Test-I: Reasoning Ability

1. What will come in place of question mark (?) in the following series based on the English alphabetical order?

AG-4 CI-8 EK-12 GM-16 ?

1) IO-20 2) JM-24 3) KO-20 4) IO-24 5) IN-22

Directions (Q. 2-6): In this question three statements followed by two conclusions numbered I and II have been given. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follows from the given statements.

Given answer

1) if only conclusion II follows.
2) if both conclusion I and II follow.
3) if neither conclusion I nor II follows.
4) if either conclusion I or II follows.
5) if only conclusion I follows.

2. **Statements:** All plots are themes.
Some themes are fictions.
No fiction is a biography.
Conclusions: I. Some biographies are definitely not plots.
II. All themes can never be biographies.

3. **Statements:** Some trainings are drills.
All drills are bars.
Some bars are goals.
Conclusions: I. At least some bars are trainings.
II. At least some goals are trainings.

4. **Statements:** All numbers are letters.
Some letters are posts.
All posts are digits.
Conclusions: I. No number is a digit.
II. At least some numbers are digits.

5. **Statements:** Some trainings are drills.
All drills are bars.
Some bars are goals.
Conclusions: I. All drills can never be trainings.
II. All goals being drills is a possibility.

6. **Statements:** All paints are machines.
No machine is a circuit.
All circuits are wires.
Conclusions: I. All paints being circuits is a possibility.
II. At least some wires are machines.

7. The positions of how many alphabets will remain the same if each of the alphabets in the word HOLIDAY are rearranged in alphabetical order from left to right?

1) More than three 2) Two
3) None 4) One
5) Three

8. If it is possible to make only one meaningful English word with the first, the second, the fourth and the eighth letters of the word STEROIDAL using each letter of the word only once, when counted from left to right, which of the following will be the fourth letter of the word so formed from the right end? If no such word can be formed give X as your answer. If more than one such word can be formed, give Z as your answer.

1) X 2) S 3) R 4) Z 5) A

Directions (Q. 9-13): Study the given information carefully and answer the given questions.

Twelve people are sitting in two parallel rows containing six people each, in such a way that there is equal distance between adjacent persons. In row-1, R, S, T, U, V and W are seated and all of them are facing south.

In row-2, E, F, G, H, I and J are seated and all of them are facing north. Therefore in the given seating arrangement each member seated in a row faces another member of the other row. (Please **Note:** None of the information given is necessarily in the same order.)

The one facing H sits second to the right of S. More than one person sits to the left of H. Only two people sit between S and W. More than two people sit between R and the one facing J. R is at one of the positions to the right of W. J does not sit at any of the extreme ends of the row. The one facing U sits on the immediate left of E. E is not an immediate neighbour of J. The immediate neighbour of F faces T. G is not an immediate neighbour of E.

9. Four of the following five are alike in acertain way based on the given arrangement and thus form a group. Which is the one that does not belong to the group?

1) VU 2) TS 3) FJ 4) EI 5) UW

10. If all the persons in row-2 are made to sit in alphabetical order from left to right, who among the following will face S according to the new arrangement?

1) G 2) F 3) E
4) J 5) H

11. Who among the following sits exactly between H and the one facing S?

1) I 2) The one facing R

3) F 4) The one facing T
5) G

12. Who among the following sit on the immediate left and immediate right respectively of the person facing V?
1) G, F 2) I, J 3) H, E 4) H, F 5) E, J

13. Which of the following is **true** with regard to the given arrangement?
1) Four people sit between F and the person facing U.
2) Only one person sits between V and R.
3) U is the immediate neighbour of the one facing G.
4) None of the given options is true
5) V faces G.

14. If three is added to each even digit and two is added to each odd digit of the number 7145362, then which of the following digits will not appear twice in the new number thus formed?
1) Only 3 2) Only 9 3) Both 3 and 5
4) Both 7 and 9 5) Only 5

15. How many such pairs of digits are there in the number 6973524 each of which has as many digits between them in the number (in both forward and backward directions) as they have between them in arithmetic numerals?
1) Three 2) One
3) More than four 4) Four
5) Two

Directions (Q. 16-20): Read the given information to answer the given questions.

