



**MVPP-Part Test-2-MAT**

- In a row of boys, If A who is 10th from the left and B who is 9th from the right interchange their positions, A becomes 15th from the left. How many boys are there in the row?  
(A) 23 (B) 31  
(C) 27 (D) 28
- Nitin ranks 18th in a class of 49 students. What is his rank from the last?  
(A) 31 (B) 18  
(C) 32 (D) 19
- Rajan is sixth from the left end and vinay is tenth from the right end in a row of boys. If there are eight boys between Rajan and Vinay, how many boys are there in the row?  
(A) 24 (B) 26  
(C) 23 (D) 25
- How many 4's are there that are preceded by 7 but not followed by 3?  
5 9 3 2 1 7 4 2 6 9 7 4 6 1 3 2 8 7 4 1 3 8 3 2 5 6 7 4 3 9 5 8 2 0 1 8 7 4 6 3  
(A) 4 (B) 3  
(C) 6 (D) 5
- Three persons A, B and C are standing in a queue. There are five persons between A and B and eight persons between B and C. If there be three persons ahead of C and 21 persons behind A, what could be the minimum number of persons in the queue?  
(A) 41 (B) 40  
(C) 28 (D) 27
- Ravinder walked 20 m towards north. Then he turned right and walks 30 m. Then he turns right and walks 35 m. Then he turns left and walks 15 m. Finally he turns left and walks 15 m. In which direction and how many metres is he from the starting position?  
(A) 15 m West (B) 30 m East  
(C) 30 m West (D) 45 m East
- Two cars start from the opposite places of a main road, 150 km apart. First car runs for 25 km and takes a right turn and then runs 15 km. It then turns left and then runs for another 25 km and then takes the direction back to reach the main road. In the mean time, due to minor break down the other car has run only 35 km along the main road. What would be the distance between two cars at this point?  
(A) 65 km (B) 75 km  
(C) 80 km (D) 85 km
- Starting from the point X, Jayant walked 15 m towards west. He turned left and walked 20 m. He then turned left and walked 15 m. After this he turned to his right and walked 12 m. How far and in which direction is he from the starting point?  
(A) 32 m, South (B) 47 m, East  
(C) 42 m, North (D) 27 m, South
- One evening before sunset Rekha and Hema were talking to each other face to face. If Hema's shadow was exactly to the right of Hema, which direction was Rekha facing?  
(A) North (B) South  
(C) East (D) Data is inadequate
- A boy rode his bicycle Northward, then turned left and rode 1 km and again turned left and rode 2 km. He found himself 1 km west of his starting point. How far did he ride northward initially?  
(A) 1 km (B) 2 km  
(C) 3 km (D) 5 km

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11. Avnish wanted to write first 300 natural numbers without any space on the computer. How many times he has to press the keys on the key board to do so?  
(A) 790 (B) 792  
(C) 794 (D) 798
12. In a division sum, the divisor is 12 times the quotient and 5 times the remainder. If the remainder is 48, then the dividend is?  
(A) 4568 (B) 4587  
(C) 4848 (D) 8448
13. The sum of two numbers is 27 and difference of their squares is 351. The greater of the two numbers is:  
(A) 18 (B) 24  
(C) 23 (D) 20
14. What is the number in the unit place of  $(347)^{305}$  ?  
(A) 5 (B) 7  
(C) 9 (D) 3
15. Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?  
(A) 24 (B) 27  
(C) 40 (D) Cannot be determined
16. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is  
(A) 2:5 (B) 3:5  
(C) 4:5 (D) 6:7
17. Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?  
(A) 2:3:4 (B) 6:7:8  
(C) 6:8:9 (D) None of these
18. The ratio of the number of boys and girls in a college is 7 : 8. If the percentage increase in the number of boys and girls be 20% and 10% respectively, what will be the new ratio?  
(A) 8:9 (B) 17:18  
(C) 21:22 (D) Cannot be determined
19. If  $0.75 : x :: 5 : 8$ , then x is equal to  
(A) 1.12 (B) 1.2  
(C) 1.25 (D) 1.30
20. The sum of three numbers is 98. If the ratio of the first to second is 2 :3 and that of the second to the third is 5 : 8, then the second number is:  
(A) 20 (B) 30  
(C) 48 (D) 58

**Directions (Questions 21 – 25):** In the following question below is given a statement followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.

21. **Statement:** It is desirable to put the child in school at the age of 5 or so.  
**Assumptions:**  
I. At that age the child reaches appropriate level of development and is ready to learn  
II. The schools do not admit children after six years of age  
(A) Only assumption I is implicit (B) Only assumption II is implicit  
(C) Either I or II is implicit (D) Neither I nor II is implicit
22. **Statement:** "In order to bring punctuality in our office, we must provide conveyance allowance to our employees." - In charge of a company tells Personnel Manager.  
**Assumptions:**  
I. Conveyance allowance will not help in bringing punctuality  
II. Discipline and reward should always go hand in hand  
(A) Only assumption I is implicit (B) Only assumption II is implicit  
(C) Either I or II is implicit (D) Neither I nor II is implicit
23. **Statement:** Unemployment allowance should be given to all unemployed Indian youth above 18 years of age.  
**Assumptions:**  
I. There are unemployed youth in India who needs monetary support.  
II. The government has sufficient funds to provide allowance to all unemployed youth.  
(A) Only assumption I is implicit (B) Only assumption II is implicit  
(C) Either I or II is implicit (D) Neither I nor II is implicit
24. **Statement:** "If you trouble me, I will slap you." - A mother warns her child.  
**Assumptions:**  
I. With the warning, the child may stop troubling her.  
II. All children are basically naughty.  
(A) Only assumption I is implicit (B) Only assumption II is implicit  
(C) Either I or II is implicit (D) Neither I nor II is implicit
25. **Statement:** The State government has decided to appoint four thousand primary school teachers during the next financial year.  
**Assumptions:**  
I. There are enough schools in the state to accommodate four thousand additional primary school teachers.  
II. The eligible candidates may not be interested to apply as the government may not finally appoint such a large number of primary school teachers.  
(A) Only assumption I is implicit (B) Only assumption II is implicit  
(C) Either I or II is implicit (D) Neither I nor II is implicit
26. To do a certain work, C alone takes thrice as long as A and B together. A alone would take twice as long as B and C together. All three together complete the work in 3 days. How long would each take separately?  
(A) 9 days,  $36/5$  days, 12 days (B) 9 days,  $36/5$  days, 13 days  
(C) 6 days,  $36/5$  days, 12 days (D) 11 days,  $36/5$  days, 12 days
27. Three men or five women can construct a wall in 68 days. How long will it take for 5 men and 3 women to complete the same work?  
(A) 30 days (B) 28 days  
(C) 22 days (D) 11 days

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28. Two men undertake a work for Rs 480, they can do the work individually in 24 days and 40 days. If they complete the work in 10 days with the help of a boy, how much money will boy get?  
 (A) Rs. 320 (B) Rs. 180  
 (C) Rs. 160 (D) Rs. 200
29. Two pipes can fill an empty tank in 40 minutes and 60 minutes respectively. There is an outlet pipe C. If all the 3 pipes are opened simultaneously, the empty tank can be filled in 48 minutes. How much time will it take for C alone to empty the full tank?  
 (A) 72 minutes (B) 52 minutes  
 (C) 48 minutes (D) 60 minutes
30. Three taps A, B and C together can fill an empty tank in 4 hours. After 1 hours, C is closed and the tank is filled in 6 more hours. Find the time in which C alone can fill the empty tank.  
 (A) 7 hrs (B) 6 hrs  
 (C) 10 hrs (D) 8 hrs

**Directions (Questions 31 – 35):** Which of the answer word is the exact the water image of the given word. (Choose the best possible option)

31. 49368  
 (A) 4 9 3 6 8 (B) 4 9 3 6 8 (C) 7 9 3 6 8 (D) None of these
32. CODE  
 (A) CODE (B) CODE (C) CODE (D) CODE
33. WATER  
 (A) WATEB (B) MATEB (C) WATEB (D) MATER
34. A1M3b  
 (1) A1M3P (2) A1M3P  
 (3) A1M3P (4) A1M3P  
 (A)1 (B)2 (C)3 (D)4
35. 8030  
 (A) 0308 (B) 0308 (C) 8030 (D) 8030

**Directions (Questions 36 – 40):** For the following groups of letters given in Column I, the codes are given in Column II. Answer the following questions by finding the codes for the groups from the given columns.

