

Direction (1-5): Study the following information carefully and answer the questions given below.

Eight persons Nainika, Virat, Vani, Vaibhav, Nakul, Viji, Namith and Naresh are sitting around a square table, four of them facing towards centre while four of them facing outside but not necessarily in the same order. Vaibhav sits fourth to right of Naresh. Vani is sitting immediate right of Vaibhav. Only one person sits between Namith and Vaibhav and both are facing same directions. Namith sits fourth to the right of Viji, who doesn't sit in middle of the table. Viji is not a neighbour of Naresh and faces towards the centre. Vani sits adjacent to Namith, who faces opposite direction of Vani. Nakul is to the immediate left of Vaibhav. Virat faces opposite direction of Vani and sits second to the left of Vani. Nakul is sitting second to left of Nainika, who faces same direction as Viji.

1. Who among the following persons faces the centre of the table?
 - A. Naresh
 - B. Virat
 - C. Nakul
 - D. Vaibhav
 - E. None of these
2. Who is sitting immediate right of Naresh?
 - A. Nainika
 - B. Virat
 - C. Vani
 - D. Nakul
 - E. None of these
3. Four of the following five are form a group in some way, find out the odd one?
 - A. Nainika
 - B. Vani
 - C. Viji
 - D. Nakul
 - E. Virat
4. Vani is related to Nakul and in the same way Naresh is related to Namith then which of the following is related to Viji?
 - A. Vaibhav
 - B. Naresh
 - C. Both Vaibhav and Naresh
 - D. Either Vaibhav or Naresh
 - E. None of these
5. Which of the following statement is/ are true?
 - A. Vani is facing outside the centre
 - B. Virat is facing towards the centre
 - C. Naresh is facing same direction as Vaibhav
 - D. Viji is sitting immediate right of Nainika
 - E. None is true

Direction (6-10): In the following question, some statements are followed by two conclusions (I and II). Assuming the given statements to be true, find which of the two conclusions follow(s) the given statements and choose appropriate answer choice.

6. **Statements:** $T < P \leq U$; $L > U \leq K$; $P \geq R$
Conclusions:
 - I. $K \geq R$
 - II. $L > R$
 - A. Only conclusion I is true
 - B. Only conclusion II is true
 - C. Either conclusion I or II is true
 - D. Neither conclusion I nor II is true
 - E. Both conclusions I and II are true
7. **Statements:** $H = I \leq R$; $M \geq R < S$
Conclusions:
 - I. $M = I$
 - II. $M > I$
 - A. Only conclusion I is true
 - B. Only conclusion II is true
 - C. Either conclusion I or II is true
 - D. Neither conclusion I nor II is true
 - E. Both conclusions I and II are true
8. **Statements:** $D > H \geq N$; $S > I \leq H$
Conclusions:
 - I. $N \leq S$
 - II. $N < D$
 - A. Only conclusion I is true
 - B. Only conclusion II is true
 - C. Either conclusion I or II is true
 - D. Neither conclusion I nor II is true
 - E. Both conclusions I and II are true
9. **Statements:** $P \leq O < I$; $P > Y > W$
Conclusions:
 - I. $Y \leq I$
 - II. $O > W$
 - A. Only conclusion I is true
 - B. Only conclusion II is true
 - C. Either conclusion I or II is true
 - D. Neither conclusion I nor II is true
 - E. Both conclusions I and II are true
10. **Statements:** $A \geq B > C \geq F$; $Z < C \leq D < E$
Conclusions:
 - I. $A > Z$
 - II. $F > E$
 - A. Only conclusion I is true
 - B. Only conclusion II is true
 - C. Either conclusion I or II is true
 - D. Neither conclusion I nor II is true
 - E. Both conclusions I and II are true

Direction (11-13): Study the information given below and answer the questions based on it.

