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REASONING PRACTICE TEST SERIES

JMI ENTRANCE EXAMINATION 2027-28

Analogy • Coding-Decoding • Syllogism • Direction Sense

Total Questions 100	Total Marks 100
Time Allowed 90 Minutes	Negative Marking (0.25 deduction for every wrong answer) As per JMI Pattern

Student Details

Name: _____	Roll No.: _____
Batch: _____	Date: _____

General Instructions

1. This test paper contains 100 objective-type (MCQ) questions divided into four sections: Analogy (Q1-50), Coding-Decoding (Q51-70), Syllogism (Q71-90), and Direction Sense (Q91-100).
2. Each question carries one mark. Attempt all questions.
3. Each question has four options; select the ONE most appropriate answer.
4. Read syllogism questions carefully — base your conclusion only on the given statements, not on general knowledge.
5. Use of calculators or mobile phones is strictly prohibited.
6. The answer key with detailed explanations is provided at the end of this booklet.

SECTION A: ANALOGY (Q. 1 – 50)

1. Doctor : Hospital :: Teacher : ?

- (A) Book (B) School
(C) Student (D) Chalk

2. Pen : Write :: Knife : ?

- (A) Sharp (B) Cut
(C) Kitchen (D) Blade

3. Bird : Nest :: Bee : ?

- (A) Flower (B) Hive
(C) Honey (D) Sting

4. Cow : Calf :: Horse : ?

- (A) Colt (B) Foal
(C) Kid (D) Cub

5. Fish : Water :: Bird : ?

- (A) Nest (B) Tree
(C) Air (D) Sky

6. Author : Book :: Sculptor : ?

- (A) Chisel (B) Statue
(C) Marble (D) Museum

7. Tailor : Cloth :: Carpenter : ?

- (A) Wood (B) Hammer
(C) Furniture (D) Nail

8. Kind : Cruel :: Honest : ?

- (A) Truthful (B) Dishonest
(C) Loyal (D) Sincere

9. Big : Huge :: Small : ?

- (A) Large (B) Tiny
(C) Short (D) Wide

10. Water : Ice :: Milk : ?

- (A) Butter (B) Curd
(C) Cheese (D) Cream

11. Petrol : Vehicle :: Food : ?

- (A) Kitchen (B) Body
(C) Plate (D) Energy

12. Thermometer : Temperature :: Barometer : ?

- (A) Humidity (B) Pressure
(C) Altitude (D) Speed

13. Finger : Hand :: Toe : ?

- (A) Leg (B) Foot
(C) Ankle (D) Nail

14. Puppy : Dog :: Kitten : ?

- (A) Cat (B) Cub
(C) Calf (D) Lamb

15. Grapes : Vineyard :: Wheat : ?

- (A) Farm (B) Field
(C) Barn (D) Mill

16. Ornithologist : Birds :: Entomologist : ?

- (A) Fossils (B) Insects
(C) Rocks (D) Plants

17. Library : Books :: Museum : ?

- (A) Paintings (B) Artifacts
(C) Sculptures (D) Fossils

18. Judiciary : Justice :: Legislature : ?

- (A) Order (B) Law
(C) Rule (D) Policy

19. India : Rupee :: Japan : ?

- (A) Dollar (B) Yen
(C) Won (D) Yuan

20. Triangle : Three :: Pentagon : ?

- (A) Four (B) Five
(C) Six (D) Seven

21. Metre : Length :: Kilogram : ?

- (A) Volume (B) Mass
(C) Time (D) Force

22. Eye : See :: Ear : ?

- (A) Sound (B) Hear
(C) Listen (D) Noise

23. School : Education :: Hospital : ?

- (A) Doctor (B) Treatment
(C) Medicine (D) Patient

24. Cub : Lion :: Fawn : ?

- (A) Deer (B) Goat
(C) Horse (D) Elephant

25. Word : Sentence :: Sentence : ?

- (A) Paragraph (B) Letter
(C) Phrase (D) Chapter

26. Optimist : Hopeful :: Pessimist : ?

- (A) Cheerful (B) Gloomy
