REASONING

Directions (1–5) : In these questions, 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.

1. Statement

$P < L \leq A > M = K \geq E$

Conclusions

I. $K \leq L$

II. $P < E$

(2-3) : Statements

$P > R = A < Y ; D < A$

2. Conclusions

I. $P > D$

II. $D < Y$

3. Conclusions

I. $P < Y$

II. $R > D$

(4-5) : Statements

$C \geq R > A = S \leq H ; R < P < Q$

4. Conclusions

I. $C > S$

II. $P < C$

5. Conclusions

I. $H \leq R$

II. $R < Q$

Directions (6-10) : Study the following information carefully and answer the questions given below :

In a certain code language,

'rural and urban divide' is coded as 'na ku zu la'

'gap in rural infrastructure' is coded as 'kt la vm pi'

'urban planning more important' is coded as 'ti na cu bu'

'more divide than gap' is coded as 'pi cu dm zu'

6. What is the code for 'and' ?
(1) zu (2) na
(3) ku (4) la
(5) Cannot be determined

7. What is the code for 'rural divide' ?
(1) zu la (2) la dm
(3) pi zu (4) ku la
(5) Cannot be determined

8. What is the code for 'gap' ?
(1) dm (2) vm
(3) zu (4) pi
(5) pi or cu

9. Which of the following may possibly be the code for 'infrastructure gap divide rural and urban planning' ?
(1) bu ku na zu pi la cu
(2) vm la zu pi na cu ku
(3) kt bu zu pi ti vm la
(4) la ku vm kt ti bu na
(5) Cannot be determined

10. What is the code for 'than' ?
(1) pi (2) dm
(3) cu (4) zu
(5) ti

Directions (11-15) : In each question below are three statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Give answer (1) if only Conclusion I follows.

Give answer (2) if only Conclusion II follows.

Give answer (3) if either Conclusion I or II follows.

Give answer (4) if neither Conclusion I or II follows.

Give answer (5) if both Conclusions I and II follow.

(11-12) :

Statements

All erasers are sharpeners.
All sharpeners are pencils.
Some pencils are pens.

11. Conclusions

I. At least some sharpeners are pens.
II. No sharpener is a pen.

12. Conclusions

I. No eraser is a pen.
II. All pencils are sharpeners.

13. Statements

All railways are trains.
No train is station.
Some stations are platforms.

Conclusions

I. All railways being platforms is a possibility.
II. No railway is station.

(14-15) : Statements

All winters are summers.
Some summers are springs.
No spring is an autumn.

14. Conclusions

I. At least some winters are summers.
II. Some autumns being summers is a possibility.

15. Conclusions

I. All summers can never be autumn.
II. At least some summers are winters.

Directions (16-20) : Each of the questions below consists of a question and two statements numbered I and II given below it. 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.

16. How many persons are there in a straight line who are facing North ?

I. L is standing exactly in the middle. L is an immediate neighbour of both A and O. Two persons are standing between A and T. T is standing at the second position from the left end of the line. B is standing at the extreme left end of the line.

II. J is standing at the second position from the right end of the line. Five persons are standing between J and F. There are two persons between F and K. K is at one of the extreme ends of the line.

17. Who amongst the six friends- M, N, O, P, Q and R - is the heaviest ?

I. O is heavier than only two friends. P is heavier than Q. P is lighter than N.

II. M is lighter than only two friends. N is heavier than O. N is lighter than R. P is heavier than Q.

18. Six friends, E, F, G, H, I and J are sitting around a circular table facing towards the centre, but not necessarily in the same order. Find the position of G with respect to F.

I. E is sitting second to the right of G. Only one person is sitting between E and I. F is an immediate neighbour of G.

II. There are two persons between G and H. H is an immediate neighbour of both I and E. F is not an immediate neighbour of I.

19. What is the code for 'reason' in a certain code language ?

I. In that code language 'little reason to believe' is coded as '& 4 $ 2' and 'reason is never little' is coded as '# & 8 2'.

