1. From a container of milk, 5 litres of milk is replaced with 5 litres of water. This process is repeated again. Thus in two attempts the ratio of milk and water became 81 : 19. The initial amount of milk in the container was 50 litres, 45 litres, 40 litres, 25 litres, or None of these.

2. A bag A contains 4 green and 6 red balls. Another bag B contains 3 green and 4 red balls. If one ball is drawn from each bag, find the probability that both are green.

3. The sum of the radius and height of a cylinder is 42 cm. Its total surface area is 3696 cm². What is the volume of cylinder? 17428 cubic cm, 17248 cubic cm, 17244 cubic cm, 17444 cubic cm, or None of these.

**Directives (4-8)**: Study the pie-charts given below carefully and answer the questions.

Percentagewise Distribution of laptops (Dell & Lenovo) sold by six stores A, B, C, D, E and F in March 2014.

**Total Number of Laptops (Dell & Lenovo) sold = 48000**

Number of Dell Laptops sold = 28000

**Percentage of Dell Laptops sold**

- A: 14%
- B: 32%
- C: 12%
- D: 8%
- E: 24%
- F: 20%

4. The number of laptops of both types sold by stores A and C is more than that sold by stores E and F by 40%, 60%, 55%, 45%, or None of these.

5. What is the ratio between the number of Dell and Lenovo laptops sold by store A? 126°, 115°, 90°, 80°, or 120°.

6. What is the respective ratio between the average number of Dell laptops sold by stores A, C and E and that sold by stores B, D and F? 3 : 4, 2 : 9, 9 : 16, 5 : 12, or None of these.

7. By what per cent is the number of Lenovo laptops sold by store B more than that of Dell laptops sold by store E? 40%, 60%, 55%, 45%, or None of these.

8. What will be the central angle corresponding to number of laptops of both kinds sold by stores C and F? 126°, 115°, 90°, 80°, or 120°.

**Directions (9-13)**: Study the following table carefully and answer the questions that follow:

**Description of Literate and Illiterate population of six villages**

<table>
<thead>
<tr>
<th>Villages</th>
<th>Percentage of Literate population</th>
<th>Male : Female</th>
<th>Ratio of Literate Males &amp; Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>48%</td>
<td>7 : 5</td>
<td>13 : 7</td>
</tr>
<tr>
<td>B</td>
<td>60%</td>
<td>8 : 7</td>
<td>3 : 5</td>
</tr>
<tr>
<td>C</td>
<td>72%</td>
<td>4 : 5</td>
<td>3 : 4</td>
</tr>
<tr>
<td>D</td>
<td>60%</td>
<td>5 : 4</td>
<td>6 : 5</td>
</tr>
<tr>
<td>E</td>
<td>50%</td>
<td>7 : 3</td>
<td>14 : 11</td>
</tr>
<tr>
<td>F</td>
<td>64%</td>
<td>5 : 3</td>
<td>7 : 5</td>
</tr>
</tbody>
</table>

9. The number of literate women in village B is 39760 and that of illiterate women in village C is 25600. By what per cent is the population of village B less than that of village C? 11.25%, 13.25%, 14.25%, 9.75%, or None of these.

10. If the population of village F is 168000, what is the number of literate males? 67200, 68200, 86200, 76200, or None of these.

11. If the number of literate women in village D is 32200, what is the number of illiterate population in the same village?
12. If the number of literate males in village A be 35840, the number of illiterate males in the same village is
   (1) 43224  (2) 43284  (3) 46300  (4) 46500  (5) None of these

13. If the illiterate female population of village B be 77000, what is the total population of that village?
   (1) 350000  (2) 360000  (3) 400000  (4) 320000  (5) None of these

14. Three typists P, Q and R have to type 368 pages. P types one page in 8 minutes, Q in 18 minutes and R in 24 minutes. In what time will these pages be typed if they work together?
   (1) 25 hours  (2) 27.6 hours  (3) 27 hours  (4) 28 hours  (4) None of these

15. The distance between two points is 36 km. A boat rows in still water at 6 kmph. It takes 8 hours less to cover this distance in downstream in comparison to that in upstream. The rate of stream is
   (1) 3 kmph  (2) 2 kmph  (3) 2.5 kmph  (4) 4 kmph  (5) None of these

