

State Code	Year	District Code	Centre Code	Roll No.
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STATE LEVEL NATIONAL TALENT SEARCH EXAMINATION, 2021
MENTAL APTITUDE TEST
For Class X

Time : Mental Aptitude Test : For General - 120 Minutes, For Disabled (Only Blind) - 150 Minutes

Full Marks : 100

Instructions to Candidates

Read the following instructions carefully before you Answer the Questions.

Answers are to be given on a separate OMR Answer-Sheet.

- Please write your State Code, Year, District Code, Centre Code and Roll No. very clearly (only one digit in one Block) as given on your Admission Card. Please see that no Block is left unfilled and even zeros appearing in the State Code, Year, District Code, Centre Code and Roll No. are correctly transferred to the appropriate Block on the booklet and on the Answer-Sheet. For example, a student of Class X appearing from 'P' Centre, State Code '20', Year '21', District Code '99', Centre Code '99' with Roll No. '999', will make entries in the Block as well as darken the related circle by a Blue or Black Point Pen as under :-

State Code	Year	District Code	Centre Code	Roll No.
20	21	99	99	999
1 1	1 ●	1 1	1 1	1 1 1
● 2	● 2	2 2	2 2	2 2 2
3 3	3 3	3 3	3 3	3 3 3
4 4	4 4	4 4	4 4	4 4 4
5 5	5 5	5 5	5 5	5 5 5
6 6	6 6	6 6	6 6	6 6 6
7 7	7 7	7 7	7 7	7 7 7
8 8	8 8	8 8	8 8	8 8 8
9 9	9 9	● ●	● ●	● ● ●
0 ●	0 0	0 0	0 0	0 0 0

For all subsequent purposes your State Code, Year, District Code, Centre Code and Roll No. shall remain the same as given on the Admission Card.

- This Question Paper consists of 100 Questions.
- All questions carry 1 mark each.
- Since all questions are compulsory, do not try to read through the whole Question paper before beginning to answer it.
- Blank space has been provided for rough-work at the end of each subject.
- Remember you have to darken the circle of Answer-Sheet by a Blue or Black Ball Point Pen only; do not use a pencil.**
- Answer to each Question is to be indicated by darkening the circle by Blue or Black Ball Point Pen, the correct alternative in the Answer-Sheet from amongst the ones given for the corresponding Question in the question-booklet.
- Now turn to the next page and start answering the questions.
- English version of the question paper will be considered as final in case of any dispute arising out of the variation in translation.

N.B.: Do no write on Question-Booklet anything except the State Code, Year, District Code, Centre Code and Roll No. However, Rough Work can be done anywhere only in the space provided for it in the Booklet.

Question (Qs. 1-4) : Mark at the following information and answer the question based on it. Seven students J, K, L, M, N, O and P are standing in a row from left to right in random order such that :

- (1) P, O, K and N do not stand at either end.
- (2) M is not is the middle.
- (3) J stands to the left of P and to the right of O.
- (4) K stands on the rights side on N and on the left side of L.

1. Who is the middle of the line ?

- (1) N (2) J (3) P (4) K

Ans. (3)

2. Who is standing fifth from the left side of the row ?

- (1) K (2) P (3) N (4) J

Ans. (3)

3. Who is standing to the left of O ?

- (1) L (2) J (3) M (4) P

Ans. (3)

4. K travels a certain distance with L at a speed of 3 km./hour. He then completes a total of 27 km. with M at a speed of 6 km./hour in 7 hours.

Find the distance travelled with M.

- (1) 15 km. (2) 12 km (3) 10 km (4) 9 km

Ans. (2)

Question 5-7 : Study of the following information and answer the question given below :

- P is the father of A whose son is S.
- L is K's mother who is also the sister of S.

5. How is A related to L ?

- (1) Brother (2) Husband (3) Wife (4) Sister

Ans. (2)

6. How is A related to K ?

- (1) Father (2) Mother (3) Father in law (4) Son

Ans. (1)

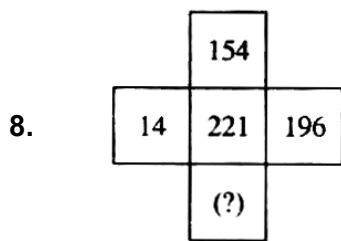
7. How is P related to L ?