II. In that code language 'little to reason now' is coded as '& 2 % 4' and 'believe now is problem' is coded as '% 8 $ @'.

20. How is A related to F ?

I. A is mother of B. D is brother of B. R is father of D. R has one son and one daughter. T is father of R. T is married to F.

II. F is married to T. T has only two children R and C. R is married to A. A has two children. C is aunt of B and D.

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

A building has seven floors numbered one to seven, in such a way that ground floor is numbered one, the floor above it, number two and so on such that the topmost floor is numbered seven. One out of seven persons, viz., P, Q, R, S, T, U and V lives on each floor, but not necessarily in the same order. Each one of them is travelling to different places, viz., Bangalore, Chennai, Delhi, Jaipur, Kolkata, Mumbai and Patna, but not necessarily in the same order.

Three persons live on the floors above the floor of P. There is only one person between P and the person travelling to Bangalore. U lives immediately below the person who is travelling to Mumbai. The person who is travelling to Mumbai lives on an even numbered floor. P lives below the person travelling to Mumbai. Two persons are living between the persons who are travelling to Bangalore and Patna respectively. T lives immediately above R. T is not travelling to Patna. Two persons live between Q and the person travelling to Kolkata. The person who is travelling to Delhi is not living immediately above or below the floor of Q. The person who is travelling to Kolkata lives below Q. S does not live immediately above or below the floor of P. V is not travelling to Chennai. The person who is travelling to Delhi does not live on the ground floor.

21. Who among the following lives on the topmost floor ?
(1) U (2) Q
(3) V (4) T
(5) S

22. Four of the following five are alike in a certain way and hence they form a group based on the given arrangement. Which one of the following does **not** belong to that group?
(1) R (2) S
(3) V (4) U
(5) T

23. Who among the following travels to Delhi ?
(1) T (2) U
(3) S (4) R
(5) P

24. How many persons live between the person who is travelling to Mumbai and S ?
(1) Three (2) Four
(3) One (4) Two
(5) Five

25. Who among the following does live on the floor immediately above the floor of T ?
(1) S (2) Q
(3) U (4) P
(5) V

Directions (26-30): Study the following information carefully and answer the questions given below :

Nine friends, A, B, C, D, E, F, G, H and I are sitting around a circular table facing the centre but not necessarily in the same order. D is sitting second to the right of F. H is an immediate neighbour of E. Two persons are sitting between A and E. B is sitting second to the left of C. Two persons are sitting between D and C. Neither H nor E is immediate neighbour of C and D. G is sitting third to the right of A. Only one person is sitting between C and E.

26. In which of the following combinations is the first person sitting in between the second and the third persons ?
(1) ADB (2) HEI
(3) FIC (4) GBC
(5) FDB

27. Who among the following is to the immediate left of D ?
(1) B (2) A
(3) F (4) G
(5) I

28. 'C' is related to the 'D' in a certain way based on the given seating arrangement. In the same way 'H' is related to the 'C'. To whom amongst the following is E related to, following the same pattern ?
(1) B (2) D
(3) C (4) A
(5) G

29. How many persons are seated between F and G if we go anticlockwise from F to G ?
(1) Two (2) Four
(3) Three (4) None
(5) One

30. Starting from A, if all the persons are made to sit in the alphabetical order in anticlockwise direction, the positions of how many (excluding A) will remain unchanged ?
(1) One (2) Two
(3) Three (4) Four
(5) None

Directions (31-32): Study the following information carefully and answer the questions given below :
H has two sons A and Y. A is married to M. M is the mother of P. N is daughter-in-law of H. S is mother-in-law of H.

31. Who among the following is the uncle of P ?
(1) H (2) A
(3) Y (4) M
(5) None of these

32. Who among the following is the wife of Y ?
(1) N (2) H
(3) P (4) S
(5) M

Directions (33-35) : Study the following information carefully and answer the questions given below :
Among six friends P, Q, R, S, T and U each one has different weight. R is heavier than T. R is lighter than Q. Q is lighter than both P and U. T is not the lightest. T weighs 50 kg. The third heaviest person is of 63 kg.