Directions (16-20): In each of the following questions, two equations I and II have been given. Solve these questions and answer

   (1) if $x < y$
   (2) if $x = y$
   (3) if $x = y$ or the relation cannot be established
   (4) if $x > y$

16. I. $30x^2 + 11x + 1 = 0$
   II. $42y^2 + 13y + 1 = 0$

17. I. $x^2 - x - \sqrt{2}x + \sqrt{2} = 0$
   II. $y^2 - 3y + 2 = 0$

18. I. $x^2 - 2x - \sqrt{5}x + 2\sqrt{5} = 0$
   II. $y^2 - \sqrt{3}y - \sqrt{2}y + \sqrt{6} = 0$

19. I. $x^2 + 12x + 36 = 0$
   II. $y^2 = 16$

20. I. $9x^2 + 3x - 2 = 0$
   II. $8y^2 + 6y + 1 = 0$

21. What is the annual salary of Mr. X?
   I. The ratio of monthly salaries of X and Y is 9 : 7.
   II. The monthly salary of X is more than that of Y by Rs. 16000.

22. What is the cost price of article?
   I. A man earns a profit of 20% on selling the article.
   II. The selling price of article is Rs. 5016.

23. What will be the total cost of fencing a rectangular plot?
   I. The area of plot is 1134 sq. metre. The length of plot is 15 metre more than its breadth.
   II. The cost of fencing is Rs. 180 per metre.

24. How many marks did Subodh obtain in Physics?
   I. The average marks of Subodh in History, Geography and Chemistry are 75.
   II. His average marks in History, Geography and Physics are 78.

25. What is the population of the city A?
   I. The ratio of the population of males and females in city A is 27 : 23 and the difference between their population is 100000.
   II. The population of city A is 80% of that of city B. The difference of population of city A and city B is 312500.

Directions (26-30): In the following number series, a wrong number is given. Identify the wrong number that does not follow the given pattern.

26. 3 10 33 111 349 1072 3252
   (1) 33  (2) 111  (3) 349  (4) 1072  (5) 10

27. 1 2 12 63 316 1704 10446
   (1) 63  (2) 1704  (3) 316  (4) 10446  (5) 2

28. 2 8 24 96 285 568 567
   (1) 6  (2) 96  (3) 24  (4) 568  (5) 567

29. 15 28 43 60 79 101 123
   (1) 28  (2) 43  (3) 60  (4) 101  (5) 123

30. 9 10 18 45 109 235 450
   (1) 10  (2) 9  (3) 18  (4) 109  (5) 235
31. What does 'su' stand for?
   (1) economy  (2) banks
   (3) of
   (4) Cannot be determined
   (5) None of these

32. What would be the code for 'essence'?
   (1) lo  (2) pa
   (3) ni  (4) jo
   (5) va

33. What would be the code for 'essence of money'?
   (1) lo pa su  (2) su gy jo
   (3) bt va gy  (4) gy lo su
   (5) Cannot be determined

34. What would be the code for 'economy in industry'?
   (1) jo bt dm  (2) dm ks pa
   (3) pa ks dm  (4) pa bt dm
   (5) Cannot be determined

35. What is the code for 'fast' in that code?
   (1) va  (2) gy
   (3) ni  (4) jo
   (5) lo

36. Who among the following lives on the topmost floor?
   (1) F  (2) B
   (3) G  (4) D
   (5) E

37. Who among the following lives immediately above D's floor?
   (1) G  (2) E
   (3) F  (4) A
   (5) C

38. Four of the following five are alike in a certain way and hence form a group. Which one of the following does not belong to that group?
   (1) B  (2) D
   (3) G  (4) E
   (5) F

39. Who among the following lives on third numbered floor?
   (1) E  (2) F
   (3) G  (4) C
   (5) D

40. Who among the following lives exactly between the floors of E and F?
   (1) C  (2) A
   (3) D  (4) G
   (5) None

41. Which of the following represents the position of "slip" in the Step III?
   (1) Ninth from right
   (2) Eighth from left
   (3) Eighth from right
   (4) Seventh from left
   (5) Sixth from left