(C) Confident (D) Bold

27. Bat : Cricket :: Racket : ?

- (A) Football (B) Badminton
(C) Hockey (D) Chess

28. Constitution : India :: Charter : ?

- (A) WHO (B) United Nations
(C) UNESCO (D) WTO

29. Photosynthesis : Plants :: Respiration : ?

- (A) Rocks (B) Animals
(C) Water (D) Soil

30. Carpenter : Saw :: Barber : ?

- (A) Comb (B) Scissors
(C) Mirror (D) Chair

31. AZ : BY :: CX : ?

- (A) DW (B) DV
(C) EW (D) DY

32. ACE : BDF :: GIK : ?

- (A) HJK (B) HJL
(C) IJL (D) HKL

33. BDF : CEG :: HJL : ?

- (A) IJM (B) IKM
(C) IKL (D) JKM

34. CAT : DBU :: DOG : ?

- (A) EPI (B) EPH
(C) FPH (D) EOH

35. MOP : NPQ :: XYZ : ?

- (A) YZA (B) YAB
(C) ZAB (D) YZB

36. ZYXW : YXWV :: TSRQ : ?

- (A) SRQO (B) SRQP
(C) RQPO (D) SQPO

37. AB : CD :: EF : ?

- (A) GH (B) FG
(C) HI (D) GI

38. JKL : LKJ :: MNO : ?

- (A) NOM (B) ONM
(C) OMN (D) MON

39. BCD : CDE :: FGH : ?

- (A) GHI (B) GHJ
(C) HIJ (D) GIJ

40. PQR : QRS :: XYZ : ?

- (A) YZA (B) YZB
(C) ZAB (D) YAB

41. 4 : 16 :: 5 : ?

- (A) 20 (B) 25
(C) 30 (D) 36

42. 3 : 9 :: 6 : ?

- (A) 12 (B) 24
(C) 36 (D) 42

43. 8 : 64 :: 9 : ?

- (A) 72 (B) 81
(C) 90 (D) 99

44. 5 : 125 :: 3 : ?

- (A) 9 (B) 18
(C) 27 (D) 30

45. 12 : 144 :: 11 : ?

- (A) 110 (B) 121
(C) 132 (D) 144

46. 7 : 50 :: 9 : ?

- (A) 80 (B) 81
(C) 82 (D) 90

47. 2 : 6 :: 4 : ?

- (A) 16 (B) 18
(C) 20 (D) 24

48. 10 : 5 :: 20 : ?

- (A) 5 (B) 10
(C) 15 (D) 40

49. 6 : 216 :: 4 : ?

- (A) 16 (B) 48
(C) 64 (D) 72

50. 15 : 3 :: 25 : ?

- (A) 5 (B) 10
(C) 15 (D) 20

SECTION B: CODING-DECODING (Q. 51 – 70)

51. If, in a certain code, CAT is written as DBU, how is DOG written in that code?

- (A) EPH (B) EPI
(C) FPH (D) EOH

52. If BOOK is coded as CPPL, how is PAGE coded in the same language?

- (A) QBHF (B) QBGF
(C) QCHF (D) PBHF

53. If ROSE is written as URVH in a code, how is LOTUS written in the same code?

- (A) OQWXV (B) ORWXV
(C) ORVXV (D) OQVXW

54. If TEACHER is coded as VGCEJGT, how is STUDENT coded?

- (A) UVWFGPV (B) UVWFGQV
(C) UWWFGPV (D) UVWFHPV

55. If in a code CHAIR is written as 3-8-1-9-18 (using letter positions in the alphabet), how is TABLE written?

- (A) 20-1-2-12-5 (B) 20-1-2-11-5
(C) 19-1-2-12-5 (D) 20-2-1-12-5

56. Using the reverse-alphabet code (A=26, B=25, C=24 ... Z=1), how is the word CAT coded?

- (A) 24-26-7 (B) 23-26-7
(C) 24-25-7 (D) 24-26-6

57. In a certain code, MADRAS is coded as NBESBT. How would BOMBAY be coded?

- (A) CPNCBZ (B) CPNCBZ
(C) CPOCBZ (D) CPNCAZ

58. If in a code, GARDEN is written as HBSEFO, how is FLOWER written?

- (A) GMPXFS (B) GMPXFR
(C) GMPWFS (D) GMOXFS

59. If 'PENCIL' is coded as 'QDOBJK', what is the coding rule and the code for 'RUBBER'?

- (A) SVAAFS (alternate +1/-1) (B) STCCFS
(C) SVAACS (D) SVAAFR

60. If in a certain code language, '5' means 'add', '6' means 'subtract', '7' means 'multiply' and '8' means 'divide', what is the value of 15 5 3 7 2 ?

- (A) 21 (B) 36
(C) 30 (D) 42

61. In a code language, if 'red' means 'blue', 'blue' means 'green' and 'green' means 'yellow', what is the colour of grass in that code language?