33. Who among the following is the heaviest ?
(1) U (2) P
(3) S (4) Q
(5) Either P or U

34. Who among following is heavier than S but lighter than R?
(1) Q (2) T
(3) U
(4) Cannot be determined
(5) None of these

35. Who among the following may weigh 58 kg ?
(1) U (2) Q
(3) P (4) R
(5) Cannot be determined

36. How many meaningful English words can be made from the letters NOEC using each letter only once in each word ?
(1) None (2) One
(3) Two (4) Three
(5) More than three

37. What should come next in the following letter series ?
AN CQ ET GW ?
(1) JZ (2) IZ
(3) IY (4) KA
(5) LZ

38. How many such pairs of letters are there in the word SCHEDULE (in both forward and backward directions), each of which has as many letters between them in the word as in the English alphabetical series ?
(1) None (2) One
(3) Two (4) Three
(5) More than three

39. Statements : The Country 'X' has the cheapest domestic airlines. The airline has lost around 40 commanders and senior pilots to Gulf airlines. Senior pilots have started opting Gulf airlines as they were unhappy with the domestic airlines. They complained that the cheapest domestic airline has poor facilities.
Which of the following **Courses of action** may be pursued to solve the problem ?
(A course of action is a step or administrative decision to be taken for improvement, follow up or further action in regard to the problem. policy etc.)
(1) The Government of the Country 'X' should immediately take steps to ban the Gulf airlines so that senior pilots do not move to Gulf airlines.
(2) The Government of the Country 'X' should immediately cancel the licences of the defiant senior pilots
(3) The Government of the Country 'X' should immediately take steps to improve the service of the domestic airlines after meeting with the senior pilots
(4) The passengers should boycott the services of Gulf airlines as it is the duty of citizens to protect the interests of their country.
(5) None of these

40. Statements : Non-Resident Indians invest their money in City 'A'. About one lakh flats are vacant in the City 'A'. Still people are struggling hard to get the accommodation.
Which of the following **Courses of action** may be pursued to solve the problem ?
(A course of action is a step or administrative decision to be taken for improvement, follow up or further action in regard to the problem. policy etc.)
(1) The Government should take over the vacant flats and allot these flats to the needy persons
(2) The Government should restrict the investment made by the Non-Resident Indians to check the soaring prices of dwelling units
(3) The Government should immediately constitute a task force to review the housing policy
(4) The Government should immediately take steps to end the impasse through proper coordination and management
(5) None of these

QUANTITATIVE APTITUDE

41. One fourth of two-fifth of 30% of a number x is equal to 15. Find 20% of the same number.
(1) 100 (2) 120
(3) 105 (4) 80
(5) None of these

42. The difference between the compound interest and the simple interest for a period of 2 years at the rate of 10% per annum is Rs. 50. Find the principal.
(1) Rs. 4000 (2) Rs. 5000
(3) Rs. 5500 (4) Rs. 4500
(5) None of these

43. An article is sold at a loss of 10%. Its cost price is Rs.800. A discount of 20% was offered on the labelled price while selling. What is the loss per cent at the labelled price ?
(1) 10% (2) 15%
(3) 20% (4) 25%
(5) None of these

44. The average age of some males and 15 females is 18 years. The sum of the ages of 15 females is 240 years and average age of males is 20 years. Find the number of males.
(1) 8 (2) 7
(3) 10 (4) 15
(5) None of these

45. If sum of smaller number x and two times the other number is equal to the sum of two times the smaller number and 16. The difference between the numbers is 6. Find the smaller number.
(1) 4 (2) 3
(3) 6 (4) 8
(5) None of these

46. The area of a right angled triangle is 80 sq. cm. The ratio of the base and the height of the triangle is 4 : 5. Find the length of hypotenuse.
(1) $\sqrt{82}$ cm (2) $2\sqrt{82}$ cm
(3) $2\sqrt{41}$ cm (4) $3\sqrt{82}$ cm
(5) None of these

47. Sixteen men and twelve women can complete a work in 8 days, if 20 men can complete the same work in 16 days, in how many days 16 women can complete the same piece of work ?
(1) 12 (2) 8
(3) 10 (4) 15
(5) 20

48. If A's salary is Rs. 10,000 less than B's salary, B's salary is 15,000 less than C's salary and the sum of A, B and C's salary is Rs. 65,000, find the salary of A.
(1) Rs. 10000 (2) Rs. 12000
(3) Rs. 15000 (4) Rs. 25000
(5) None of these

Directions (49 – 53) : What will come in place of the question mark (?) in the following number series ?

