b
 - d) Relaxing restrictions only on selected goods
33. FDI is useful because it brings:
- a) Foreign exchange
 - b) Modern technology
 - c) Better management skills
 - d) All of the above
34. Fiscal deficit is that part of total government spending financed through:
- a) Higher taxes
 - b) Sale of government shares
 - c) Borrowings
 - d) All of the above
35. Financial sector reforms are carried out by:
- a) Government of India
 - b) RBI
 - c) Both a and b
 - d) Neither a nor b
36. The main source of foreign capital in India is:
- a) Foreign loans
 - b) FDI
 - c) Both a and b
 - d) Neither a nor b
37. Removing earlier government restrictions is called:
- a) Privatization
 - b) Globalization
 - c) Disinvestment
 - d) Liberalization
38. WTO was formed in:
- a) 1995
 - b) 1948
 - c) 1996
 - d) 1994
39. Integrating the domestic economy with the global economy means:
- a) Globalization
 - b) Privatization
 - c) Liberalization
 - d) Disinvestment
40. A trade agreement between two countries is a:
- a) Bilateral agreement
 - b) Multilateral agreement
 - c) Both a and b
 - d) None
41. The New Economic Policy was announced in:
- a) June 1991
 - b) May 1991
 - c) July 1991
 - d) January 1991
42. Selling PSU equity in the market is known as:
- a) Globalization

- b) Privatization
- c) Disinvestment
- d) Liberalization

43. Cheaper imported goods contributed to:

- a) Rising unemployment
- b) Unbalanced growth
- c) Slow industrial growth
- d) Spread of consumerism

44. WTO stands for:

- a) World Trade Organization
- b) World Transport Organization
- c) World Tariff Organization
- d) Women Teachers Organization

Answer Key

1-C, 2-B, 3-D, 4-C, 5-B, 6-A, 7-B, 8-B, 9-C, 10-D, 11-A, 12-A, 13-B, 14-A, 15-C, 16-B, 17-B, 18-A, 19-C, 20-C, 21-D, 22-A, 23-B, 24-B, 25-D, 26-B, 27-C, 28-C, 29-D, 30-C, 31-C, 32-B, 33-D, 34-A, 35-A, 36-A, 37-B, 38-C, 39-A, 40-A

Multiple Choice Questions

Q1. Match the items given in Column I with those in Column II.

Column I includes: Study Group for Poverty by the Planning Commission, Task Force on Minimum Needs, MGNREGA, and Jan Dhan Yojana.

Column II includes the years 2005, 1962, 2014, and 1979.

Choose the correct option.

- (a) (ii), (iii), (iv), (i)
- (b) (iii), (ii), (i), (iv)
- (c) (i), (ii), (iii), (iv)
- (d) (ii), (iv), (i), (iii)

Q2. The percentage of population living below the poverty line is known as:

- (a) Head Count Ratio
- (b) Population growth
- (c) Millennium Development Goals
- (d) None of these

Q3. MPCE stands for:

- (a) Minimum Per Capita Expenditure
- (b) Maximum Per Capita Expenditure
- (c) Monthly Per Capita Expenditure
- (d) None of the above

Q4. Which of the following are self-employment programmes?

- (a) SJSRY
- (b) PMRY
- (c) Both (a) and (b) are incorrect
- (d) Both (a) and (b) are correct

Q5. The per-day calorie requirement used to define urban poverty is:

- (a) Below 2400 calories
- (b) Below 2200 calories
- (c) Below 2100 calories
- (d) Below 2000 calories

Q6. Relative poverty is more commonly found in:

- (a) Developed countries
- (b) Underdeveloped countries
- (c) Socialist countries
- (d) Capitalist countries

Q7. Which of the following statements regarding the National Development Council are correct?

- (a) Statements 1, 2 and 3
- (b) Statements 2, 3 and 4
- (c) Statements 1, 2 and 4
- (d) All of the above

Q8. Correctly match the following:

NSSO, MGNREGA, fall in prices of goods, and low capital formation.

Choose the correct option.

- (a) A–(i)
- (b) B–(ii)
- (c) C–(iii)
- (d) D–(iv)

Q9. Match the following schemes with their respective years. MGNREGA, PMJDY, National Food for Work Programme, and Expert Groups on Poverty with the years 2014, 2005, 1989, and 2004.

Choose the correct answer.

- (a) A–(iii), B–(i), C–(iv), D–(ii)
- (b) A–(iv), B–(i), C–(ii), D–(iii)
- (c) A–(ii), B–(i), C–(iv), D–(iii)
- (d) A–(ii), B–(iii), C–(iv), D–(i)

Q10. The calorie norm for defining rural poverty is:

- (a) Below 2400 calories
- (b) Below 2200 calories
- (c) Below 2100 calories
- (d) Below 2000 calories

Q11. Which of the following is not a Millennium Development Goal?

- (a) Halving extreme poverty by 2015
- (b) Achieving universal primary education by 2015
- (c) Reducing child mortality by two-thirds
- (d) Reducing population growth by one-third

Q12. Prime Minister's Rozgar Yojana was launched in:

- (a) 1995
- (b) 1993
- (c) 1991
- (d) 1998

Q13. The calorie-based method of measuring poverty was first proposed by:

- (a) Amartya Sen
- (b) Dandekar and Rath
- (c) Planning Commission
- (d) T. N. Srinivasan

Q14. The Human Poverty Index (HPI) is based on:

- (a) Longevity, nutrition, and knowledge
- (b) Knowledge, basic needs, and living standards
- (c) Longevity, living standards, and sanitation
- (d) Longevity, knowledge, and living standards

Q15. Which Five-Year Plan was terminated before its scheduled completion?

- (a) First Plan
- (b) Third Plan
- (c) Sixth Plan
- (d) Fifth Plan

Q16. Urban micro-enterprise schemes fall under:

- (a) IRDP
- (b) Nehru Rozgar Yojana
- (c) JRY
- (d) PMRY

Q17. Which of the following is not a feature of inclusive growth in the Eleventh Plan?

- (a) Poverty reduction
- (b) Employment generation
- (c) Strengthening capital markets
- (d) Gender equality

Q18. Identify the correct matching.

Absolute poor, Relative poor, Antyodaya, and Multidimensional poverty.

Options include regional comparison, lack of basic needs, 100-day work programme, and multiple dimensions.

Choose the correct option.

- (a) A–(i)
- (b) B–(ii)
- (c) C–(iii)
- (d) D–(iv)

Q19. Select the correct match.

Food for Work, REGP, NULM, and PMJDY with the years or descriptions given.

- (a) A–(i)
- (b) B–(ii)
- (c) C–(iii)
- (d) D–(iv)

Q20. The National Development Council is mainly responsible for:

- (a) Implementing state plans
- (b) Approving major projects
- (c) Approving Five-Year Plans
- (d) Community development

Q21. Percentage of population below the poverty line in India during 2011-12 was approximately:

- (a) 26.1%
- (b) 19.3%
- (c) 22%
- (d) 32%

Q22. The Task Force on Minimum Needs was constituted in:

- (a) 1969
- (b) 1979
- (c) 1989
- (d) 1999

Q23. The poverty line for 2011-12 was fixed at:

- (a) ₹816 for rural and ₹1000 for urban areas
- (b) ₹1012 and ₹1210
- (c) ₹550 and ₹860
- (d) ₹860 and ₹673

Q24. Which scheme focuses on providing basic amenities?

- (a) PMRY
- (b) SJSRY
- (c) PMGY
- (d) NRLM

Q25. The state with the highest poverty ratio in 2011-12 was:

- (a) Maharashtra
- (b) Bihar
- (c) Madhya Pradesh
- (d) West Bengal

Q26. The National Food for Work Programme was launched in:

- (a) November 2004
- (b) December 2003
- (c) November 2002
- (d) December 2005

Q27. Match the following schemes correctly.

PMRY, SJSRY, NRLM, and MGNREGA with their respective features or years.

Choose the correct option.

- (a) A–(i)
- (b) B–(ii)
- (c) C–(iii)
- (d) D–(iv)

Q28. Match the types of poverty correctly.

Chronic, Churning, Transient, and Non-poor with their definitions.

Choose the correct answer.

- (a) A–(iii), B–(iv), C–(i), D–(ii)

Q29. Identify the incorrect pair.

- (a) Poverty line and rural-urban divide
- (b) Poverty and conspicuous consumption
- (c) Debt trap and interest burden
- (d) Moneylender and high interest

Q30. The chairman of the Economic Planning Committee was:

- (a) Jawaharlal Nehru
- (b) Rajendra Prasad
- (c) R. Mudaliar
- (d) K. Niyogi

- Q31. Poverty was directly addressed for the first time in which Five-Year Plan?
- (a) Third Plan
(b) Fourth Plan
(c) Fifth Plan
(d) Sixth Plan
- Q32. Jan Dhan Yojana was launched mainly to promote:
- (a) Housing loans
(b) Women self-help groups
(c) Financial inclusion
(d) Pension schemes
- Q33. Which of the following is not a cause of poverty?
- (a) Unemployment
(b) Inflation
(c) Lack of education
(d) High literacy
- Q34. The agency responsible for estimating the poverty line in India is:
- (a) NITI Aayog
(b) RBI
(c) NSSO
(d) Planning Commission
- Q35. Swarna Jayanti Gram Swarozgar Yojana (SGSY) was launched in:
- (a) 1995
(b) 1999
(c) 2004
(d) 2006
- Q36. The Human Development Index is prepared by:
- (a) IMF
(b) UNDP
(c) WTO
(d) ILO
- Q37. One of the objectives of IRDP is to promote:
- (a) Subsidised food distribution
(b) Urban housing
(c) Rural employment
(d) Import substitution
- Q38. Which institution replaced the Planning Commission?
- (a) National Development Council
(b) Finance Commission
(c) NITI Aayog
(d) Economic Survey Committee
- Q39. Poverty is described as multidimensional because it includes:
- (a) Only income
(b) Only unemployment
(c) Education, health, and living standards
(d) Only inflation
- Q40. The capability approach to poverty was given by:
- (a) T. N. Srinivasan
(b) Dandekar
(c) Amartya Sen
(d) Gunnar Myrdal

Answer Key

1. C	11. A	21. D	31. C
2. B	12. A	22. A	32. C
3. D	13. B	23. B	33. D
4. C	14. A	24. B	34. A
5. B	15. C	25. D	35. B
6. A	16. A	26. B	36. A
7. B	17. B	27. C	37. B
8. B	18. A	28. C	38. C
9. C	19. C	29. D	39. A
10. D	20. C	30. A	40. A

Multiple Choice Questions

- Human capital includes
 - the entire population
 - only workers
 - only entrepreneurs
 - both workers and entrepreneurs
- Which Five-Year Plan first emphasized the importance of human capital?
 - Seventh Plan
 - Third Plan
 - Eighth Plan
 - Sixth Plan
- Which institution in India is associated with regulation and research in the health sector?
 - ICMR
 - UGC
 - AICTE
 - None of these
- Which of the following indicates educational achievement in a country?
 - Youth literacy rate
 - Adult literacy rate
 - Primary completion rate
 - All of these
- In which year was free and compulsory education for children aged 6–14 years introduced in India?
 - 2001
 - 2009
 - 2003
 - 2007
- What rate of education cess is levied on all Union taxes?
 - 1 percent
 - 2 percent
 - 4 percent
 - None of these
- What does ICMR stand for?
 - International Council of Medical Research
 - Indian Council for Medical Resources
 - International Council of Medical Resources
 - Indian Council of Medical Research
- According to education commissions, what should be the ideal public expenditure on education?
 - 6 percent of GDP
 - 10 percent of GDP
 - 7 percent of GDP
 - 8 percent of GDP
- Physical capital refers to
 - stock of man-made tangible inputs
 - skill formation of people
 - company shares
 - all of the above
- Which of the following is NOT a benefit of human capital formation?
 - Improvement in technical skills
 - Increase in productivity
 - Change in social attitudes
 - Rise in production costs
- The authority responsible for supervision and regulation of higher education in India is
 - Government of India
 - Department of Higher Education
 - University Grants Commission
 - None of these
- Demographic dividend refers to
 - growth due to a large working-age population
 - growth due to a large non-working population