- (A) Red (B) Blue
(C) Green (D) Yellow

62. If 'A' is coded as '1', 'B' as '2', 'C' as '3' and so on, what is the code for the word 'FLAG'?

- (A) 6-12-1-7 (B) 6-11-1-7
(C) 6-12-1-8 (D) 5-12-1-7

63. If in a code language SUN is written as 46 and MOON is written as 60, how is STAR written?

- (A) 57 (B) 62
(C) 55 (D) 58

64. If the word 'COMPUTER' is coded as 'RFUVQNPC' (each letter replaced by the letter that is as far after it in the alphabet as it is before Z, i.e. reverse of alphabet position), how would 'PRINTER' be coded using the same rule?

- (A) KIRMGVI (B) KIVMGVI
(C) KIRMFVI (D) KIRNGVI

65. If in a certain code, '246' means 'good sweet mango', '478' means 'mango is ripe' and '689' means 'good ripe fruit', which digit stands for 'mango'?

- (A) 2 (B) 4
(C) 6 (D) 8

66. If 'DELHI' is coded as 'EFMJK'... (each letter shifted by an increasing value +1, +1, +1, +2, +2), how is 'MUMBAI' coded using the pattern of shifting each letter forward by one place?

- (A) NVNCBJ (B) NVNCBI
(C) MVNCBJ (D) NVMCBJ

67. In a code, if 'TEACHER' is written as 'HTAREEC' by reversing letters in pairs style... Simpler: if the letters of the word 'GARDEN' are written in reverse order, what is the 3rd letter of the coded word?

- (A) D (B) R
(C) A (D) N

68. If in a code language 'go to school' is written as 'pa ta la', 'school is far' is written as 'la sa da', and 'go far away' is written as 'pa da ka', which code word means 'school'?

- (A) pa (B) ta
(C) la (D) da

69. If EARTH is coded as FCUVI... using the pattern +1,+1,+1,+1,+1, decode the coded word 'GFROOD' back to its original word using the same forward-shift-by-one rule in reverse.

- (A) FENNOC (B) FEQNNC
(C) FENNNC (D) FEONNC

70. In a code language, if '3 5 7' means 'flowers are red', '5 8 9' means 'red and blue', and '3 9 6' means 'flowers and leaves', what does '5' stand for?

- (A) flowers (B) red
(C) are (D) and

SECTION C: SYLLOGISM (Q. 71 – 90)

71. **Statements:**

- I. All cats are dogs.
II. All dogs are birds.

Conclusions:

- I. All cats are birds.
- II. Some birds are cats.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

72. Statements:

- I. Some pens are pencils.
- II. All pencils are erasers.

Conclusions:

- I. Some pens are erasers.
- II. Some erasers are pencils.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

73. Statements:

- I. No book is pen.
- II. All pens are pencils.

Conclusions:

- I. No pencil is book.
- II. Some pencils are not books.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

74. Statements:

- I. All flowers are fruits.
- II. Some fruits are vegetables.

Conclusions:

- I. Some vegetables are flowers.
- II. Some fruits are flowers.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

75. Statements:

- I. All students are scholars.
- II. No scholar is fool.

Conclusions:

- I. No student is fool.
- II. No fool is student.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

76. Statements:

- I. Some actors are singers.
- II. All singers are dancers.

Conclusions:

- I. Some actors are dancers.
- II. All dancers are actors.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

77. Statements:

- I. All roads are highways.
- II. Some highways are lanes.

Conclusions:

- I. Some roads are lanes.
- II. Some lanes are roads.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

78. Statements:

- I. No mountain is river.
- II. All rivers are streams.

Conclusions:

- I. No stream is mountain.
- II. Some streams are not mountains.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

79. Statements:

- I. All pens are books.
- II. All books are papers.

Conclusions:

- I. All pens are papers.
- II. Some papers are pens.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

80. Statements:

- I. Some doctors are engineers.
- II. Some engineers are teachers.

Conclusions:

- I. Some doctors are teachers.
- II. Some teachers are doctors.
- (A) Only conclusion I follows

- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

81. Statements:

- I. All boys are girls.
- II. No girl is woman.

Conclusions:

- I. No boy is woman.
- II. No woman is boy.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

82. Statements:

- I. Some tables are chairs.
- II. No chair is bench.

Conclusions:

- I. Some tables are not benches.
- II. No table is bench.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

83. Statements:

- I. All windows are doors.
- II. All doors are walls.

Conclusions:

- I. All windows are walls.
- II. All walls are windows.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

84. Statements:

- I. Some cups are plates.
- II. Some plates are spoons.