- (1) Father (2) Son (3) Father in law (4) Daughter in law

Ans. (3)

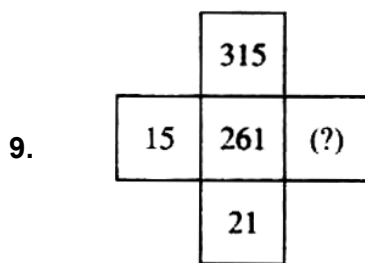
Question 8-10 : In each of the following questions, the numbers have been arranged according to the pattern shown in the sample figure given below. Find the missing figure.

Replace question mark (?) as a missing character with correct option.



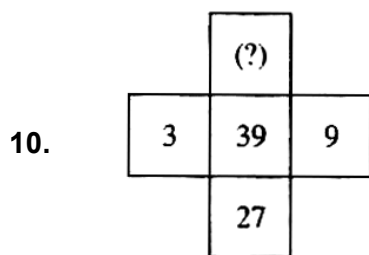
- (1) 11 (2) 13 (3) 15 (4) 17

Ans. (1)



- (1) 125 (2) 90 (3) 105 (4) 225

Ans. (4)

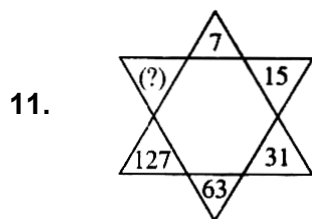


- (1) 33 (2) 81 (3) 243 (4) 42

Ans. (2)

Questions 11-15 : Find the missing character in each of the following :

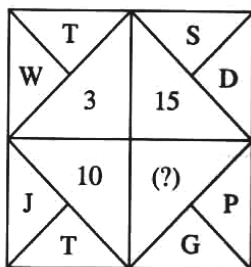
In place of question mark (?). Choose the correct option as the answer and mark it on answer-sheet as directed.



- (1) 190 (2) 221 (3) 236 (4) 255

Ans. (4)

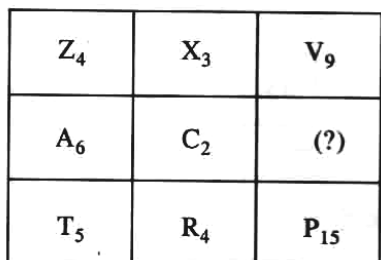
12.



- (1) 5 (2) 9 (3) 11 (4) 13

Ans. (2)

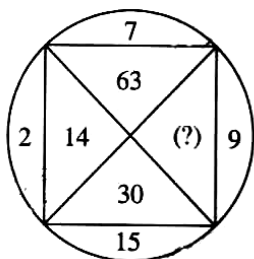
13.



- (1) E₁₂ (2) E₁₀ (3) F₁₂ (4) F₁₀

Ans. (1)

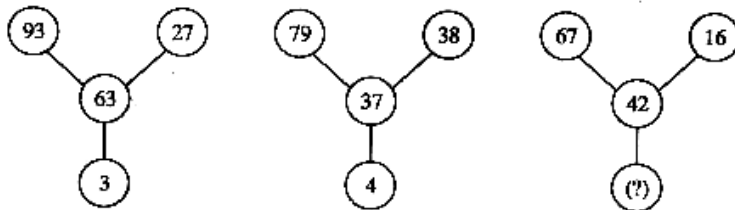
14.



- (1) 18 (2) 33 (3) 135 (4) 145

Ans. (3)

15.

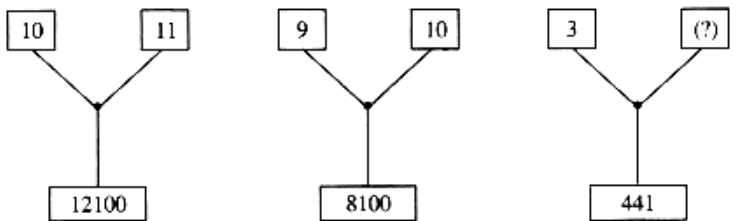


- (1) 5 (2) 6 (3) 8 (4) 9

Ans. (4)

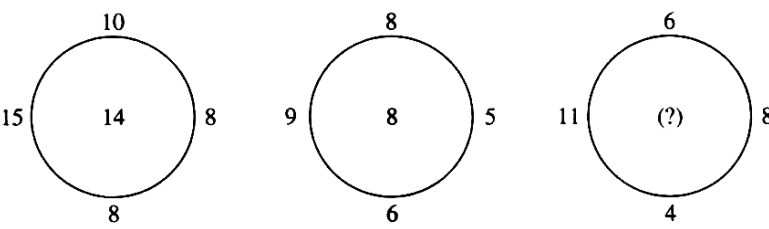
Questions 16-20 : In each of the following questions, a set of figures carrying certain character is given.