There are three generations in a family of ten members. There are three couples in the family. A is G's grandfather. C is B's daughter. H is E's niece. F is I's mother. D is G's father. J is B's granddaughter. Every couple has a son and a daughter. D is J's uncle.

11. How is F related to J?
A. Father B. Sister
C. Mother D. Son-in-law
E. Brother
12. How is B related to G?
A. Grandfather B. Grandmother
C. Granddaughter D. Grandson
E. Son
13. How is D related to A?
A. Daughter-in-law B. Son
C. Son-in-law D. Brother-in-law
E. Sister
14. **Directions:** In these, statements are followed by two conclusions. Consider statements to be true and find if the conclusions follow or not.
Statements: All mobiles are smart phones.
Some smart phones are gadgets.
Some gadgets are cheap.
No gadget is sim.
Conclusions:
I. Some mobiles are sim is a possibility
II. Some gadgets are both mobiles and smart phones.
A. Only I follows
B. Only II follows
C. Either I or II follows
D. Neither I nor II follow
E. Both I and II follow
15. **Directions:** In these, statements are followed by two conclusions. Consider statements to be true and find if the conclusions follow or not.
Statements: All oranges are Bananas.
No banana is an apple.
All apples are fruits.
Conclusions:
I. No orange is a apple
II. Some oranges are fruits is a possibility
A. Only I follows
B. Only II follows
C. Either I or II follows
D. Neither I nor II follow
E. both I and II follow

16. **Direction:** In the following question, some statements are followed by some conclusions. Assuming the given statements to be true, find which of the following conclusions follow the given statements and choose appropriate answer choice.

Statements: All orange are red.
No red is black. Some black are blue.
All blue are pink.

Conclusions:

I. Some red are orange is a possibility.
II. All blue are orange is a possibility.

A. Only I follows
B. Only II follows
C. Either I or II follows
D. Neither I nor II follow
E. Both I and II follow

17. **Direction:** In the following question, some statements are followed by some conclusions. Assuming the given statements to be true, find which of the following conclusions follow the given statements and choose appropriate answer choice.

Statements: Some trains are stations.
All stations are platforms. All platforms are tracks.

Some tracks are bogies.

Conclusions:

I. Some tracks are trains.
II. Some bogies are trains.

A. Only I follows
B. Only II follows
C. Either I or II follows
D. Neither I nor II follow
E. Both I and II follow

18. **Directions:** In these, statements are followed by two conclusions. Consider statements to be true and find if the conclusions follow or not.

Statements: All pens are pencils.
Some pencils are boxes. No box is rubber.

Conclusions:

I. Some pencils are rubber is a possibility
II. Some Boxes are Pen

A. Only I follow
B. Only II follows
C. Either I or II follows
D. Neither I nor II follow
E. Both I and II follow

Direction (19-23): Study the information given below and answer the questions based on it.

