



**Time : 120 Minutes**

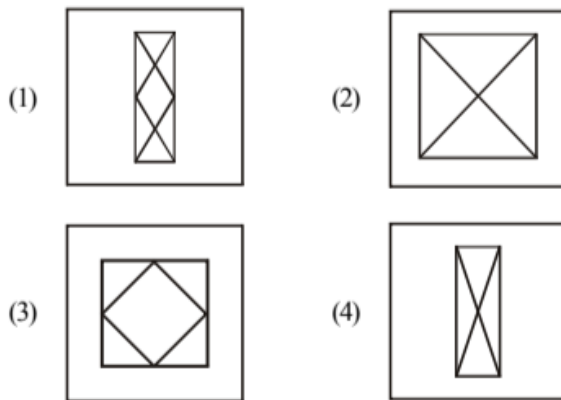
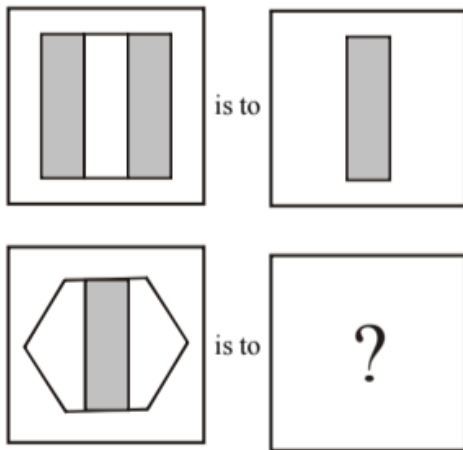
**Max. Marks : 100**

## **Instructions for Candidates**

*Read the following instructions carefully before you open the questions booklet :*

1. Answers are to be given on a separate answer-sheet.
2. Write your eight-digit Roll Number very clearly on the test-booklet and answer-sheet as given in your letter / admission card.
3. Write down the Booklet Number in the appropriate box on the answer sheet.
4. There are 100 questions in this test. All are compulsory.
5. Please follow the instructions for marking the answers given on the answer sheet.
6. For questions 1 –100, put a cross mark (×) on the number of the correct alternative on the answer-sheet against the corresponding question number.
7. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. Time permitting, you can come back to the questions, which you have left in the first instance and try them again.
8. Since the time allotted for this question paper is very limited you should make the best use of it by not spending too much time on any one question.
9. Rough work can be done anywhere in the booklet but not on the answer sheet/loose paper.
10. Every correct answer will be awarded one mark.
11. Please return the Test-booklet and answer-sheet to the invigilator after the test.

1. Which figure completes the statement ?



2. **Fact 1:** Ranveet said, "Mehtar and I both have goats."

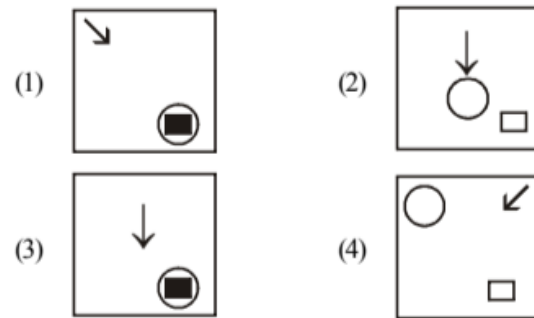
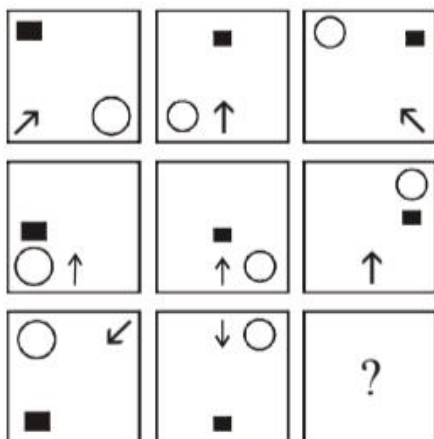
**Fact 2:** Mehtar said, "I don't have a goat."

**Fact 3:** Ranveet always tells the truth, but Mehtar sometimes lies.

If the three statements are facts, which of the following statements must also be facts?

- I. Mehtar has a goat.      II. Ranveet has a goat  
III. Mehtar is lying  
(1) II only      (2) I and II only  
(3) I, II and III      (4) II and III only

3. Look at the patterns in the squares and understand their relationship to one another so as to fill in the square with missing symbols.



4. Danish starts walking straight towards East. After walking 75 m, he turns to the left and walks 25 m straight. Again he turns to the left, walks a distance of 40 m straight again he turns to the left and walks a distance of 25 m.

How far is he from starting point

- (1) 30m      (2) 35m      (3) 40m      (4) 50m

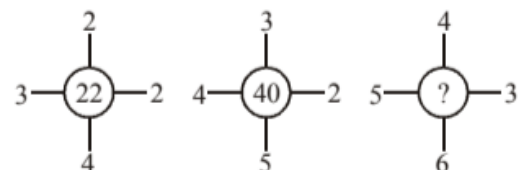
5. In the question given below, there are four statements which are to be taken as truth even if they do not seem to be so. There are conclusions numbered, I, II, III and IV. Decide which of these logically follow from the given statements.

All students who like English also like Mathematics. Some students like Hindi. All students who like Hindi do not like Mathematics students who like Mathematics also like English.

- I. Students who like Hindi also like English  
II. Students who like Mathematics also like Hindi  
III. Students who like Mathematics do not like Hindi  
IV. Students who like English do not like Hindi

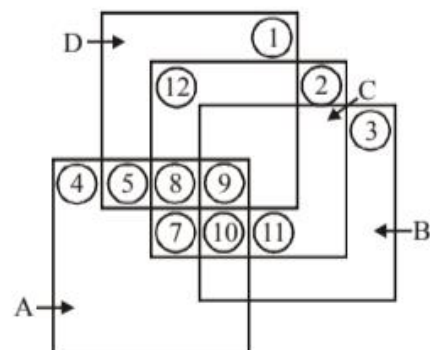
- (1) I and II      (2) I and III  
(3) I and IV      (4) III and IV

6. The number in the place of '?' should be



- (1) 5      (2) 7      (3) 10      (4) 12

**DIRECTIONS (Qs. 7-9):** Answer these questions by using the following diagram.



Each square stands for different class.

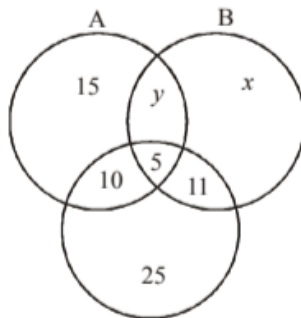
- A. Represents Indians  
B. represents Students  
C. Represents Talented individuals  
D. represents players

7. How many Indian non-player students who are talented?

- (1) 5      (2) 7      (3) 10      (4) 12

8. How many talented Indians are players?  
 (1) 13 (2) 17 (3) 19 (4) 22
9. How many talented Indians are there, who are students?  
 (1) 13 (2) 15 (3) 17 (4) 19

**DIRECTIONS (Qs. 10-11):** Study the following diagram

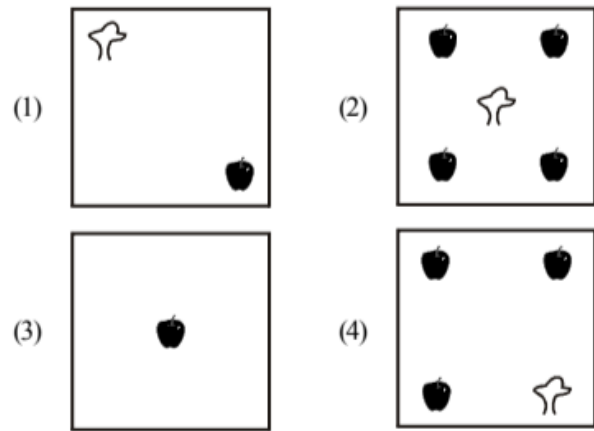


- A: Representing people who read newspaper A  
 B: Representing people who read newspaper B  
 C: Representing people who read newspaper C