Assuming that the character in each set follow a similar pattern, find the missing character in each case. Mark the correct selected options as the answer on the answer-sheet as instructed.

16. 

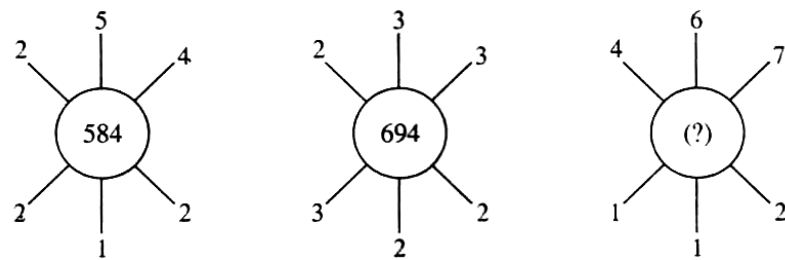
(1) 8 (2) 9 (3) 7 (4) 21

Ans. (3)

17. 

(1) 6 (2) 8 (3) 9 (4) 12

Ans. (1)

18. 

(1) 678 (2) 769 (3) 824 (4) 937

Ans. (1)

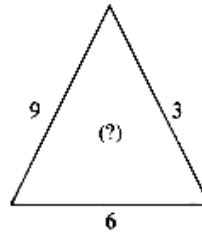
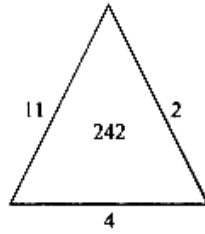
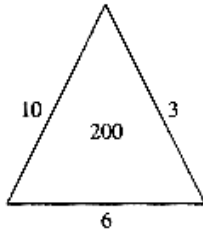
19.

5	6	7
3	4	5
9	10	11
345	460	(?)

(1) 535 (2) 577 (3) 755 (4) 775

Ans. (2)

20.



(1) 486

(2) 72

(3) 162

(4) 243

Ans. (3)21. If, $A:B = 2:5$ $B:C = 3:4$ Then what will be the value of $A:C$?

(1) 1:2

(2) 3:10

(3) 2:3

(4) 5:4

Ans. (2)

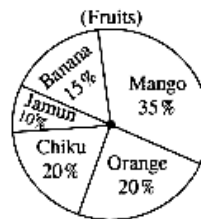
22. A clock runs 5 minutes faster in 1 hour. It has been set right at 12:00 in the afternoon. Now the clock is showing 6:30 in the evening. So, that will be the actual time ?

(1) 5:00 pm.

(2) 5:15 pm.

(3) 5:30 pm.

(4) 6:00 pm

Ans. (4)**Questions 23-25 :** The following Pie-Chart shows the distribution of fruit trees in a field. Consider the chart and answer the questions based on it.

23. Sector angle of banana is _____

(1) 90° (2) 54° (3) 72° (4) 36° **Ans. (2)**

24. If there are 960 trees in total, how many of them are mango trees ?

(1) 192

(2) 288

(3) 384

(4) 336

Ans. (4)

25. What is the proportion of chiku and mango trees in the field of jamun, orange and banana trees ?

(1) 1

(2) 1:3

(3) 11:9

(4) 3:1

Ans. (3)

26. Which of the following words cannot be formed using the words used in 'HIGHLIGHTS' ?

- (1) HIGH (2) HABIT (3) HITS (4) HEAT

Ans. (2, 4)

27. If the following, four words are arranged in alphabetical order, which word will come third.

- (1) False (2) Fool (3) Follow (4) Faith

Ans. (3)

DIRECTIONS [Qs. 28 to 32] :

Which of the following questions is based on the alphabet series:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

28. Which letter is exactly midway between G and Q in the given alphabet ?

- (1) K (2) L (3) M (4) N

Ans. (2)

29. Which letter in the alphabet is as far from G as T is from M ?

- (1) M (2) N (3) O (4) P

Ans. (2)