- (c) both (a) and (b)
 - (d) neither (a) nor (b)
13. Which body regulates technical education in India?
- (a) ICMR
 - (b) AICTE
 - (c) UGC
 - (d) NCERT
14. Which level of education receives the largest share of total education expenditure in India?
- (a) Elementary education
 - (b) Tertiary education
 - (c) Secondary education
 - (d) Higher education
15. Correctly match the following:
- Preventive medicine – Vaccination
Curative medicine – Treatment during illness
Social medicine – Community health programmes
- (a) (i)–B, (ii)–A, (iii)–C
 - (b) (i)–A, (ii)–B, (iii)–C
 - (c) (i)–C, (ii)–B, (iii)–A
 - (d) (i)–B, (ii)–C, (iii)–A
16. What was the share of education in total government expenditure in 2014?
- (a) 15.7%
 - (b) 7.92%
 - (c) 0.64%
 - (d) 3.31%
17. What proportion of GDP was spent on education in 1952?
- (a) 7.92%
 - (b) 11.7%
 - (c) 0.64%
 - (d) 3.31%
18. Which of the following is NOT an objective of on-the-job training?
- (a) Removal of inequality
 - (b) Encouraging innovation
 - (c) Promoting modern techniques
 - (d) Increasing productivity
19. What was the approximate youth literacy rate in 2015?
- (a) 89.5%
 - (b) 74%
 - (c) 88%
 - (d) 95.5%
20. Skilled engineers and workers improve the efficiency of machines and assets. This highlights
- (a) higher productivity of physical capital
 - (b) emotional development
 - (c) innovation capability
 - (d) increased labour participation
21. According to Census 2011, rural literacy rate in India was approximately
- (a) 69.04%
 - (b) 85%
 - (c) 74.04%
 - (d) 60%
22. The approximate female literacy rate in 2017 was
- (a) 72%
 - (b) 60.02%
 - (c) 66%
 - (d) 65.46%
23. “People as a resource” refers to
- (a) natural capital of a country
 - (b) human capital with productive skills
 - (c) overall capital of a country
 - (d) technical capital of a country
24. Which states have the highest and lowest literacy rates respectively?

- (a) Kerala and Bihar
 - (b) Kerala and Punjab
 - (c) Madhya Pradesh and Bihar
 - (d) Karnataka and Punjab
25. If _____ capital represents production capacity, _____ capital designs and operates machines.
- (a) Human, physical
 - (b) Financial, human
 - (c) Physical, human
 - (d) Physical, financial
26. The Education Commission (1964–66) recommended _____% of GDP for education, while the present level is _____%.
- (a) 6% and 4.6%
 - (b) 5% and 3.8%
 - (c) 7% and 6%
 - (d) 6% and 5.8%
27. The World Bank suggested India shift towards a
- (a) knowledge economy
 - (b) agrarian economy
 - (c) industrial economy
 - (d) mixed economy
28. Investment in human capital promotes growth by
- (a) improving utilization of physical capital
 - (b) increasing productivity and output
 - (c) encouraging innovation and technology adoption
 - (d) all of the above
29. Government initiatives for education improvement include
- (a) education cess
 - (b) Right to Education
 - (c) promotion of schooling
 - (d) all of the above
30. Human capital formation encourages migration
- (a) from rural to urban areas
 - (b) from urban to rural areas
 - (c) from abroad to home country
 - (d) all of the above
31. Which is NOT an indicator of education level?
- (a) Years of schooling
 - (b) Life expectancy
 - (c) Teacher–pupil ratio
 - (d) Enrolment rate
32. India’s Human Development Index rank in 2020 was
- (a) 120
 - (b) 131
 - (c) 154
 - (d) 108
33. Which programme was launched in 1994?
- (a) Mid-Day Meal Scheme
 - (b) Kasturba Gandhi Balika Vidyalaya
 - (c) District Primary Education Programme
 - (d) None of these
34. Which state has the highest literacy rate in India?
- (a) Delhi
 - (b) Kerala
 - (c) Mizoram
 - (d) Goa
35. Which statement about human capital is correct?
- (a) Human resource and human capital are related
 - (b) Human development and human capital are related
 - (c) Both (a) and (b)
 - (d) Neither (a) nor (b)
36. Which statement about education indicators is incorrect?
- (a) Years of schooling reflect education level
 - (b) Teacher–pupil ratio reflects education quality

- (c) Enrolment rate reflects education level
 - (d) Life expectancy reflects education level
37. Which is NOT a feature of India Vision 2020?
- (a) 90% literacy rate
 - (b) Higher investment leading to fourfold GDP per capita growth
 - (c) 100% enrolment of children aged 6–14
 - (d) Focus on technical education
38. The Mid-Day Meal Scheme aims to
- (a) promote primary education
 - (b) improve nutritional status of children
 - (c) increase enrolment, retention, and nutrition
 - (d) promote upper primary education
39. GER stands for
- (a) General Enrolment Ratio
 - (b) Gross Enrolment Ratio
 - (c) General Estimated Ratio
 - (d) Gross Education Ratio
40. The most important indicator of a country’s educational status is
- (a) death rate
 - (b) population growth
 - (c) birth rate
 - (d) literacy rate

ANSWER KEY

1. D	11. C	21. A	31. B
2. D	12. A	22. D	32. B
3. A	13. B	23. B	33. C
4. D	14. A	24. A	34. B
5. B	15. A	25. C	35. C
6. B	16. B	26. A	36. D
7. D	17. C	27. A	37. A
8. A	18. A	28. D	38. C
9. A	19. A	29. D	39. B
10. D	20. A	30. D	40. D

Multiple Choice Questions

- Q1. Which of the following is NOT an advantage of organic farming?
- (a) Lower input costs
 - (b) Attractive investment returns
 - (c) Increased scope for imports
 - (d) Higher nutritional content
- Q2. The time period known as the Golden Revolution is:
- (a) 1991–2001
 - (b) 1991–2003
 - (c) 1993–2001
 - (d) 1990–2003
- Q3. Organic farming is considered beneficial because:
- (a) It earns income through exports
 - (b) It relies on chemical fertilizers and pesticides
 - (c) It follows environmentally sustainable practices
 - (d) All of the above
- Q4. The White Revolution is related to:
- (a) Horticulture
 - (b) Fisheries
 - (c) Dairy sector
 - (d) Livestock rearing
- Q5. Which of the following is a non-agricultural activity?
- (a) Multiple cropping
 - (b) Crop rotation
 - (c) Dairy farming
 - (d) Modern farming
- Q6. Which state is regarded as a successful example of milk cooperative development?
- (a) Maharashtra

- (b) Jammu and Kashmir
 - (c) Gujarat
 - (d) Andhra Pradesh
- Q7. Institutional sources of rural finance were established mainly to:
- (a) Provide low-interest credit to farmers
 - (b) Support productivity of small farmers
 - (c) Earn profits
 - (d) All of the above
- Q8. Which institution acts as the apex body for rural financial coordination?
- (a) NABARD
 - (b) Self-Help Groups
 - (c) Regional Rural Banks
 - (d) Commercial Banks
- Q9. Distress sale refers to:
- (a) Sale of damaged produce
 - (b) Sale through middlemen
 - (c) Sale at MSP
 - (d) Sale immediately after harvest due to urgent cash needs
- Q10. Agricultural marketing does NOT include:
- (a) Transportation of produce
 - (b) Grading of produce
 - (c) Storage of produce
 - (d) Providing agricultural credit
- Q11. The rural credit system is important because:
- (a) It raises rural income
 - (b) Rural savings are insufficient
 - (c) It supports rural development
 - (d) All of the above
- Q12. Minimum Support Price (MSP) is fixed by the government to:
- (a) Benefit the government
 - (b) Safeguard farmers’ interests
 - (c) Benefit consumers
 - (d) None of these
- Q13. Which of the following is NOT a non-institutional source of credit?
- (a) Moneylenders
 - (b) Commercial banks
 - (c) Traders
 - (d) Landlords
- Q14. Small farmers often fail to access institutional credit due to:
- (a) Influence of moneylenders
 - (b) Absence of rural bank branches
 - (c) High transaction costs
 - (d) Preference given to large farmers
- Q15. Major problems of rural banking include:
- (a) Inadequate credit supply
 - (b) Rising loan defaults
 - (c) Improper credit sanctioning
 - (d) All of the above
- Q16. Which is NOT an objective of rural development?
- (a) Raising urban wages
 - (b) Eliminating rural unemployment
 - (c) Improving rural living standards
 - (d) Increasing rural wages
- Q17. NABARD was established in the year:
- (a) 1969
 - (b) 1975
 - (c) 1982
 - (d) 1991
- Q18. Which of the following is an institutional source of rural credit?
- (a) Regional Rural Banks
 - (b) Landlords

- (c) Traders
(d) Moneylenders
- Q19. Activities such as assembling, grading, packaging, and distribution of farm produce are known as:
(a) Agricultural marketing
(b) Agricultural diversification
(c) Agricultural management
(d) Agricultural banking
- Q20. Which of the following are rural development programmes?
(a) NRLM
(b) MGNREGA
(c) PMGSY
(d) All of the above
- Q21. Alternative marketing channels help farmers to ____ their market reach and ____ price risk.
(a) Increase, increase
(b) Reduce, reduce
(c) Increase, reduce
(d) Reduce, increase
- Q22. A government assurance to purchase crops at a fixed minimum price is called:
(a) Maximum Retail Price
(b) Minimum Support Price
(c) Both of the above
(d) None of the above
- Q23. Microcredit programmes refer to:
(a) Credit provided by SHGs to their members
(b) Loans given by small farmers
(c) Loans given by large farmers
(d) None of these
- Q24. Self-Help Groups were introduced in:
(a) 1982
(b) 1996
(c) 1992
(d) 1988
- Q25. Which scheme was launched in 1988?
(a) Kisan Credit Card
(b) Self-Help Groups
(c) Bharat Nirman
(d) None of these
- Q26. Which scheme provides essential goods to BPL families at subsidized prices?
(a) Public Distribution System
(b) Buffer Stock
(c) Minimum Support Price
(d) None of these
- Q27. Which two schemes were merged into MGNREGA?
(a) SGRY and NFFWP
(b) SGRY and SJSY
(c) NFFWP and JRY
(d) None of these
- Q28. Identify the incorrect statement regarding Indira Awas Yojana:
(a) Launched in 1985–86
(b) Now part of Bharat Nirman
(c) 60% allocation for SC/ST housing
(d) Cost-sharing ratio is 50:50
- Q29. The National Horticulture Mission was launched in:
(a) 2001–02
(b) 2010–11
(c) 2005–06
(d) 2007–08
- Q30. What is the correct order of food-grain production in 2013–14?
(a) Rice, Wheat, Coarse cereals, Maize
(b) Wheat, Rice, Coarse cereals, Maize