- E. The data in both the statements I and II together are necessary to answer the question.
30. **Direction:** *The following question 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 statement are sufficient to answer the questions.*
 Among A, B, C, D and E, seated in a straight line; facing North, who sits exactly in middle of line?
 I. A sits second to the left of D. B sits to the right of C.
 II. D sits in the right of E. E is not sitting on an extreme end.
 A. The data in statement one is alone are sufficient to answer the question, while data in statement II is not sufficient to answer the question.
 B. The data in statement II is alone sufficient to answer the question, while data in statement I is not sufficient to answer the question.
 C. The data in statement I alone or in statement II alone are sufficient to answer the question.
 D. The data in both the statement I and II are not sufficient to answer the question.
 E. The data in both the statement I and II together are necessary to answer the question.
31. **Direction:** *A question and two statements numbered I and II are given below. You have to decide whether the data provided in which of the statements are sufficient to answer the question or not.*
 Who among S, D, X, P and R is shortest ?
 I. X is shorter than D and equal to P, R is not taller than S and D.
 II. P is taller than R and equal to X. D and S is not shorter than X.
 A. If the data in statement I alone is sufficient to answer the question.
 B. If the data in statement II alone is sufficient to answer the question.
 C. If the data either in statement I alone or statement II alone are sufficient to answer the question.
 D. If the data given in both I and II together are not sufficient to answer the question.
 E. If the data in both the statements I and II together are necessary to answer the question.
32. **Direction:** *Each of the question 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.*
 How many students are there in class?
 I. There are more than 20 but less than 27 students in the class.
 II. There are more than 24 but less than 31 students in the class. When the students are divided into groups, each group contains five students.
 A. 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.
 B. 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.
 C. The data either in statement I alone or in statement II alone are sufficient to answer the question.
 D. The data given in both the statements I and II together are not sufficient to answer the question.
 E. The data in both the statements I and II together are necessary to answer the question.
33. How many such pairs of letters are there in the word "RECOVERED" each of which has as many letters between them in the word as in the English alphabet?
 A. 1
 B. 3
 C. 2
 D. 4
 E. None of these
- Directions (34-35):** *Read the following information carefully and answer the questions which follow:*
 Meghna started from Point A, walked 7 m towards the West, took a left turn, walked 2 m and reached Point C. She, then, took a right turn and walked 4 m to reach Point D. She, then, took a right turn, walked 2 m before taking a final right turn and walked 3 m before stopping at Point B.
34. How far and in which direction is Point A from Point B?
 A. 6 m towards West
 B. 8 m towards east
 C. 10 m towards East
 D. 10 m towards West
 E. Cannot be determined

35. If Meghna walks 2 m towards South from Point A and reaches Point E, which of the following points (including E) would fall in a straight line?
 A. A, B
 B. A, D
 C. B, C
 D. C, D
 E. None of these

Direction (36-40): Study the information given below and answer the questions based on it.

Ten people are sitting in two parallel rows having five people each, in such a way that there is an equal distance between adjacent persons. In row 1 - V, W, X, Y and Z are seated (but not necessarily in the same order) and all of them are facing North. In row 2 - F, G, H, I and J are seated (but not necessarily in the same order) and all of them are facing south. Therefore, in the given seating arrangement, each member seated in a row faces another member of the other row.

Y sits third to the left of W. The one who faces Y sits second to the right of F. Only one person sits between F and I.

H and J are immediate neighbors of each other. J does not sit at any of the extreme ends of the line. The one who faces G sits to the immediate right of Z. X is not an immediate neighbor of Z.

36. Who amongst the following faces H?
 A. Y
 B. V
 C. Z
 D. W
 E. X
37. Who amongst the following sits to the immediate left of the person who sits exactly in the Middle of the row with south facing people?
 A. J
 B. H
 C. I
 D. G
 E. F
38. Four of the following five are alike in a certain way based on the given seating arrangement and thus form a group. Which is the one that does not belong to that group?
 A. H
 B. I
 C. W
 D. Y
 E. X
39. Who amongst the following sits third to the right of the person who faces X?
 A. G
 B. F
 C. J
 D. I
 E. H