Based on the above information answer the question 10-11

10. If the number of people in B is 10 more than A, What is the total number of people in only B (i.e. in B but not in A or C)?  
 (1) 14 (2) 24 (3) 30 (4) 36
11. If sum of the number of people in only B and the number of people common in both A and B is 63 and the number of people in B is twice the number of people in A, then the values of x and y are respectively.  
 (1) 15, 4 (2) 48, 5 (3) 51, 7 (4) 51, 8
12. In the question given below, some argument/arguments is/are logical and others are not. Identify the logical argument/arguments.  
 I. Eating lots of vegetables and fruits increases immunity  
 I eat lots of vegetables and fruits, so my immunity is high.  
 II. Eating lots of vegetables and fruits increases immunity,  
 I do not eat vegetables and fruits, so my immunity is low.  
 III. Eating lots of vegetables and fruits increases immunity,  
 My immunity is low which means I don't eat fruits and vegetables  
 (1) only I (2) I and II  
 (3) I and III (4) II and III
13. Consider the following figure


Which of the following alternatives should replace the question mark?

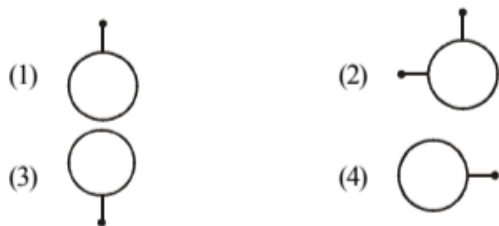
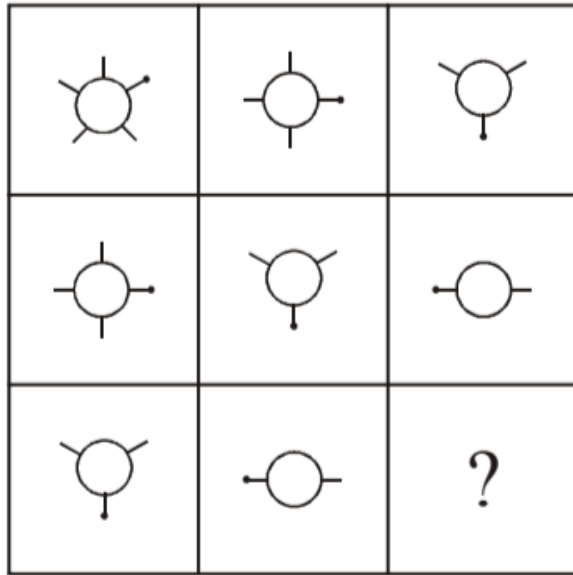


14. Find out the water image of  
 A V P U 7 4 3 6  
 (1)  $\nabla \wedge \bar{b} \cap \Delta \nabla 3 e$  (2)  $\nabla \wedge \bar{b} \cap 7 \nabla 3 9$   
 (3)  $\nabla \wedge P U \nabla \nabla 3 9$  (4)  $\nabla \wedge P U 7 \nabla 3 e$
15. A man goes on trek from the bottom to the top of a mountain. He starts at 6 am of 15th October, 2017 from the bottom and reaches the top at 6 pm of the same day on 16 Oct., 2017 he starts from the top at 6 am and goes back following exactly the same route and reaches the bottom at 6 pm. Based on the above situation the following possibilities are to be analysed.  
 I. It is not possible to find a point on the route which he will cross at the same time each day.  
 II. It is possible to find a point on the route which he will cross at the same time each day provided only. if he travels on each day with uniform speed.  
 III. It is always possible to find a point on the route which he will cross at the same time each day irrespective of his speed of travel.  
 (1) Only I is true (2) Only II is true  
 (3) Only III is true (4) Both I and II are true
16. At noon and at midnight the long and short hands of clock are together. Between noon and midnight, how many times the long hand overtakes the short hand?  
 (1) 9 (2) 10  
 (3) 11 (4) 12
17. If MENTAL : SMXFOB then ABILITY : \_\_\_\_\_  
 (1) GJSXWJQ (2) GSXWJJQ  
 (3) SGXWJJQ (4) SJXQJWG
18. As JAISALMER is to JAILSARME, as HYDERABAD is to \_\_\_\_\_.  
 (1) HYDAERDBA (2) HYDRBEDAA  
 (3) HYDBDREAA (4) HYDEADRAB
19. Which of the following alternatives will fit in the place of '?' ?  
 AZ, GT, MN, ?, YB  
 (1) KF (2) RX (3) SH (4) TS
20. Look at this series :  
 J14, L16, \_\_\_\_, P20, R22  
 Which of the following alternatives will fit in the blank space ?  
 (1) N18 (2) S24 (3) M18 (4) T24
21. What will be the missing term in the given sequence?  
 ACC, \_\_\_\_, CEO, DFX  
 (1) BDD (2) BDE (3) BDH (4) BED

22. Which number comes in place of '?' ?  
64, 57, 66, 55, ? 52

(1) 68 (2) 69 (3) 70 (4) 71

23. Select the suitable figure from the given alternatives to complete the figure?

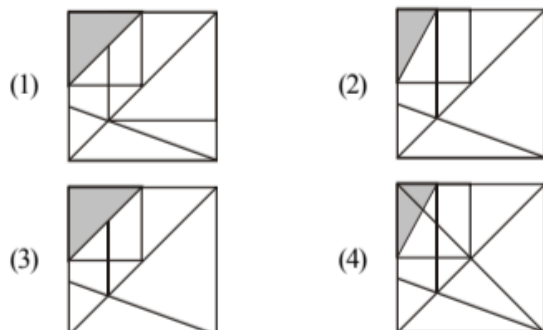
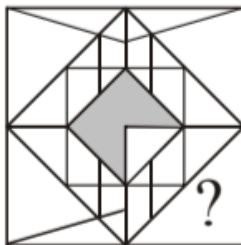


24. Arrange the given words in a meaningful sequence and find the correct sequence from the given options :

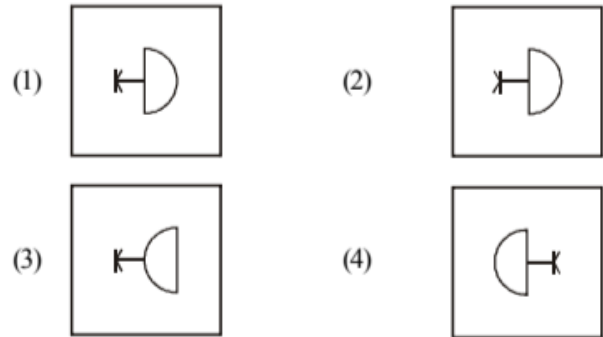
(A) Wall (B) Clay  
(C) House (D) Room  
(E) Bricks

(1) E, B, A, D, C (2) B, E, D, A, C  
(3) B, E, A, D, C (4) A, B, C, D, E

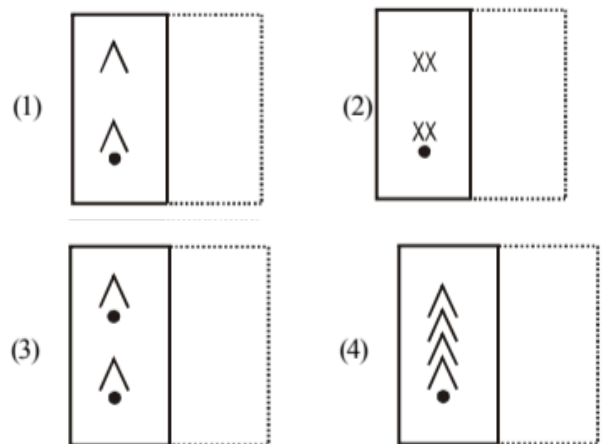
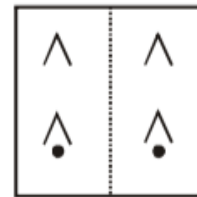
25. Identify the figure that completes the pattern.