- (c) Rice, Wheat, Maize, Coarse cereals
(d) Rice, Maize, Wheat, Coarse cereals
- Q31. TRYSEM programme was aimed at:
(a) Providing employment to rural youth
(b) Urban employment generation
(c) Nutrition support
(d) Rural road development
- Q32. Jawahar Gram Samridhi Yojana was introduced in:
(a) 1999
(b) 2001
(c) 1996
(d) 1995
- Q33. The Golden Rays Project (2009) was associated with:
(a) Soybean
(b) Mustard
(c) Maize
(d) Sunflower
- Q34. The growth rate of agricultural output during 2007–12 was approximately:
(a) 3.2%
(b) 6%
(c) 1.5%
(d) 5%
- Q35. Improvement in rural quality of life depends on:
(a) Safe drinking water and sanitation
(b) Effective land reforms
(c) Access to subsidized credit
(d) All of the above
- Q36. The vegetable market initiative in Andhra Pradesh is known as:
(a) Apni Mandi
(b) Hadapsar Mandi
(c) Rythu Bazaars
(d) Uzhavar Sandies
- Q37. Inland fisheries contribute about ____ to India's total fish production.
(a) 71%
(b) 39%
(c) 50%
(d) 75%
- Q38. Retail chains selling organic products are awarded:
(a) Eco status
(b) Sustainable status
(c) Nutritional status
(d) Green status
- Q39. The Blue Revolution is associated with:
(a) Indigo cultivation
(b) Poultry
(c) Fisheries
(d) Drinking water
- Q40. Major commercial banks in India were nationalized in:
(a) 1969
(b) 1980
(c) 1975
(d) 1991

ANSWER KEY

1. C	11. D	21. C	31. A
2. B	12. B	22. B	32. A
3. C	13. B	23. A	33. D
4. C	14. D	24. C	34. A
5. C	15. D	25. B	35. D
6. C	16. A	26. A	36. C
7. A	17. C	27. A	37. A
8. A	18. A	28. D	38. D
9. D	19. A	29. C	39. C
10. D	20. D	30. A	40. A

INFORMATION PRACTICES (10 MARKS)

Introduction to Computer

Introduction to Internet and Web

Networking Hardware & Software

Introduction to Computer Networks

We live in a highly connected world where information is created, shared, and tracked globally in real time. This is possible because people, devices, and systems are interconnected digitally.

A **network** is a group of two or more similar or related entities connected with each other for interaction or sharing.

Examples of Networks in Daily Life

- ✓ Social networks
- ✓ Mobile and telephone networks
- ✓ Computer networks
- ✓ Airline, railway, banking, hospital networks

Computer Network

A **computer network** is an interconnection of two or more computers or computing devices that allows them to share data, information, and resources.

A basic computer network may connect a few computers in a single room, while large networks may connect millions of devices spread across the world.

Hosts or Nodes

Devices connected in a network are called **hosts** or **nodes**.

Examples of nodes:

- Desktop computers
- Laptops
- Servers
- Smartphones
- Printers

Apart from computers, a network also includes **networking devices** such as switches, routers, and modems.

Data Communication in Networks

For communication, data is divided into small units called **packets**.

These packets travel through the network using:

- Wired media (cables, optical fiber)
- Wireless media (Wi-Fi, airwaves)

In data communication, a **node** is any device that can receive, send, create, or store data, such as:

- Computer
- Router
- Switch
- Modem
- Printer
- Server

Importance of Computer Networks

- Enables email, websites, video calls
- Allows sharing of hardware like printers
- Enables shared storage access
- Supports personal networks via hotspots

Types of Networks

Computer networks vary in size from small room-level connections to global networks like the Internet.

Based on **geographical coverage and data transfer rate**, networks are classified into:

- LAN

- MAN
- WAN

Local Area Network (LAN)

A **Local Area Network (LAN)** connects devices within a limited geographical area.

Coverage Area

- Single room
- Office or building
- School or college campus

Connectivity Methods

- Ethernet cables
- Optical fiber
- Wi-Fi

Features of LAN

- High data transfer speed
- High security
- Low error rate
- Short range communication

LANs allow users to:

- Share printers
- Access local servers
- Upload and download files

LAN can extend up to **1 km**.

Data Transfer Speed

- 10 Mbps – Ethernet
- 1000 Mbps – Gigabit Ethernet

Ethernet is a standard set of rules that defines how devices communicate over a wired LAN.

Metropolitan Area Network (MAN)

A **Metropolitan Area Network (MAN)** covers a larger area than LAN, such as a city or town.

Characteristics

- Coverage: up to 30–40 km
- Speed: Mbps range, lower than LAN
- Connects multiple LANs

Examples

- Cable TV networks
- City-wide broadband internet

MAN is often formed by connecting several LANs together.

Wide Area Network (WAN)

A **Wide Area Network (WAN)** connects computers and networks across large geographical areas, such as:

- Different cities
- Different countries
- Different continents

WAN connects multiple LANs and MANs using wired or wireless media.

Examples

- Bank branch networks
- Government networks
- University networks across regions
- **Internet (largest WAN)**

The Internet connects billions of devices and millions of networks worldwide.

Network Devices

Network devices are used to:

- Connect computers
- Control data flow
- Enable communication across networks

Common network devices include:

- Modem
- Ethernet Card
- Hub
- Switch
- Router
- Repeater
- Gateway

Modem

Modem stands for **MOdulator DEModulator**.

Computers work with **digital data (0s and 1s)**, but transmission media often carry **analog signals**.

Functions of Modem

- Converts digital data to analog signals (Modulation)
- Converts analog signals back to digital data (Demodulation)

Working

- Sender modem modulates digital data into analog form
- Receiver modem demodulates analog signals into digital form

Modems are essential for:

- Internet access
- Long-distance data transmission

Ethernet Card (Network Interface Card – NIC)

An **Ethernet Card** or **Network Interface Card (NIC)** is a hardware component that enables a computer to connect to a network.

Key Points

- Installed inside the computer or built into the motherboard
- Provides a physical interface between computer and network
- Each Ethernet card has a **unique MAC address**

Functions

- Sends and receives data packets
- Converts data into signals suitable for transmission

Without an Ethernet card, a computer cannot join a wired network.

Ethernet Card (NIC)

An **Ethernet Card**, also called a **Network Interface Card (NIC)**, is a network adaptor used to connect a computer to a **wired network**.

Key Points

- Acts as an interface between a computer and the network
- Mounted on the motherboard as a circuit board
- Connects the computer to the network using an Ethernet cable
- Essential for communication in a wired LAN

Data Transfer Speed

- Supports speeds from **10 Mbps to 1 Gbps (1000 Mbps)**

MAC Address

- Each NIC has a **unique MAC (Media Access Control) address**
- MAC address helps in uniquely identifying a device on a network

Repeater

Data in a network travels in the form of **signals** through cables. These signals can travel only up to a limited distance (around **100 metres**). Beyond this limit, signals become weak.

Repeater

A **repeater** is a device that **regenerates weak signals** to extend the transmission distance.

Features

- Works with analog signals
- Receives weak signals and regenerates them
- Helps maintain signal strength over long distances

Hub

A **hub** is a basic networking device used to connect multiple devices in a network using cables.

Working

- Data arriving from one device is sent to **all connected devices**
- Does not identify destination address

Limitation

- If two devices send data at the same time, **collision occurs**
- Less efficient and slower

Switch

A **switch** is an intelligent networking device commonly used in **Local Area Networks (LANs)**.

Working

- Receives data packets
- Identifies destination address using a table
- Sends data only to the intended device

Advantages over Hub

- No unnecessary broadcasting
- Can forward multiple packets simultaneously
- Drops noisy or corrupted packets and requests retransmission

Usage

- Widely used in homes and offices
- Helps create LANs and connect devices to the Internet

Router

A **router** is a networking device that connects **different networks**, especially a LAN to the Internet.

Functions

- Receives, analyses, and forwards data packets
- Determines the best route for data transmission
- Can repackage data packets if required

Features

- More advanced than hub or switch
- Connects networks of different types
- Can be wired or wireless

Wireless Router

- Provides Wi-Fi access to devices
- Often performs multiple roles: router + modem + switch
- Converts broadband signals from ISP into digital data

Gateway

A **gateway** is a key access point that connects a private network to the **outside world (Internet)**.

Role of Gateway

- Entry and exit point for data
- All incoming and outgoing data passes through it
- Maintains routing information of internal and external networks

Additional Features

- Can perform routing
- Often integrated with firewall
- Can be hardware, software, or both

For home users, the **ISP acts as a gateway**, and routers are often configured to work as gateways.

Networking Topologies

Network topology refers to the physical or logical arrangement of devices in a network.

Common Topologies

- Mesh
- Ring
- Bus
- Star
- Tree (Hybrid)

Mesh Topology

In **mesh topology**, every device is connected to every other device.

Advantages

- High reliability
- No single point of failure
- High security

Disadvantages

- Complex wiring
- High cabling cost
- Many unused connections

To connect **n nodes**, required cables = $n(n - 1)/2$

Ring Topology

In **ring topology**, each device is connected to two other devices, forming a ring.

Characteristics

- Data flows in **one direction only**
- Unidirectional communication
- Failure of one node can affect the network

Bus Topology

In **bus topology**, all devices share a single communication line called a **bus**.

Features

- Cheap and easy to install
- Data travels in both directions

Limitations

- Less secure
- Less reliable
- Failure of backbone cable affects entire network

Star Topology

In **star topology**, all devices are connected to a **central device** (hub or switch).

Advantages

- Fast and efficient
- Failure of one node does not affect others

Disadvantage

- Failure of central device causes network failure

The central device can be:

- Broadcasting (hub)
- Unicast (switch)

Tree / Hybrid Topology

Tree topology is a **hierarchical structure** formed by combining two or more basic topologies.

Features

- Used in WANs
- Multiple LANs connected together
- Flexible and scalable

The Internet

The **Internet** is a global network connecting billions of devices including:

- Computers
- Smartphones
- Servers
- Smart appliances (TV, AC, security cameras, etc.)

Structure of Internet

- Devices connect to modem (wired or Wi-Fi)
- Modem connects to ISP
- ISPs form regional networks
- Regional networks form national networks
- National networks together form the Internet backbone

Uses of Internet

- Education
- Communication
- Entertainment
- E-commerce
- Social networking

The Internet is continuously evolving and influencing every aspect of modern life.

Applications of Internet

Internet provides multiple services. Common broad areas are:

- World Wide Web (WWW)
- Email
- Chat / Instant Messaging
- VoIP (Voice over Internet Protocol)

World Wide Web (WWW)

Meaning

WWW (Web) is a huge collection of **interlinked web pages and web resources** (text, images, videos, files, etc.) stored on computers (servers) across the world, and accessed through the Internet.

Why WWW was needed

Earlier, to access files stored on different computers:

- users had to login to each computer separately
- files were in different formats, difficult to understand and share

Inventor

Sir Tim Berners-Lee invented the World Wide Web in **1990** by defining three key technologies:

1) HTML (HyperText Markup Language)

- Language used to create and design web pages
- Uses **tags** to tell the browser how to display content
- Basic structure of a webpage is built using HTML

2) URI (Uniform Resource Identifier)

- A unique identifier for a resource on the web
- Can identify by **location, name**, or both

URL (Uniform Resource Locator) is a type of URI that gives:

- the location of the resource
- the protocol used to access it

Example format:

<http://www.ncert.nic.in/textbook/textbook.htm>

Breakdown (as per your text):

- **http** = protocol
- **www** = subdomain
- **ncert.nic.in** = domain name
- **rest** = path to the page/resource

Note: Today browsers often auto-add protocol and sometimes even www.