42. How many elements (words/numbers) are there between "dawn" and "81" as they appear in Step IV?
   (1) Five
   (2) Six
   (3) Seven
   (4) Four
   (5) Eight

43. Which element (word/number) would be at the ninth position from the left in the Step II?
   (1) 62
   (2) slip
   (3) 55
   (4) team
   (5) dawn

44. At which of the following position "dawn" would appear from the right in the Step III?
   (1) Tenth
   (2) Ninth
   (3) Seventh
   (4) Fifth
   (5) Eighth

45. Which word/number would be third to the left of the sixth element from the right in the Step III?
   (1) dawn
   (2) 55
   (3) chip
   (4) slip
   (5) 62

46-50: In these questions, the relationship between different elements is shown in the statements. The statements are followed by two conclusions.

**Give answer (1) if only Conclusion I is true.**

**Give answer (2) if only Conclusion II is true.**

**Give answer (3) if either Conclusion I or II is true.**

**Give answer (4) if neither Conclusion I nor II is true.**

**Give answer (5) if both Conclusions I and II are true.**
40. Statement:
\[ V = 1 \leq T < A = L \geq Z > E \]
Conclusions:
I. \( A > E \)
II. \( L > V \)

47. Conclusions:
I. \( J > T \)
II. \( P > T \)

48. Conclusions:
I. \( R < T \)
II. \( T > H \)

49. Conclusions:
I. \( Z \geq C \)
II. \( Y < A \)

50. Conclusions:
I. \( Y \geq C \)
II. \( Z > A \)

53. Conclusions:
I. All goals being aim is a possibility.
II. All aims being objective is a possibility.

54. Conclusions:
I. No goal is vision.
II. All objectives are visions.

55. Conclusions:
I. At least some distances are ages.
II. Some eras are definitely not years.

56. Conclusions:
I. At least some eras are ages.
II. All distances being years is a possibility.

59. What is the position of Lawyer with respect to G?
(1) Third to the left
(2) Third to the right
(3) Fourth to the left
(4) Fourth to the right
(5) Second to the right

60. Who sit(s) exactly between the Engineer and Teacher?
(1) Architect and E
(2) Doctor and Librarian
(3) Painter and H
(4) Accountant
(5) C and Doctor

61. Which of the following is Not True with respect to the given seating arrangement?
(1) E is an immediate neighbour of Librarian
(2) G is a Doctor
(3) Accountant is an immediate neighbour of Teacher
(4) Lawyer sits third to the left of G
(5) Doctor is sitting exactly between B and A

62. Starting from A, if all the persons are made to sit in the alphabetical order in anticlockwise direction, the position of how many (excluding A) will remain unchanged?
(1) Three
(2) Two
(3) One
(4) Five
(5) Four

63. Four of the following five are alike in a certain way based on the above seating arrangement and hence form a group. Which one of the following does not belong to that group?
(1) AG
(2) DI
(3) GE
(4) EF
(5) BC

64. Who among the following is third to the left of Librarian?
(1) Engineer
(2) Teacher
(3) Painter
(4) Accountant
(5) Architect

Directions (65-71): Study the following information carefully and answer the questions given below:
Eight persons - A, B, C, D, E, F, G and H - are sitting around a circular table facing the centre. Each one of them has a different profession viz., Doctor, Lawyer, Painter, Librarian, Architect, Engineer, Teacher and Accountant, but not necessarily in the same order.

A sits third to the right of F.
Only one person sits between A and C. Accountant is sitting third to the right of C. Accountant is sitting to the immediate left of Engineer. B is sitting to the immediate left of H. Three persons sit between B and Architect. D is an immediate neighbour of G. D is neither an Engineer nor an Architect. Only one person sits between Librarian and Architect. Painter is to the immediate left of Teacher. D is not a Doctor. G is neither a Librarian nor a Lawyer. Lawyer is an immediate neighbour of Architect.