	Column-I	Column-II
1	lit kit bit dit	b r p d
2	fit git mit kit	t d s v
3	rit bit git sit	x p v w
4	nit dit fit rit	r s x j

36. What is the code for lit?  
 (A) v (B) r  
 (C) p (D) b
37. What is the code for sit?  
 (A) w (B) x  
 (C) p (D) v
38. What is the code for rit?  
 (A) j (B) s  
 (C) r (D) x
39. What is the code for nit?  
 (A) x (B) s  
 (C) j (D) r
40. What is the code for kit?  
 (A) r (B) p  
 (C) x (D) d
41. If a meaningful word can be formed by re-arranging the letters USCALA; the last letter of the word so formed is the answer. Which one is that?  
 (A) C (B) S (C) A (D) L
42. Select the combination of numbers so that letters arranged accordingly will form a meaningful word  
 R A C E T  
 1 2 3 4 5  
 (A) 1, 2, 3, 4, 5 (B) 1, 2, 5, 3, 4 (C) 5, 2, 3, 4, 1 (D) 1, 4, 2, 3, 5
43. If the English alphabet series is written in the reverse order, which letter will be fifth to the left of the fourteenth letter from the left?  
 (A) R (B) I (C) S (D) V
44. Which letter is exactly midway between H and S in the English alphabet?  
 (A) no such letter (B) N (C) M (D) O
45. In a certain code language, **go and come** is written as **na ta ka** and **black and white** is written as **pa ma ta**. How is **go** written in that code language ?  
 (A) na (B) ka (C) pa (D) na or ka
46. The LCM and HCF of two numbers are 144 and 2 respectively. If one of them is 16, what is the other?  
 (A) 18 (B) 24  
 (C) 32 (D) 36

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47. A number when divided by 36 leaves a remainder 9. What could be the remainder when it is divided by 4?  
(A) 0 (B) 1  
(C) 2 (D) 3
48. What is the units digit of  $(13768)^{2433}$ ?  
(A) 4 (B) 8  
(C) 2 (D) 6
49. What is the value of  
$$\frac{(9.77)^3 - (3.68)^3}{(9.77)^2 + (3.68)^2 + (9.77)(3.68)}$$
  
(A) 6.09 (B) 13.45  
(C) 10.34 (D) None of these
50. What is the largest four – digit number that when divided by 17 leaves a remainder of 7?  
(A) 9996 (B) 9986  
(C) 9989 (D) 9991
51. If the speeds of Sourav and Sachin were 8 km/hr and 5 km/hr respectively. Then after what time will the two meet for the first time at the starting point if they start simultaneously? The length of the circular track is 500 m.  
(A) 1700 sec (B) 1800 sec  
(C) 1900 sec (D) 2000 sec
52. A person travels 600 km by train at 80 km / hr, 800 km by ship at 40 km/hr, 500 km by aeroplane at 400 km / hr and 100 km by car at 50 km/hr the average speed for the entire distance?  
(A)  $65\frac{5}{123}$  km / hr (B) 60 km/hr  
(C)  $60\frac{5}{123}$  km / hr (D) 62 km/hr
53. Two trains start at the same time from Hyderabad and Delhi and proceed towards each other at 80 km/hr and 95 km/hr respectively. When the trains meet, it is found that one has travelled 180 km more than the other. Find the distance between Delhi and Hyderabad.  
(A) 210 km (B) 2100 km  
(C) 2010 km (D) 2000 km
54. Two taps A and B can fill a tank in 12 min and 15 min respectively. If both are opened and A is closed after 3 min, then how long will it take for B to fill the rest of the tank?  
(A) 7 min 45 sec (B) 7 min 15 sec  
(C) 8 min 5 sec (D) 8 min 15 sec
55. If E = 5 and HEN = 27, then PET = ?  
(A) 31 (B) 41  
(C) 52 (D) 28
56. In a certain code language, if the value of  $13 \times 14 = 23$  and  $28 \times 57 = 81$ , then what is the value of  $65 \times 49$ ?  
(A) 100 (B) 90  
(C) 110 (D) 120



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57. In a class of 35 students, Dhruv is placed seventh from the bottom whereas Sonali is placed ninth from the top. Pulkit is placed exactly in between the two. What is Dhruv's position from Pulkit?  
 (A) 9<sup>th</sup> (B) 10<sup>th</sup>  
 (C) 11<sup>th</sup> (D) 13<sup>th</sup>

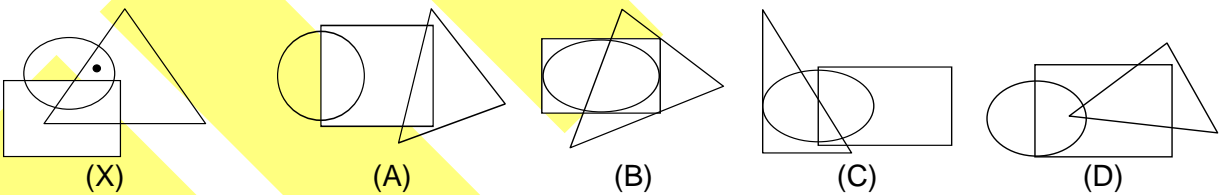
**Directions (Questions 58 – 60):**

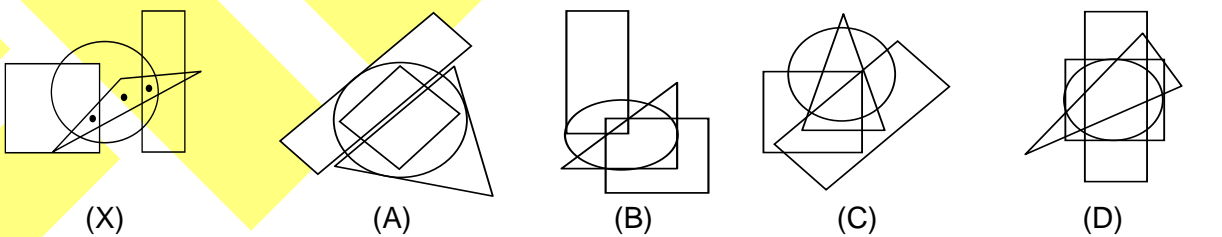
Each question is followed by two statements, I and II. Give Answers:

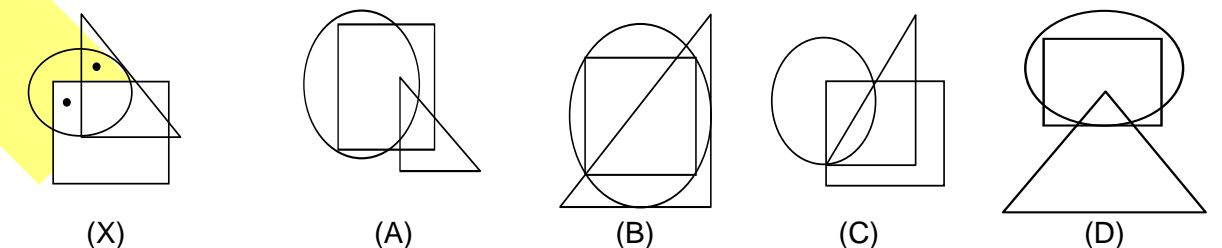
- (A) if the question can be answered by using one of the statements alone, but cannot be answered using the other statement alone.  
 (B) if the question can be answered by using either statement alone.  
 (C) if the question can be answered by using both statements together, but cannot be answered using either statement alone.  
 (D) if the question cannot be answered even by using both statements together.