3) HTTP (HyperText Transfer Protocol)

- Rules/protocol used to retrieve linked web pages on the web
- **HTTPS** is the more secure and advanced version (uses encryption)

Web vs Internet (very important)

Internet = global network of connected computers/devices

Web (WWW) = interlinked collection of web pages available over the Internet

Internet can exist without web pages. Web needs the Internet to work.

Search Engines

If you don't know the web page address, you use search engines like: Google, Bing, DuckDuckGo, Yahoo, etc.

Electronic Mail (Email)

Meaning

Email (Electronic Mail) is a service to send/receive messages over the Internet.

Features

- Can be sent anytime, anywhere, to one or many recipients
- Message can be:
 - typed text
 - file attachment (doc, image, audio, video, etc.)
 - Attachments avoid retyping existing files

Email Account

To use email, you must register with an email service provider (free or paid).

Examples: Gmail, Yahoo Mail, Outlook

Business email example:

username@companyname.com (custom domain)

Common Email Facilities

1. Compose email, attach files, save draft
2. Send and receive emails
3. CC (Carbon Copy) and BCC (Blind Carbon Copy)
4. Forward emails
5. Spam filtering
6. Organising emails into folders/subfolders
7. Contact list (email IDs management)
8. Automatic signature/footer
9. Print/save emails
10. Search emails by address/subject

Chat (Instant Messaging – IM)

Meaning

Chatting / IM is real-time communication through text messages over the Internet.

Requirements

- Both users should be online simultaneously
- Both must use the same chat application

Modern Chat Features

- Text + images + documents + audio + video
- Audio calls and video calls
- Group chat and group calls

Examples: WhatsApp, Slack, Skype, Messenger, Google Hangouts, etc.

VoIP (Voice over Internet Protocol)

Meaning

VoIP allows voice calling over the Internet instead of the traditional telephone network.

Also called:

- Internet Telephony
- Broadband Telephony

Working Principle

- Converts analogue voice into digital signals
- Sends them through Internet/broadband

Advantages

- Low cost or free, even for international calls
- Portability: calls can be made/received from anywhere with Internet access
- Calls can be routed to VoIP phone once connected to the Internet

Disadvantage

- Call quality depends on Internet speed

Slow Internet = poor audio quality

Website

A **website** is a collection of related web pages stored on a **web server**, connected through **hyperlinks**, and integrated under:

- one domain name
- a common theme/template/design

Example: NCERT website has textbooks, syllabus, events, etc. under one domain.

Accessing a Website

User types the **URL** in the browser address bar → home page opens.

Purpose of a Website

Main purpose: make information/services available to people at large in a clear, transparent, user-friendly way.

Examples:

- company selling products
- government publishing circulars/tenders/applications
- collecting feedback from users

Common purposes

- Selling products and services
- Posting/finding information
- Communication
- Entertainment
- Sharing software and content

A good website should be:

- user-friendly
- informative with minimum effort
- designed for different types of users

Web Page

A **web page** is a single document on the WWW viewed in a browser.

A website is made of multiple web pages.

Web page content can include

- text, tables, lists
- images
- audio/video
- software apps
- interactive content

Technologies used

- HTML + CSS for structure and design
- Scripts for interactivity
 - JavaScript is most common
 - also Python, PHP, etc.

Home Page

The first page of a website is called **Home Page**.

Each page has a unique address (URL).

Static vs Dynamic Web Pages

Static Web Page

- Same content for all users
- Server simply finds the page and sends it (no extra processing)
- Remains unchanged unless code is manually edited
- Usually made with HTML/CSS/JavaScript
- Extensions: .htm or .html

Dynamic Web Page

- Content may differ for different users or situations
- Server does processing before sending the page, such as:
 - fetching data from a database
 - updating date/time/weather
 - handling user choices (e-commerce, login, etc.)
 - More complex and can take more time to load
 - Technologies: JavaScript, PHP, ASP.NET, Python, Java, Ruby, etc.
 - Often connected to databases

Examples: shopping sites, pages showing live time/weather, personalised pages.

Web Server

A **web server** stores and delivers website content to clients (browsers).

Web server can be:

- hardware (a computer storing website files)
- software (program that responds to browser requests)

How it works

1. Browser sends **HTTP request**
2. Server accepts and interprets request
3. Server sends **HTTP response** with requested page

4. Browser displays the page

If server cannot find page → **Error 404 (Page Not Found)**

For testing websites on a PC, you must install web server software locally.

Hosting of a Website

Web hosting is the service of placing a website on the Internet so people can access it.

Two ways

1. Host on your own server (hardware) connected to the Internet
2. Rent server resources from a cloud hosting provider:
 - CPU, RAM, storage, bandwidthWebsite files are uploaded to the server (HTML, CSS, JS, images, database, etc.)

IP Address and Domain Name

When a server is connected to the Internet, it gets an **IP address** (numeric).

But numeric IP is hard to remember, so it is mapped to a **domain name** (text).

To use a domain name, it must be:

- registered/purchased from an authorised agency

How to Host a Website

To host a website, the following steps are followed:

Step 1: Select a Web Hosting Service Provider

Choose a web hosting service provider that offers:

- Web server space
- Database support
- Bandwidth
- Data backup
- Firewall and security
- Email services

The selection should depend on the **features and services** the website intends to provide.

Step 2: Choose and Register a Domain Name

- Select a suitable domain name for the website
- Register it through an authorised **Domain Name Registrar**

Step 3: Get Web Space Access

- After getting hosting space, create login credentials
- Assign appropriate access rights
- Note down the **IP address** of the web server

Step 4: Upload Website Files

- Upload website files (HTML, CSS, JavaScript, images, database files, etc.)
- Organise files properly into folders on the server

Step 5: Map Domain Name to IP Address

- Link the domain name with the server's IP address

This mapping is done using **DNS (Domain Name System)**.

Role of DNS

DNS converts a **domain name** into its corresponding **IP address**.

When a user enters a website address in a browser:

- DNS finds the IP address of the server
- Browser sends request to that server

Browser

A **browser** is a software application used to:

- Access
- Retrieve
- View web pages from web servers on the Internet

Examples of Web Browsers

- Google Chrome
- Mozilla Firefox
- Microsoft Internet Explorer
- Opera
- Safari

Functions of a Browser

- Displays HTML documents
- Shows text, images, audio, video
- Uses hyperlinks to move between web pages

Evolution of Browsers

- Early browsers like **Mosaic** supported only plain text (static websites)
- Modern browsers support:
 - Interactive and dynamic websites
 - Advanced graphics and visual effects
 - Encryption for security
 - Cookies for storing user data and preferences

Browser Settings

Browser settings control how a browser behaves. These settings can be customised easily.

Common Browser Settings

- Privacy and security
- Default search engine
- Download preferences
- Autofill and autocomplete
- Appearance and themes

Mozilla Firefox Settings Panels

General Panel

- Set default browser
- Control language and appearance
- Manage downloads
- Update and network settings

Home Panel

- Set home page
- Control tab and window behaviour

Search Panel

- Manage search engine preferences

Privacy and Security Panel

- Tracking protection
- Forms and passwords
- Browsing history
- Cookies and site data
- Pop-up and add-on permissions

Sync Panel

- Manage Firefox account
- Sync data across devices

After making changes, closing the settings window applies them.

Add-Ons and Plug-ins

Add-ons and plug-ins extend the functionality of a browser, but they are different.

Plug-ins

- Complete programs or third-party software
- Installed on the computer
- Can be used by browser and other applications

Examples:

- Flash Player
- Java

Plug-ins are needed to perform special tasks like playing certain videos.

Add-Ons (Extensions)

- Not complete programs
- Add specific features to the browser
- Browser-specific

Examples:

- Sound enhancement
- Graphics support
- Ad blockers

Managing Add-Ons and Plug-ins

- Access through browser menu
- Enable, disable, or remove as required

Cookies

Cookies are **small text files** stored by a website in the user's browser.

Purpose of Cookies

- Recognise returning users
- Remember visited pages
- Store preferences (language, login, shopping choices)
- Display personalised content and advertisements

How Cookies Work

- Website sends cookie to browser
- Browser stores it
- Cookie is sent back to server on next visit

Safety of Cookies

- Generally harmless
- Cannot access hard disk directly
- Cannot transmit viruses on their own

However, some malicious programs may disguise themselves as cookies.

Managing Cookies

- Stored and controlled by the browser
- Can be disabled from **Privacy and Security settings**

ARTIFICIAL INTELLIGENCE (AI)

Artificial Intelligence refers to machines designed to simulate human intelligence such as learning, reasoning, decision-making, and problem solving.

Key features

- Learns from data
- Improves with experience
- Performs tasks like speech recognition, image analysis, prediction

Major types

- **Narrow AI:** Task-specific (voice assistants, recommendations)
- **General AI:** Human-like intelligence (theoretical, not achieved yet)

Important applications

- Healthcare (diagnosis)
- Education (personalized learning)
- Banking (fraud detection)
- Social media (recommendations)

CHATGPT

ChatGPT is an AI chatbot based on large language models.

Developed by: OpenAI

Launched: 2022

Key uses

- Answering questions
- Writing content
- Coding help
- Education support

Important point for exams

- ChatGPT is an example of **Generative AI**
- It works on **Machine Learning + Natural Language Processing (NLP)**

GOOGLE

Google is a global technology company best known for its search engine.

Founded by: Larry Page and Sergey Brin

Founded in: 1998

Major services

- Search engine
- Gmail
- Google Drive
- Google Maps
- YouTube

Exam trap

- Google is both a **search engine** and a **company**

EMAIL (E-MAIL)

Email is an electronic mail service used to send and receive messages over the internet.

Invented by: Ray Tomlinson

Year: 1971

Protocols

- SMTP (sending)
- POP3 / IMAP (receiving)

Key feature

- Uses **@** symbol to separate username and domain

FACEBOOK

Facebook is a social networking platform.

Founded by: Mark Zuckerberg

Founded in: 2004

Main purpose

- Social networking
- Sharing posts, photos, videos

Current parent company

- **Meta Platforms Inc.**

INSTAGRAM

Instagram is a photo and video sharing social media platform.

Founded by:

- Kevin Systrom
- Mike Krieger

Founded in: 2010

Owned by: Meta (Facebook)

Special feature

- Reels
- Stories
- Influencer marketing

WHATSAPP

WhatsApp is an instant messaging application.

Founded by:

- Jan Koum
- Brian Acton

Founded in: 2009

Owned by: Meta

Key features

- End-to-end encryption
- Voice and video calling

TWITTER (X)

Twitter is a microblogging platform.

Founded by:

- Jack Dorsey
- Biz Stone, Evan Williams (co-founders)

Founded in: 2006

Important exam update

- Twitter is now called **X**
- Character limit originally **140**, later **280**

SNAPCHAT

Snapchat is a multimedia messaging app.