30. Which letter is sixteenth to the right of the letter which is fourth to the left of I ?

- (1) S (2) T (3) U (4) V

Ans. (3)

31. If the above alphabet is written in the reverse order, which will be the eight letter to the right of O ?

- (1) F (2) G (3) V (4) W

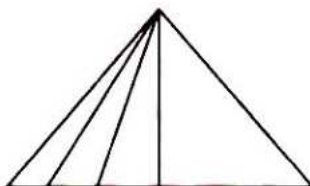
Ans. (2)

32. If 'ROME' is written as 'MORE' then 'DARE' is written as:

- (1) RDAE (2) RDEA (3) RAED (4) RADE

Ans. (4)

33. How many triangles are there in the figure given below ?



- (1) 5 (2) 12 (3) 9 (4) 10

Ans. (4)

34. 'Mirror' is related to 'Reflection' in the same way as 'water' is related to ?
(1) Conduction (2) Dispersion (3) Immersion (4) Refraction

Ans. (4)

35. If the car be a transistor, then what would be Petrol ?
(1) Transmitter (2) Electric (3) Battery/Cell (4) Transmission

Ans. (3)

36. If the fish were birds, what would be the sea be ?
(1) Forest (2) Sky (3) Nest (4) Island

Ans. (2)

37. Shirt is related to Button, in the same way as shoes is related to ?
(1) Stitch (2) Leg (3) Socks (4) None of these

Ans. (4)

DIRECTIONS [Qs. 38 to 40] : Three words in bold letters are given in each questions, which have something in each questions, which have something in common among themselves.

Out of the four given alternatives, choose the most appropriate description about these three words.

38. Vote : Ballot : Poll
(1) Election (2) Nomination (3) Selection (4) Participation

Ans. (1)

39. Newspaper : Hoarding : Television
(1) Press (2) Media (3) Broadcast (4) Rumour

Ans. (3)

40. Wheat : Barley : Rice
(1) Food (2) Agriculture (3) Grams (4) Cereals

Ans. (4)

DIRECTIONS [Qs. 41 to 45] : In each of the following questions, four words have been given, out of which three are alike in some manner and the fourth one is different.

Choose out the odd one and mark it on answer-sheet as directed.

41. (1) Venus (2) Moon (3) Saturn (4) Mars

Ans. (2)

42. (1) Iron (2) Silver (3) Mercury (4) Zinc

Ans. (3)

43. (1) Infrared rays (2) Ultraviolet rays
 (3) Radio waves (4) X-rays

Ans. (3)

44. (1) Man-Earth (2) Birds-Sky (3) Fish-Water (4) Train-Station

Ans. (4)

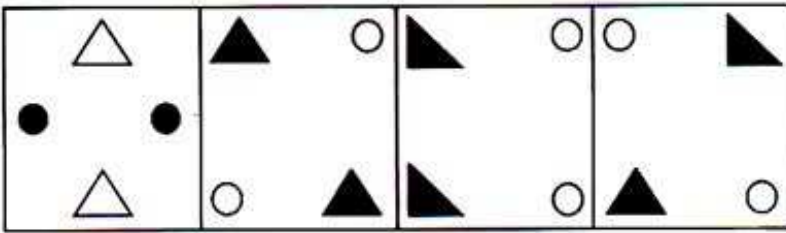
45. (1) Mother (2) Father (3) Brother (4) Teacher

Ans. (4)

DIRECTIONS [Qs. 46 to 50] :

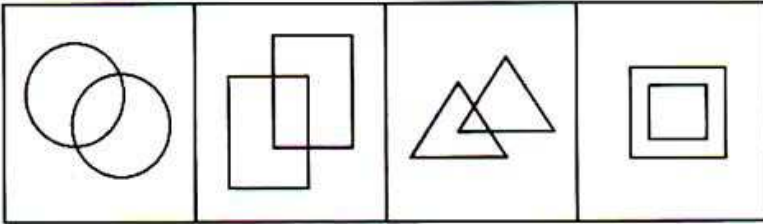
In the question given below, four figures are given. Three of the four figures are similar on the basis of any one property and one is different in all the ways.

Select this different figure.

46. 