58. Is  $\triangle ABC$  a right angle triangle?  
 I. Angle B is equal to the sum of the angles A and C.  
 II.  $AC = 2AB$
59. What is the value of x?  
 I. x and y are integers with  $x > y$  and one of them is even.  
 II. The product of x and y is 20.
60. If P is the daughter of R, then is S the daughter of R?  
 I. N is the only brother of P.  
 II. S and P are siblings.

**Directions (Questions 61 – 65):** In the following question a dot is placed in the figure marked as (X), this figure is followed by four alternatives marked as (A), (B), (C) and (D). One out of these four options contains the common region to circle, squares triangle similar to that of marked by dot in figure (X). Select that option.

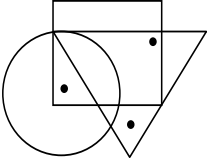
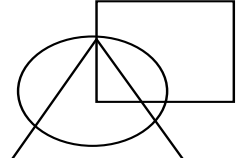
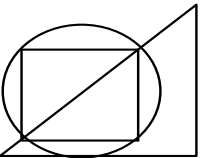
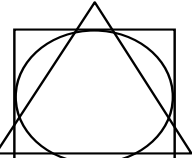
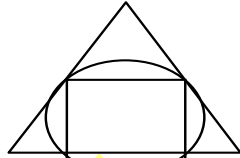
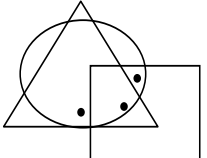
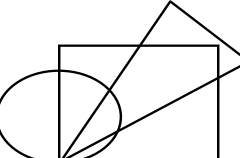
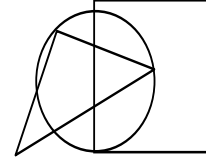
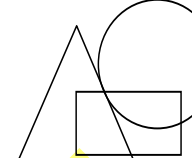
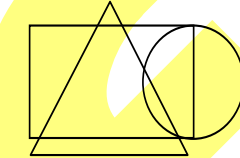
61. 

62. 


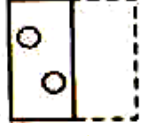

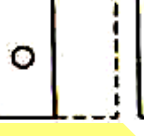
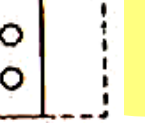
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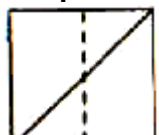
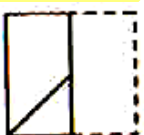

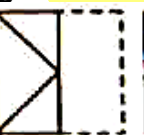



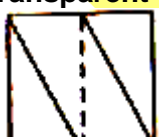

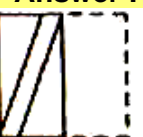
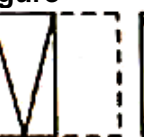

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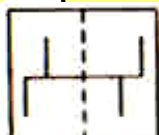
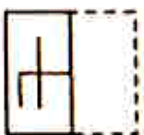
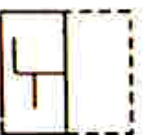
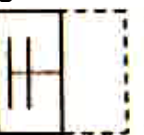
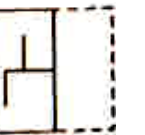
64.  (X)  (A)  (B)  (C)  (D)
65.  (X)  (A)  (B)  (C)  (D)


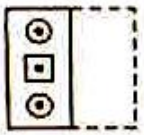
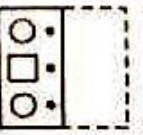
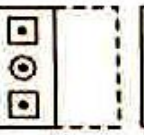
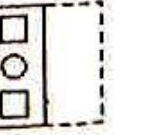
**Directions (Questions 66 – 70):** In the following question a figure marked on transparent sheet is given and is followed by four answer figures, one out of these four options resembles the figure, which is obtained by folding transparent sheet along the dotted line. This option is your answer.

66. **Transparent Sheet**  **Answer Figure**  (A)  (B)  (C)  (D)

67. **Transparent Sheet**  **Answer Figure**  (A)  (B)  (C)  (D)

68. **Transparent Sheet**  **Answer Figure**  (A)  (B)  (C)  (D)

69. **Transparent Sheet**  **Answer Figure**  (A)  (B)  (C)  (D)

70. **Transparent Sheet**  **Answer Figure**  (A)  (B)  (C)  (D)

**Directions (Questions 71 – 74):** A word arrangement machine when given an input line of words, rearranges them following a particular rule in each step. The following is the illustration of the input and the steps of arrangement.

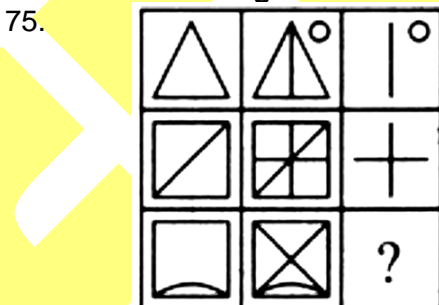
- Input Vani is the most beautiful girl on earth.  
 Step I beautiful Vani is the most girl on earth  
 Step II beautiful earth Vani is the most girl on  
 Step III beautiful earth girl Vani is the most on  
 Step IV beautiful earth girl is Vani the most on  
 Step V beautiful earth girl is most Vani the on  
 Step VI beautiful earth girl is most on Vani the  
 Step VII beautiful earth girl is most on the Vani

Since the words are already arranged, the machine stops after this step. Otherwise the machine may carry on its logic until the words get fully arranged. Study the logic and answer the questions that follow.

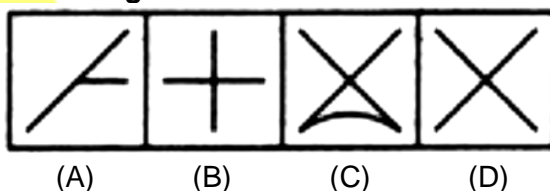
71. Input: 'is you are again famous on this'. Find the step III.  
 (A) again are famous is you on this (B) on this you is famous are again  
 (C) this on you in famous are again (D) famous this on you is are again
72. If given, Step IV 'option pen rose Seema tape yolk', what will be the input?  
 (A) pen option rose tape Seema yolk (B) yolk Seema tape rose option pen  
 (C) tape Seema yolk rose option pen (D) Cannot be determined
73. Input: 'no gum to sum fame game'. Find the step I.  
 (A) game no gum to sum fame (B) gum no to sum fame game  
 (C) game gum no to sum fame (D) none of these
74. Input: 'he is a great Indian cricketer'. Find out the last step for this input.  
 (A) VII (B) VI  
 (C) IV (D) Cannot be determined

**Directions (Questions 75 – 80):** In the following question, find out the answer figure which completes the problem figure matrix.

**Problem Figure**

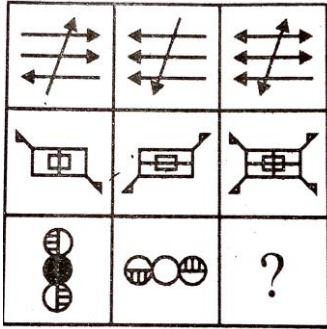


**Answer Figure**

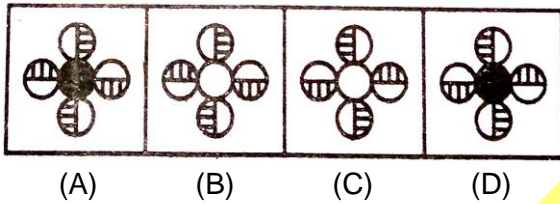


**Problem Figure**

76.

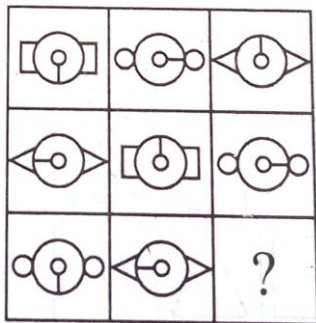


**Answer Figure**

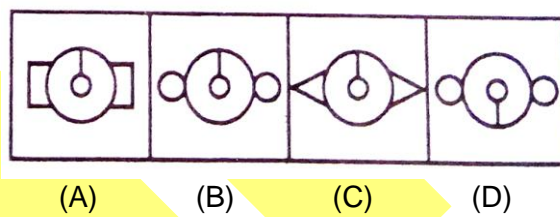


**Problem Figure**

77.