Seven people, viz F, G, H, I, J, K and L were promoted in seven different months of the same year, viz February, April, June, July, September, October and December, but not necessarily in the same order.

J was promoted in a month having 31 days but not in July. Only three people were promoted between J and L. I was promoted in a month having only 30 days immediately before F. G was promoted immediately before K.

16. In which month was G promoted?
1) October 2) April 3) June
4) September 5) February

17. As per the given arrangement, G is related to April following a certain pattern. To which of the following is I related following the same pattern as per the given arrangement?
1) December 2) October 3) February
4) September 5) July

18. Who was promoted in July?
1) F 2) K
3) H 4) L
5) Other than those given as options

19. Which of the following is **not true** about K as per the given information?
(A) K was promoted in a month having 31 days.
(B) K was promoted in one of given months after L.
(C) Only two people were promoted between K and I.
1) Only (C) 2) Both (A) and (C)
3) Both (B) and (C) 4) Both (A) and (B)
5) Only (B)

20. How many people were promoted before H?
1) Four 2) None 3) Three
4) Two 5) One

Directions (Q. 21-25): Study the following information carefully and answer the given questions.

Eight people – Q, R, S, T, U, V, W and X – are sitting around a circular table at equal distances between each other but not necessarily in the same order. Some of them are facing the centre while the remaining are facing outward (ie opposite the centre.)

- V sits second to the right of W. W faces the centre. Only two people sit between V and X (from either V's right or V's left).
- Only three people sit between X and S. S faces the centre. T sits third to the right of S.
- R sits second to the right of T. Q sits third to the left of R.
- The immediate neighbours of R face a direction opposite to that of R (ie if R faces the centre then both the immediate neighbours of R face outward and *vice versa*.)
- The immediate neighbours of T face the same direction (ie if one neighbour faces the centre then the other also faces the centre and *vice versa*.)
- The immediate neighbours of Q face the same direction (ie if one neighbour faces the centre then the other also faces the centre and *vice versa*.)

21. In which of the following pairs do both the people face the same direction (ie either both face the centre or both face outward)?
1) S, Q 2) X, V 3) T, U 4) R, V 5) T, Q

22. If all the people are made to sit in alphabetical order in clockwise direction starting from Q, then the position of how many people (including Q) will remain unchanged?
1) Three 2) None
3) More than three 4) Two
5) One

23. Which of the following is **not true** as per the given arrangement?
1) T faces the centre.
2) V sits second to the left of T.
3) Only three people sit between Q and U.
4) T is an immediate neighbour of U.
5) All the given statements are true

24. Who sits on the immediate right of T?
1) Q 2) R 3) W 4) X 5) U

25. Which of the following pairs represent the immediate neighbours of W?
1) S, U 2) U, Q 3) Q, R 4) R, S 5) Q, X

Directions (Q. 26-30): Study the given information carefully to answer the given questions.

Eight boxes – A, B, C, D, W, X, Y and Z – are stacked above one another. More than one box is kept between A and B. As many boxes are kept between B and W as between A and B. Only one box is kept between W and X. More than three boxes are kept between X and D. No box is kept between Y and C. Only two boxes are kept between C and Z. C is kept at one of the positions above Z.

26. As per the given arrangement, D is related to A in the same way as X is related to Z. Following the same patterns, to whom is C related?
1) V 2) W 3) D 4) B 5) X

27. Which one of the following depicts the position of box Y with respect to box W?
1) Immediately before W 2) Fifth above W
3) Fourth below W 4) Second above W
5) Third aboveW

28. How many boxes are kept above box W?
1) Three 2) More than three
3) None 4) One
5) Two

29. Which boxes are kept at the second and the fifth positions respectively from the top of the stack?
1) Z, C 2) A, B
3) A, D 4) Z, W
5) None of those given as options

30. Which box(es) is/are kept between D and C?
1) Both A and Y 2) None 3) OnlyW
4) Both B and W 5) Only Y

Directions (Q. 31-35): In this question, relationship between different elements is shown in the statements. The statements are followed by conclusions. Study the conclusions based on the given statements and select the appropriate answer. Give answer
1) if only conclusion I is true.
2) if both conclusion I and II are true.
3) if only conclusion II is true.
4) if either conclusion I or II is true.
5) if neither conclusion I nor II is true.