26. Replace '?' by the appropriate figure from the given options.



27. When a square shaped transparent sheet with the pattern shown in the figure is folded along the dotted line which pattern would appear?



28. **Fact 1:** All monkeys like to jump.

**Fact 2:** Some monkeys like to swim.

**Fact 3:** Some monkeys look like their masters.

If the first three statements are facts, which of the following statements must also be a fact (s)?

- I. All monkeys who like to swim look like their masters.  
II. Monkeys who like to swim also like to jump.  
III. Monkeys who like to jump do not look like their masters.  
(1) I only (2) II only  
(3) II and III (4) Both I and II

29. Given below is a statement followed by two assumptions.  
The population below poverty line has increased in urban area during the last year.

**Assumptions :**

- I. The population below poverty line has decreased in rural area.  
II. The population below poverty line has not increased during the current year.



- (1) Only I is implicit.
- (2) Only II is implicit.
- (3) Either I or II is implicit.
- (4) Neither I nor II is implicit.

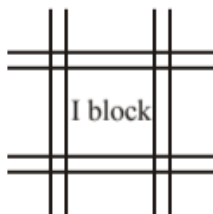
- A. Some men are educated.  
B. Educated men prefer small families

- I. All small families are educated,
- II. Some men prefer small families.

- (1) 02:00:24 am                      (2) 02:00:48 am  
(3) 02:02:05 am                      (4) 02:02:30 am

- (1) I and II                      (2) I and III  
(3) II and III                  (4) II and IV

- road there is a crossing and the square area covered between four crossings is called a block. Starting from a crossing, if I travel four blocks north, take left and then travel three blocks west, I reach another crossing. What is the distance between these two crossings?

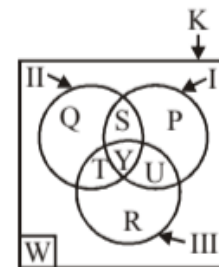


- (1) 7                      (2) 8  
 (3) 9                      (4) 10

- 

- (1) married males who are teachers
- (2) unmarried males who are doctors
- (3) unmarried females who are doctors
- (4) married males who are neither doctors nor teachers

W represents numbers from 1 to 26 other than those in I, II and III



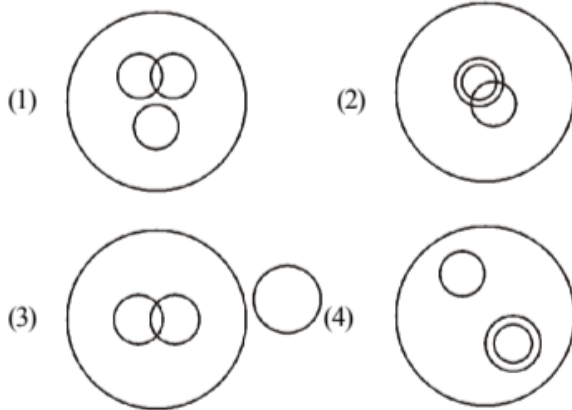
- (1) P and W only                      (2) R and U only  
(3) S and W only                      (4) U and W only

- (1) P only                      (2) T only  
(3) V only                      (4) W only

38. Which region contains exactly eight integers ?

- (1) P (2) Q  
(3) R (4) S

39. In a school, commerce and arts subjects were offered. Some students opted only for commerce and some only arts. There were science students also who did not choose any of these subjects. the rest of them accepted both commerce and arts. Which one of the following Venn diagram correctly reflects this situation?



40. A person walked 100m straight from the point 'A' in the North-East direction, walked 200m in South- West direction from there, 100m in North-East direction again, walked 100m eastward, 200m southward and 100m westward to reach at the point 'B'. Choose the right answer from the following to find out his/her distance and direction from 'A'.

- (1) 100m, North (2) 100m, South  
(3) 200m, North (4) 200m, South

**DIRECTIONS (Qs. 41- 44) :** Items 41-44, each contains a questions of two statements I and II, giving certain data. Select the correct answer from (1) to (4) depending on the sufficiency to data given in the statements to answer each questions.

- (1) If I alone is sufficient and II alone is not sufficient to answer the question.  
(2) If II alone is sufficient and I alone is not sufficient to answer the questions.  
(3) If both I and II together are sufficient but neither statement alone is sufficient to answer the questions.  
(4) If both I and II together are not sufficient to answer the question and additional data specific to the questions are needed.

41. A, B and C have money with them in the ratio 5 : 3 : (1) How much money does B have?

- I. A has Rs. 60 more than C  
II. The money with B is 40% less than the money with A  
(1) 1 (2) 2  
(3) 3 (4) 4

42. What is the cost of each pen?

- I. The cost of 6 pens and 5 pencils is Rs.30.  
II. If the cost of each pen and each pencil is reduced by 40%, then the cost of 12 pens and 10 pencils will be Rs.36.

- (1) 1 (2) 2  
(3) 3 (4) 4

43. What is the ratio of saving of A and B?

- I. The ratio of income of A and B is 5 : 6  
II. The ratio of expenditure of A and B is 3 : 4

- (1) 1 (2) 2  
(3) 3 (4) 4

44. What is the ratio of the selling prices of two articles A and B?

- I. The cost price of article A is equal to the selling price of B.

- II. The profit made by selling A is equal to  $\frac{1}{5}$  of its selling price.

- (1) 1 (2) 2  
(3) 3 (4) 4

45. If in a code language STAR = 50 and CIRUS = 65 then PLANET will be

- (1) 68 (2) 78  
(3) 84 (4) 94

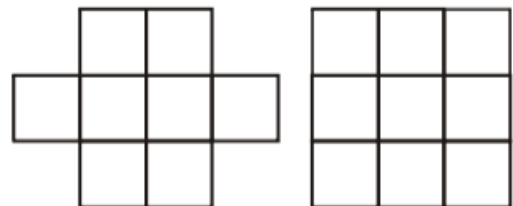
46. Pankaja puts her alarm clock on the table in such a way that at 6 pm the hour hand points to North. In which direction will the minute hand point at 9 : 15 pm?

- (1) South-East (2) South  
(3) North (4) West

47. One evening before sunset two friends Rajni and Sanjiv were talking face to face. If Sanjiv's shadow was exactly to his right side, to which direction Rajni was facing?

- (1) North (2) North east  
(3) South (4) South east

48. The square boxes in the figures below are to be painted with different colours such that no two adjacent boxes (even diagonally) have same colour. How many minimum colours do you need in each case?



- (1) (3, 4) (2) (4, 4)  
(3) (4, 5) (4) (3, 5)

49. What is the number in place of '?' ?

2Y23, 3V19, 5V17, 7T13, 11V11, ?

- (1) 13T7 (2) 13V9  
(3) 13W9 (4) 13U7

50. Identify which number does not fit in the sequence?

156, 182, 210, 240, 282, 306

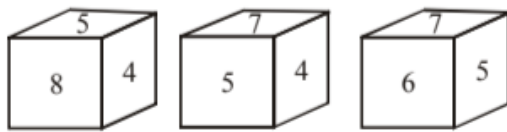
- (1) 182 (2) 210  
(3) 282 (4) 306

51. What is the number in place of '?' ?

6, 15, 35, ?, 143, 221

- (1) 45 (2) 65  
(3) 77 (4) 93

52. A pattern is being followed to derive numbers using two out of the six numbers appearing on the faces of a dice having numbers from 4 to 9, both inclusive. Two such pair yield 106 and 52. What will the third pairs yield?