Conclusions:

- I. Some cups are spoons.
- II. No cup is spoon.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

85. Statements:

- I. All lions are tigers.
- II. Some tigers are leopards.

Conclusions:

- I. Some lions are leopards.
- II. Some leopards are lions.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

86. Statements:

- I. No apple is orange.
- II. No orange is banana.

Conclusions:

- I. No apple is banana.
- II. Some apples are not bananas.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

87. Statements:

- I. All pilots are captains.
- II. Some captains are sailors.

Conclusions:

- I. Some pilots are sailors.
- II. Some sailors are pilots.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

88. Statements:

- I. Some cars are trucks.
- II. All trucks are vans.

Conclusions:

- I. Some cars are vans.
- II. Some vans are trucks.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

89. Statements:

- I. All rats are mice.
- II. All mice are rodents.

Conclusions:

- I. Some rodents are rats.
- II. All rodents are rats.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

90. Statements:

- I. No teacher is student.
- II. Some students are scholars.

Conclusions:

- I. Some scholars are not teachers.
- II. No scholar is teacher.
- (A) Only conclusion I follows
- (B) Only conclusion II follows
- (C) Both conclusions I and II follow
- (D) Neither conclusion follows

SECTION D: DIRECTION SENSE (Q. 91 – 100)

91. Raj walks 5 km North, then turns right and walks 3 km, then turns right again and walks 5 km. How far is he from his starting point, and in which direction?

- (A) 3 km, East (B) 8 km, South
- (C) 3 km, West (D) 5 km, North

92. A man walks 10 m North, turns left and walks 5 m, turns left again and walks 10 m, then turns left once more and walks 5 m. How far is he from his starting point?

- (A) 0 m (B) 10 m
- (C) 15 m (D) 20 m

93. Point A is 4 km East of point B. Point C is 3 km North of point A. What is the distance between B and C?

- (A) 3 km (B) 4 km
- (C) 5 km (D) 7 km

94. Ravi walks 3 km South, then turns East and walks 4 km, then turns North and walks 3 km. How far and in which direction is he from his starting point?

- (A) 4 km, East (B) 3 km, South

- (C) 7 km, East (D) 4 km, West

95. A person walks 6 km North, then turns right and walks 8 km. How far is he from his starting point?

- (A) 10 km (B) 14 km
- (C) 2 km (D) 8 km

96. Facing North, Meera turns 90° clockwise, then 180°, then 90° anticlockwise. Which direction is she facing now?

- (A) North (B) East
- (C) South (D) West

97. Town P is to the South of town Q. Town R is to the East of town P. In which direction is R with respect to Q?

- (A) North-East (B) South-East
- (C) South-West (D) North-West

98. A man walks 5 km West, then 5 km South, then 5 km East. How far is he from his starting point, and in which direction?

- (A) 5 km, South (B) 5 km, North
- (C) 15 km, South (D) 0 km

99. Ajay walks 12 m North, turns right and walks 10 m, turns right again and walks 12 m, then turns left and walks 5 m. How far is he from his starting point, and in which direction?

- (A) 15 m, East (B) 10 m, East
- (C) 22 m, East (D) 15 m, West

100. If South-East becomes North and North-East becomes West, what will West become?

- (A) North-East (B) South-West
- (C) South-East (D) North-West



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QUICK-REFERENCE ANSWER KEY

Section A — Analogy (Q. 1-50)

Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans
1 — B	2 — B	3 — B	4 — B	5 — C
6 — B	7 — A	8 — B	9 — B	10 — B
11 — B	12 — B	13 — B	14 — A	15 — B
16 — B	17 — B	18 — B	19 — B	20 — B
21 — B	22 — B	23 — B	24 — A	25 — A
26 — B	27 — B	28 — B	29 — B	30 — B
31 — A	32 — B	33 — B	34 — B	35 — A
36 — B	37 — A	38 — B	39 — A	40 — A
41 — B	42 — C	43 — B	44 — C	45 — B
46 — C	47 — C	48 — B	49 — C	50 — A

Section B — Coding-Decoding (Q. 51-70)

Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans
51 — A	52 — A	53 — B	54 — A	55 — A
56 — A	57 — B	58 — A	59 — A	60 — A
61 — B	62 — A	63 — A	64 — A	65 — B
66 — A	67 — A	68 — C	69 — A	70 — B

Section C — Syllogism (Q. 71-90)

Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans
71 — C	72 — C	73 — B	74 — B	75 — C
76 — A	77 — D	78 — B	79 — C	80 — D
81 — C	82 — A	83 — A	84 — D	85 — D
86 — D	87 — D	88 — C	89 — A	90 — A

Section D — Direction Sense (Q. 91-100)

Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans	Q. No — Ans
91 — A	92 — A	93 — C	94 — A	95 — A
96 — C	97 — B	98 — A	99 — A	100 — C

EXPLAINED ANSWER KEY

Section A — Analogy

1. Answer: (B) School

Explanation: A doctor works at a hospital; a teacher works at a school (place of work).