57. What is the profession of D?
(1) Teacher
(2) Architect
(3) Painter
(4) Engineer
(5) Accountant

58. Who amongst the following is a Doctor?
(1) C
(2) B
(3) G
(4) A
(5) H

Directions (65-71):
Eight persons are sitting in two parallel rows containing four persons each, in such a way that there is an equal distance between adjacent persons. In row-1, P, Q, R and
S are seated and all of them are facing south. In row-2, A, B, C and D are seated and all of them are facing north. Therefore, in the given seating arrangement each person seated in a row faces another person of the other row. Each of them belongs to different places, viz., Delhi, Jaipur, Patna, Pune, Mumbai, Chennai, Shillong and Surat, but not necessarily in the same order.

The person from Delhi is second to the right of the person who faces C. The immediate neighbour of person from Delhi faces the person from Patna. Only one person sits between person from Patna and B. One who faces B is second to the left of P. One who is immediate neighbour of B faces person from Jaipur. A person facing the person from Jaipur is second to the right of the person from Pune. There is only one person between the person from Jaipur and S. R faces the person from Surat. R is neither from Jaipur nor Mumbai. The person who is immediate neighbour of D is from Shillong. D is not an immediate neighbour of B.

65. Who among the following belongs to Jaipur?
(1) S  (2) D  (3) B  (4) Q  (5) R

66. Who amongst the following faces S?
(1) C  (2) A  (3) B  (4) D
(5) Cannot be determined

67. Which of the following pairs of persons is seated at the at extreme ends in any of the two rows?
(1) SQ  (2) PR  (3) AC  (4) BD
(5) RS

68. Which of the following statements is not true regarding R?
(1) R is at the extreme right end of the row
(2) R faces the person from Surat
(3) R is second to the left of P.
(4) There are two persons between R and S
(5) R is an immediate neighbour of Q

69. Four of the following five are alike in a certain way based on the above seating arrangement and hence they form a group. Which one of the following does not belong to that group?
(1) R  (2) S  (3) C  (4) A  (5) B

70. Which of the following combinations of person and place is not true?
(1) P — Mumbai
(2) R — Delhi
(3) D — Patna
(4) B — Surat
(5) C — Shillong

71. Who amongst the following belongs to Pune?
(1) S  (2) Q  (3) Q  (4) A  (5) B

Directions (72-74): Study the following information carefully and answer the questions given below:

Among the six persons — P, Q, R, S, T and U — each has different weight. P is heavier than three persons. R is lighter than T. S is lighter than only Q. R is not the lightest. The second heaviest person is of 68 kg and the second lightest person is of 35 kg.

72. Which of the following represents the descending order of weights of the six persons?
(1) S, Q, P, T, R, U
(2) Q, S, P, U, T, R
(3) Q, S, P, T, R, U
(4) Q, S, P, T, U, R
(5) S, Q, P, U, R, T

73. Who among the following is heavier than only U?
(1) R  (2) P  (3) T  (4) S
(5) Q

74. Who among the following may weigh 67 kg?
(1) Q  (2) P  (3) T  (4) S
(5) Cannot be determined

Directions (75-77): Study the following information carefully and answer the questions given below:

Work is important today is written as ‘tx ne zu ka’

75. What is the code for ‘money’?
(1) ds  (2) un  (3) oj  (4) ft
(5) ft or ds

76. Which of the following may represent ‘money is important today’?
(1) ne ds zu ft  (2) tx oj ka ne
(3) zu ds ka tx  (4) ht ds ka mu
(5) ka tx un oj

77. Which of the following may represent ‘now there is work’?
(1) mu ka tx zu  (2) ne ds ft
(3) tx ft oj un  (4) ka ht zu ft
(5) ne mu ka ht

Directions (78-80): Each of the questions below consists of a question and two statements numbered I and II given below. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and —

Give answer (1) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.

Give answer (2) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

Give answer (3) if the data either in Statement I alone or in Statement II alone are sufficient to answer the question.

Give answer (4) if the data even in both Statements I and II together are not sufficient to answer the question.

Give answer (5) if the data in both Statements I and II together are necessary to answer the question.

78. Seven different exams — P, Q, R, S, T, U and V — are conducted on different days of the same week, i.e., from Monday to Sunday. Which exam was conducted on Wednesday?
I. Two exams were conducted after exam P. Exam Q took place immediately after exam U. Exam Q was not conducted on Sunday or on Thursday. Exam T was not conducted immediately after exam P.