Founded by:

- Evan Spiegel

Founded in: 2011

Unique feature

- Messages disappear automatically
- Filters and lenses (AI-based)

QUICK COMPARISON TABLE (MEMORY BOOST)

- Email → Oldest internet communication service
- WhatsApp → End-to-end encrypted messaging
- Instagram → Visual content platform
- Twitter → Short text based updates
- ChatGPT → AI chatbot (Generative AI)

Practice MCQs on Informatics Practices

- Which generation of computers first used integrated circuits?
 - First
 - Second
 - Third
 - Fourth
- The main role of an operating system is to:
 - Convert source code into machine code
 - Act as an interface between user and hardware
 - Increase processor speed
 - Store application software
- Which memory is volatile in nature?
 - ROM
 - Flash memory
 - Hard disk
 - RAM
- Which unit performs logical comparisons in a computer?
 - Control Unit
 - ALU
 - Register
 - Cache
- Which of the following is NOT a characteristic of a computer?
 - Accuracy
 - Intelligence
 - Diligence
 - Speed
- BIOS is stored in:
 - RAM
 - Hard disk
 - ROM
 - Cache
- Which of the following is an example of system software?
 - MS Word
 - Python
 - Linux
 - Photoshop
- The smallest unit of data in a computer is:
 - Nibble
 - Bit
 - Byte
 - Word
- Which memory is closest to the CPU?
 - RAM
 - Cache
 - Hard Disk
 - ROM
- What does “booting” mean?
 - Formatting the disk
 - Loading OS into memory
 - Shutting down the system
 - Installing software
- URL stands for:
 - Universal Resource Locator
 - Uniform Resource Locator
 - Uniform Resource Link
 - Universal Resource Link
- Which protocol is used to transfer web pages?
 - FTP
 - SMTP
 - HTTP
 - POP3
- The default port number of HTTP is:
 - 21
 - 25
 - 80
 - 443
- Which domain is used for educational institutions in India?
 - .edu
 - .ac.in
 - .gov.in
 - .org
- HTTPS is more secure than HTTP because:
 - It is faster
 - It uses encryption
 - It uses larger bandwidth
 - It blocks cookies
- Which of the following is a search engine?
 - Chrome
 - Google
 - Yahoo Mail
 - Facebook
- Cookies are mainly used to:
 - Speed up hardware
 - Track user preferences
 - Detect viruses
 - Encrypt data
- Which service allows sending files over the internet?
 - FTP
 - Telnet
 - IRC
 - VoIP
- A web browser is:
 - Hardware device
 - Search engine
 - Client software
 - Server software
- Which protocol is used for sending emails?
 - POP3
 - SMTP
 - HTTP
 - FTP
- IP address version 4 uses:
 - 32 bits
 - 64 bits
 - 128 bits
 - 16 bits
- Which of the following is a private IP address?
 - 8.8.8.8
 - 192.168.1.1
 - 172.0.0.1
 - 1.1.1.1
- DNS translates:
 - IP to MAC
 - Domain name to IP address
 - Data to signal
 - Signal to data
- The physical address of a computer is called:
 - IP address
 - URL
 - MAC address
 - Port address
- Which topology uses a central hub?
 - Ring
 - Bus
 - Star
 - Mesh
- Which topology is most expensive?
 - Bus
 - Ring
 - Star
 - Mesh

27. Which device forwards data based on IP address?
- Hub
 - Switch
 - Router
 - Repeater
28. Which device works at the physical layer?
- Switch
 - Router
 - Hub
 - Gateway
29. LAN covers:
- A country
 - A city
 - A small geographic area
 - Worldwide network
30. WAN example is:
- Office network
 - School network
 - Internet
 - Bluetooth
31. Which cable offers highest data transmission speed?
- Coaxial
 - Twisted pair
 - Optical fiber
 - Telephone wire
32. Twisted pair cables are commonly used in:
- Satellite communication
 - Telephone lines
 - Optical networks
 - Wireless LAN
33. Which of the following is wireless transmission media?
- UTP
 - Fiber optic
 - Radio waves
 - Coaxial
34. Which network device regenerates signals?
- Router
 - Switch
 - Repeater
 - Gateway
35. Switch works at:
- Physical layer
 - Network layer
 - Data link layer
 - Transport layer
36. Which protocol assigns IP addresses automatically?
- DNS
 - FTP
 - DHCP
 - HTTP
37. Which network type uses Bluetooth?
- LAN
 - MAN
 - PAN
 - WAN
38. Bandwidth refers to:
- Storage capacity
 - Signal strength
 - Data transfer rate
 - Network security
39. Firewall is used to:
- Increase speed
 - Prevent unauthorized access
 - Store data
 - Connect networks
40. Which is NOT a network protocol?
- TCP
 - IP
 - USB
 - HTTP
41. Trojan horse is:
- Hardware failure
 - Network topology
 - Malware disguised as useful software
 - Encryption technique
42. Which malware replicates itself?
- Virus
 - Worm
 - Spyware
 - Adware
43. Antivirus software mainly:
- Creates backups
 - Detects and removes malware
 - Encrypts data
 - Boosts RAM
44. Phishing attacks aim to:
- Destroy hardware
 - Steal sensitive information
 - Improve security
 - Encrypt emails
45. Strong passwords should include:
- Only alphabets
 - Only numbers
 - Combination of characters
 - Username
46. Two-factor authentication improves:
- Speed
 - Storage
 - Security
 - Compatibility
47. Which is NOT an example of input device?
- Scanner
 - Mouse
 - Monitor
 - Keyboard
48. Output from a computer is always in:
- Binary form
 - Human-readable form
 - Analog form
 - Machine form only
49. Which device connects two different networks?
- Hub
 - Switch
 - Router
 - Repeater
50. Which software translates high-level language into machine code?
- Interpreter
 - Compiler
 - Assembler
 - Loader
51. Internet is best described as:
- LAN
 - MAN
 - WAN
 - PAN
52. Which file extension indicates a web page?
- .doc
 - .exe
 - .html
 - .jpg
53. Which protocol retrieves emails from server?
- SMTP
 - POP3
 - HTTP
 - FTP

54. The full form of ISP is:
- Internet Service Provider
 - Internal Service Protocol
 - International Server Provider
 - Internet Security Program
55. Which device converts digital signals to analog?
- Router
 - Modem
 - Switch
 - NIC
56. NIC stands for:
- Network Interface Card
 - Network Internet Controller
 - Node Interface Card
 - Network Information Cable
57. Which OS is open source?
- Windows
 - macOS
 - Linux
 - DOS
58. Which storage has the highest capacity?
- CD
 - DVD
 - Blu-ray
 - Hard disk
59. Which is NOT a function of Control Unit?
- Fetch instruction
 - Decode instruction
 - Execute instruction
 - Store data permanently
60. Which memory stores frequently used data?
- ROM
 - Cache
 - Hard disk
 - Pen drive
61. E-mail address consists of:
- Username and domain
 - IP and port
 - MAC and IP
 - Server and protocol
62. Which topology has single point of failure?
- Bus
 - Ring
 - Star
 - Mesh
63. Which network spans a city?
- LAN
 - PAN
 - MAN
 - WAN
64. Which layer handles routing?
- Physical
 - Data link
 - Network
 - Transport
65. Which cable is immune to electromagnetic interference?
- Twisted pair
 - Coaxial
 - Fiber optic
 - Telephone
66. Uploading means:
- Downloading data
 - Sending data to server
 - Receiving data
 - Copying data locally
67. Which protocol ensures reliable transmission?
- UDP
 - TCP
 - IP
 - FTP
68. Which is an example of application software?
- Windows
 - Linux
 - Excel
 - BIOS
69. Which is NOT an internet service?
- E-mail
 - Chat
 - Fax
 - Video conferencing
70. Which of the following is a browser?
- Bing
 - Chrome
 - Google
 - Yahoo
71. Which memory cannot be written by user?
- RAM
 - ROM
 - Cache
 - Register
72. Which topology uses terminators?
- Bus
 - Star
 - Ring
 - Mesh
73. Which protocol is used for secure web communication?
- HTTP
 - HTTPS
 - FTP
 - SMTP
74. A computer network node is:
- Only server
 - Only client
 - Any connected device
 - Only router
75. Which attack floods a network with traffic?
- Phishing
 - Spoofing
 - DoS
 - Hacking
76. Which device assigns MAC addresses?
- Router
 - NIC
 - Hub
 - Switch
77. Which of these is NOT hardware?
- CPU
 - Keyboard
 - Python
 - Monitor
78. Which memory is used during program execution?
- ROM
 - Hard disk
 - RAM
 - Pen drive
79. Which type of software manages hardware?
- Application
 - Utility
 - System
 - Firmware
80. Which layer handles error detection?
- Physical
 - Data link
 - Network
 - Session

81. WWW stands for:
a) World Wide Web
b) World Web Wide
c) Web World Wide
d) Wide World Web
82. Which of the following is a web server software?
a) Apache
b) Chrome
c) Linux
d) Firefox
83. Which is NOT a valid IP address?
a) 192.168.0.1
b) 256.10.1.1
c) 10.0.0.1
d) 172.16.0.1
84. Which component controls data flow?
a) ALU
b) CU
c) Register
d) Cache
85. Which storage is secondary memory?
a) RAM
b) Cache
c) Hard disk
d) Register
86. Which software removes temporary files?
a) Antivirus
b) Disk cleanup
c) Compiler
d) Browser
87. Which internet service allows real-time communication?
a) Email
b) FTP
c) Chat
d) WWW
88. Which address uniquely identifies a device globally?
a) Port address
b) MAC address
c) URL
d) Domain
89. Which of the following is a guided transmission media?
a) Radio wave
b) Infrared
c) Fiber optic
d) Microwave
90. Which protocol is connectionless?
a) TCP
b) FTP
c) UDP
d) SMTP
91. Which computer language is machine dependent?
a) High-level
b) Assembly
c) Python
d) Java
92. Which OS allows multitasking?
a) DOS
b) Windows
c) CP/M
d) BIOS
93. Which topology has no central controller?
a) Star
b) Bus
c) Ring
d) Mesh
94. Which network device reduces collision domain?
a) Hub

- b) Switch
c) Repeater
d) Modem
95. Which tool checks network connectivity?
a) Ping
b) Format
c) Compile
d) Scan
96. Which of the following is NOT a browser function?
a) Rendering web pages
b) Running OS
c) Downloading files
d) Managing cookies
97. Which of these is an example of cloud service?
a) Google Drive
b) Hard disk
c) Pen drive
d) DVD
98. Which is NOT a valid domain extension?
a) .com
b) .edu
c) .int
d) .doc
99. Which internet protocol uses port 443?
a) HTTP
b) HTTPS
c) FTP
d) SMTP
100. Which device connects LAN to internet?
a) Switch
b) Hub
c) Router
d) Repeater

Answer Key (1–100)

1. C	21. A	41. C	61. A	81. A
2. B	22. B	42. B	62. C	82. A
3. D	23. B	43. B	63. C	83. B
4. B	24. C	44. B	64. C	84. B
5. B	25. C	45. C	65. C	85. C
6. C	26. D	46. C	66. B	86. B
7. C	27. C	47. C	67. B	87. C
8. B	28. C	48. B	68. C	88. B
9. B	29. C	49. C	69. C	89. C
10. B	30. C	50. B	70. B	90. C
11. B	31. C	51. C	71. B	91. B
12. C	32. B	52. C	72. A	92. B
13. C	33. C	53. B	73. B	93. D
14. B	34. C	54. A	74. C	94. B
15. B	35. C	55. B	75. C	95. A
16. B	36. C	56. A	76. B	96. B
17. B	37. C	57. C	77. C	97. A
18. A	38. C	58. D	78. C	98. D
19. C	39. B	59. D	79. C	99. B
20. B	40. C	60. B	80. B	100. C

MCQs

1. Which statement about RAM is MOST accurate?
a) It stores data permanently during execution
b) It is faster than cache memory
c) It loses contents when power fails
d) It is used only during booting
2. Cache memory improves system performance mainly because it:
a) Has larger storage than RAM
b) Stores OS permanently