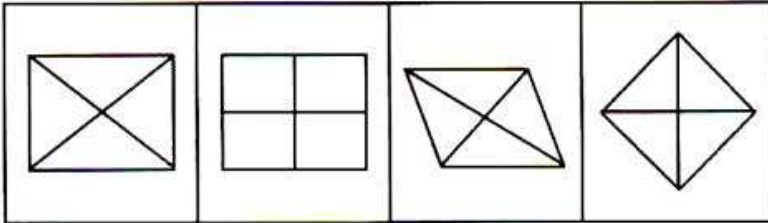
(1) (2) (3) (4)

Ans. (1)

47. 

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

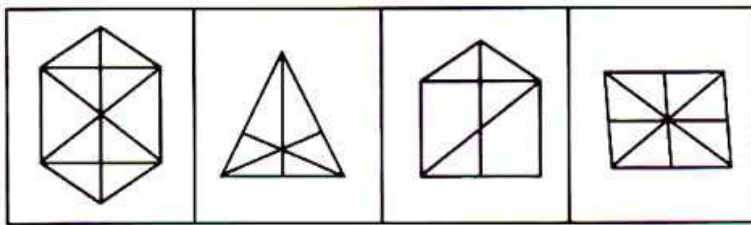
Ans. (4)

48. 

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

Ans. (2)

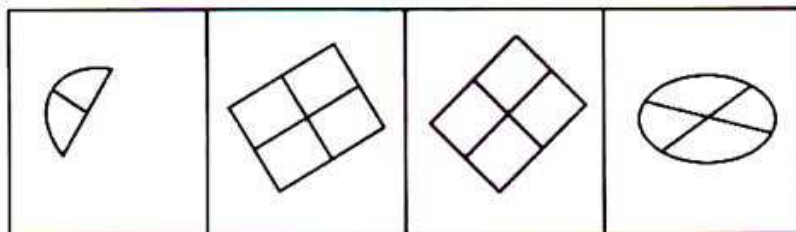
49.



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

Ans. (3)

50.



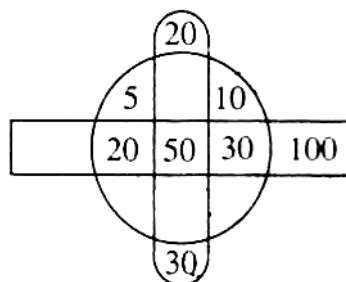
(1) (2) (3) (4)

Ans. (1)

Questions 51 to 53 : Study the diagram shown below and answer the questions based on it.

This Venn diagram shows children's choice of colour.

- * Rectangle shows the choice of White colour.
- * Circle shows the choice of Black colour
- * White capsule shaped shows the choice of Brown colour.



51. How many children like both brown and white but do not like black?
- (1) 10 (2) 20 (3) 50 (4) None of these

Ans. (4)

52. What is the ratio of the children who like brown to those who like black?

- (1) $\frac{5}{3}$ (2) $\frac{1}{2}$ (3) 1 (4) $\frac{5}{6}$

Ans. (BONUS)

53. What is the ratio of children who do not like black to children who only like black and white?

- (1) 3 : 1 (2) 3 : 2 (3) 12 : 5 (4) 5 : 12

Ans. (1)

54. If, WORLD = YMTJF then, CONCERN = ?

- (1) AQLECTL (2) EQPEGTP (3) EMPAGPP (4) AMLACPL

Ans. (3)

55. If, PEN = 613 and STRING = 580934 then, RIPENING = ?

- (1) 09631934 (2) 09163934 (3) 09316934 (4) 09613934

Ans. (4)

56. If, 'UNCLE' is written as 'QQYOA', then what will be written to 'COLUMN'?

- (1) YROXIQ (2) YRHQIQ (3) YHRXIQ (4) YRHXIQ

Ans. (4)

57. If, HIDE = 1440, then what will be the value of 'WIDE'?

- (1) 1560 (2) 3265 (3) 4140 (4) 2580

Ans. (3)

58. In a class of 52 students, 24 students drink milk, 28 students drink tea and 8 students do not drink anything. Find how many students drink both milk and tea.

- (1) 8 (2) 6 (3) 2 (4) 10

Ans. (1)

59. If P means ' \div ', Q means '+', R means '-' and S means ' \times ', then what will be the value of 10R192P48S48P96Q1?