40. Which of the following is true regarding V?
 A. None of the given options is true
 B. An immediate neighbor of V faces F
 C. X is an immediately neighbor of V
 D. W sits to immediate right of V
 E. V faces I
41. **Direction:** In each question numbered I and II have been given. You have to solve both the equations and mark the appropriate option.
 I. $x^2 - 15x + 56 = 0$
 II. $Y = \sqrt{64}$
 A. $x > y$
 B. $x \geq y$
 C. $x \leq y$
 D. $x < y$
 E. $x = y$ or no relationship can be established
42. **Direction:** In each question numbered I and II have been given. You have to solve both the equations and mark the appropriate option.
 I. $x^2 + 6x + 9 = 0$
 II. $y^2 - 3y - 18 = 0$
 A. $x > y$
 B. $x \geq y$
 C. $x \leq y$
 D. $x < y$
 E. $x = y$ or no relationship can be established
43. **Direction:** In each question numbered I and II have been given. You have to solve both the equations and mark the appropriate option.
 I. $x^2 - x - 6 = 0$
 II. $Y^2 - 6y + 8 = 0$
 A. $x > y$
 B. $x \geq y$
 C. $x \leq y$
 D. $x < y$
 E. $x = y$ or no relationship can be established
44. **Direction:** In the question, two equations I and II are given. You have to solve both the equations and give answer
 I. $x^2 - 11x - 80 = 0$
 II. $y^2 + 9y - 52 = 0$
 A. $x > y$
 B. $x < y$
 C. $x = y$, or relation cannot be established between x and y
 D. $x \geq y$
 E. $x \leq y$
45. **Direction:** In the following question, two quadratic equations I & II are given. Solve both the equations & establish the relationship between the given variables.
 I. $4x^2 + 12x + 9 = 0$
 II. $2y^2 + 11y + 14 = 0$
 A. $x > y$
 B. x
 C. $x \geq y$
 D. $x \leq y$
 E. $x = y$ OR No relation can be established (CND)

46. **Direction:** What approximate value will come in place of question marks in the given questions.

$$(10.97)^2 + (4.13)^3 \times 3.79 = ?$$

- A. 428 B. 376
C. 204 D. 198
E. 302

47. **Direction:** What approximate value will come in place of question marks in the given questions.

$$423.62 - 269.89 \div (11.9\% \text{ of } 74.98) = ?$$

- A. 525 B. 455
C. 395 D. 650
E. 275

48. **Direction:** What approximate value will come in place of question marks in the given questions.

$$23 \times 15 - 60 + ? \div 31 = 292$$

- A. 218 B. 186
C. 217 D. 201
E. 227

49. **Direction:** What approximate value will come in place of question marks in the given questions.

$$151.02 - 118.92 \div 17.02 - ?^2 = 80.88$$

- A. 4 B. 10
C. 8 D. 12
E. 6

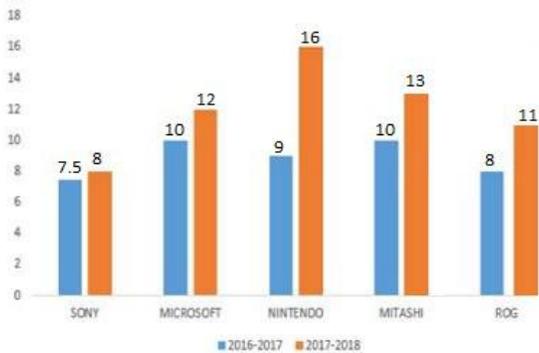
50. **Direction:** What approximate value will come in place of question marks in the given questions.

$$? \div 4.02 + 4.97 \times 9.09 = 131.92$$

- A. 348 B. 356
C. 334 D. 342
E. 332

51. **Direction:** Study the following graph and answer accordingly.

Sale of Different Gaming consoles during the years 2016-2017 and 2017-2018



The sales are in thousands.

51. Which of the consoles showed highest percentage increase in sales over its previous year?
A. SONY B. MICROSOFT
C. NINTENDO D. MITASHI
E. ROG
52. Which of the consoles showed the third highest percentage increase in sales over its previous year?
A. SONY B. MICROSOFT
C. NINTENDO D. MITASHI
E. ROG
53. What is the absolute change in overall sales of the five companies together between 2016-2017 and 2017-2018?
A. 15,300 B. 16,500
C. 15,500 D. 14,500
E. 14,800
54. What is the combined percentage increase in sale of Sony and Nintendo from 2016-2017 to 2017-2018?
A. 54.54% B. 33.33%
C. 51.55% D. 45.45%
E. 60%
55. What is the difference between the total sale from 2016 to 2018 for Microsoft and ROG?
A. 4,500 B. 3,800
C. 3,000 D. 4,180
E. 4,250

Direction (56-60): Read the information carefully to give the answers of following questions.