- c) Reduces average memory access time
 - d) Works independently of CPU
3. ROM differs from RAM primarily in terms of:
- a) Access speed
 - b) Volatility
 - c) Physical size
 - d) Addressing scheme
4. BIOS is stored in ROM because it must:
- a) Be frequently modified
 - b) Load applications
 - c) Remain available at startup
 - d) Increase execution speed
5. Which memory hierarchy order is correct (fastest to slowest)?
- a) RAM → Cache → Register → Hard Disk
 - b) Register → Cache → RAM → Hard Disk
 - c) Cache → Register → RAM → Hard Disk
 - d) Register → RAM → Cache → Hard Disk
6. Which software is closest to hardware?
- a) Application software
 - b) Utility software
 - c) Operating system
 - d) Word processor
7. A compiler differs from an interpreter because it:
- a) Translates line by line
 - b) Does not generate object code
 - c) Translates entire program at once
 - d) Works only with assembly language
8. Which of the following is NOT an operating system function?
- a) Memory management
 - b) Process scheduling
 - c) File handling
 - d) Word processing
9. Proprietary software usually implies:
- a) Free distribution
 - b) Open modification rights
 - c) Source code secrecy
 - d) No copyright
10. Which pair is correctly matched?
- a) Linux – Proprietary
 - b) Windows – Open source
 - c) MS Word – Application software
 - d) Python – System software
11. Internet is best classified as:
- a) A global LAN
 - b) A network of servers only
 - c) A WAN of WANs
 - d) A MAN-based structure
12. DNS is essential because humans prefer:
- a) MAC addresses
 - b) Binary numbers
 - c) Domain names
 - d) Port numbers
13. Which protocol ensures reliability but increases overhead?
- a) UDP
 - b) IP
 - c) TCP
 - d) HTTP
14. HTTPS is secure mainly due to:
- a) Faster servers
 - b) Authentication and encryption
 - c) Smaller packets
 - d) Dedicated bandwidth
15. Which is NOT a function of a web browser?
- a) Rendering HTML
 - b) Managing cookies
 - c) Compiling code
 - d) Executing scripts
16. Email uses SMTP for sending because it is:
- a) Connectionless
 - b) Push-based
 - c) Encrypted by default
 - d) Faster than TCP
17. A private IP address is used to:
- a) Identify devices globally
 - b) Avoid routing on internet
 - c) Replace MAC address
 - d) Increase speed
18. Uploading data implies:
- a) Data movement from server to client
 - b) Data movement from client to server
 - c) Internal data transfer
 - d) Data encryption
19. Which domain extension indicates an organization, not purpose?
- a) .edu
 - b) .gov
 - c) .org
 - d) .mil
20. Internet services depend fundamentally on:
- a) Hardware speed
 - b) Protocols
 - c) Browsers
 - d) Search engines
21. AI differs from traditional programs mainly because it:
- a) Uses electricity
 - b) Stores more data
 - c) Learns from data
 - d) Runs faster
22. Machine Learning is best described as:
- a) Rule-based programming
 - b) Manual decision making
 - c) Data-driven model training
 - d) Hardware acceleration
23. Which is an example of Narrow AI?
- a) Human intelligence
 - b) Conscious robots
 - c) Recommendation systems
 - d) General problem solvers
24. AI systems show bias primarily due to:
- a) Processor limitations
 - b) Network latency
 - c) Biased training data
 - d) ROM capacity
25. Which AI field focuses on understanding human language?
- a) Robotics
 - b) NLP
 - c) Computer Vision
 - d) Data Mining
26. Chatbots simulate intelligence mainly through:
- a) Predefined hardware logic
 - b) Pattern recognition
 - c) Manual responses
 - d) Disk operations
27. Which is NOT an AI application?
- a) Face recognition
 - b) Voice assistants
 - c) Spell checker
 - d) Self-driving cars
28. AI requires large datasets mainly to:
- a) Increase storage use
 - b) Improve prediction accuracy
 - c) Reduce algorithm size
 - d) Replace hardware

29. General AI is currently:
- a) Widely used
 - b) Theoretical
 - c) Commercially dominant
 - d) Hardware dependent
30. Ethical concerns in AI arise due to:
- a) High speed
 - b) Autonomous decision making
 - c) Large storage
 - d) Cloud computing
31. Cloud computing reduces dependency on:
- a) Internet
 - b) Local hardware
 - c) Servers
 - d) Software
32. SaaS users mainly interact with:
- a) Infrastructure
 - b) Platform
 - c) End-user applications
 - d) Hardware drivers
33. Which cloud service model offers maximum user control?
- a) SaaS
 - b) PaaS
 - c) IaaS
 - d) DaaS
34. IoT devices primarily rely on:
- a) Standalone computing
 - b) Internet connectivity
 - c) Human supervision
 - d) Local storage only
35. Smart home systems are examples of:
- a) General AI
 - b) IoT with AI
 - c) Pure hardware networks
 - d) Offline automation
36. Which memory supports multitasking directly?
- a) ROM
 - b) RAM
 - c) Hard disk
 - d) Optical disk
37. Which statement is TRUE?
- a) Cache is larger than RAM
 - b) ROM can be frequently modified
 - c) RAM speed affects execution time
 - d) Hard disk is volatile
38. Which software is essential for resource allocation?
- a) Antivirus
 - b) Browser
 - c) Operating system
 - d) Compiler
39. Which scenario best represents AI decision making?
- a) Calculator output
 - b) If-else logic
 - c) Spam filtering
 - d) File copying
40. AI models become obsolete mainly because:
- a) Hardware failure
 - b) Changing real-world data
 - c) Internet shutdown
 - d) Power loss
41. ChatGPT belongs to which category of AI?
- a) General AI
 - b) Narrow AI
 - c) Super AI
 - d) Reactive AI
42. ChatGPT is developed using mainly:
- a) Computer Vision
 - b) Robotics
 - c) Natural Language Processing
 - d) Data Warehousing
43. ChatGPT was first released to the public in:
- a) 2020
 - b) 2021
 - c) 2022
 - d) 2023
44. The parent organization of ChatGPT is:
- a) Google
 - b) Meta
 - c) OpenAI
 - d) Microsoft
45. Which company invested heavily in OpenAI in recent years?
- a) Apple
 - b) Meta
 - c) Microsoft
 - d) Amazon
46. Google was founded in which year?
- a) 1996
 - b) 1997
 - c) 1998
 - d) 2000
47. Google's original name was:
- a) BackRub
 - b) SearchIt
 - c) PageRank
 - d) WebCrawler
48. The core technology behind Google Search is based on:
- a) AI only
 - b) PageRank algorithm
 - c) Blockchain
 - d) Cloud storage
49. Gmail was launched in:
- a) 2002
 - b) 2004
 - c) 2006
 - d) 2008
50. Google's parent company is now known as:
- a) Meta
 - b) Alphabet
 - c) OpenAI
 - d) Amazon
51. Email was invented by:
- a) Tim Berners-Lee
 - b) Vint Cerf
 - c) Ray Tomlinson
 - d) Bill Gates
52. The "@" symbol in email was first used in:
- a) 1969
 - b) 1971
 - c) 1975
 - d) 1980
53. Which protocol is used to SEND emails?
- a) POP3
 - b) IMAP
 - c) SMTP
 - d) HTTP
54. Which protocol allows emails to stay on the server?
- a) SMTP
 - b) FTP
 - c) POP3
 - d) IMAP
55. Email is considered an example of:
- a) Real-time communication
 - b) Asynchronous communication
 - c) Broadcast media
 - d) AI-based service

56. Facebook was founded in:
- 2002
 - 2003
 - 2004
 - 2005
57. Facebook's parent company was renamed Meta in:
- 2019
 - 2020
 - 2021
 - 2022
58. Facebook was originally created for students of:
- Stanford University
 - MIT
 - Harvard University
 - Yale University
59. Which technology does Facebook heavily use for content recommendation?
- Blockchain
 - AI algorithms
 - Optical fiber
 - DNS
60. Meta Platforms mainly focuses on:
- Search engines
 - Metaverse and social platforms
 - Email services
 - Operating systems
61. Instagram was launched in:
- 2008
 - 2009
 - 2010
 - 2011
62. Instagram was acquired by Facebook (Meta) in:
- 2010
 - 2011
 - 2012
 - 2014
63. Instagram is primarily a:
- Text-based platform
 - Photo and video sharing platform
 - Messaging app
 - Blogging site
64. Instagram Reels feature competes directly with:
- Twitter
 - YouTube
 - Snapchat
 - TikTok
65. Influencer marketing is most associated with:
- Email
 - Instagram
 - Google Search
 - Wikipedia
66. WhatsApp was founded in:
- 2007
 - 2008
 - 2009
 - 2010
67. WhatsApp uses which security feature by default?
- Password protection
 - Firewall
 - End-to-end encryption
 - VPN
68. WhatsApp was acquired by Facebook in:
- 2012
 - 2013
 - 2014
 - 2015
69. WhatsApp is primarily an example of:
- Social networking site
 - Instant messaging service
 - Search engine
 - Blogging platform
70. WhatsApp Business is mainly designed for:
- Students
 - Gamers
 - Businesses and customer interaction
 - Developers only
71. Twitter was founded in:
- 2004
 - 2005
 - 2006
 - 2007
72. Twitter was renamed "X" after acquisition by:
- Mark Zuckerberg
 - Jeff Bezos
 - Elon Musk
 - Sundar Pichai
73. Twitter is best described as a:
- Photo-sharing app
 - Microblogging platform
 - Video streaming service
 - Messaging app
74. Original tweet character limit was:
- 120
 - 140
 - 200
 - 280
75. Twitter/X is widely used for:
- Private messaging only
 - Academic research
 - Public opinion and real-time news
 - Cloud storage
76. Snapchat was launched in:
- 2009
 - 2010
 - 2011
 - 2012
77. Snapchat's unique feature is:
- Permanent posts
 - Disappearing messages
 - Long videos
 - Blogging
78. Snapchat filters mainly work using:
- Blockchain
 - AI and Computer Vision
 - DNS
 - Optical media
79. Snapchat is especially popular among:
- Senior citizens
 - Business executives
 - Young users
 - Researchers
80. Snapchat's parent company is called:
- Meta
 - Snap Inc.
 - Alphabet
 - OpenAI
81. AI-based recommendation systems are used MOST by:
- Email only
 - Social media platforms
 - BIOS
 - Operating systems
82. Which platform uses AI for spam filtering?
- Email services
 - Instagram only
 - Snapchat only
 - Twitter only

83. Fake news detection today mainly relies on:
- a) Manual checking
 - b) AI and ML models
 - c) Hardware filters
 - d) DNS servers
84. Which platform is MOST text-centric?
- a) Instagram
 - b) Snapchat
 - c) Twitter/X
 - d) WhatsApp
85. Which service is NOT owned by Meta?
- a) Facebook
 - b) Instagram
 - c) WhatsApp
 - d) Google
86. Generative AI means AI that can:
- a) Only analyze data
 - b) Only store data
 - c) Create new content
 - d) Transmit signals
87. ChatGPT is NOT primarily used for:
- a) Content generation
 - b) Question answering
 - c) Image processing hardware
 - d) Learning support
88. Social media algorithms mainly aim to:
- a) Reduce usage
 - b) Increase user engagement
 - c) Slow down internet
 - d) Remove AI
89. Which platform is MOST associated with short-lived content?
- a) Facebook
 - b) Instagram
 - c) Snapchat
 - d) Email
90. AI personalization depends heavily on:
- a) User data
 - b) Hardware cables
 - c) IP addresses only
 - d) ROM size
91. Which is the OLDEST internet service among the following?
- a) WhatsApp
 - b) Instagram
 - c) Email
 - d) Twitter
92. Which platform is MOST used for professional networking?
- a) Facebook
 - b) Instagram
 - c) Email
 - d) Snapchat
93. AI-driven voice assistants are examples of:
- a) General AI
 - b) Narrow AI
 - c) Super AI
 - d) Human AI
94. Which platform relies MOST on visual content?
- a) Twitter
 - b) Email
 - c) Instagram
 - d) Google Search
95. Google Maps uses AI mainly for:
- a) Email routing
 - b) Path and traffic prediction
 - c) Image editing
 - d) Blogging