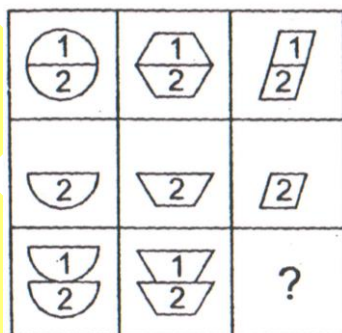


**Answer Figure**

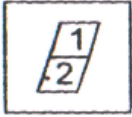


**Problem Figure**

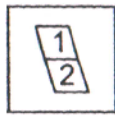
78.



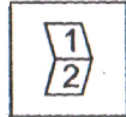
**Answer Figure**



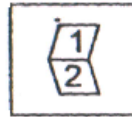
(A)



(B)



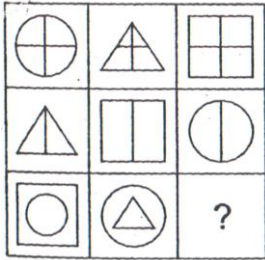
(C)



(D)

**Problem Figure**

79.



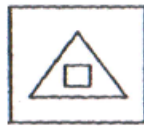
**Answer Figure**



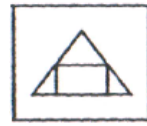
(A)



(B)



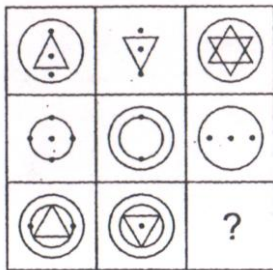
(C)



(D)

**Problem Figure**

80.



**Answer Figure**



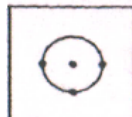
(A)



(B)



(C)



(D)

81.

Ten new TV shows started in January, 5 sitcoms, 3 drama and 2 news magazines. By April only seven of the new shows were still on, five of them being sitcoms, Based on the above information, four conclusions, as given below, have been made. Which one of these logically follows from the information given above?

- (A) Only one news magazine show is still on
- (B) Only one of the drama shows is still on
- (C) At least one discontinued show was a drama
- (D) Viewers prefer sitcoms over drama

82.

A research study recorded that the number of unemployed educated youth was equal to the number of unemployed uneducated youth. It was concluded by the researchers that being educated does not enhance the probability of being employed.

Which of the following information would be required to validate the above conclusion?

- (A) The number of unemployed educated and uneducated people in other age groups
- (B) The number of organizations employing youth
- (C) The percentage of unemployment in educated youth versus the percentage of unemployment in uneducated youth

(D) The percentage increase in number of educated youth versus last year

**Directions (Questions 83 – 84):** In the question below, is given a statement followed by three assumptions numbered I, II and III. An assumption is something supposed or taken for granted, you have to consider the statement and the assumptions and decide which of the assumption (s) is / are implicit in the statement.

83. Statements: 'To make a company commercially viable there is an urgent need to prune the staff strength and borrow money from the financial institutions.' opinion of a consultant.  
Assumptions:  
I. The financial institutions lend money for such proposals.  
II. The product of the company has a potential market.  
III. The employees of the company are inefficient.  
(A) II and III are implicit (B) All are implicit  
(C) None is implicit (D) I and II are implicit
84. Statement: The telephone company informed the subscribers through a notification that those who do not pay their bills by the due date will be charged penalty for every defaulting day.  
Assumptions:  
I. Majority of the people may pay their bills by the due date to avoid penalty.  
II. The money collected as penalty may settle off the losses due to the delayed payments.  
III. People generally pay heed to such notices.  
(A) None is implicit (B) I and III are implicit  
(C) Only II is implicit (D) II and III are implicit
85. I am standing at the centre of a circular field. I go down South to the edge of the field and then turning the left I walk along the boundary of the field equal to three eights of its length. Then, I turn left and go right across to the opposite point on the boundary. In which direction am I from the starting point?  
(A) North west (B) North  
(C) South west (D) West
86. Immediately after leaving his house, Hareesh turned right and walked for 40 m. Then, he turned left and walked for 20 m. Then, he again took a left turn and walked for 30 m. There he met a friend and turned right to go to the coffee shop 20 m away. After having coffee, he walked back straight for 40 m in the direction he had come from. How far is he from his house?  
(A) 20 m (B) 0 m  
(C) 10 m (D) 40 m
87. In a particular code, 'IUIJT' means 'GREEN'. What does XLSQKA mean in the same code?  
(A) VIOLET (B) ORANGE  
(C) INDIGO (D) PURPLE
88. In a certain language 'how many goals scored' is written as 5397, 'many more matches' is written as 982 and 'he scored five' is written as '163'. How is 'goals' written in that code language?  
(A) 5 (B) 7  
(C) 5 or 7 (D) 3
89. If it is possible to make a meaningful word with the 1<sup>st</sup>, 4<sup>th</sup>, 7<sup>th</sup> and 11<sup>th</sup> letters of the word 'INTERPRETATION', which of the following will be the third letter of that word? If more than one such word can be made, give 'M' as the answer and if no such word can be formed, give 'X' as the answer.  
(A) T (B) X  
(C) R (D) M

MVPP-Part Test-2-MAT

90. Answer these questions referring to the symbol letter number sequence given below.

2 P J @ 8 \$ L B 1 V # Q 6 δ G W 9 K C D 3 © \* √ 5 F R 7 A γ 4

How many symbols and numbers are there in the sequence which are either immediately preceded or immediately followed by the letter which is from the first half of the English alphabet?

- (A) 6 (B) 7  
(C) 8 (D) 9
91. In a certain code, 'BELIEF' is written as 'AFKKDH'. How would 'SELDOM' be written in that code?  
(A) RDKCHL (B) RFKENM  
(C) RFKFNO (D) TFKENP
92. If in a certain code language 'MARS' is written as 'ZNEF' then how will 'ARMS' be written in that language?  
(A) NEZF (B) FENZ  
(C) NFZE (D) MEZF
93. If in a certain code language 'SPARK' is written as 'TQBSL', then how will 'FLAME' be written in that language?  
(A) GMBNF (B) GNBNF  
(C) GMCND (D) GMBMF
94. What number should be subtracted from each of the numbers 54, 71, 75 and 99. so that the remainders may be proportional.  
(A) 2 (B) 3  
(C) 5 (D) 7
95. A profit of Rs 84 is divided between A and B in the ratio of  $\frac{1}{3} : \frac{1}{4}$ . What will be the difference of their profits?  
(A) Rs 12 (B) Rs 13  
(C) Rs 15 (D) Rs 17
96. There are three sections A, B and C in a school of class XII. The ratio of the students in sections A and B is 3:5 and that in B and C is 4:7. If the total number of students in the class XII be 134. How many students are there in the section A?  
(A) 23 (B) 26  
(C) 25 (D) 24
97. B can do a piece of work in 6 hours, B and C do it in 4 hours and A, B and C in  $2\frac{2}{3}$  hours. In how many hours can A and B do that work?  
(A) 11 hours (B)  $6\frac{1}{7}$  hours  
(C)  $2\frac{3}{7}$  hours (D)  $3\frac{3}{7}$  hours
98. A train travelling at 36 kmph completely passes another train half its length travelling in the opposite direction at 54 kmph in 12 seconds. If it also passes a railway platform in  $1\frac{1}{2}$  minutes. What is the length of the platform (in metres)?  
(A) 700 metres (B) 800 metres  
(C) 900 metres (D) 1000 metres