Number of students appeared (A) and qualified (Q) in the examination from various institutions over the years:

Years	2013		2014		2015		2016		2017	
Institutes	A	Q	A	Q	A	Q	A	Q	A	Q
B	1545	1240	1654	1566	1684	1500	1440	1165	1564	1462
C	1647	1106	1897	1689	1550	1278	1390	1072	1575	1388
D	1765	1567	1574	1024	1754	1210	1364	1145	1510	1214
E	1530	1234	1886	1542	1806	1586	1478	1388	1645	1296
F	1605	1356	2004	1930	1666	1498	1560	1389	1690	1480

56. Percentage of candidates qualified over appeared from institute D is the lowest during which of the following years?
A. 2013 B. 2014
C. 2015 D. 2016
E. 2017

57. Approximately what is the percentage of candidates qualified over appeared from all the institutes together in 2017?
 A. 98% B. 75%
 C. 64% D. 86%
 E. 69%
58. What is the difference between the number of students appeared but not qualified in the exam from institute B in year 2014 and number of students appeared but not qualified in the exam from same institute in the year 2016?
 A. 188 B. 190
 C. 182 D. 185
 E. None of these
59. What is the approximate average number of candidates appeared for the exam from institute E over the years?
 A. 1759 B. 1586
 C. 1669 D. 1924
 E. 1837
60. What is the percentage of qualified candidates over the number of candidates appeared for the exam in 2015 from all the institute together?
 A. 83.59% B. 88.78%
 C. 75.6% D. 79.85%
 E. None of these
61. The average weight of 17 students is 90 kg. If the weight of the teacher is also included, then the average weight is increased by 200 grams. Find the weight of the teacher?
 A. 49 kgs B. 48.7 kgs
 C. 49.3 kgs D. 55 kgs
 E. None of these
62. A man can row at 8 kmph in still water. If the velocity of current is 2 kmph and it takes him 2 hours to row to a place and come back, how far is the place?
 A. 7.5 km B. 8 km
 C. 8.5 km D. 9 km
 E. None of these
63. A sum invested at 10% simple interest per annum grows to Rs. 900 in 5 years. The same amount at 15% simple interest per annum in $2\frac{1}{2}$ years will grow to?
 A. 830 B. 835
 C. 825 D. 820
 E. None of these
64. A and B started a business in partnership investing Rs. 10,000 and Rs. 7,500 respectively. After 3 months, C joined them with Rs. 10,000. What will be B's share in the total profit of Rs 12,000 earned at the end of 1 year from the starting of the business?
 A. 1000 B. 1500
 C. 1200 D. 1800
 E. None of these
65. Rubina decided to donate 16% of her monthly salary to an NGO. On the day of donation she changed her mind and donated Rs.6567, which was 75% of what she had decided earlier. How much is Rubina's monthly salary?
 A. Rs.8756 B. Rs.54725
 C. Rs.656700 D. Rs.45696
 E. Rs.54800
66. Pipes A and B can fill a tank in 12 and 15 hours respectively. Pipe C can empty it in 6 hours. If A and B are kept open for 5 hours in the beginning and then C is also opened. Now In how many hrs tank will be empty?
 A. 42 hours B. 43 hours
 C. 45 hours D. 50 hours
 E. None of these
67. 5 years ago, the age of a man was 3 years more than 4 times his son's age. After 3 years the man will be 6 years less than thrice the age of his son. After how many years will the sum of their ages be 80 years?
 A. 25 B. 32
 C. 16 D. 43
 E. 45
68. The ratio of income of Ram and Sham is 5:4 and their expenditure is as 3:2. If at the end of the year, each saves Rs. 1200, then the income of Ram is
 A. 3500 B. 2000
 C. 2500 D. 3500
 E. 3000
69. A can do a piece of work in 12 days which B can do in 18 days. They begin together but 2 days before the completion of the work, A leaves off. The total number of days to complete the work is?
 A. $\frac{42}{5}$ B. 7
 C. 8 D. $\frac{43}{5}$
 E. None of these