31. **Statements:** $D > C \leq G \geq H; B > C$
Conclusions: I. $H > B$ II. $B < D$

32. **Statement:** $N \leq Q \leq C = D > S \geq A$
Conclusions: I. $C > A$ II. $N \leq D$

33. **Statements:** $S = T \leq R \leq A \geq Y; Z \geq P = R$
Conclusions: I. $Z > Y$ II. $S \leq Z$

34. **Statements:** $S = T \leq R \leq A \geq Y; Z \geq P = R$
Conclusions: I. $P < A$ II. $P = A$

35. **Statements:** $P \geq A > C = E; K \leq C < U$
Conclusions: I. $E < U$ II. $P > K$

Directions (Q. 36-40): Study the given information carefully to answer the given questions.

In a certain code language,
'workers shifted in factory' is written as 'yr na pe gd';
'new factory opened today' is written as 'mo su bi pe';
'entry of new workers' is written as 'bi na vx dk'; and
'today check visitors entry' is written as 'al dk mo zc'.
(All codes are two-letter codes only.)

36. What is the code for 'factory entry' in the given code language?
1) pe vx 2) dk pe 3) vx na
4) na gd 5) mo zc

37. In the given code language, what does the code 'yr' stand for?
1) either 'in' or 'shifted' 2) factory
3) opened 4) workers
5) today

38. What is the code for 'today' in the given code language?
1) na 2) bi 3) vx 4) dk 5) mo

39. If 'check new stuff' is coded as 'bi ot zc' in the given code language, then how will 'stuff of visitors' be coded?
1) ot dk vx 2) vx al ot 3) mo vx al
4) gd ot mo 5) al gd vx

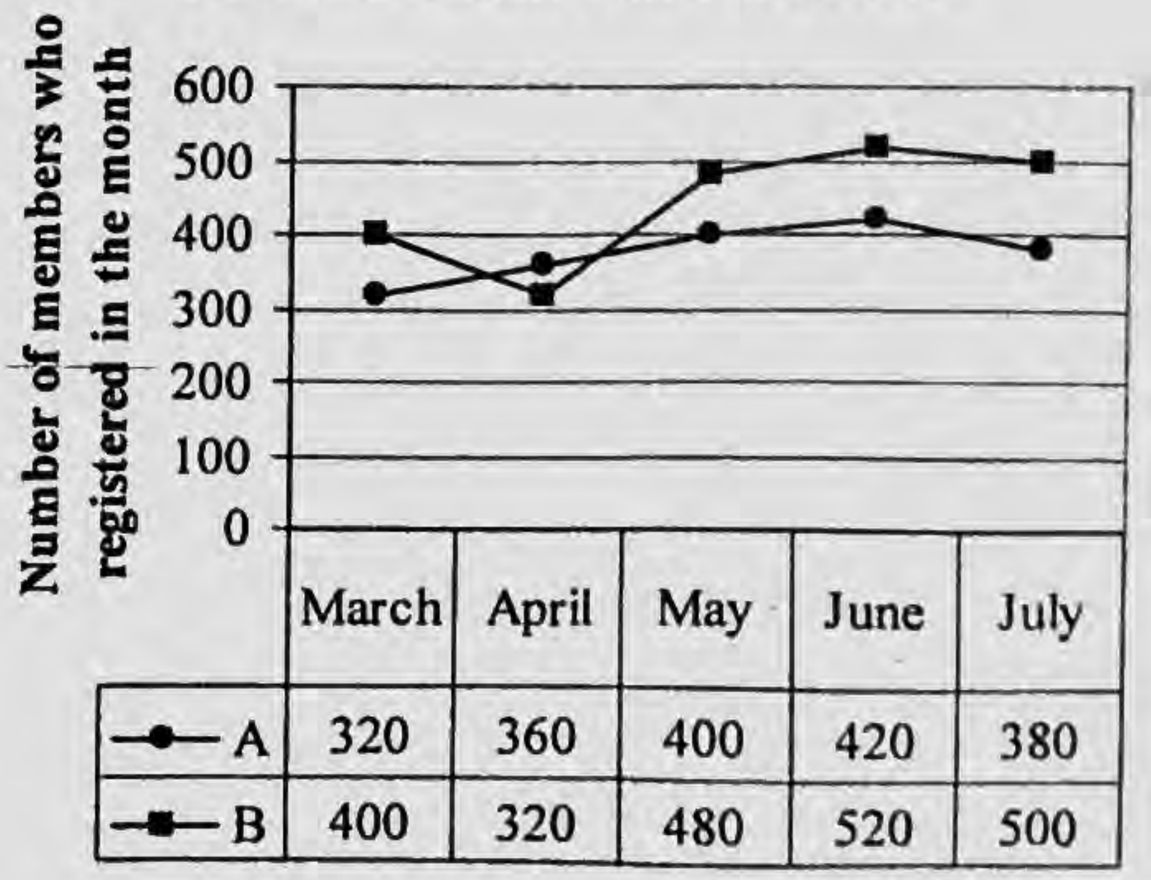
40. The code 'rj na' may represent the code for which of the following in the given code language?
1) workers demand 2) new shifted
3) of workers 4) for all
5) demand new