96. The biggest ethical concern in AI-based social media is:
- a) Storage cost
 - b) Bias and privacy
 - c) Cable management
 - d) Screen resolution
97. Which platform introduced “Stories” FIRST (popularly)?
- a) Instagram
 - b) Facebook
 - c) Snapchat
 - d) WhatsApp
98. Which company currently owns the MOST social platforms?
- a) Google
 - b) Microsoft
 - c) Meta
 - d) Amazon
99. AI moderation on social media is used to control:
- a) Internet speed
 - b) Harmful content
 - c) Hardware failure
 - d) Server shutdown
100. For CUET/JMI, ChatGPT is BEST classified as:
- a) Search engine
 - b) Social media platform
 - c) AI-based chatbot
 - d) Email service

Answer Key

1. C	21. C	41. B	61. C	81. B
2. C	22. C	42. C	62. C	82. A
3. B	23. C	43. C	63. B	83. B
4. C	24. C	44. C	64. D	84. C
5. B	25. B	45. C	65. B	85. D
6. C	26. B	46. C	66. C	86. C
7. C	27. C	47. A	67. C	87. C
8. D	28. B	48. B	68. C	88. B
9. C	29. B	49. B	69. B	89. C
10. C	30. B	50. B	70. C	90. A
11. C	31. B	51. C	71. C	91. C
12. C	32. C	52. B	72. C	92. C
13. C	33. C	53. C	73. B	93. B
14. B	34. B	54. D	74. B	94. C
15. C	35. B	55. B	75. C	95. B
16. B	36. B	56. C	76. C	96. B
17. B	37. C	57. C	77. B	97. C
18. B	38. C	58. C	78. B	98. C
19. C	39. C	59. B	79. C	99. B
20. B	40. B	60. B	80. B	100. C

BBA 2025 Paper
JAMIA MILLIA ISLAMIA
Entrance Examination 2024–25
Paper Code: B-04
Set: C

1. Median of the following series is:
8, 4, 12, 14, 3, 2, 3
A. 4
B. 8
C. 3
D. 2
2. If Ramil attends the event, then Rahul, Harshit and Vineet will also attend the event. Assuming the above statement is true then which of the following must also be true?
A. If Ramil does not attend the event then Rahul does not attend the event
B. If Rahul, Harshit and Vineet attend the event then Ramil will attend the event

- C. If Harshit does not attend the event then Vineet does not attend either
D. If Rahul does not attend the event then Ramil is not going to attend the event
3. Choose the number pair which is different from others:
A. 7 : 343
B. 9 : 243
C. 8 : 512
D. 6 : 216
4. Which letter in the word “CYBERNETICS” occupies the same position as it does in the English alphabet?
A. C
B. E
C. I
D. T
5. Choose the next number in the series:
4, 9, 25, 49, 121, 169
A. 196
B. 225
C. 289
D. 324
6. Blue means green, green means black, black means white, white means pink, pink means red and red means orange. What is the colour of blood?
A. Pink
B. Red
C. Black
D. White
7. A class of boys stands in a single line. One boy is nineteenth in order from both the ends. How many boys are there in the class?
A. 36
B. 37
C. 38
D. 39
8. In a class of 42 students, Mahesh’s rank is 16th from bottom. What is his rank from top?
A. 25th
B. 26th
C. 27th
D. 28th
9. Mohan is facing North and walks 20 km. He turns 270° anti-clockwise and walks 20 km. He again turns 45° clockwise and walks for 20 km. Which direction is he facing now?
A. North-West
B. South-West
C. North-East
D. South-East
10. If ‘air’ is called ‘green’, ‘green’ is called ‘red’, ‘red’ is called ‘blue’, ‘blue’ is called ‘water’ and ‘water’ is called ‘pink’, then what is the colour of grass?
A. Green
B. Red
C. Pink
D. Blue
11. In how many different ways can the letters of the word “QWERTY” be arranged?
A. 360
B. 540
C. 720
D. 1420
12. A bag contains six eggs and eight potatoes. One article is drawn at random. What is the probability that the article drawn is potato?
A. $\frac{1}{8}$
B. $\frac{6}{8}$
C. $\frac{4}{7}$
D. $\frac{2}{7}$
13. The relationship between mean, median and mode is:
A. Mode = 3 Median – 2 Mean
B. Median = 2 Mean – 3 Mode
C. Mode = 2 Mean – 3 Median
D. Mean = 3 Median – 2 Mode
14. Given Mean 30, Mode 30, the Median would be:
A. 40
B. 25
C. 35
D. 30
15. The value of coefficient of correlation lies between:
A. –1 and 0
B. 0 and 1
C. –1 and 1
D. –1 and 5
16. Information collected for a specific purpose is known as:
A. Experimental information
B. Primary data
C. Secondary data
D. External information
17. When researcher wants to compare more than two group differences, _____ will be used.
A. ANOVA
B. Logistic regression
C. Correlation
D. Partial correlation
18. Standard deviation divided by Arithmetic mean expressed as percentage is:
A. Coefficient of Differentiation
B. Coefficient of Variation
C. Mean
D. Median
19. What is the Arithmetic mean of the absolute deviations from the median or mode called?
A. Range
B. Inter Quartile Range
C. Mean deviation
D. Coefficient of range
20. Which of the following is not an accounting software?
A. Tally
B. Busy
C. MS Office
D. Best Books
21. Central Processing Unit (CPU) does not include which of the following?
A. Control Unit
B. Arithmetic Logic Unit
C. Memory Unit
D. Output Unit
22. In digital imaging, the smallest unit of information in an image is called as:
A. Ray
B. Pixel
C. Point
D. Focal Point
23. Which of the following is NOT a benefit of ICT?
A. It helps in most of the human activities
B. It helps in development goals
C. It helps in acquiring information directly from original sources
D. It helps in social distancing of people
24. The primary storage is referred to _____ because it is possible to randomly select and read any location of the memory directly to store and retrieve data.
A. ROM

- B. RAM
C. PROM
D. EPROM
25. _____ involves reading text from paper and translating the images into a form that the computer can manipulate.
A. MICR
B. OCR
C. OMR
D. MCIR
26. _____ software is written to perform a specific task or process such as accounting, payroll, mailing list and so on.
A. System
B. Utility
C. Application
D. General
27. Android is an open source mobile OS and is developed by:
A. Apple
B. Microsoft
C. Google
D. IBM
28. Which of the following is not correct about Ring Topology?
A. All the computers are connected in a closed loop
B. Uses central computer to share data
C. Message travels around the ring
D. Token passing system is used to manage access
29. One Tera byte is equal to:
A. 1500 GB
B. 1200 MB
C. 1000 GB
D. 1000 MB
30. The devices which are used to control, monitor or assist the operation of equipment, machinery or plant:
A. IoT devices
B. Embedded devices
C. Timers
D. Simulators

Read the following passage and answer the questions given after:

Currently the focus of research into artificial intelligence (AI) is on relatively limited applications, including guiding airplanes and missiles, understanding language, detecting credit card fraud, and diagnosing medical conditions from electrocardiograms. While these avenues certainly contain promise for commercial and industrial interests, the populace at large typically is more interested in a slightly less consequential application of AI. In 1997, Deep Blue, a chess playing computer program, defeated grand master Gary Kasparov in a tournament, marking the first time a computer was able to beat a human world champion. But these more “frivolous” applications of AI are actually valuable indicators of the state of technology. Computer engineers are constantly revising and reinventing the programming algorithms in an effort to make computers think more like people do. And the exponential increases in processing and storage technology are allowing artificial intelligence researchers to greatly increase the power of AI programs while simultaneously reducing the size and computing needs of the machines. For example, the Deep Blue program required 256 specialized processors to analyze the millions and millions of combinations of moves. Each of these processors was about one hundred times faster than a standard home computer, which means Deep Blue was about 25,600

times faster than a 1997 personal computer. Only five years later, in 2002, AI engineers unleashed a new chess playing program, Deep Fritz. Deep Fritz played Vladimir Kramnik, the highest ranked chess player in the world, to a draw, but this result was anything but a failure to the AI community. Whereas Deep Blue required 256 processors to achieve its victory, Deep Fritz had a mere eight. Deep Blue could analyze 200 million moves per second, but Deep Fritz could deal with only 2.5 million. Yet Deep Fritz’s chess playing abilities more closely resembled those of a person. Deep Blue was able to defeat Kasparov by brute strength alone, calculating millions of possible moves and counter moves. Deep Fritz played Kramnik to a draw by using advanced pattern recognition skills, which allowed it to be competitive despite considering fewer move combinations.

31. What is the purpose of this passage?
A. Describes the state and speed of research in the field of AI
B. Discusses different AI programmes
C. Compares human abilities to the abilities of AI
D. Challenges assumptions about AI
32. Why was Deep Fritz not considered a failure to the AI community as per the passage?
A. Because it won the chess game against the highest ranked chess player in the world
B. Because it was able to imitate human behaviour more closely than its predecessor
C. It could calculate millions of possible moves and counter moves
D. Because it was not able to imitate human behaviour
33. From the above passage, what can we infer about human chess players?
A. They cannot beat Deep Blue
B. Their capabilities are inferior to those of computer programmes
C. They rely on pattern recognition skills to play chess
D. They resort to unethical practice to win
34. The word “frivolous” in passage is used to mean:
A. Joking
B. Not having serious purpose
C. Amusing
D. Profound
35. Architect is related to Building as Sculptor is related to:
A. Stone
B. Museum
C. Statue
D. Talent
36. Replace the underlined section with the most appropriate option:
If he would have revised his first draft, he would have received a better grade.
A. Would Have Revised
B. Had Revised
C. Could of Revised
D. Had of Revised
37. Choose the correct synonyms for the word “Hone”:
A. Thorn
B. Elucidate
C. Sharpen
D. Blunt
38. Join the following two sentences using proper conjunction(s):
My stomach hurts. I ate too much ice cream.
A. My stomach hurts whereas I ate too much ice cream
B. My stomach hurts while I ate too much ice cream