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

Ans. (2)

60. If '+' means ' \times ', '-' means ' \div ', ' \times ' means '+' and ' \div ' means '-' then compute the value of following expression: $45 - 9 + 4 \times 5$

- (1) 21 (2) 25 (3) 26 (4) 23

Ans. (2)

61. Pointing to K, M says that I am the daughter of his grandfather's only son. How is M related to K?

- (1) Mother (2) Maternal Aunt (3) Daughter (4) Sister

Ans. (4)

62. Which signs should be interchanged to correct the equation given below?

$$4 - 13 \div 7 + 6 \div 7 \times 1 = 5$$

- (1) \times and $+$ (2) $-$ and \times (3) $+$ and -1 (4) $+$ and \times

Ans. (3)

63. A, B, C and D are playing cards. A and B are partners. D faces towards North. If A faces towards West, then who faces towards South?

- (1) B (2) C (3) D (4) None of these

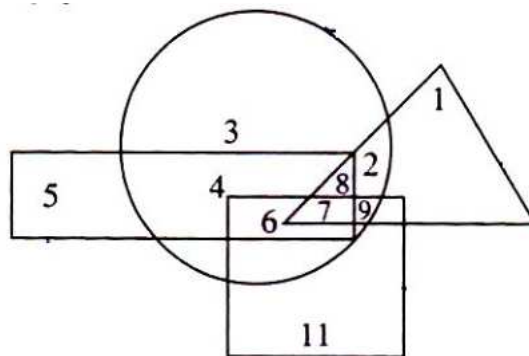
Ans. (2)

64. After walking 6 km., I turned right and covered a distance 2 km., then turned left and covered a distance of 10 km. In the end I was moving towards the North. From which direction did I start my journey?

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

Ans. (1)

[Questions. 65 to 69] : In the following figure, rectangle, square, circle and triangle represent the regions of wheat, gram, maize and rice cultivation respectively. On the basis of figures, answer the following questions.



65. Which area is cultivated by all the four commodities?

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

Ans. (1)

66. Which area is cultivated by wheat and maize only?

- (1) 8 (2) 6 (3) 5 (4) 4

Ans. (4)

67. Which area is cultivated by Rice only?

- (1) 5 (2) 1 (3) 2 (4) 11

Ans. (2)

68. Which area is cultivated by maize only?

- (1) 5 (2) 1 (3) 2 (4) 9

Ans. (BONUS)

69. Which area is cultivated by rice and maize and nothing else?

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

Ans. (3)

70. In the numbers from 100 to 600, how many times digit 1 comes at the ten's place?

- (1) 6 (2) 7 (3) 60 (4) 50

Ans. (4)

71. How many combination of two digits numbers having 8 can be made from the following numbers?

8, 5, 2, 1, 7, 6

- (1) 9 (2) 10 (3) 11 (4) 12

Ans. (3)

72. If every second Saturday and all Sundays are holidays in a 30 days month beginning on Saturday, then how many working days are there in that month?

- (1) 20 (2) 21 (3) 22 (4) 23

Ans. (4)

73. In a row of men, Manoj is 30th from the right and Kiran is 20th from the left. When the interchange their position, Manoj becomes 35th from the right. What is the total number of men in a row?

- (1) 34 (2) 54 (3) 45 (4) 44

Ans. (2)

Question 74 – 77 : In each of the questions given below, there are two statements labeled as **Assertion (A) and Reason (R)**.

Mark your answer as per the options provided below the question.

DIRECTIONS [Qs. 1 to 5] : Find the wrong term of the series :

74. Assertion (A) :

We prefer to wear white clothes in winter.

Reason (R)

White clothes are good reflectors of heat.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
 (3) (A) is true but (R) is false
 (4) (A) is false but (R) is true

Ans. (4)

75. Assertion (A):

Vaccines prevents disease.

Reason (R)

Vaccine must be given to children.

- (1) Both (A) and (R) true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true

Ans. (2)

76. Assertion (A) :

Copper is used to make electrical wires,

Reason (R)

Copper has very low electrical resistance.

- (1) Both (A) and (R) true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true

Ans. (1)

77. Assertion (A) :

Leakage in household gas (LPG) cylinders can be detected.

Reason (R)

LPG has a strong smell.

- (1) Both (A) and (R) true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (3) (A) is true but (R) is false.
- (4) (A) is false but (R) is true

Ans. (1)

Questions 78-80 : In each of the following questions, four probable answers have been given as alternatives.

Selection the most appropriate alternatives as the answer.