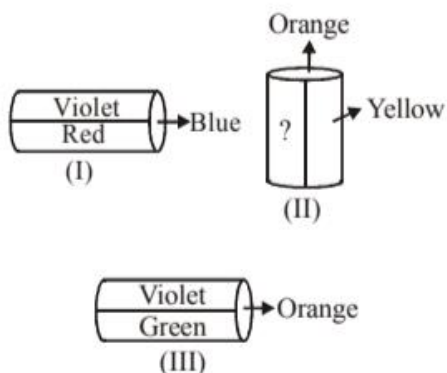


- (1) 100  
(3) 130
- (2) 113  
(4) 145
53. Which group of letter given in the alternatives will complete the sequence?

a \_ t t a \_ a n t \_ a n \_ n t \_ a n

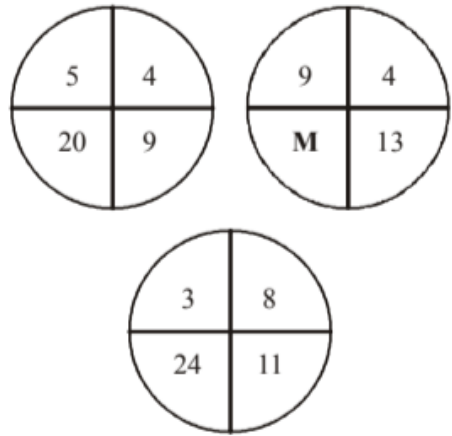
- (1) a t n t t  
(3) n a n t t
- (2) n n t a t  
(4) t n t a t
- DIRECTIONS (Qs. 54-57) :** A group of students is sitting in such a way that each occupies a corner of a hexagonal table . Ninong is sitting opposite to Yaangba, Ribiya is sitting next to Silva, Nazelii is sitting opposite to Silva, but not next to Ninong, one person is sitting between Talyang and Yaangba.

54. Who is sitting opposite to Ribiya ?  
(1) Yaangba  
(3) Talyang
- (2) Silva  
(4) Nazeli
55. Who is sitting between Ribiya and Ninong?  
(1) Yaangba  
(3) Talyang
- (2) Nazeli  
(4) Silva
56. Who is sitting between Talyang and Yaangba?  
(1) Nazeli  
(3) Ninong
- (2) Ribiya  
(4) Silva
57. If Talyang sits to the right of Ninong, who is on the left of Ninong?  
(1) Ribiya  
(3) Yaangba
- (2) Nazeli  
(4) Silva
58. A cylinder is painted in 6 colours . violet , Red, Blue, Green, Yellow and Orange. The three positions of the cylinder are as follows. Looking at these figures, identify the correct colour in place of ‘?’.



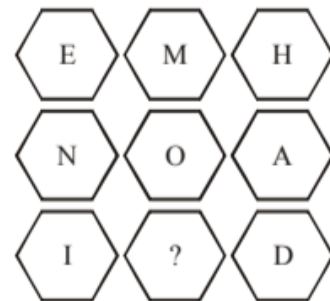
- (1) Red  
(3) Green
- (2) Blue  
(4) Violet

59. Find the missing number at the place of ‘M’?

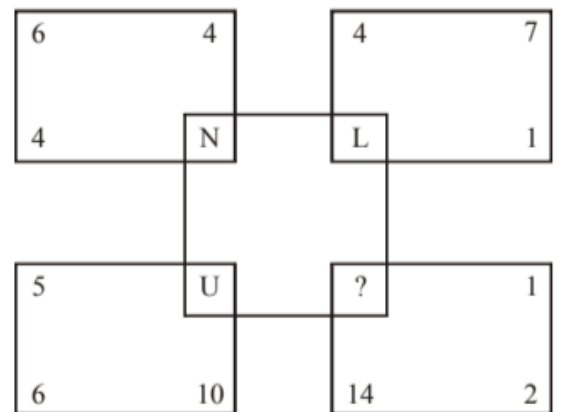


- (1) 36  
(3) 81
- (2) 52  
(4) 117

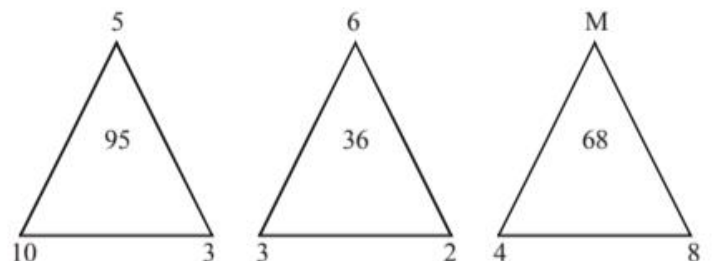
60. Which letter replaces the question mark (?)?



- (1) A  
(3) H
- (2) E  
(4) M
61. Which letter replaces the question mark (?)?

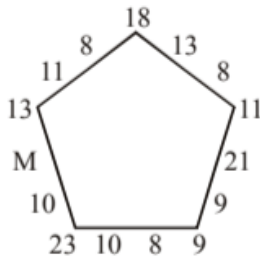


- (1) M  
(3) P
- (2) O  
(4) Q
62. What is the number that should come in place of ‘M’?



- (1) 2  
(3) 4
- (2) 3  
(4) 6

63. In the given figure which number should replace 'M'?



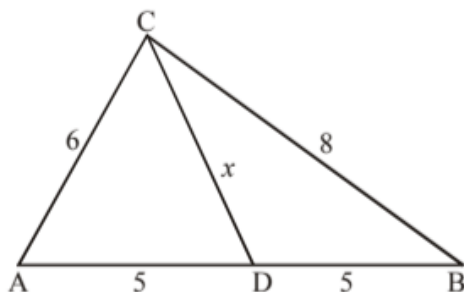
- (1) 4 (2) 11 (3) 13 (4) 19
64. Manushi remembers that birthday of Chaitra is after July 10 but before July 17, but vishaka remembers that it is between 15 and 27 July, both inclusive. If July 10 was Thursday and if both of them remember correctly then on which day was Chaitra's birthday?

- (1) Sunday  
(2) Monday  
(3) Tuesday  
(4) Wednesday
65. A family consists of six members P, Q, R, X, Y, Z. Q is the son of R but R is not mother of Q. P and R are a married couple. Y is the brother of R, X is the daughter of P. Z is the brother of Q.

Which symbol represents all the children of P?

- (1) QXYZ (2) QXZ  
(3) XZR (4) QZ
66. I noticed that my watch goes  $\frac{1}{2}$  minute fast at dusk, but at dawn it loses  $\frac{1}{3}$  minute. On 1<sup>st</sup> march morning my watch showed right time, then on which of the following dates the watch was 5 minutes fast?

- (1) 28<sup>th</sup> March (2) 29<sup>th</sup> March  
(3) 30<sup>th</sup> March (4) 3<sup>rd</sup> March
67. What is the length 'x' of the line segment CD in the triangle drawn below?



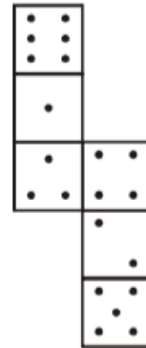
- (1) 4 (2) 5  
(3) 6 (4) 8
68. If  $m+n=o+p$ ,  $m+q=p+n$ ,  $2p < m+q$  and  $2m > o+n$ , then

- (1)  $o > m > n > p > q$  (2)  $m > o > p > n > q$   
(3)  $n > o > p > m > q$  (4)  $o > p > n > q > m$

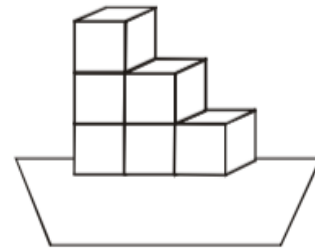
69. If water image of OXIDE is OXIDE, then the water image of METAL will be:

- (1) JATEM (2) WEIVT  
(3) METAJ (4) METAL

70. How many dots lie opposite the face having dots, when the given figure is folded to form a cube?

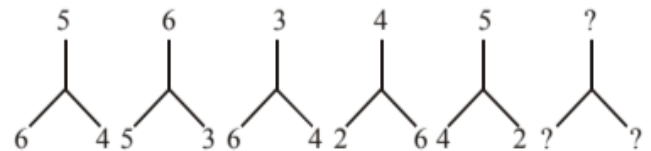


- (1) 2 (2) 4  
(3) 5 (4) 6
71. If '+' is '÷', '×' is '-', '-' is '+' and '÷' is '×' then what is the value of  $20 \div 4 \times 12 - 6 + 11$
- (1) 2 (2) 5 (3) 56 (4) 65
72. Six dice are stacked as shown in the figure. On each dice, the sum of number appearing on a face and on the face opposite to it is 7?