- C. My stomach hurts because I ate too much ice cream
D. My stomach hurts although I ate too much ice cream
39. Fill in the blanks using appropriate preposition:
I'm afraid _____ losing my job
A. At
B. On
C. Of
D. In
40. Fill in the blanks using the most appropriate option:
John was absolutely _____ back then, but the stint in _____ did him no good.
A. prison, fine
B. fine, prison
C. running, fine
D. fine, fine
41. A unicorn startup has a market valuation of:
A. \$10 Billion
B. \$1 Trillion
C. \$1 Billion
D. \$5 Billion
42. Which country has overtaken Japan as the world's third-largest economy?
A. France
B. United Kingdom
C. Germany
D. India
43. A systematic record of all economic transactions completed between residents of a country and the rest of the world in a year is known as:
A. Net Capital Flow
B. Balance of Payment
C. Balance of Trade
D. Absolute Flow
44. Which among the following cannot be called an anti-inflationary measure?
A. Raising the Bank Rates
B. Raising the Reserve Ratio Requirements
C. Purchase of securities in the Open Market
D. Rationing of the Credit
45. Which country is not a member of Organization of the Petroleum Exporting Countries (OPEC)?
A. Congo
B. Gabon
C. Nigeria
D. Qatar
46. Which of the following literatures have been named the recipients of the 58th Jnanpith Award?
A. Kiran Desai and Arvind Adiga
B. Kedarnath Singh and Vikram Seth
C. Gulzar and Jagadguru Rambhadracharya
D. Vikram Seth and Arvind Adiga
47. According to the Centre for Economics and Business Research (CEBR) forecast, what position will India hold in terms of global economic ranking by 2032?
A. Second
B. Third
C. Fifth
D. Fourth
48. Satya Nadella is the CEO of:
A. Facebook
B. Microsoft
C. Google
D. Apple
49. The ease of doing business index is published by:
A. Government of India
B. International Monetary Fund
C. World Bank
D. World Trade Organisation
50. Who has been appointed as the new Director General of the National Investigation Agency (NIA)?
A. Dinkar Gupta
B. Sadanand Vasant Date
C. Piyush Anand
D. Anil Karwal
51. Type of communication that takes place between persons occupying superior and subordinate positions in the organizational hierarchy is known as:
A. Lateral communication
B. Informal communication
C. Diagonal communication
D. Vertical communication
52. Theory X and Theory Y is given by which of the following?
A. McGregor
B. Elton Mayo
C. Herzberg
D. Maslow
53. The activities involved in managing an enterprise are common to all organizations, whether economic, social or political. Which characteristic of management is highlighted by this statement?
A. Management is all pervasive
B. Management is goal oriented
C. Management is dynamic
D. Management is a continuous function
54. Which of the following statement is true?
A. Planning and controlling are both evaluative
B. Controlling and planning are both prescriptive
C. Planning is prescriptive and controlling is evaluative
D. Planning is evaluative and controlling is prescriptive
55. Which of the following functions is the prerequisite for controlling?
A. Staffing
B. Directing
C. Planning
D. Organizing
56. It is very difficult to detect the source of which of the following form of communication?
A. Lateral communication
B. Upward communication
C. Informal communication
D. Vertical communication
57. Which of the following statements is correct?
A. Training is concerned with maintaining and improving current job performance
B. Development is a job-oriented process
C. Development is a one-time process
D. Training is a one-time process
58. "Profit, People & Planet" comes under which theory of CSR?
A. Corporate social responsibility theory
B. Stakeholder theory
C. The triple bottom line theory
D. Shareholder theory
59. ESOP stands for:
A. Employee Stock Option Plan
B. Employer Stock Option Plan
C. Employee Safety Option Plan
D. Employee Security Option Plan
60. Saturation point comes in which stage of product lifecycle?
A. Introduction
B. Growth
C. Maturity
D. Obsolescence

61. Which of the following is the most important objective of corporate finance?
 - A. Profit maximization
 - B. Fund flow generation
 - C. Cash flow generation
 - D. Wealth maximization
62. The group of market participants that collectively facilitate interaction between investors and issuers is known as:
 - A. Custodians
 - B. Regulators
 - C. Bankers
 - D. Intermediaries
63. When issuer makes an issue of securities to a select group of persons and which is neither a rights issue nor a public issue, it is called:
 - A. Private placement
 - B. IPO
 - C. Preferential issue
 - D. FPO
64. Investors are free to buy and sell number of units at any point in time in case of _____ mutual funds.
 - A. Closed ended
 - B. Open ended
 - C. Private
 - D. Debt
65. Which of the following is India's premier export financing institution?
 - A. SBI
 - B. IDBI
 - C. EXIM Bank
 - D. RBI
66. The concept that value of a rupee to be received in future is less than the value of a rupee on hand today is known as:
 - A. Recovery factor concept
 - B. Compounding factor concept
 - C. Time value of money
 - D. Opportunity cost
67. Which of the following approaches is most appropriate for an organization with little experience in international markets?
 - A. Joint venture
 - B. Strategic alliance
 - C. Acquisition
 - D. Exporting
68. The main objective of International Monetary Fund (IMF) is to:
 - A. Promote international trade
 - B. Help economically backward countries
 - C. Maintain stable exchange rates
 - D. Promote international tourism
69. Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement is administered by:
 - A. World Bank
 - B. IMF
 - C. World Trade Organization
 - D. UNCTAD
70. Which of the following is an element of Micro Environment?
 - A. Politics
 - B. Competitor
 - C. Economic condition
 - D. Cultural factors
71. The Macro Environment which studies changes in features of population is:
 - A. Demographic Environment
 - B. Cultural Environment
 - C. Economic Environment
 - D. Natural Environment
72. The identification and profiling of distinct groups of buyers who might prefer or require varying product and service mixes is known as:
 - A. Segmentation
 - B. Integration
 - C. Disintermediation
 - D. Customization
73. _____ allows the company to discover who its target markets are and what they need or want. It also enables the company to respond appropriately and quickly to different customer opportunities.
 - A. Customer relationship management
 - B. Network management
 - C. Supply chain management
 - D. Inventory management
74. From the following, identify the INCORRECT statement:
 - A. A need is a felt state of deprivation of a consumer like hunger
 - B. Value can be defined as the difference between cost and benefit
 - C. The central aim of marketing is to make profit even if a customer is not satisfied
 - D. The marketing mix for services consists of 7 Ps while for products it is 4 Ps
75. The consumer has a right to get relief in case of defective goods or deficient services as per the:
 - A. Right to be informed
 - B. Right to be heard
 - C. Right to choose
 - D. Right to seek redressal
76. In the mixed economy:
 - A. Economic problems are solved by the government and market
 - B. Economic decisions are made by the private sector and free market
 - C. Economic allocation is achieved by the invisible hand
 - D. Economic questions are solved by government departments
77. NITI Aayog is a successor of:
 - A. Planning Commission
 - B. Pay Commission
 - C. Productivity Council
 - D. Finance Commission
78. The largest employment generating sector in India is:
 - A. Primary sector
 - B. Secondary sector
 - C. Manufacturing sector
 - D. Service sector
79. Who implements the Monetary Policy in India?
 - A. Central Government
 - B. State Government
 - C. RBI
 - D. SEBI
80. Which one is NOT a function of commercial bank?
 - A. Bill discounting
 - B. Accepting deposits
 - C. Custodian of foreign exchange reserves
 - D. Lending of funds
81. The head office of the RBI is situated in:
 - A. Delhi
 - B. Chennai
 - C. Kolkata
 - D. Mumbai

82. Which one is NOT a component of fiscal policy?
A. Government receipts
B. Statutory Liquidity Ratio
C. Government expenditure
D. Public debt

83. Which of the following is the definition of a budget deficit?
A. Excess of total expenditure over interest payments and borrowings
B. Excess of the total expenditure over the total receipts minus borrowings
C. Excess of the total expenditure over the total receipts
D. Excess of the revenue expenditure over revenue receipts

84. To solve the balance of payment crisis in 1991, the Indian Rupee was _____ against foreign currencies.
A. Appreciated
B. Delinked
C. Revalued
D. Devalued

85. The first All India Development Financial Institution is:
A. IFCI
B. IDBI
C. ICICI
D. SIDBI

86. Which of the following equations is INCORRECT?
A. Liabilities + Assets = Capital
B. Liabilities + Capital = Assets
C. Assets – Liabilities = Capital
D. Assets = Capital – Liabilities

87. Under which method, the book value of depreciable asset does NOT become zero at the end of useful life?
A. Straight line
B. Double declining
C. Written down
D. Annuity

88. Which of the following is NOT a part of financial statements?
A. Fund flow statement
B. Balance sheet
C. Income statement
D. Notes to financial statements

89. Which of the following cannot be classified as current liability?
A. Trade payables
B. Share capital
C. Outstanding salaries
D. Short term loan

90. What is the correct flow of books of accounts as per the accounting cycle?
A. Journal, Ledger, Trial Balance, Final Accounts
B. Ledger, Journal, Trial Balance, Final Accounts
C. Final Accounts, Ledger, Journal, Trial Balance
D. Trial Balance, Ledger, Journal, Final Account

91. Which of the following equations correctly calculates the liquid assets?
A. Current assets + (stock – prepaid expenses)
B. Current assets – prepaid expenses
C. Current assets – stock – prepaid expenses
D. Current assets + (stock + prepaid expenses)

92. An account operated to ascertain the loss or gain at the death of a partner is called:
A. Realization account
B. Revaluation account
C. Executors account
D. Deceased partner’s A/c

93. Loss on realization is distributed among partners:
A. According to capital ratio
B. According to profit sharing ratio
C. As decided among them
D. Equally

94. In a firm John’s capital being Rs. 40,000 and Harry’s Rs. 60,000, Michael purchased John’s interest for Rs. 50,000, the amount of goodwill paid to John will be:
A. Rs. 50,000
B. Rs. 10,000
C. Rs. 40,000
D. Rs. 60,000

95. Which of the following would not be revealed by a company’s statement of cash flow?
A. Whether the company has paid a dividend during the year
B. Whether the company has raised long-term funding during the year
C. How the company has managed its working capital over the last financial year
D. Whether the company has exceeded its overdraft limit during the year

96. Standards issued by the International Accounting Standards Board (IASB) are known as:
A. International Accounting Standards (IAS)
B. International Financial Standards (IFS)
C. International Financial Reporting Standards (IFRS)
D. Indian Accounting Standards (Ind-AS)

97. This particular type of capital is not reflected on the liabilities side of a company’s balance sheet:
A. Authorized capital
B. Reserve capital
C. Issued capital
D. Paid-up capital

98. Which of the following is also known as consolidation of fully paid-up shares?
A. Stock
B. Capital
C. Preference shares
D. Reserve

99. The correct entry for goods purchased on credit from ABC Ltd. is:
A. Purchase A/c (Debit) – To ABC Ltd. A/c (Credit)
B. ABC Ltd. A/c (Debit) – To Purchase A/c (Credit)
C. Purchase A/c (Debit) – To Cash A/c (Credit)
D. Goods A/c (Debit) – To ABC Ltd. A/c (Credit)

100. P/E ratio indicates which of the following?
A. Ratio of market price per equity share and earning per equity share
B. Ratio of book value per equity share and earning per equity share
C. Ratio of market price per preference share and earning per preference share
D. Ratio of market price per equity share and earning per preference share
- ANSWER KEY (Set C, B-04)
- | | | | | |
|------|------|------|------|------|
| C | 21.D | 41.C | 61.D | 81.D |
| 2.D | 22.B | 42.C | 62.D | 82.B |
| 3.B | 23.D | 43.B | 63.A | 83.C |
| 4.C | 24.B | 44.C | 64.B | 84.D |
| 5.B | 25.B | 45.D | 65.C | 85.A |
| 6.B | 26.C | 46.C | 66.C | 86.A |
| 7.D | 27.C | 47.B | 67.D | 87.D |
| 8.B | 28.B | 48.B | 68.C | 88.A |
| 9.A | 29.C | 49.C | 69.C | 89.B |
| 10.B | 30.B | 50.B | 70.B | 90.A |
| 11.C | 31.A | 51.D | 71.A | 91.C |
| 12.D | 32.B | 52.A | 72.A | 92.B |
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13.A	33.C	53.A	73.A	93.B
14.D	34.B	54.C	74.C	94.B
15.C	35.C	55.C	75.D	95.D
16.B	36.B	56.C	76.A	96.C
17.A	37.C	57.A	77.A	97.B
18.B	38.C	58.C	78.A	98.A

19.C	39.C	59.A	79.C	99.A
20.C	40.B	60.C	80.C	100.A