70. Two passenger trains each 750 meters long, are running in opposite directions on parallel tracks. Their speeds are 50 km/h and 40 km/h respectively. Find the time taken by the slower train to pass the faster one?
- 45 seconds
 - 30 seconds
 - 65 seconds
 - 70 seconds
 - None of these

Direction (71-75): Study the following number series carefully and find the missing term.

71. 8, 9, 15, 32, ?, 250.5
- 82.5
 - 62.5
 - 64.5
 - 47.5
 - 37.5
72. 2, 5, 9, 42, 98, ?
- 233
 - 221
 - 242
 - 218
 - 225
73. 100 100 50 12.5 ?
- 2.5625
 - 3.5625
 - 2.2525
 - 1.5625
 - 4.5625
74. 12, 20, 34, 57, ?
- 93.5
 - 93.2
 - 94
 - 93
 - 93.25
75. 1023, 987, 915, 807, ?
- 563
 - 636
 - 632
 - 543
 - 663
76. **Direction:** In each of the following 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:
 What is the length of the train?
 I. The train takes 5 sec to cross a pole.
 II. The train takes 7 sec to cross two poles, 50 m apart.
 A. The question can be answered by using statement I alone but cannot be answered using the other statement alone.

- The question can be answered by using statement II alone but cannot be answered using the other statement alone.
- The question can be answered by using either of the statement alone.
- The question can be answered using both of the statements together, but cannot be answered using either of the statement alone.
- The question cannot be answered even by using both the statements together.

77. **Direction:** Each question below is followed by two statements I and II. You have to determine whether the data given in the statement is sufficient for answering the question. You should use the data and your knowledge of Mathematics to choose the best possible answer.
 A and B finish $\frac{3}{4}$ th of a specific piece of work in 6 hours. How much time does A take to finish the work?
 I. B finishes the work in 10 hours.
 II. A and B together finish the work in 8 hours.
 A. The question can be answered by using statement I alone but cannot be answered using the other statement alone.
 B. The question can be answered by using statement II alone but cannot be answered using the other statement alone.
 C. The question can be answered by using either of the statement alone.
 D. The question can be answered using both of the statements together, but cannot be answered using either of the statement alone.
 E. The question cannot be answered even by using both the statements together.
78. **Direction:** A question is given followed by the information in three statements. You have to decide the information in which of the statements is necessary and sufficient to answer the question and mark answer accordingly.
 What is the monthly salary of Pravin?
 I. Pravin earns Rs. 1200 more than Aman.
 II. The ratio between Aman and Vimal's monthly salary is 5: 3
 III. Vimal earns Rs. 1,000 less than Aman.
 A. Any two of I, II and III are required.
 B. Only I and II are required
 C. Only II and III are required
 D. All I, II and III together are required
 E. None of these

79. **Direction:** A question is given followed by the information in three statements. You have to decide the information in which of the statements is necessary and sufficient to answer the question and mark answer accordingly.

What is the percent profit earned?

- I. The car is sold at 10% discount
 - II. If there was no discount given, the profit would have been 35%
- A. I alone
 - B. II alone
 - C. Either I alone or II alone
 - D. Both I and II
 - E. Both I and II are not sufficient

80. **Direction:** A question is given followed by the information in three statements. You have to decide the information in which of the statements is necessary and sufficient to answer the question and mark answer accordingly.

What is the age of a class teacher?

- I. There are 11 students in the class.
 - II. The average age of the students and the teacher is 14 years.
 - III. The average age of the teacher and the students is 3 years more than that of the students.
- A. Both I and III
 - B. Both I and II
 - C. II & either I or III
 - D. All I, II and III
 - E. None of these