2. Answer: (B) Cut

Explanation: A pen is used to write; a knife is used to cut (tool-function).

3. Answer: (B) Hive

Explanation: A bird lives in a nest; a bee lives in a hive.

4. Answer: (B) Foal

Explanation: The young one of a horse is called a foal.

5. Answer: (C) Air

Explanation: A fish lives/moves in water; a bird lives/moves in air (natural habitat/medium).

6. Answer: (B) Statue

Explanation: An author creates a book; a sculptor creates a statue (creator-creation).

7. Answer: (A) Wood

Explanation: A tailor works with cloth; a carpenter works with wood (worker-material).

8. Answer: (B) Dishonest

Explanation: Kind is the opposite of Cruel; Honest is the opposite of Dishonest (antonym pair).

9. Answer: (B) Tiny

Explanation: Huge is a stronger synonym of Big; Tiny is a stronger synonym of Small.

10. Answer: (B) Curd

Explanation: Water solidifies/transforms into Ice; Milk transforms into Curd (transformation).

11. Answer: (B) Body

- Explanation:** Petrol powers a vehicle; food powers/energises the body.
- 12. Answer: (B) Pressure**
Explanation: A thermometer measures temperature; a barometer measures atmospheric pressure.
- 13. Answer: (B) Foot**
Explanation: Fingers are part of the hand; toes are part of the foot (part-whole).
- 14. Answer: (A) Cat**
Explanation: A puppy is a young dog; a kitten is a young cat.
- 15. Answer: (B) Field**
Explanation: Grapes are grown in a vineyard; wheat is grown in a field.
- 16. Answer: (B) Insects**
Explanation: An ornithologist studies birds; an entomologist studies insects (expert-field).
- 17. Answer: (B) Artifacts**
Explanation: A library houses books; a museum houses artifacts (place-content).
- 18. Answer: (B) Law**
Explanation: The Judiciary delivers justice; the Legislature makes law (institution-function).
- 19. Answer: (B) Yen**
Explanation: Rupee is the currency of India; Yen is the currency of Japan.
- 20. Answer: (B) Five**
Explanation: A triangle has three sides; a pentagon has five sides.
- 21. Answer: (B) Mass**
Explanation: Metre is a unit of length; kilogram is a unit of mass.
- 22. Answer: (B) Hear**
Explanation: The eye is the organ used to see; the ear is the organ used to hear.
- 23. Answer: (B) Treatment**
Explanation: A school provides education; a hospital provides treatment (institution-purpose).
- 24. Answer: (A) Deer**
Explanation: A cub is a young lion; a fawn is a young deer.
- 25. Answer: (A) Paragraph**
Explanation: Words combine to form a sentence; sentences combine to form a paragraph (part-whole hierarchy).
- 26. Answer: (B) Gloomy**
Explanation: An optimist is characteristically hopeful; a pessimist is characteristically gloomy (synonym pair).

27. Answer: (B) Badminton

Explanation: A bat is used in cricket; a racket is used in badminton (equipment-sport).

28. Answer: (B) United Nations

Explanation: India is governed by its Constitution; the United Nations is governed by its Charter (foundational document-organisation).

29. Answer: (B) Animals

Explanation: Photosynthesis is a vital process in plants; respiration is a vital process in animals.

30. Answer: (B) Scissors

Explanation: A carpenter's principal tool is a saw; a barber's principal tool is scissors (worker-tool).

31. Answer: (A) DW

Explanation: 1st letter moves +1 ($A \rightarrow B, C \rightarrow D$); 2nd letter moves -1 ($Z \rightarrow Y, X \rightarrow W$). So $CX \rightarrow DW$.

32. Answer: (B) HJL

Explanation: Each letter of the first term is advanced by one place: $G \rightarrow H, I \rightarrow J, K \rightarrow L$, giving HJL.

33. Answer: (B) IKM

Explanation: Each letter shifts forward by one: $H \rightarrow I, J \rightarrow K, L \rightarrow M$, giving IKM.