**MVPP-Part Test-2-MAT**

99. I walk to a town at  $5\frac{1}{2}$  km per hour and ride back on a cycle at  $27\frac{1}{2}$  km/hr. What is my average speed in km/hr for the whole journey?
- (A)  $9\frac{1}{6}$  km (B)  $16\frac{1}{2}$  km  
(C)  $10\frac{1}{2}$  km (D) none of these
100. A boat travels upstream from B to A and down stream form A to B in 3 hours. If the speed of the boat in still water is 9 km/hr and the speed of the current is 3 km/hr, the distance between A and B is?
- (A) 10 km (B) 11 km  
(C) 12 km (D) 13 km



ANSWER KEYS

- |       |       |       |        |
|-------|-------|-------|--------|
| 1. A  | 2. C  | 3. A  | 4. A   |
| 5. C  | 6. D  | 7. A  | 8. A   |
| 9. B  | 10. B | 11. B | 12. C  |
| 13. D | 14. B | 15. A | 16. C  |
| 17. A | 18. C | 19. B | 20. B  |
| 21. A | 22. B | 23. A | 24. A  |
| 25. A | 26. A | 27. A | 28. C  |
| 29. C | 30. D | 31. A | 32. D  |
| 33. B | 34. C | 35. C | 36. D  |
| 37. A | 38. D | 39. C | 40. D  |
| 41. D | 42. D | 43. A | 44. A  |
| 45. D | 46. A | 47. B | 48. B  |
| 49. A | 50. B | 51. B | 52. A  |
| 53. B | 54. D | 55. B | 56. C  |
| 57. B | 58. A | 59. D | 60. C  |
| 61. C | 62. C | 63. B | 64. C  |
| 65. B | 66. B | 67. C | 68. D  |
| 69. C | 70. C | 71. A | 72. D  |
| 73. D | 74. C | 75. D | 76. D  |
| 77. A | 78. C | 79. C | 80. B  |
| 81. C | 82. C | 83. D | 84. B  |
| 85. C | 86. C | 87. A | 88. C  |
| 89. D | 90. D | 91. C | 92. A  |
| 93. A | 94. B | 95. A | 96. D  |
| 97. D | 98. A | 99. A | 100. C |

HINTS AND SOLUTIONS

1. A

Sol. Clearly, A's new position is 15th from the left. But this is the same as B's earlier position which is 9th from the right.

Therefore total students =  $15 + 9 - 1 = 23$

2. C

Sol. Number of students behind Nitin in rank =  $(49 - 18) = 31$ . Nitin is 32nd from the last.

3. A

Sol. Number of boys in the row =  $(6 + 10 + 8) = 24$

4. A

Sol. 742

746

741

746

Only at these places 4 is preceded by 7 but not followed by 3

5. C

Sol. ∴ Three persons A, B, C can be arranged in a queue in six different ways, ie ABC, CBA, BAC, CAB, BCA, ACB. But since there are only 3 persons ahead of C, so C should be in front of the queue. Thus, there are only two possible arrangements, ie CBA and CAB.

We may consider the two cases as under:

Case I:  $\leftarrow^3 C \leftarrow^8 B \leftarrow^5 A \rightarrow^{21}$

Clearly, number of persons in the queue =  $(3 + 1 + 8 + 1 + 5 + 1 + 21) = 40$

Case II:  $\leftarrow^3 C \rightarrow^2 A \leftarrow^5 B$

Number of persons between A and C

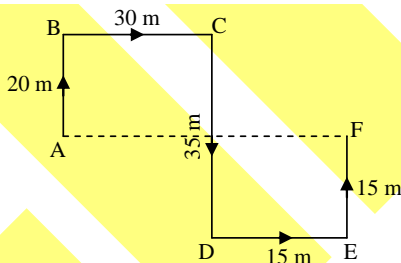
=  $(8 - 6) = 2$

Clearly number of persons in the queue =  $(3 + 1 + 2 + 1 + 21) = 28$

Now,  $28 < 40$ . So, 28 is the minimum number of persons in the queue.

6. D

Sol.



Required distance = AF

=  $30 + 15$

= 45 m.

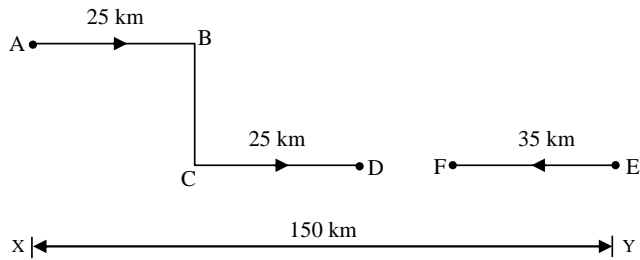
From the above diagram, F is in East direction from A.

Hence the required answer is '45 m East'.

7. A

**MVPP-Part Test-2-MAT**

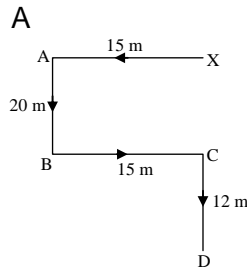
Sol.



$$\begin{aligned} \text{Required distance} &= DF \\ &= 150 - (25 + 25 + 35) \\ &= 150 - 85 \\ &= 65 \text{ km} \end{aligned}$$

8.

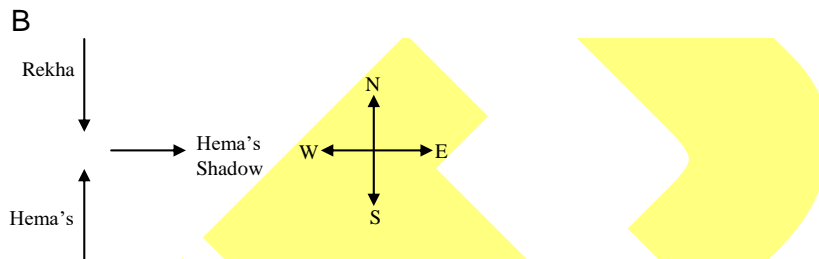
Sol.



$$\begin{aligned} \text{Required distance} &= 20 + 12 \\ &= 32 \text{ m in South direction} \end{aligned}$$

9.

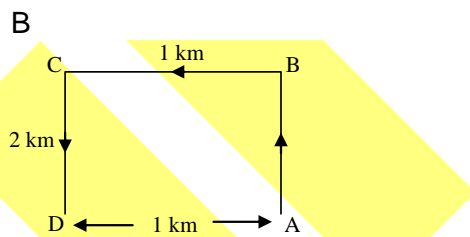
Sol.



In the evening sun sets in West. Hence then any shadow fall in the East. Since Hema's shadow was to the right of Hema. Hence Rekha was facing towards South.

10.

Sol.



The boy rode 2 km Northward.

11.

Sol.

**B**  
 In order to write first 300 numbers, he has to write: 9 one digit numbers, 90 two digit numbers and the remaining 201 numbers of three digits.  
 To write one digit number, he has to press the key once only.  
 To write two digit number; he has to press the key twice and to write three digit number, he has to press the key thrice.  
 $\therefore$  Number of times he has to press the keys to write numbers from 1 to 300 =  
 $= 9 \times 1 + 90 \times 2 + 201 \times 3$   
 $= 9 + 180 + 603$   
 $= 792$

12.

Sol.