Test-II: Quantitative Aptitude

41. A mixture of milk and water in a jar comprises 12 litres of milk. If 8 litres of pure milk and 3 litres of pure water were added to this jar, the percentage of water in the new mixture would be 20%. What was the initial quantity of water in the jar? (in litre)
1) 5 2) 4 3) 2 4) 6 5) 2.5

Directions (Q. 42-46): Refer to the graph and answer the given questions.

Number of members who have registered for two clubs in five different months



	March	April	May	June	July
A	320	360	400	420	380
B	400	320	480	520	500

42. If in August the number of members who registered for both the clubs together increased by 20% as compared to June, what is the number of members who registered for both the clubs together in August?
1) 1152 2) 816 3) 1128 4) 1056 5) 1028

43. The number of members who registered for Club A in April was what per cent less than that who registered in June for the same club?

1) $14\frac{2}{7}$ 2) $15\frac{2}{7}$ 3) $12\frac{3}{7}$

4) $11\frac{3}{7}$ 5) $10\frac{4}{7}$

44. In Club B, the number of female members who registered in March was three-fifths of the number of male members who registered in the same month. If the number of female members who registered for Club A in March was 50 more than that who registered for Club B in the same month, what was the number of male members who registered for Club A in March?
1) 140 2) 130 3) 110 4) 100 5) 120

45. What is the ratio of the total number of members who registered for both the clubs together in March to that in July?
1) 9 : 13 2) 6 : 13 3) 7 : 17
4) 9 : 11 5) 6 : 11

46. What is the difference between the total number of members who registered for Club A in May and June together and that who registered for Club B in the same months together?
1) 240 2) 180 3) 220 4) 160 5) 300

47. 8 men can finish a piece of work in 25 days. 15 women can finish the same piece of work in 16 days. 4 men and 8 women started working together and worked for 10 days. After that 6 more men joined them. How many days will they now take to finish the remaining work?

1) $4\frac{4}{5}$ 2) $6\frac{3}{5}$ 3) $6\frac{2}{5}$ 4) $5\frac{3}{5}$ 5) 6

Directions (Q. 48-52): Study the table and answer the given questions.