II. Three exams were conducted before exam R. Exam S was conducted after exam P but before exam T. Exam Q was conducted after exam U and before exam T. Exam P was not conducted on Monday.

79. What is the position of P among 20 persons standing in a straight line?

I. There are five persons between Y and L. L is at one of the extreme ends. T is sixth to the left of Y. There are three persons between O and T.

II. R is at one of the extreme ends of the line. There are two persons between O and J. There are nine persons between R and U. J is fourth to the left of U.

80. How is X related to R?

I. The brother of Y is married to R. The father-in-law of D is the grandfather of R. R is the only daughter of X. X is married to D.

II. R is the only daughter of P. D is the son-in-law of M. P and X are two sons of M. X is not married to D.

Directions (81-85): Study the following information carefully and answer the questions given below. ‘P @ Q’ means ‘P is the brother of Q’. ‘P # Q’ means ‘P is the daughter of Q’. ‘P = Q’ means ‘P is the sister of Q’. ‘P $ Q’ means ‘P is the son of Q’. ‘P $ Q’ means ‘P is the father of Q’. ‘P % Q’ means ‘P is the mother of Q’.

81. What does the expression ‘P @ R = S @ T $ V’ mean?

1. V is the husband of P
2. R is the son of V
3. S is the daughter of V
4. V is the wife of P
5. None of these

82. Which of the following indicates that ‘C is the paternal uncle of D’?

1. C & V @ N @ L @ D
2. C & V @ L @ N @ D
3. D & L @ N @ V @ C
4. D @ N $ V @ L @ C
5. None of these

83. Which of the following can be the correct conclusion drawn from the expression ‘L = M # N @ P $ Q’?

1. Q is the grandson of M
2. L is the uncle of N
3. N is the uncle of Q
4. Q is the niece of M
5. None of these

84. Which of the following can be the correct conclusion drawn from the expression ‘Q $ N @ S @ M = P’?

1. S is the brother of P
2. N has two sons and two daughters
3. S is the sister of Q
4. P is the sister of Q
5. None of these

85. Which of the following indicates that ‘Q is the daughter of N’?

1. Q $ P @ C @ N @ V
2. N $ P - C @ Q @ V
3. M @ N # R @ Q
4. M $ Q = V # N
5. None of these

86. Expert A says that dinosaurs became extinct due to climatic changes occurred on the Earth due to volcanic eruptions since 65 million years ago. Expert B does not agree with the volcanic eruption theory. According to him dinosaurs became extinct due to the impact of asteroid.

Which of the following statements may provide support to the theory propounded by Expert B?

(A) The frigid and sweltering climatic extremes caused the extinction of dinosaurs.
(B) A wide crater lying just off the Yucatan peninsula was created due to the impact of asteroid.

87. Should all the power generation and distribution units in the State Y be handed over to the private sector?

Arguments :

I. Yes, the State Government are not equipped to handle generation and distribution of electricity efficiently and it is not beneficial too.
II. Yes. The private companies handle generation and distribution of electricity efficiently.

Directions (88-90) : Below in each question are given two statements (A) and (B). These statements may be either independent causes or may be effects of independent causes or a common cause. One of these statements may be the effect of the other statement. Read both the statements and decide which of the following answer choice correctly depicts the relationship between these two statements.

Mark answer (1) if statement (A) is the cause and statement (B) is its effect.

Mark answer (2) if statement (B) is the cause and statement (A) is its effect.

Mark answer (3) if both the statements (A) and (B) are independent causes.

Mark answer (4) if both the statements (A) and (B) are effects of independent causes.

Mark answer (5) if both the statements (A) and (B) are effects of some common cause.

88. (A) Company A sales shampoo in urban areas. It has launched small sachets for penetration into the rural areas.
(B) Company A wants to expand its business to rural areas as rural people cannot afford larger packets.

89. (A) Railway Minister has increased fare by 14 per cent but he has slashed the fare of second class.
(B) Second class travellers have sent letters to the Railway Ministry for rolling back the hike in fare.

90. (A) Lung cancer is the most hazardous disease in India. It is not necessarily caused due to smoking rather passive smoking is more dangerous.
(B) Government has banned smoking in public and it has been made a punishable offence.