**C**  
 Let the quotient be Q and the remainder is R

**MVPP-Part Test-2-MAT**

$$\Rightarrow \text{Divisor} = 12 \text{ Q} = 5R$$

$$\therefore Q = \frac{5 \times 48}{12} = 20$$

$$\text{Divisor} = 12 \times 20 = 240$$

$$\therefore \text{Dividend} = 20 \times 240 + 48 = 4848$$

13. D

Sol.  $x + y = 27$  and  $x^2 - y^2 = 351$

$$\therefore x - y = 351 \div 27 = 13$$

Now,  $x + y = 27$  and  $x - y = 13$

$$\Rightarrow 2x = 40 \text{ or } x = 20 \text{ so, } y \text{ is } 7$$

Greater number is 20

14. B

Sol. Divide 305 by 4, the remainder is 1.

$$\Rightarrow (347)^{305} \text{ or } (347)^1 \text{ contains } 7 \text{ in the unit place.}$$

15. A

Sol. Let the present ages of Sameer and Anand be  $5x$  years and  $4x$  years respectively.

$$\text{Then, } \frac{5x+3}{4x+3} = \frac{11}{9}$$

$$\Rightarrow 9(5x+3) = 11(4x+3)$$

$$\Rightarrow 45x + 27 = 44x + 33$$

$$\Rightarrow 45x - 44x = 33 - 27$$

$$\Rightarrow x = 6$$

$$\therefore \text{Anand's present age} = 4x = 24 \text{ years}$$

16. C

Sol. Let the third number be  $x$ .

$$\text{Then first number} = 120\% \text{ of } x = \frac{120x}{100} = \frac{6x}{5}$$

$$\text{Second number} = 150\% \text{ of } x = \frac{150x}{100} = \frac{3x}{2}$$

$$\therefore \text{Ratio of first two number} = \left( \frac{6x}{5} : \frac{3x}{2} \right) = 12x : 15x = 4:5$$

17. A

Sol. Originally, let the number of seats for Mathematics, Physics and Biology be  $5x$ ,  $7x$  and  $8x$  respectively.

$$\Rightarrow \left( \frac{140}{100} \times 5x \right), \left( \frac{150}{100} \times 7x \right) \text{ and } \left( \frac{175}{100} \times 8x \right)$$

$$\Rightarrow 7x, \frac{21x}{2} \text{ and } 14x$$

$$\therefore \text{The required ratio} = 7x : \frac{21x}{2} : 14x$$

$$\Rightarrow 14x : 21x : 28x$$

$$\Rightarrow 2:3:4$$

18. C

Sol. Originally, let the number of boys and girls in the college be  $7x$  and  $8x$  respectively.

Their increased number is (120% of 7x) and (110% of 8x).

$$\Rightarrow \left(\frac{120}{100} \times 7x\right) \text{ and } \left(\frac{110}{100} \times 8x\right)$$

$$\Rightarrow \frac{42x}{5} \text{ and } \frac{44x}{5}$$

$$\therefore \text{ The required ratio} = \left(\frac{42x}{5} : \frac{44x}{5}\right) = 21 : 22.$$

19. B

Sol.  $(x \times 5) = (0.75 \times 8) \Rightarrow x = \left(\frac{6}{5}\right) = 1.20$

20. B

Sol. Let the three parts be A, B, C. Then,

$$A : B = 2 : 3 \text{ and } B : C = 5 : 8 = \left(5 \times \frac{3}{5}\right) : \left(8 \times \frac{3}{5}\right) = 3 : \frac{24}{5}$$

$$\Rightarrow A : B : C = 2 : 3 : \frac{24}{5} = 10 : 15 : 24$$

$$\Rightarrow B = \left(98 \times \frac{15}{49}\right) = 30.$$

21. A

Sol. Since the statement talks of putting the child in school at the age of 5, it means that the child is mentally prepared for the same at this age. So, I is implicit. But nothing about admission after 6 years of age is mentioned in the statement. So, II is not implicit

22. B

Sol. Assumption I goes against the statement. So, it is not implicit. The allowance will serve as a reward to the employees and shall provoke them to come on time. So, II is implicit.

23. A

Sol. I directly follow from the statement and so is implicit. Also, the statement is a suggestion and does not tell about a government policy or its position of funds. So, II is not implicit.

24. A

Sol. The mother warns her child with the expectation that he would stop troubling her. So, I is implicit. The general nature of children cannot be derived from the statement. So, II is not implicit.

25. A

Sol. Such decisions as given in the statement are taken only after taking the existing vacancies into consideration. So, I is implicit while II isn't.

26. A

Sol. As C take thrice a long as A and B together, (A + B)'s one day work = 3 times of C's one day work.

Adding 1 time C's one – day work to both sides,

$$4 \text{ times C's one day work} = (A + B + C)\text{'s one day work i.e., } 1/3$$

$$\text{Hence C's one day work} = 1/12$$

As A takes twice as long B and C work together (B + C)'s one day work = 2 times of A's one day work.

**MVPP-Part Test-2-MAT**

Adding 1 time A's one day work to both sides, 3 times A's one day work

$$= (A + B + C)\text{'s 1 day work i.e., } 1/3. \text{ So A's 1 day work} = \frac{1}{9}$$

$$\text{B's 1 day work} = \frac{1}{3} - \left( \frac{1}{12} + \frac{1}{9} \right) = \frac{12 - 3 - 4}{36} = \frac{5}{36}$$

Hence, A alone takes 9 days to complete the work, B alone takes  $36/5$  i.e.,  $7\frac{1}{5}$  th days to complete the work and C alone takes 12 days to complete the work.

27. A

Sol. Given  $3m = 5w$  where  $m$  is the work done by one man in one day and  $w$  is the work done by one woman in one day.

$$\Rightarrow 1m = 5w/3$$

$$\text{Now } 5m + 3w = 5(5w/3) + 3w$$

$$= \frac{25w}{3} + \frac{9w}{3} = \frac{34w}{3}$$

If 5 women can do the work in 68 days,  $(34/3)$  women can finish it in  $5 \times 68 \times (3/34) = 30$  days.

28. C

Sol. The 1<sup>st</sup> man can do  $1/24^{\text{th}}$  part of the work in 1 day and since he works for 10 days, he does  $10 \times 1/24 = 5/12^{\text{th}}$  part of the work. So he should get  $5/12 \times 480 = 200$

The 2<sup>nd</sup> man can do  $1/40^{\text{th}}$  part of the work in 1 day and since he works for 10 days, he does  $10 \times (1/40) = 1/4^{\text{th}}$  work. So he should get  $1/4 \times 480 = \text{Rs } 120$ .

Since the two men earned  $\text{Rs } 200 + \text{Rs } 120 = 320$  the balance of  $\text{Rs } 480 - \text{Rs } 320 = \text{Rs } 160$  will be paid to the boy.

29. C

Sol. Part of the tank emptied by C in one minute

$$= \frac{1}{40} + \frac{1}{60} - \frac{1}{48} = \frac{1}{48}$$

$\therefore$  C can empty the full tank in 48 minutes.

30. D

Sol. Work done by A, B and C in 1 hour =  $1/4^{\text{th}}$

$$\text{Remaining part of the tank} = 1 - (1/4) = 3/4$$

Time taken by (A and B) to fill this  $3/4^{\text{th}}$  part of the tank = 6 hours.

(A + B) in one hour will fill  $3/24^{\text{th}}$  of the tank.

$$\text{So, 'C' in one hour} = \frac{1}{4} - \frac{3}{24} = \frac{1}{8}$$

$\therefore$  C takes 8 hours.

31. A

Sol. Water image of the given figure is (A).

32. D

Sol. Water image of the given figure is (D).

33. B

Sol. Water image of the given figure is (B).

34. C

Sol. Water image of the given figure is (C).

**MVPP-Part Test-2-MAT**

35. C  
Sol. Water image of the given figure is (C).

36. D  
Sol. For the 1<sup>st</sup> and the 2<sup>nd</sup> statements, kit and the code d is common. Hence, the code for kit is d.  
For the 2<sup>nd</sup> and the 3<sup>rd</sup> statements, git and the code v are common. Hence, the code for git is v.

For the 3<sup>rd</sup> and the 4<sup>th</sup> statements, rit and the code x are common. Hence, the code for rit is x.  
Similarly, the letters and their corresponding codes can be determined.

<b>Word</b>	kit	git	rit	bit	sit	fit	mit	dit	lit	nit
<b>Code</b>	d	v	x	p	w	s	t	r	b	j

The code for lit is b.