Number of items sold and percentage of items returned by the customers over the months in two different shops

Month	Shops			
	A		B	
	No. of items sold	% of items returned by the customers	No. of items sold	% of items returned by the customers
August	580	15	650	8
September	600	12	540	10
October	550	4	360	5
November	720	20	416	25

48. The total number of items returned by the customers to Shop A in August and October together was approximately what per cent more than the total number of items returned by the customers to Shop B in September and October together?
1) 46 2) 32 3) 67 4) 51 5) 61

49. The number of items returned by the customers to Shop B in August was what per cent of the number of items returned by the customers to that shop in November?
1) 64 2) 50 3) 44 4) 32 5) 26

50. What was the average number of items which were not returned by the customers to Shop B in September, October and November?
1) 438 2) 251 3) 255
4) 380 5) 352

51. What is the ratio of the number of items not returned by the customers to Shop A in October to the number of items returned by the customers to that shop in November?
1) 15 : 6 2) 21 : 5 3) 19 : 7
4) 11 : 3 5) 17 : 8

52. All the items returned by the customers to Shop A in September were found to be defective and the shop received complaints from some of the customers who did not return the items and about $\frac{1}{12}$ th of those items not returned by the customers were found to be defective. What was the total number of defective items sold by that shop in that month?
1) 116 2) 168 3) 198
4) 216 5) 172

Directions (Q. 53-57): What approximate value should come in place of question mark (?) in the following questions? (You are not expected to calculate the exact value.)

53. ?% of $(813.97 \times 3.08) = 754.08 + 467.06$
1) 50 2) 46 3) 35 4) 55 5) 40

54. $(1356.07 - ?) \div 3.09 = 2196.11 \div 5.92$
1) 367 2) 335 3) 294 4) 258 5) 224

55. $?^2 + 142.04 - 21.97 \times 7.08 = 277.03$
1) 9 2) 5 3) 16 4) 15 5) 17

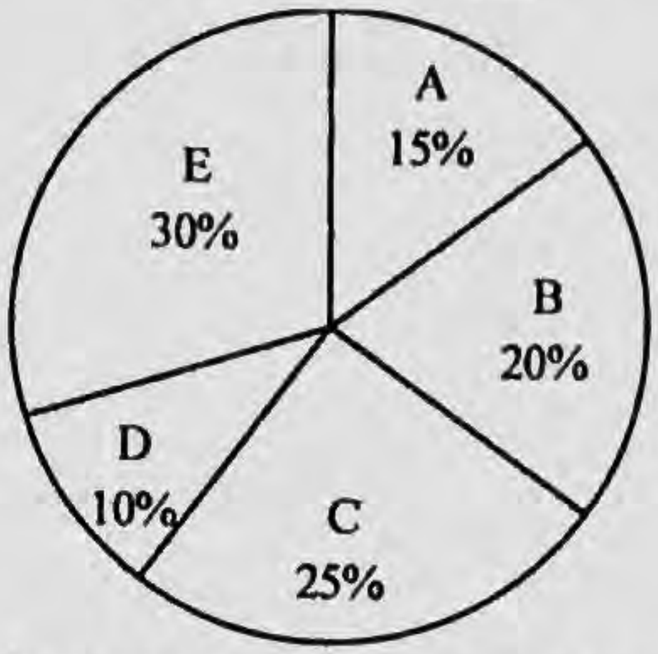
56. $(? + 5.04) \times 71.94 \div \sqrt{257} = 6.05^3$
1) 29 2) 43 3) 33 4) 23 5) 53

57. $\frac{(8.07)^3 - (3.93)^3}{(4.06)^2} = ? \times 7.02$
1) 18 2) 11 3) 4 4) 7 5) 6

58. The ratio of 55% of X to 88% of Y is 1 : 2. If Y is 20 more than X, then find the sum of X and Y.
1) 120 2) 150 3) 180
4) 160 5) 170

Directions (Q. 59-63): Refer to the pie chart and answer the given questions.

Distribution of total number of brownies sold by five different bakeries
Total number = 320



59. What is the central angle corresponding to the number of brownies sold by Bakery E?
1) 104° 2) 108° 3) 106° 4) 102° 5) 154°

60. The ratio of the number of brownies sold by Bakery D to that by Bakery F is 2 : 3. If bakery F sold each brownie for ₹50, then what was the amount earned by Bakery F?
1) ₹3200 2) ₹2400 3) ₹2000
4) ₹2800 5) ₹2600

61. What is the difference between the average of the number of brownies sold by bakeries A and B together and the average of the number of brownies sold by bakeries C and E together?
1) 28 2) 32 3) 36 4) 42 5) 64