What is the maximum possible sum of the numbers on the visible faces?

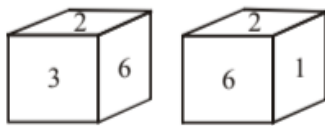
- (1) 88 (2) 89  
(3) 96 (4) 147
73. Observe the sequence given below and select the appropriate alternative which will maintain the series.



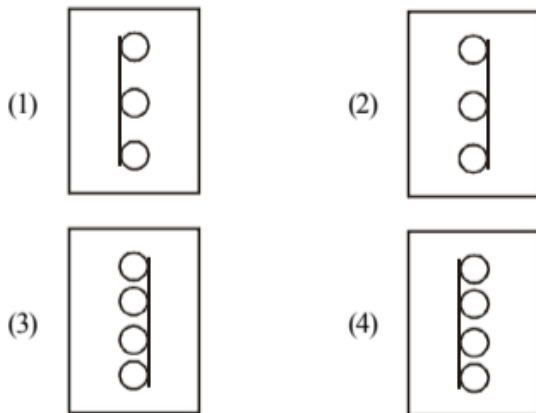
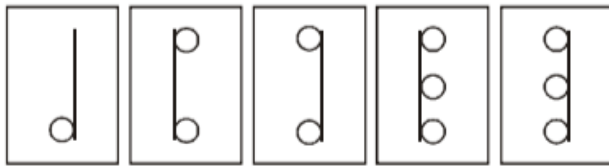
- (1) (2)   
(3) (4)



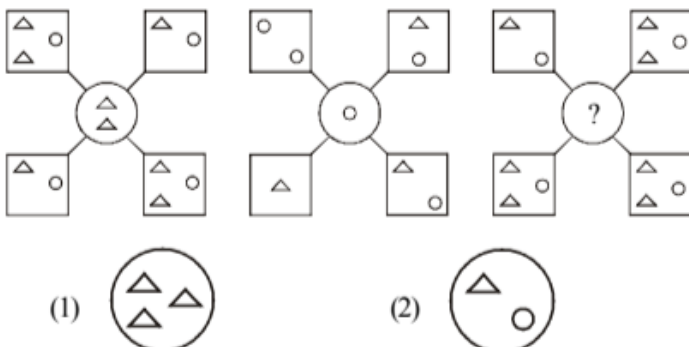
74. Two position of a dice are shown. When number 3 is on the top, what number will be at the bottom ?



- (1) 1 but not 4 (2) 4 but not 1  
(3) 5 or 4 (4) 5 but not 4
75. Which interchange in signs and number would make the equation correct ?  
 $(96 \div 128) + 64 = 2$   
 (1) + and  $\div$ , 64 and 96 (2) + and  $\div$ , 64 and 128  
 (3) + and  $\div$ , 96 and 128 (4)  $\div$  and +, 94 and 128
76. Let “%” stands for is equal to, “?” for greater than, “#” for lesser than, If  $6x\%5y$  and  $2y?3z$ , then  
 (1)  $2x?3z$  (2)  $4x?5z$   
 (3)  $2x\#z$  (4)  $4x\%3z$
77. If Q means 'addition sign'. J means multiplication sign'. T means subtraction sign' and K means 'division sign' then,  
 $30K2Q3J6T5=?$   
 Find the number in place of “?”.  
 (1) 18 (2) 28  
 (3) 31 (4) 103
78. Which figure should come next among the options given below ?



79. Observe the trends in figures given below and find the missing character.



80.

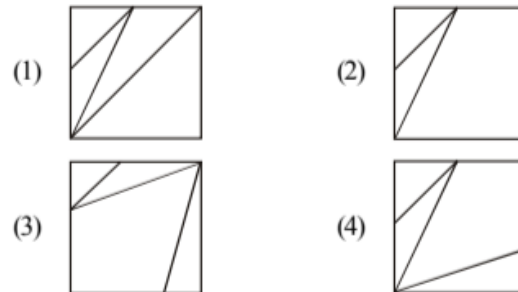
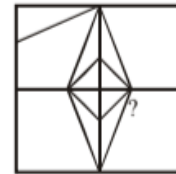
Equivalent Signs	+	-	$\times$	$\div$	=	(	)
	$\rightarrow$	$\leftarrow$	$\uparrow$	$\downarrow$	$\leftrightarrow$	$\curvearrowright$	$\curvearrowleft$

$$3 \uparrow 8 \downarrow 4 \rightarrow 2 \leftarrow 5 \leftrightarrow 7 \rightarrow 12 \leftarrow 1 ?? 6$$

What will come in place of “??” ?

- (1)  $\downarrow$  (2)  $\uparrow$   
 (3)  $\leftarrow$  (4)  $\rightarrow$

81. Complete the missing pattern.



82. Find the number of rectangles in the following figure.



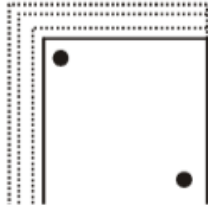
- (1) 18 (2) 17  
 (3) 16 (4) 15

83. In the given matrix, first row and the first column consist of symbols and numbers respectively, the combination of those would be the code for specific alphabets given in other cells. For example, the code for ‘G’ could be 1\$ or 2@. In the same manner, what from the given alternatives will be the correct code for “PEACE”?

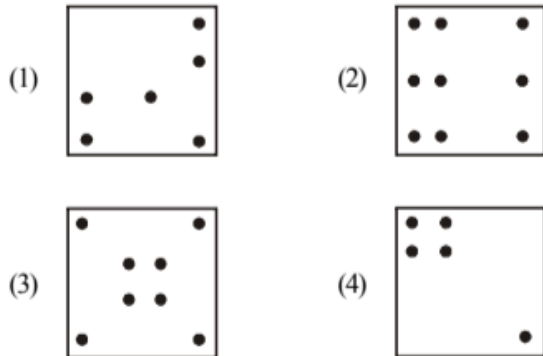
	@	#	*	\$
0	A	P	Q	P
1	T	P	S	G
2	G	R	N	E
3	F	M	O	T
4	C	E	A	C
5	J	R	P	V
6	A	B	L	J
7	E	Q	C	Z

- (1) 0\$4#0@7\*2# (2) 1#3@6@4\$4#  
 (3) 5\*7@4\*1\$2@ (4) 0\$2\$0@6\*2#

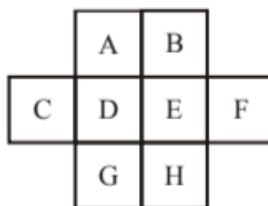
84. A square sheet is folded into half, the line of folding being parallel to a side of the square. It is again folded into half, the line of folding being parallel to the shorter side. In this condition the front of the paper always appears as it is given in the figure below (the dotted lines represent the folded portions).



From the alternatives choose the correct figure which represents the paper in its original unfolded form.