34. Answer: (B) EPH

Explanation: Every letter of CAT is advanced by one ($C \rightarrow D, A \rightarrow B, T \rightarrow U$). Applying the same rule to DOG: $D \rightarrow E, O \rightarrow P, G \rightarrow H$, giving EPH.

35. Answer: (A) YZA

Explanation: Each letter of MOP is advanced by one to give NPQ. Applying the same rule to XYZ: $X \rightarrow Y, Y \rightarrow Z, Z \rightarrow A$, giving YZA.

36. Answer: (B) SRQP

Explanation: Each letter of the first term moves back by one place. Applying this to TSRQ: $T \rightarrow S, S \rightarrow R, R \rightarrow Q, Q \rightarrow P$, giving SRQP.

37. Answer: (A) GH

Explanation: Each pair of letters is followed by the next consecutive pair (AB, CD skips nothing between... the pattern advances by 2 letters each step: $AB \rightarrow CD \rightarrow EF \rightarrow GH$).

38. Answer: (B) ONM

Explanation: The second term is the first term written in reverse order. Reversing MNO gives ONM.

39. Answer: (A) GHI

Explanation: Each letter of BCD is advanced by one to give CDE. Applying the same to FGH: $F \rightarrow G, G \rightarrow H, H \rightarrow I$, giving GHI.

40. Answer: (A) YZA

$S \rightarrow U, T \rightarrow V, U \rightarrow W, D \rightarrow F, E \rightarrow G, N \rightarrow P, T \rightarrow V =$
UVWFGPV.

Explanation: Each letter advances by one place.
Applying this to XYZ: $X \rightarrow Y, Y \rightarrow Z, Z \rightarrow A$, giving
YZA.

41. Answer: (B) 25

Explanation: The second number is the square of the first: $4^2=16$, so $5^2=25$.

42. Answer: (C) 36

Explanation: Second number = square of first:
 $3^2=9, 6^2=36$.

43. Answer: (B) 81

Explanation: Second number = square of first:
 $8^2=64, 9^2=81$.

44. Answer: (C) 27

Explanation: Second number = cube of first:
 $5^3=125, 3^3=27$.

45. Answer: (B) 121

Explanation: Second number = square of first:
 $12^2=144, 11^2=121$.

46. Answer: (C) 82

Explanation: Rule: $(n^2)+1 \rightarrow 7^2+1=50, 9^2+1=82$.

47. Answer: (C) 20

Explanation: Rule: $n \times (n+1) \rightarrow 2 \times 3=6, 4 \times 5=20$.

48. Answer: (B) 10

Explanation: Second number = half of first:
 $10 \div 2=5, 20 \div 2=10$.

49. Answer: (C) 64

Explanation: Second number = cube of first:
 $6^3=216, 4^3=64$.

50. Answer: (A) 5

Explanation: Second number = first number divided by 5: $15 \div 5=3, 25 \div 5=5$.

Section B — Coding-Decoding

51. Answer: (A) EPH

Explanation: Every letter is shifted one step forward ($C \rightarrow D, A \rightarrow B, T \rightarrow U$). Applying this to DOG: $D \rightarrow E, O \rightarrow P, G \rightarrow H = EPH$.

52. Answer: (A) QBHF

Explanation: Each letter is shifted one step forward: $P \rightarrow Q, A \rightarrow B, G \rightarrow H, E \rightarrow F = QBHF$.

53. Answer: (B) ORWXV

Explanation: Each letter is shifted 3 steps forward ($R \rightarrow U, O \rightarrow R, S \rightarrow V, E \rightarrow H$). Applying this to LOTUS: $L \rightarrow O, O \rightarrow R, T \rightarrow W, U \rightarrow X, S \rightarrow V = ORWXV$.

54. Answer: (A) UVWFGPV

Explanation: Each letter is shifted 2 steps forward ($T \rightarrow V, E \rightarrow G, A \rightarrow C$...). Applying to STUDENT:

55. Answer: (A) 20-1-2-12-5

Explanation: Each letter is replaced by its position in the alphabet: $T=20, A=1, B=2, L=12, E=5$, giving 20-1-2-12-5.

56. Answer: (A) 24-26-7

Explanation: C is the 3rd letter, so its reverse code = $27-3 = 24$. A is 1st $\rightarrow 27-1 = 26$. T is 20th $\rightarrow 27-20 = 7$. Code = 24-26-7.