78. Your friend has lost his/her purse with your important documents in it. You would

- (1) feel angry but do not react as anyone can make mistakes.
- (2) feel angry and ask him/her to replace duplicate the documents.
- (3) understand the situation and tell him/her that it's OK and not to worry about it.
- (4) blame him/her for being careless and stop talking to him/her.

Ans. (3)

79. A train always has :

- (1) Engine
- (2) Guard
- (3) Driver
- (4) Passengers

Ans. (1)

80. Atmosphere always has :

- (1) Oxygen
- (2) Air
- (3) Dust
- (4) Germs

Ans. (2)

Question 81- 85 : In each of the following questions, various terms an alphabet series/ number series/ alpha-numeral series are given with one term missing as shown by (?).

Choose the missing term out of the given alternatives.

81. $\frac{3}{7}, \frac{4}{11}, (?), \frac{9}{31}, \frac{13}{47}$

- (1) $\frac{6}{15}$
- (2) $\frac{6}{19}$
- (3) $\frac{6}{17}$
- (4) $\frac{5}{15}$

Ans. (2)

82. AJS, GPY, (?), SBK, YHQ

- (1) DMV
- (2) MVE
- (3) OUA
- (4) QZI

Ans. (2)

83. 2A11, 4D13, 12G17, (?)

- (1) 48I19
- (2) 36J21
- (3) 48J21
- (4) 48J23

Ans. (1)

84. 625, 5, 125, 25, 25, (?), 5

- (1) 5
- (2) 25
- (3) 125
- (4) 625

Ans. (3)

85. 4, 8, 28, 80, 244, (?)

- (1) 278
- (2) 428
- (3) 628
- (4) 728

Ans. (4)

Questions 86-90 : Study the given information carefully and answer the questions that follow

- A, B, C, D, E, F and G are sitting on wall and all of them are facing East.
- C is on the immediate right of D.
- B is at an extreme end and has E his neighbour.
- G is between E and F.
- D is sitting third from the south end.

86. Who is sitting to the right of E ?

- (1) A (2) G (3) D (4) F

Ans. (2)

87. Which of the following pairs of people are sitting at the extreme ends ?

- (1) AB (2) AE (3) CB (4) FB

Ans. (1)

88. Name of the person who should change place with C, such that the gets the third place from the north end.

- (1) E (2) F (3) G (4) D

Ans. (3)

89. Immediately between which of the following pairs of people is D sitting ?

- (1) AC (2) AF (3) CE (4) CF

Ans. (4)

90. Who is sitting exactly in the middle of this seating arrangement?

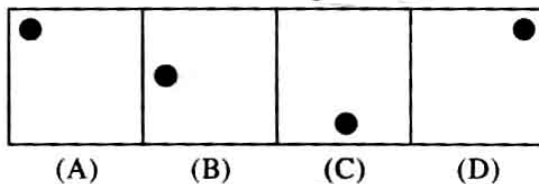
- (1) F (2) G (3) D (4) None of these

Ans. (1)

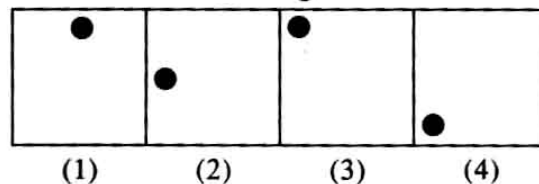
Questions 91-100 : Each of the following consists of four 'Problem-figures' marked A, B, C and D, and four 'Answer-figure' marked 1, 2, 3, & 4. Select the figure from amongst the Answer-figure which will continue the series established by the four problem-figures.

The correct option taken from Answer-figure (1, 2, 3 or 4) will be marked as the answer to the related question on the Answer-Sheet.

Problem Figures



Answer Figures

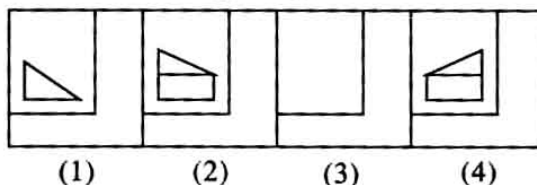
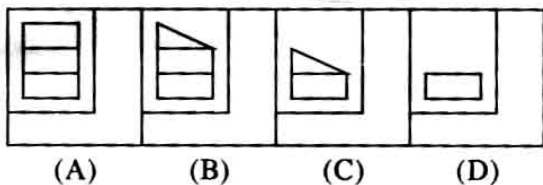


Ans. (1, 4)

Problem Figures

Answer Figures

92.