49. 20 23 30 43 64 ?
(1) 95 (2) 90
(3) 100 (4) 105
(5) 96

50. 33 16.5 ? 24.75 49.5 123.75
(1) 18.5 (2) 16.5
(3) 8.5 (4) 8.25
(5) None of these

51. 44 ? 99 148.52 22.75 334.125
(1) 44 (2) 55
(3) 66 (4) 33
(5) 35

52. 121 238 472 ? 1876 3748
(1) 1008 (2) 948
(3) 944 (4) 940
(5) 1005

53. 9 10 39 220 ? 14382
(1) 1589 (2) 1598
(3) 1958 (4) 1985
(5) 1835

Directions (54-58) : In the following questions, two equations I and II have been given. You have to solve both equations and

Give answer if

(1) $x > y$
(2) $x \geq y$
(3) $x < y$
(4) $x \leq y$
(5) $x = y$ or the relation cannot be established.

54. I. $2x^2 - 19x + 45 = 0$
II. $6y^2 - 48y + 90 = 0$

55. I. $2x^2 + 18x + 28 = 0$
II. $4y^2 + 18y + 14 = 0$

56. I. $2x^2 + 18x + 40 = 0$
II. $2y^2 + 15y + 27 = 0$

57. I. $6x^2 - 29x + 35 = 0$
II. $3y^2 - 11y + 10 = 0$

58. I. $x^2 + 3x - 28 = 0$
II. $y^2 - y - 20 = 0$

Directions (59-63) : What approximate value will come in place of the question mark (?) in the following questions ? (You are not expected to calculate the exact value).

59. $\frac{3}{5}$ of $\frac{7}{19}$ of $\frac{5}{28}$ of 543 = ?
(1) 21 (2) 25
(3) 14 (4) 16
(5) 28

60. $12.95 \times 7.05 + (85.01)^2 \times 10.99 = ?$
(1) 69566 (2) 79566
(3) 81000 (4) 80566
(5) None of these

61. $432.62 - 269.21 \div (11.9\% \text{ of } 78) = ?$
(1) 370 (2) 380
(3) 400 (4) 410
(5) 420

62. $899.99 \div 45.072 = ? - 224.488$
(1) 224 (2) 230
(3) 250 (4) 244
(5) 260

63. $(17.95)^2 - (14.05)^2 + (2343.75 + 81.55) \div ? = 229$
(1) 24 (2) 28
(3) 30 (4) 20
(5) 25

64. The sum of the present ages of P and Q is 25 years more than the age of R. The present age of Q is 5 years more than that of R. Find the present age of P.
(1) 20 years (2) 25 years
(3) 21 years (4) 22 years
(5) None of these

65. The perimeter of a rectangular field is 240 metre. The ratio between the length and breadth of the field is 8 : 7. Find the area of the field.
(1) 3854 sq. m.
(2) 3584 sq. m.
(3) 3684 sq. m.
(4) 3666 sq. m.
(5) None of these

Directions (66-70) : Study the following table carefully and answer the questions given below.

Number of employees working in six companies P, Q, R, S, T and U during six years.