85. A, B, C, D, E, F, G, H, are each to be assigned a different number from 1 to 8. What should be values of B, D, E, F, and G so that no consecutive number are in adjacent (even diagonally) squares.  
Given : A = 5, C = 2, H = 4



- (1) (6, 8, 1, 7, 3) (2) (3, 8, 7, 1, 6)  
(3) (8, 6, 3, 7, 1) (4) (3, 8, 1, 7, 6)
86. In a farmhouse there are 50 hens, 45 goats and 8 camels which are maintained by few supervisor. If the total number of feet be 224 more than the number of heads in the farmhouse then the total number of supervisors is  
(1) 5 (2) 8 (3) 10 (4) 15
87. If in a coded language.  
'Busy bees' are coded as 'Cpu cff'  
'Busy crows' are code as 'cpu hup'  
'Bright Crows' are coded "Csj Hup"  
Then Busy crows are clever will be coded as \_\_\_\_\_  
(1) Cpu Hup Bsf Dmf (2) Cpu hup bsf Dmf  
(3) cpu Hup Baf Dmf (4) cpu hup bsf Dmf

88. What is the code used for 'Blue' derived from the given coded statements as per a code language?

- I. 'Flower Blue Red White' is coded as Sa Ra Ga Ma'  
II. 'Take Red Pink Flower' is coded as 'Sa Ha Ma Pa'  
III. 'Take Blue Red Buds' is coded as 'Pa Da Ma Ga'  
IV. 'Bring Red Take White' is coded as Ma Na Pa Ra'

- (1) Sa (2) Ga  
(3) Pa (4) Ra

89. What will be the number of digits used in numbering the pages of a book having 199 pages

- (1) 398 (2) 489  
(3) 495 (4) 532

90. In certain code 678 means 'Study very hard'. 347, means 'hard work pays' and 246 means 'study and work'.

Which of the following is the code for 'very'?

- (1) 4 (2) 6  
(3) 7 (4) 8

91. In a certain code 'TOME' is written as '@\$\*?' and 'ARE' is written as '! &?'.

How can 'REMOTE' be written in that code?

- (1) & ? \$ @ ? (2) & ? \* \$ @ ?  
(3) @ ? \* \$ @ ? (4) \* @ \$ \* ? !

92. If in a certain code

$$23 \times 26 = 42 \text{ and } 11 \times 15 = 19$$

Then,

$$32 \times 16 = ?$$

- (1) 40 (2) 41 (3) 44 (4) 48

93. In a family of 6 (A, B, C, D, E and F) members, there is one married couple with equal number of male and female members. Read the following relations and find out the one from the alternatives. Which is not true for the given family.

**Relations:**

A and E are sons of F.

D is the mother of a boy and a girl.

B is the son of A.

- (1) A, E, B are males  
(2) C is the granddaughter of F  
(3) C is the daughter of E  
(4) D is the wife of A

94. If P + Q means P is husband of Q,  $\frac{P}{Q}$  means P is sister of Q,

P \* Q means P is the son of Q. How is D related to A in D \* B +

$$\frac{C}{A} ?$$

- (1) Son (2) Nephew  
(3) Sister (4) Couple

95. Afsana was walking in a desert. Anwar was passing by riding on a camel. Afsana requested for a lift. Anwar said he will give lift only to those who are related to him. At this, Afsana told him that Anwar's mother-in-law is the mother of her mother-in-law.

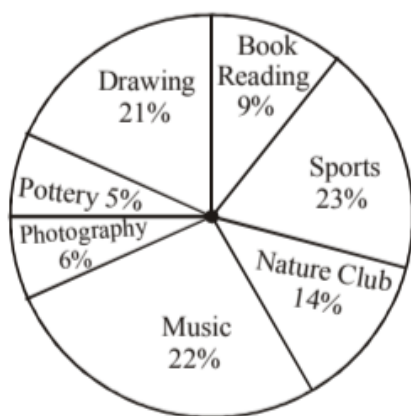
How is Anwar related to Afsana?

- (1) Father (2) Maternal uncle  
(3) Brother-in-law (4) Father-in-law

96. A person travels from Mumbai to Ahmedabad by car in 5 hours. The speed of the car during first hour of journey was 60 km/hr. For the next two hours speed was 80 km/hr. Next hour it was 100 km/hr. Finally, during the last hour of his journey he drove at 40 km/hr. What is the average speed during his journey ?

- (1) 56 km/hr. (2) 67.4 km/hr.  
(3) 70 km/hr. (4) 72 km/hr.

**DIRECTIONS (Qs. 97-98):** Study the pie chart and information given below and answer the following questions.



There are 1150 students of a school opted sports as a hobby.

97. How many students have book reading as a hobby?

- (1) 390 (2) 420  
(3) 440 (4) 450

98. What is the total number of students in the school?

- (1) 4990 (2) 5000  
(3) 5050 (4) 5100

99. The following table shows the distribution of Boys and Girls students of seven different schools

School	Boys (Total 27,300)	Girls (Total 24,700)
A	17%	8%
B	12%	15%
C	12%	12%
D	13%	13%
E	19%	14%
F	14%	21%
G	15%	17%

What is the ratio between the number of Girls and Boys students respectively from school F?

- (1) 14 : 21 (2) 19 : 21  
(3) 17 : 21 (4) 19 : 14

100. Ajush, Hina, Harbhajan and George are student friends studying in Delhi and plan to go on winter holiday some where in India. They can go to Rajasthan, Goa, Kerala, Odisha, Madhya Pradesh or any of the North Eastern States. Ayush is willing to go any where except North Eastern states, Harbhajan prefers not to go to Goa and Kerala. Hina wants to go either to Goa or Odisha. George does not mind as long as it is not Rajasthan. Which destination would be acceptable to all?

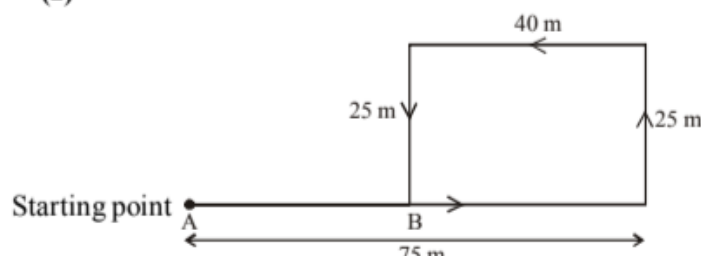
- (1) Goa (2) Odisha  
(3) Kerala (4) Madhya Pradesh

### ANSWER KEY

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

# Hints & Explanations

1. (1)
2. (3)
3. (1)
4. (2)

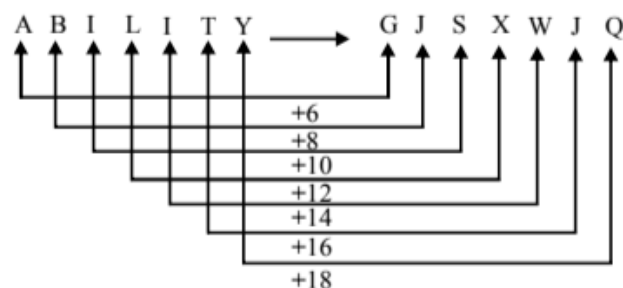
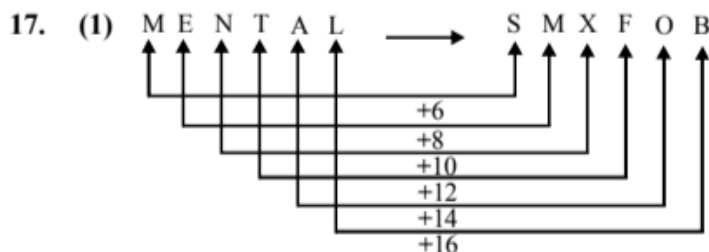


Distance from A to B =  $75 - 40 = 35$ .  
options (2) is correct.