37. A  
Sol. w is the code for sit.

38. D  
Sol. The code for rit is x.

39. C  
Sol. j is code for nit.

40. D  
Sol. The code for kit is d.

41. D  
Sol. Given word is CASUAL.

42. D  
Sol. From the options we observe option (D) forms the word REACT.

43. A  
Sol. 14 from left = M  
Now, 5<sup>th</sup> to left of M = R

44. A  
Sol. There is no such letter.

45. (D)  
Sol. go and come  $\Rightarrow$  na ta ka ... (i)  
black and white  $\Rightarrow$  pa ma ta ... (ii)  
From (i) and (ii), and  $\Rightarrow$  ta ... (iii)  
From (i) and (iii), go  $\Rightarrow$  na or ka

46. A  
Sol. Let numbers = A, 16.  
We know  $A \times 16 = \text{LCM} \times \text{HCF}$   
So,  $A = (144 \times 2) / 16 = 18$

47. B  
Sol. Let number =  $36k + 9$ .  
Now,  $36k$  is exactly divisible by 4, and 9 when divided by 4 gives remainder 1.  
Hence  $36k + 9$  gives remainder 1 when divided by 4.

48. B  
Sol. Cyclicity of 8 is 4 and the number in units place will follow the cycle 8, 4, 2, 6.  
Here 2433 when divided by 4 gives remainder 1.



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Hence, units place digit = 8

49. A

Sol.  $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

$$\Rightarrow (a - b) = \frac{a^3 - b^3}{a^2 + ab + b^2}$$

So, answer =  $9.77 - 3.68$   
= 6.09

50. B

Sol. Largest four – digit number divisible by 17 = 9996

Largest four – digit number which leaves remainder 7 when divided by 17 =  $9996 - 10$   
= 9986

51. B

Sol. Let us first calculate the time Sourav and Sachin take to make one full circle.

Time taken by Sourav =  $\frac{500}{\left(8 \times \frac{5}{18}\right)} = 225$  s.

Time taken by Sachin =  $\frac{500}{\left(5 \times \frac{5}{18}\right)} = 360$  s.

Hence, after every 225 s, Sourav would be at the starting point and after every 360 s, Sachin would be at the starting point. The time, when they will be together again at the starting point simultaneously for the first time would be LCM (225, 360) = 1800 s. Thus, after every half an hour, they would meet at the starting point.

52. A

Sol. Total time

$$= \frac{600}{80} + \frac{800}{40} + \frac{500}{400} + \frac{100}{50}$$

$$= \frac{246}{8} \text{ hours}$$

Average speed

$$= \frac{600 + 800 + 500 + 100}{\frac{246}{8}}$$

$$= \frac{2000 \times 8}{246} = 65 \frac{5}{123} \text{ km/hr}$$

53. B

Sol. If one travels more than the other, then it is with the higher speed.

Let, they travelled for 't' hours.

Since the faster train travelled 180km extra distance

i.e.,  $180 = (95 - 80)t \Rightarrow t = 12$  hr

Since they are travelling towards each other,

Total distance = Distance travelled by train 1 + Distance travelled by train 2

=  $80 \times 12 + 95 \times 12 = 12(95 + 80) = 2100$  km.

54. D

Sol. In 1 min (A + B) fill  $\frac{1}{12} + \frac{1}{15} = \frac{9}{60}$  part of the tank

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In 3 min, they fill  $\frac{9}{60} \times 3 = \frac{9}{20}$  part of the tank.

$$\therefore \text{Rest of the tank} = 1 - \frac{9}{20} = \frac{11}{20}$$

So, B will fill the rest of the tank in

$$\frac{11}{20} \times \frac{15}{1} = \frac{33}{4} = 8 \text{ min } 15 \text{ sec.}$$

55. B

Sol.

As, E = 5

and  $\begin{matrix} 8 & 5 & 14 \\ H & E & N \\ \downarrow & \downarrow & \downarrow \end{matrix}$  Similarly,  $\begin{matrix} 16 & 5 & 20 \\ P & E & T \\ \downarrow & \downarrow & \downarrow \end{matrix}$

$$8 + 5 + 14 = 27$$

$$16 + 5 + 20 = 41$$

$$\therefore \text{PET} \Rightarrow 41$$

56. C

Sol.

$$(13 + 14) - 4 = 23$$

$$(28 + 57) - 4 = 81$$

$$\text{Similarly, } (65 + 49) - 4 = 110$$

57. B

Sol.

Number of students between Dhruv and Sonali =  $35 - (7 + 9) = 19$

Clearly, there are 9 students between Dhruv and Pulkit, as well as Pulkit and Sonali.

So, Dhruv is 10<sup>th</sup> from Pulkit.

58. A

Sol.

Statement I:

$$\therefore \angle A + \angle B + \angle C = 180^\circ$$

$$\therefore \angle B = \angle A + \angle C = 90^\circ$$

Statement I alone is sufficient.

Statement II.

We cannot say which is the bigger side. As for a right angled triangle  $AC^2 = AB^2 + BC^2$

So, statement II can not provide answer alone.

Hence, answer is (A).

59. D

Sol.

From statement I alone and statement II alone we cannot answer the question as there are many cases possible. Hence, no unique answer.

Also by using both the statements, together we cannot answer the question as three cases satisfy the given condition i.e., (20, 1), (10, 2) and (5, 4).

Thus, the question cannot be answered by using even both the statements together.

60. C

Sol.

From statement I alone we cannot answer the question as no information is given regarding S. From statement II alone we cannot answer the question as the gender of S is not clear.

Using both the statement together we can answer the question as N is the **only** brother of P and S – P are siblings implies that S is the sister of P. Hence, we can conclude the S is the daughter of R.

Thus, using both the statements together we can answer the question.

61. C

Sol.

From observation.

62. C

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Sol. From observation.

63. B

Sol. From observation.

64. C

Sol. From observation.

65. B

Sol. From observation.

66. **B**

Sol. As per observation

67. **C**

Sol. As per observation

68. **D**

Sol. As per observation

69. **C**

Sol. As per observation

70. **C**

Sol. As per observation

71. A

Sol. Input: 'is you are again famous on this'  
Step I: again is you are famous on this  
Step II: again are is you famous on this  
Step III: again are famous is you on this  
Hence, option A is the correct answer.

72. D

Sol. Option D is the correct answer as in the arrangement problem previous steps cannot be determined.

73. D

Sol. Input: 'no gum to sum fame game'  
Step I: fame no gum to sum game  
Hence, option D is the correct answer.

74. C

Sol. Input: 'he is a great Indian cricketer'.  
Step I: a he is great Indian cricketer  
Step II: a cricketer he is great Indian.  
Step III: a cricketer great he is Indian.  
Step IV: a cricketer great he Indian is  
Hence, option C is correct.

75. D

Sol. As per observation.

76. D

Sol. As per observation.

77. A

Sol. As per observation.

78. C

Sol. As per observation.

79. C

Sol. As per observation.

80. B

Sol. As per observation.

81. C

Sol. No reason is provided for discontinuation of any programme. Hence, option (D) is not correct. Three shows were discontinued. As no sitcoms were discontinued, they must be either drama or news magazine. Now, there were only two new magazines. So, atleast one discontinued show was a drama. Hence, option (C) is correct.

82. C

Sol. Option (C) is required to validate the conclusion stated in the given passage.

83. D

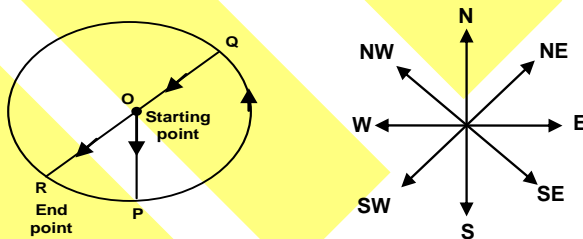
Sol. Consultant in his opinion emphasizes the need for mobilizing the staff and raising the funds. This means that the product of the company has a potential market and also that the financial institutions provide money for such proposals.

84. B

Sol. It cannot be definitely said that for what purpose the money collected as penalty will be used. However, Assumptions I and III are in tune with the statement and hence implicit in the statement.