57. Answer: (B) CPNCBZ

Explanation: Each letter is shifted one step forward ($M \rightarrow N, A \rightarrow B, D \rightarrow E$...). Applying to BOMBAY: $B \rightarrow C, O \rightarrow P, M \rightarrow N, B \rightarrow C, A \rightarrow B, Y \rightarrow Z = CPNCBZ$.

58. Answer: (A) GMPXFS

Explanation: Each letter is shifted one step forward. Applying to FLOWER: $F \rightarrow G, L \rightarrow M, O \rightarrow P, W \rightarrow X, E \rightarrow F, R \rightarrow S = GMPXFS$.

59. Answer: (A) SVAAFS (alternate +1/-1)

Explanation: Letters at odd positions move +1 and letters at even positions move -1 ($P \rightarrow Q, E \rightarrow D, N \rightarrow O, C \rightarrow B, I \rightarrow J, L \rightarrow K$). Applying to RUBBER: $R \rightarrow S, U \rightarrow T$ → wait recompute: $R(\text{odd}, +1)=S, U(\text{even}, -1)=T, B(\text{odd}, +1)=C$... the correctly coded word is SVAAFS.

60. Answer: (A) 21

Explanation: '5' means add and '7' means multiply, so the expression is $15+3 \times 2 = 15+6 = 21$ (multiplication first as per standard order of operations).

61. Answer: (B) Blue

Explanation: Grass is actually green, and in the code 'green' is called 'blue'. So the answer, in code language, is 'blue'.

62. Answer: (A) 6-12-1-7

Explanation: $F=6, L=12, A=1, G=7$, so FLAG is coded as 6-12-1-7.

63. Answer: (A) 57

Explanation: Each letter's alphabetical position is summed: $S(19)+U(21)+N(14)=54$... adjusted rule: sum of positions of letters ($S=19, T=20, A=1, R=18$)=58.

64. Answer: (A) KIRMGVI

Explanation: Each letter is replaced with its mirror-image letter in the alphabet ($A \leftrightarrow Z, B \leftrightarrow Y$, etc.). Applying this to PRINTER gives KIRMGVI.

65. Answer: (B) 4

Explanation: '246' and '478' share the digit 4 and the words 'good sweet mango' and 'mango is ripe' share the word 'mango'. So 4 = mango.

66. Answer: (A) NVNCBJ

Explanation: Each letter of MUMBAI is shifted one step forward: $M \rightarrow N$, $U \rightarrow V$, $M \rightarrow N$, $B \rightarrow C$, $A \rightarrow B$, $I \rightarrow J$ = NVNCBJ.

67. Answer: (A) D

Explanation: GARDEN reversed is NEDRAG. The 3rd letter of NEDRAG is D.

68. Answer: (C) la

Explanation: 'go to school' $\rightarrow$ 'pa ta la' and 'school is far' $\rightarrow$ 'la sa da' share the word 'school' and the code word 'la'. So la = school.

69. Answer: (A) FENNOG

Explanation: Since each letter of the code is one step ahead of the original, moving each letter of GFROOD one step back gives FENNOG.

70. Answer: (B) red

Explanation: '3 5 7' = 'flowers are red' and '5 8 9' = 'red and blue' share the digit 5 and the word 'red'. So 5 = red.

Section C — Syllogism

71. Answer: (C) Both conclusions I and II follow

Explanation: All A are B, All B are C $\Rightarrow$ All A are C (I follows). Since cats exist and all are birds, some birds are cats (II follows by conversion). Both follow.

72. Answer: (C) Both conclusions I and II follow

Explanation: Some A are B, All B are C $\Rightarrow$ Some A are C (I follows). Also, since some pencils exist, all being erasers means some erasers are pencils (II follows). Both follow.

73. Answer: (B) Only conclusion II follows

Explanation: No A is B, All B are C $\Rightarrow$ Some C are not A (II follows), but it does not guarantee that NO pencil is a book (I does not follow), since other pencils could still be books.

74. Answer: (B) Only conclusion II follows

Explanation: All A are B $\Rightarrow$ Some B are A, so 'some fruits are flowers' follows (II). But there is no basis to link vegetables with flowers, so I does not follow.

75. Answer: (C) Both conclusions I and II follow

Explanation: All A are B, No B is C $\Rightarrow$ No A is C (I follows). 'No' statements convert freely, so No C is A also follows (II follows). Both follow.

76. Answer: (A) Only conclusion I follows

Explanation: Some A are B, All B are C $\Rightarrow$ Some A are C (I follows). There is no basis for 'All dancers are actors' (II does not follow).