5. (4)
6. (4) Sum of squares of all numbers – sum of numbers  
 $[(3)^2 + (2)^2 + (2)^2 + (4)^2] - [3 + 2 + 2 + 4] = 22$   
 $[(4)^2 + (3)^2 + (2)^2 + (5)^2] - [4 + 3 + 2 + 5] = 40$   
 $[(5)^2 + (4)^2 + (3)^2 + (6)^2] - [5 + 4 + 3 + 6] = 68$   
 Here, Option 4 is correct.
7. (3) Number of Indian non-player students who are talented = 10.
8. (2) Number of talented Indian who are players =  $8 + 9 = 17$ .  
Option 2 is correct.
9. (4) Number of talented Indians who are students =  $9 + 10 = 19$ .
10. (2) ATP  
 Number of people in B is 10 more than A  
 $\therefore x + y + 5 + 11 = y + 5 + 15 + 10 + 10$   
 $x = 24$ .  
 Number of people in only B =  $x = 24$ .

11. (3) ATP  
 $x + y + 5 = 63$   
 $x + y = 58$  ... (i)  
 $x + y + 5 + 11 = 2(15 + y + 5 + 10)$   
 $x + y + 16 = 60 + 2y$   
 $58 + 16 = 60 + 2y$  (from equation (i))  
 $y = 7$   
 $\therefore x + 7 = 58$ .  
 $x = 51$ .

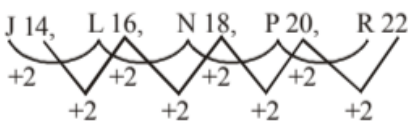
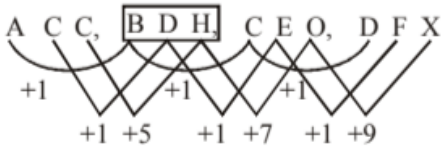
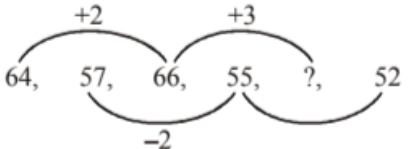
12. (3)
13. (4)
14. (1)
15. (2)
16. (3)



- Option (1) is correct.
18. (1)
- 
- Option (1) is correct.

19. (3)



20. (1) 
21. (3) 
22. (2)   
Alternate series  
 $66 + 3 = 69$
23. (1)  
24. (3)  
25. (3)  
26. (1)  
27. (1)  
28. (2)  
29. (4)  
30. (4)  
31. (3) Time difference between 2 A.M. and 9 P.M. = 5 hours  
Gain in 24 hours = 10 minutes  
 $\text{Gain in 1 hour} = \frac{10}{24} \text{ minutes}$   
 $\text{Gain in 5 hours} = \frac{10}{24} \times 5 \text{ minutes}$   
 $= \frac{50}{24} \text{ minutes}$   
 $= 2 \text{ minutes } 5 \text{ sec.}$   
Time in watch = 2 : 02 : 05 A.M.  
Option (3) is correct.
32. (3)  
33. (4)  
34. (3)  
35. (1)  
36. (3) In the given figure.  
S includes 4, 16.  
And, W includes 15, 21.  
 $\Rightarrow$  W includes 15, 21.  
 $\Rightarrow$  Exactly two integers.  
 $\Rightarrow$  S & W only
37. (1) Total number of integers in S = 2 (4, 16) and in R = 8 (3, 5, 11, 13, 17, 19, 23). And in P, there are total of 10 integers (6, 8, 10, 12, 14, 18, 20, 22, 24, 26)  
 $\Rightarrow$  P only  $\Rightarrow$  Option 1 is correct.
38. (3) R have total of 8 integers  
39. (3)  
40. (4)  
41. (1) A : B : C = 5 : 3 : 1

$$A = 5x, B = 3x, C = x$$

Statement (1) A has 60 Rs more than C

$$A = 60 + 6 \quad 5x = 60 + x$$

$$x = 15 \quad \text{So B have 45 Rs.}$$

Statement (2) Money of B 40% less than A

So, B = 60% of A

$$3x = \frac{60}{100} \times 5x \quad x = x$$

Which is not possible.

So statement (1) alone is sufficient and II alone is not sufficient to answer the question. option 1 is correct.

42. (4) Let the cost of one pen and one pencil be Rs. X & y.  
Statement (1)  $6x + 5y = 30$  .....(1)  
Statement (2) Cost of pen and pencil is reduced by 40%. So now the cost of one pen and one pencil be 0.6x and 0.6y is respectively.  
By equation (1) & (2)

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2} \Rightarrow \frac{6}{7.2} = \frac{5}{6} = \frac{30}{36} = \frac{5}{6}$$

Infinite solution possible

Option 4 is correct.

43. (4) (I) Ratio of income of A and B  
 $A : B = 5 : 6$   
 $A = 5x, B = 6x$   
(II) The ratio of expenditure of A and B in  
 $A_1 : B_1 = 3 : 4$   
 $A_1 = 3y, B_1 = 4y$ .  
Savings = income - expenditure  
Savings of A =  $5x - 3y$   
Savings of B =  $6x - 4y$   
Ratio of savings of A : B = cannot be determined  
Option 4 is correct.

44. (3) Let cost price of A =  $C_A$ , Cost price of B =  $C_B$   
Selling price of A =  $S_A$ , Selling price of B =  $S_B$   
S - I  $C_A = S_B$   
S - II  $S_A - C_A = \frac{1}{5} S_A$   
 $\frac{4}{5} S_A = C_A = S_B$   
 $\frac{S_A}{S_B} = \frac{5}{4}$

Option (3) Both (I) and (II) are required.

45. (4)  
46. (4)  
47. (3)  
48. (2)  
49. (1) Number :

2 Y 23, 3 V 19, 5 V 17, 7 T 13, 11 V 11, ?

2 25 23, 3 22 19, 5 22 17, 7 20 13, 11 22 11

1st number of each term is forming a series of prime number in increasing order.

$\therefore$  Next number = 13

Last number of each term is also forming a series of prime number in decreasing order.

$\therefore$  Next number = 7

And middle letter (number) = Sum of 1st & 3rd number.

$\Rightarrow$  Middle term (letter) =  $(13 + 7 = 20) \Rightarrow T$

$\therefore 13 T 7 \Rightarrow$  Option 1 is correct.

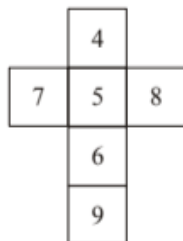
50. (3)

51. (3) 6, 15, 35, ?, 143, 221  
( $2 \times 3$ ), ( $3 \times 5$ ), ( $5 \times 7$ ), ?, ( $11 \times 13$ ), ( $13 \times 17$ )

This is a series of multiplication of consecutive prime number.

$\Rightarrow$  Missing number =  $7 \times 11 = 77$

52. (2)



$$(4)^2 + (6)^2 = 16 + 36 = 52$$

$$(5)^2 + (9)^2 = 25 + 81 = 106$$

$$(7)^2 + (8)^2 = 49 + 64 = 113$$

option (2) is correct.

53. (2) ant/tan/ant/tan/ant/tan

Sol. (54-57)



54. (3) Talyang is sitting opposite to Ribiya.

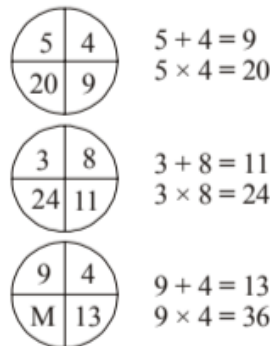
55. (4) Silva is sitting between Ribiya and Ninong.

56. (1) Nazeli is sitting Talyang Yaangba. Option 1 is correct.

57. (4) Silva is sitting on the left of Hinong. Hence, option (4) is correct.