62. The ratio of the number of chocolate brownies to that of vanilla brownies sold by Bakery B is 5 : 3 and the ratio of the number of chocolate brownies to that of vanilla brownies sold by Bakery C is 3 :1. What is the total number of chocolate brownies sold by bakeries C and B together? (Bakeries B and C sell only chocolate and vanilla brownies.)
1) 130 2) 120 3) 100 4) 150 5) 90

63. What is the difference between the total number of brownies sold by bakeries A and D together and that sold by Bakery E?
1) 12 2) 16 3) 6 4) 18 5) 10

64. The ratio of the present age of A to that of B is 9 : 10. 8 years ago the ratio of $\frac{1}{7}$ of A's age that time to $\frac{1}{4}$ of B's age that time was 1 : 2. What will be the ratio of A's age to B's age 8 years hence?
1) 17 : 18 2) 11 : 12 3) 9 : 11
4) 15 : 9 5) 12 : 11

65. A running track is in the form of a circle whose inner circumference is 396m and outer circumference is 528m. Find the width of the track.
1) 21m 2) 24m 3) 22m 4) 33m 5) 34m

66. A metallic cuboid measuring 12 cm × 9 cm × 2 cm is melted and cast into a cube. Find the length of each edge of the cube.
1) 5 cm 2) 6 cm 3) 2 cm 4) 8 cm 5) 10 cm

67. A boat can travel 6.4 km downstream in 16 minutes and 9.9 km upstream in 33 minutes. What is the total time taken by the boat to travel 48 km upstream and the same distance downstream together?
1) 4 hr 40 min 2) 4 hr 3) 5 hr
4) 5 hr 20 min 5) 5 hr 40 min

Directions (Q. 68-72): What will come in place of question mark (?) in the given number series?

68. 48 63 43 68 38 ?
1) 76 2) 73 3) 79 4) 66 5) 75

69. 14 16 22 34 54 ?
1) 76 2) 84 3) 86 4) 74 5) 96

70. 852 285 96 33 12 ?
1) 6 2) 8 3) 3 4) 5 5) 4

71. 0.25 4 32 128 256 ?
1) 264 2) 256 3) 312 4) 268 5) 272

72. 9 4 3 3 4 ?
1) 11 2) 7.5 3) 9.5 4) 12 5) 8.5

Directions (Q. 73-77): In each of these questions two equations numbered I and II are given. You have to solve both the equations and give answer
1) if $x \leq y$ 2) if $x > y$ 3) if $x \geq y$
4) if $x = y$ or the relationship can't be established
5) if $x < y$

73. I. $3x^2 + 13x + 12 = 0$ II. $4y^2 + 5y + 1 = 0$
74. I. $x^2 = 25$ II. $y^2 + 10y + 25 = 0$
75. I. $5x^2 - 11x + 2 = 0$ II. $3y^2 - 5y + 2 = 0$
76. I. $5x^2 - 13x + 6 = 0$ II. $2y^2 - 7y + 6 = 0$

77. I. $2x^2 - 17x + 35 = 0$ II. $3y^2 - 10y + 7 = 0$

78. Ram invests a certain sum in Scheme A offering simple interest @5% pa for 4 years. He further invests the amount obtained from Scheme A into Scheme B offering compound interest @10% pa (compounded annually) for 2 years. If the interest obtained from Scheme B was ₹378, then what was the sum invested in Scheme A? (in ₹)
1) 1200 2) 1000 3) 1600 4) 1500 5) 1800

79. Mohan kept 30% of his retirement fund for himself and distributed the remaining amount among his wife, his only son and his only daughter in the ratio of 7 : 3 : 4. If the difference between the amount that Mohan kept for himself and the amount he gave to his son is ₹31500, then what was the total retirement fund?
1) ₹240000 2) ₹270000 3) ₹210000
4) ₹80000 5) ₹260000

80. A bag contains 2 red balls, 5 yellow balls and 'X' green balls. One ball is drawn at random and the probability of the ball being yellow is $\frac{5}{9}$. What is the value of X?
1) 3 2) 12
3) Other than those given as options
4) 6 5) 9