85. C

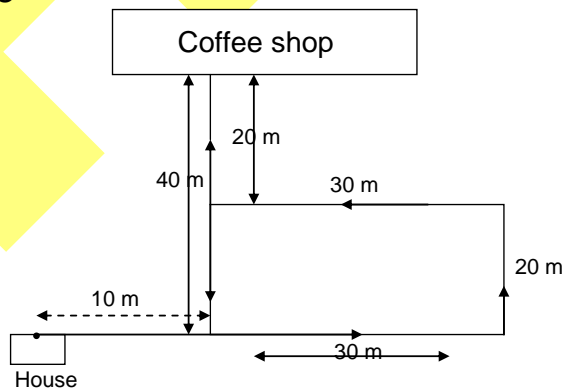
Sol. According to the question, the direction diagram will be as follows



From the above diagram, it is clear that R is in the south west direction from the starting point.

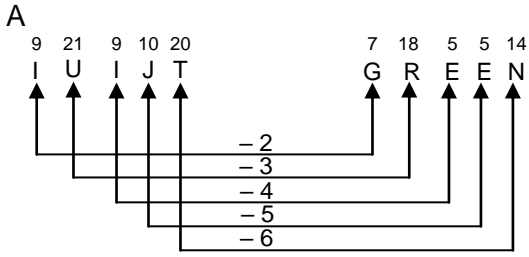
86. C

Sol.

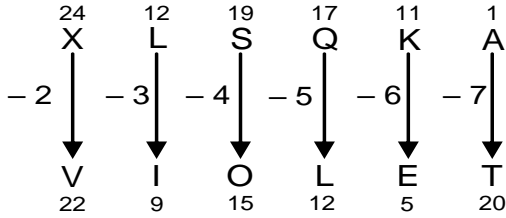


∴ Required distance = 40 – 30 = 10 m

87. Sol.



Similarly,



88. Sol.

C  
 how many goals scored = 5 3 9 7  
many more matches = 9 8 2  
 he scored five = 1 6 3  
 from eq. i and ii  
 many ⇒ 9  
 from eq. i and iii  
 scored ⇒ 3  
 using eq. iv and v in eq. i, we get  
 goals ⇒ 5 or 7

- ...i
- ... ii
- ...iii
- ...iv
- ...v

89. Sol.

D  
 Two meaningful words are RITE and TIRE can be formed

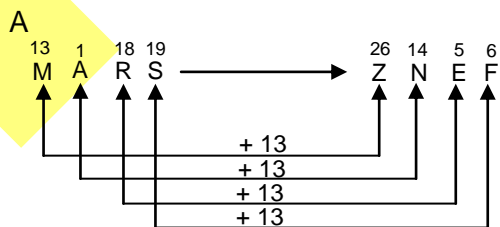
90. Sol.

D  
 Clearly, in the given arrangement, there are nine such symbols and numbers i.e., @ \$ 1 δ 9 3 5 7 and γ.

91. Sol.

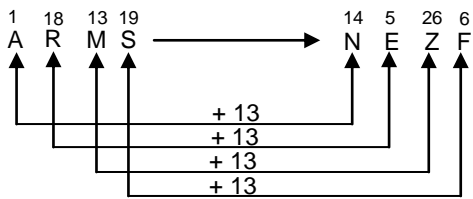
C  
 B  $\xrightarrow{-1}$  A    Similarly    S  $\xrightarrow{-1}$  R  
 E  $\xrightarrow{+1}$  F                      E  $\xrightarrow{+1}$  F  
 L  $\xrightarrow{-1}$  K                      L  $\xrightarrow{-1}$  K  
 I  $\xrightarrow{+2}$  K                      D  $\xrightarrow{+2}$  F  
 E  $\xrightarrow{-1}$  D                      O  $\xrightarrow{-1}$  N  
 F  $\xrightarrow{+2}$  H                      M  $\xrightarrow{+2}$  O  
 ∴ SELDOM ⇒ RFKFNO

92. Sol.



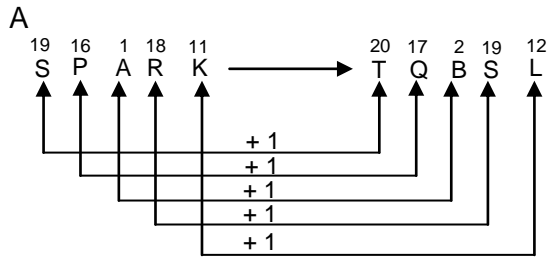
Similarly,

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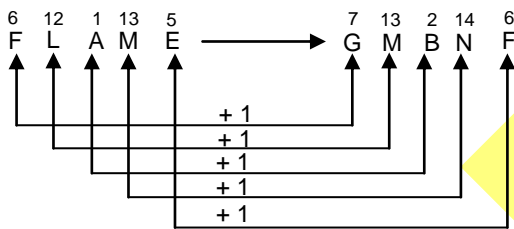


∴ ARMS ⇒ NEZF

93. Sol.



Similarly,



94. Sol.

B  
 If  $x$  be the number, then  $54 - x$ ,  $71 - x$ ,  $75 - x$  and  $99 - x$  are in proportion.  
 $\Rightarrow (54 - x)(99 - x) = (71 - x)(75 - x)$   
 $\Rightarrow 5346 - 153x + x^2 = x^2 - 146x + 5325$   
 $\Rightarrow x = 3$

95. Sol.

A  
 $\frac{1}{3} : \frac{1}{4}$  is the same as  $1 \times 4 : 1 \times 3$  i.e., 4:3.

Share of A =  $\frac{4}{7} \times \text{Rs. } 84 = \text{Rs. } 48$

Share of B =  $\frac{3}{7} \times \text{Rs. } 84 = \text{Rs. } 36$

Difference = Rs. 48 - Rs 36 = Rs 12

96. Sol.

D  
 $A : B = 3 : 5$  and  $B : C = 4 : 7$   
 $A : B : C = 3 \times 4 : 4 \times 5 : 5 \times 7$   
 $= 12 : 20 : 35$   
 Number of students in section A  
 $= \frac{12}{12 + 20 + 35} \times 134 = 24$

97. Sol.

D  
 $(B + C)$ 's 1 hour work =  $\frac{1}{4}$   
 $(A+B+C)$ 's 1 hour work =  $1 \div \left(2\frac{2}{3}\right) = \frac{3}{8}$   
 $\therefore A$ 's 1 hour work =  $\frac{3}{8} - \frac{1}{4} = \frac{1}{8}$

$$(A+B)\text{'s 1 hour work} = \frac{1}{8} + \frac{1}{6} = \frac{7}{24}$$

$\therefore$  (A+B) can do the whole work in  $\frac{24}{7}$  or  $3\frac{3}{7}$  hours.

98. A

Sol. Relative speed of the two trains = 36 + 54 i.e., 90 km/h

$$\text{Distance traveled in 12 seconds} = \left(90 \times \frac{5}{18} \times 12\right) \text{m}$$

i.e., the length of the both the trains = 300 m

$$\text{The length of the first train} = \frac{2}{3} \times 300 = 200 \text{ m}$$

Distance traveled by the second train 90 seconds

$$= \left(36 \times \frac{5}{18} \times 90\right) = 900 \text{ m}$$

$\therefore$  Length of the platform = 900 – 200 = 700 m

99. A

Sol. Using the rule  $\frac{2xy}{x+y}$

$$\text{Average speed} = \left( \frac{2 \times 5\frac{1}{2} \times 27\frac{1}{2}}{5\frac{1}{2} + 27\frac{1}{2}} \right) \text{ km/hr}$$

$$= \left( 2 \times \frac{11}{2} \times \frac{55}{2} \times \frac{1}{33} \right) \text{ km/hr}$$

$$= 9\frac{1}{6} \text{ km/hr}$$

100. C

Sol. Down rate = (9 + 3) km i.e., 12 km/hr

Uprate = (9 – 3) km i.e., 6 km/hr

$$\Rightarrow \frac{x}{6} + \frac{x}{12} = 3 \text{ or } x = 12$$

$\therefore$  Distance AB = 12 km