Years	P		Q		R		S		T		U	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
2009	378	325	355	362	388	410	295	298	295	198	225	158
2010	282	265	295	285	278	325	425	415	445	405	455	405
2011	785	680	710	645	485	478	685	665	670	502	530	480
2012	690	650	645	575	685	655	485	470	435	405	468	470
2013	580	530	670	482	725	710	455	420	420	395	300	280
2014	490	470	590	595	455	555	655	620	615	465	210	175

66. What is the average number of male employees working in company P during six years?
(1) 534
(2) 540
(3) 560
(4) 550
(5) None of these

67. What is the ratio between the number of female employees working in companies P, Q and S in 2009 and that of male employees working in companies P, Q and R in 2010 ?
(1) 198 : 171
(2) 197 : 171
(3) 113 : 115
(4) 131 : 135
(5) None of these

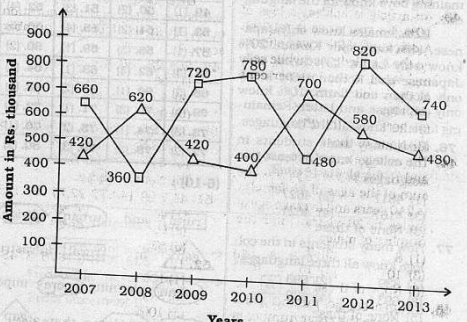
68. Total number of employees in company S in 2012 is less than that of employees in company R in the same year by approximately
(1) 25% (2) 29%
(3) 35% (4) 40%
(5) 43%

69. What is the average of total number of employees (males and females) working in all companies in the year 2010 ?
(1) 713 (2) 740
(3) 750 (4) 760
(5) 780

70. What is the difference between the total number of male employees and that of female employees that worked in company R during all the years ?
(1) 101 (2) 107
(3) 117 (4) 119
(5) 121

Directions (71-75) : Study the following graph carefully and answer the given questions.

Income and Expenditure (In Rs. thousand) of a Company during seven years



Profit = Income – Expenditure; Loss = Expenditure – Income;

$$\text{Profit \%} = \frac{\text{Profit}}{\text{Expenditure}} \times 100 \; ; \; \text{Loss \%} = \frac{\text{Loss}}{\text{Expenditure}} \times 100$$

71. What is the **approximate** average profit (in Rs. thousand) of the company in the years 2007, 2009 and 2010 ?
(1) 307 (2) 315
(3) 319 (4) 318
(5) None of these

72. What is the **approximate** average income (in Rs. thousand) of the company during all the years ?
(1) 641 (2) 651
(3) 631 (4) 661
(5) 751

73. What is the loss per cent of the company in the year 2008?
(1) 36 (2) 32
(3) 42 (4) 38
(5) 46

74. What is the respective ratio (approximated integral values) between the average income and average expenditure of the company during all the years ?
(1) 651 : 517 (2) 661 : 517
(3) 113 : 115 (4) 121 : 119
(5) None of these

75. What is the profit per cent of the company in the year 2010?
(1) 80 (2) 95
(3) 75 (4) 65
(5) 85

Directions (76–80) : Read the following information carefully and answer the given questions.

In a College P there are 19,000 students. They know different languages like Japanese, Korean and Latin. Ratio of males and females is 9 : 11. 14% of males know only Japanese. 12% know only Korean. 20% know only Latin. 16% know only Korean and Japanese. 22% know only Korean and Latin. 8% know only Japanese and Latin. Remaining boys know all the languages.

22% females know only Japanese. 18% know only Korean. 20% know only Latin. 12% know only Japanese and Korean. 16% know only Korean and Latin. 10% know only Japanese and Latin. Remaining females know all the languages.

76. How many male students in the college know at least two languages ?
(1) 4617 (2) 4627
(3) 4167 (4) 4621
(5) None of these

77. How many students in the college know all three languages?
(1) 839 (2) 893
(3) 693 (4) 639
(5) None of these

78. What is the ratio between the number of male students who know only Japanese and Korean and that of female students who know only these langugaes ?
(1) 113 : 119 (2) 229 : 209
(3) 228 : 209 (4) 119 : 113
(5) None of these

79. How many female students know at most two languages ?
(1) 10111 (2) 10421
(3) 10241 (4) 10152
(5) None of these

80. How many females know at least two languages ?
(1) 4189 (2) 4180
(3) 4280 (4) 4580
(5) 3680