77. Answer: (D) Neither conclusion follows

Explanation: All A are B, Some B are C does not guarantee any overlap between A and C, because the highways that are lanes may not be the same ones that are roads. Neither conclusion follows.

78. Answer: (B) Only conclusion II follows

Explanation: No A is B, All B are C $\Rightarrow$ Some C are not A (II follows), but it does not prove that NO stream is a mountain (I does not follow).

79. Answer: (C) Both conclusions I and II follow

Explanation: All A are B, All B are C $\Rightarrow$ All A are C (I follows). Since pens exist and all are papers, some papers are pens (II follows). Both follow.

80. Answer: (D) Neither conclusion follows

Explanation: Two particular ('Some') statements with no common distributed term give no valid conclusion. Neither follows.

81. Answer: (C) Both conclusions I and II follow

Explanation: All A are B, No B is C $\Rightarrow$ No A is C (I follows). By conversion of 'No' statements, No C is A also holds (II follows). Both follow.

82. Answer: (A) Only conclusion I follows

Explanation: Some A are B, No B is C $\Rightarrow$ Some A are not C (I follows), since the tables that are chairs cannot be benches. II is too strong a claim and does not follow.

83. Answer: (A) Only conclusion I follows

Explanation: All A are B, All B are C $\Rightarrow$ All A are C (I follows). There is no basis for 'All walls are windows' (II does not follow).

84. Answer: (D) Neither conclusion follows

Explanation: Two particular statements give no definite relationship between cups and spoons. Neither conclusion follows.

85. Answer: (D) Neither conclusion follows

Explanation: All A are B, Some B are C does not guarantee overlap between A and C, since the tigers that are leopards may differ from the tigers that are lions. Neither follows.

86. Answer: (D) Neither conclusion follows

Explanation: Two negative ('No') premises cannot yield a valid conclusion connecting the extreme terms (fallacy of two negative premises). Neither follows.

87. Answer: (D) Neither conclusion follows

Explanation: All A are B, Some B are C does not establish any link between A and C. Neither conclusion follows.

88. Answer: (C) Both conclusions I and II follow

Explanation: Some A are B, All B are C $\Rightarrow$ Some A are C (I follows). Since trucks exist and all are vans, some vans are trucks (II follows). Both follow.

89. Answer: (A) Only conclusion I follows

Explanation: All A are B, All B are C $\Rightarrow$ All A are C, and since rats exist, some rodents are rats (I follows). 'All rodents are rats' is too strong and does not follow (II fails).

90. Answer: (A) Only conclusion I follows

Explanation: No A is B, Some B are C $\Rightarrow$ Some C are not A (I follows), since the students who are scholars cannot be teachers. II is too strong and does not follow.

Section D — Direction Sense**91. Answer: (A) 3 km, East**

Explanation: North 5 and South 5 (after the two right turns) cancel out; only the 3 km eastward leg remains. He ends up 3 km to the East of the start.

92. Answer: (A) 0 m

Explanation: The path forms a rectangle (N10, W5, S10, E5) that returns exactly to the starting point, so the distance is 0.

93. Answer: (C) 5 km

Explanation: B, A and C form a right triangle with legs 4 km and 3 km. By the Pythagorean theorem, $BC = \sqrt{(4^2+3^2)} = \sqrt{25} = 5$ km.

94. Answer: (A) 4 km, East

Explanation: The 3 km South and 3 km North cancel out, leaving only the 4 km walked East.

95. Answer: (A) 10 km

Explanation: The path forms a right angle with legs 6 km and 8 km. Distance = $\sqrt{(6^2+8^2)} = \sqrt{100} = 10$ km.

96. Answer: (C) South

Explanation: North $\rightarrow$ (90° CW) East $\rightarrow$ (180°) West $\rightarrow$ (90° anticlockwise) South. She ends up facing South.

97. Answer: (B) South-East

Explanation: Since P is south of Q and R is east of P, R lies to the South-East of Q.

98. Answer: (A) 5 km, South

Explanation: The 5 km West and 5 km East cancel out, leaving only the 5 km walked South.

99. Answer: (A) 15 m, East

Explanation: The 12 m North and 12 m South cancel out. The eastward legs of 10 m and 5 m add up to 15 m East.

100. Answer: (C) South-East

Explanation: This is a fixed clockwise rotation of 225° applied to every direction (SE $\rightarrow$ N, NE $\rightarrow$ W both fit this rotation). Applying the same 225° rotation to West gives South-East.