58. (3)

59. (1)



60. (4) E + H = M

N + A = O

I + D = M

61. (4) Sum of all numbers in a given box is equal to the position of alphabets in the series.

$$6 + 4 + 4 = 14 = N$$

$$4 + 7 + 1 = 12 = L$$

$$5 + 6 + 10 = 21 = U$$

$$\text{So, } 1 + 2 + 14 = 17 = Q$$

62. (2)  $10 \times 5 + 5 \times 3 + 10 \times 3$

$$50 + 15 + 30 = 95$$

$$6 \times 3 + 6 \times 2 + 3 \times 2$$

$$18 + 12 + 6 = 36$$

$$M \times 4 + M \times 8 + 4 \times 8 = 68$$

$$M = 3$$

63. (1) Sum of numbers on the side is 50. Option 1 is correct.

64. (3/4) According to manushi, chitra's birthday is after July 10 but before July 17.

i.e., July 11 to July 16

According to Vishakha birthday is between 15 July and 27 July

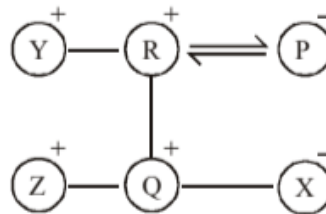
i.e., July 15 to July 27.

Possible dates are July 15 and July 16

i.e., Tuesday and Wednesday

Option 3/4 is correct.

65. (2)



Q, X, Z represents all the children of P.

Hence, option (2) is correct.

66. (4) Clock was at right time on 1<sup>st</sup> march morning.

It was  $\frac{1}{2}$  min fast at dusk (evening)

And  $\frac{1}{3}$  min loose at dawn (morning)

So in one day it was  $\frac{1}{6}$  min fast.

$\therefore$  5 min fast in 30 days.

1<sup>st</sup> + 30  $\rightarrow$  On 31<sup>st</sup> march it was 5 min fast.

Option 4 is correct.

67. (2)

68. (1)

69. (2)

70. (3)

71. (1)

72. (2)

73. (4)  $6 + 4 + 5 = 15$   
 $6 + 5 + 3 = 14$   
 $6 + 3 + 4 = 13$   
 $6 + 4 + 2 = 12$   
 $4 + 2 + 5 = 11$   
 $(4 + 5 + 1) = 10$

74. (3)

75. (1) + and ÷, 64 and 96  
 $\Rightarrow (64 + 128) \div 96 \Rightarrow 192 \div 96 = 2$ .

76. (2)

77. (2)  $Q \rightarrow (+), J \rightarrow (\times), T \rightarrow (-), K \rightarrow (\div)$   
 $30 \div 2 + 3 \times 6 - 5$   
 $15 + 18 - 5$   
 $33 - 5 = 28$

78. (4)

79. (1)

80. (1)

81. (4)

82. (1) Counting the number of rectangles, we will have 18 rectangles. Option 1 is correct.

83. (2)

P E A C E  
 $\downarrow \downarrow \downarrow \downarrow \downarrow$   
 1# 3@ 6@ 4\$ 4#

84. (3)

85. (2) Given that  $B = 6$  and  $E = 8$

$$\begin{array}{r} \text{A} \quad 6 \quad \text{C} \\ \times \quad \text{D} \quad 8 \\ \hline \text{A} \quad \text{C} \quad \text{F} \quad 6 \\ 8 \quad \text{A} \quad \text{G} \quad 0 \\ \hline \text{F} \quad \text{H} \quad \text{F} \quad 6 \end{array}$$

As at the Thousand's place  $A + 8 = F$ , there is no carry over, thus the value of  $A$  can either be 0 or 1, but 0 will make it a 3-digit number. Hence, the value of  $A = 1$  and thus that of  $F = 9$ . Also, in the first multiplication,  $E \times C = B$ , i.e.,  $8 \times C = 6$ . So ' $C$ ' can either be 2 or 7. By hit and trial, we find that  $C = 2$ . Therefore,

$$\begin{array}{r} 1 \quad 6 \quad 2 \\ \times \quad \text{D} \quad 8 \\ \hline 1 \quad 2 \quad 9 \quad 6 \\ + 8 \quad 1 \quad \text{G} \quad 0 \\ \hline 9 \quad \text{H} \quad 9 \quad 6 \end{array}$$

As  $9 + G = 9$ , therefore,  $G$  should be '0' which can be obtained when  $D = 5$ , thus the difference between  $D$  &  $F$  is  $F - D = 9 - 5 = 4$ .

86. (4) Let no of supervisors is  $\times$   
 then A.T.P.

$$\begin{aligned} 50 \times 2 + 45 \times 4 + 8 \times 4 + 2 \times \times &= (50 + 45 + 8 + \times) + 224 \\ 100 + 180 + 32 + 2x &= \times + 327 \\ x &= 327 - 312 \\ x &= 15 \end{aligned}$$

87. (2) Busy bees  $\rightarrow$  Cpu Cff  
 $\uparrow \uparrow$   
 Capital small  
 Busy Crow  $\rightarrow$  Cpu hup  
 $\uparrow \uparrow$   
 small small  
 Bright Crows  $\rightarrow$  CSJ HVP  
 $\uparrow \uparrow$   
 capital capital

Busy crows are cleaves

From options  $\rightarrow 3$  &  $4 \rightarrow$  Eliminated because code for Busy' is either "CPu" or "Cff"

Similarly option  $\rightarrow 1 \rightarrow$  Eliminated because code for crows is either "CPu & HVP" option 2 is correct.

88. (2)

89. (2)

90. (4)   
 6 7 8 study very hard  
 3 4 7 hard work pays  
 2 4 6 study and work

Study = 6

Hard = 7

Very = 8

Option 4 is correct.

**Alternate**

678  $\Rightarrow$  Study very hard ... (1)

347  $\Rightarrow$  Hard work pays ... (2)

246  $\Rightarrow$  Study & work ... (3)

From (1) & (2), we can say that 7 is the code for hard.

From (2) & (3), we get 4 is the code for work

From (1) & (3), we get 6 is the code for study

$\Rightarrow$  8 is the code for very

Option 4 is correct.

91. (2) TOME  $\rightarrow$  @ \$ \* , ?

ARE  $\rightarrow$  ! & ?

By direct comparison

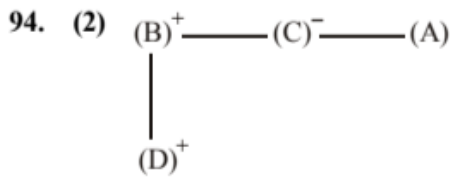
REMOTE  $\rightarrow$  & ? \* \$ @ ?

92. (2)  $23 + 26 = 49 - 7 = 42$

$$11 + 15 = 26 - 7 = 19$$

$$32 + 16 = 48 - 7 = 41$$

93. (3)



D is the nephew of A.

95. (4)

96. (4)

97. (4) Let total number of students = X  
 ATQ

$$\Rightarrow \frac{23}{100} \times X = 1150 \quad \Rightarrow X = 5000 \text{ students}$$

$$\text{Book reading} = \frac{9}{100} \times 5000 = 450 \text{ students}$$

98. (2) Total students = 5000 (already proved in above questions).

99. (4) Total number of boys = 27300

Total number of girls = 24700

In school F number of girls = 21% of 24700

$$= \frac{21}{100} \times 24700$$

$$= 21 \times 247$$

....(i)

In school F number of boys = 14% of 24700

$$= \frac{41}{100} \times 27300$$

....(ii)

Ratio of girls to boys in school F

$$\Rightarrow 21 \times 247 : 14 \times 273 \Rightarrow 19 : 14$$

100. (2)

Ayush	Kerala, <u>Odisha</u> , Madhya Pradesh, Rajasthan, Goa
Harbhayam	Rajasthan, <u>Odisha</u> , Madhya Pradesh, North Eastern
Hina	Goa, <u>Odisha</u>
George	Goa, Kerala, <u>Odisha</u> Madhya Pradesh, North Eastern