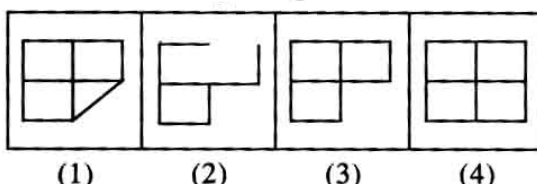
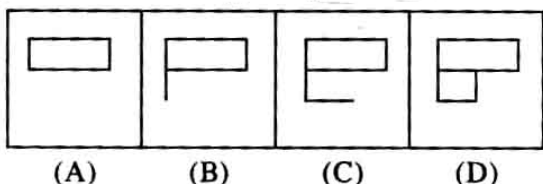


Ans. (3)

Problem Figures

Answer Figures

93.

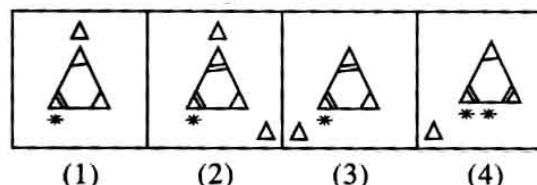
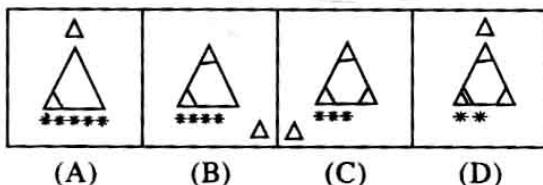


Ans. (3)

Problem Figures

Answer Figures

94.

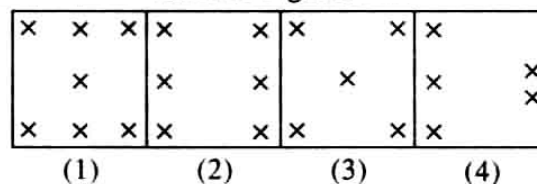
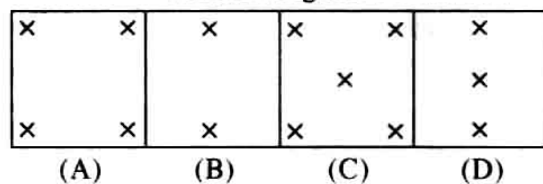


Ans. (2)

Problem Figures

Answer Figures

95.

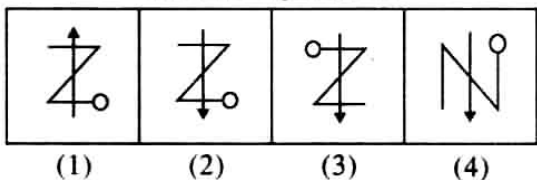
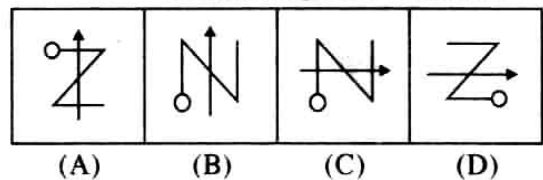


Ans. (2)

Problem Figures

Answer Figures

96.

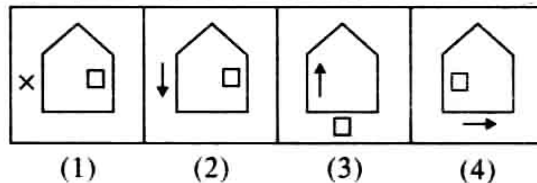
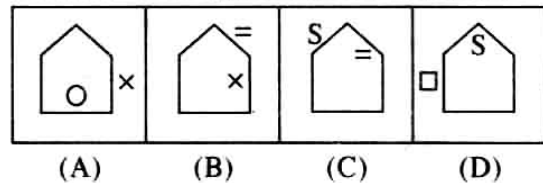


Ans. (2)

Problem Figures

Answer Figures

97.



Ans. (4)

98. **Problem Figures**

(A)	(B)	(C)	(D)

Answer Figures

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

Ans. (2)

99. **Problem Figures**

(A)	(B)	(C)	(D)

Answer Figures

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

Ans. (2)

100. **Problem Figures**

(A)	(B)	(C)	(D)

Answer Figures

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

Ans. (2)