

NTSE Stage-1_2020-21
Mental Ability Test
Time : For General 120 Minutes
For Disabled (Only Blind) – 150 Minutes

Questions: 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 in the middle
- (3) J stand to the left of P and to the right of O
- (4) K stands on the right side of N and on the left side of L

1. Who is the middle of the line?

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

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

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

3. Who is standing to the left of O?

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

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

Questions 5 – 7 : Study the following information and answer the questions give below:

→ P is the father of A whose son is S.

→ L is K's mother who is also the sister of

5. How is A related to L ?

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

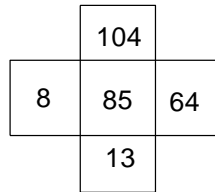
6. How is A related to K ?

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

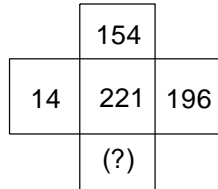
7. How is P related to L ?

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

Questions 8 – 10 : In each of the following question, the numbers have been arranged according to the pattern shown in the sample figure below. Find the missing figure. Replace question mark (?) as a missing character with correct option.



8.



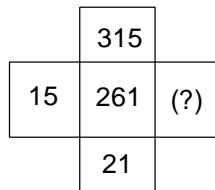
(1) 11

(2) 13

(3) 15

(4) 17

9.



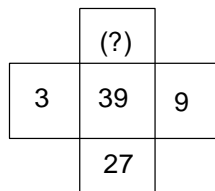
(1) 125

(2) 90

(3) 105

(4) 225

10.



(1) 33

(2) 81

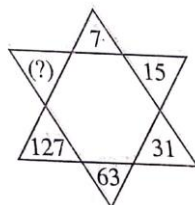
(3) 243

(4) 42

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.

11.



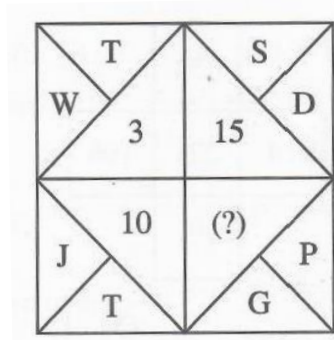
(1) 190

(2) 221

(3) 236

(4) 255

12.



(1) 5

(2) 9

(3) 11

(4) 13

13.

Z_4	X_3	V_9
A_6	C_2	(?)
T_5	R_4	P_{15}

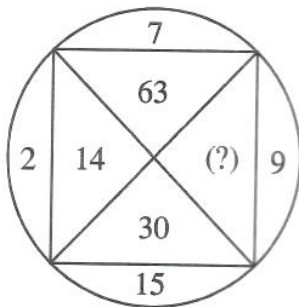
(1) E_{12}

(2) E_{10}

(3) F_{12}

(4) F_{10}

14.



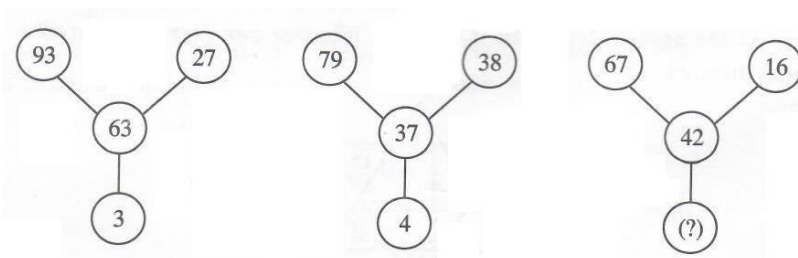
(1) 18

(2) 33

(3) 135

(4) 145

15.



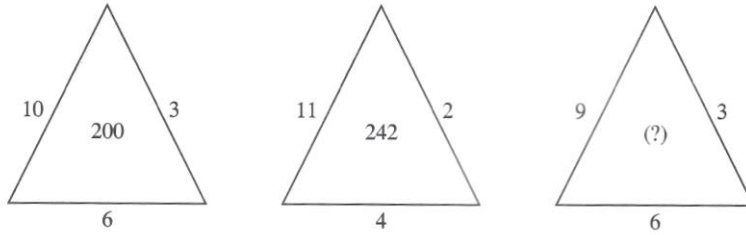
(1) 5

(2) 6

(3) 8

(4) 9

20.



- (1) 486 (2) 72 (3) 162 (4) 243

21.

If $A : B = 2 : 5$
 $B : C = 3 : 4$
 Then what will be the value of $A:C$?

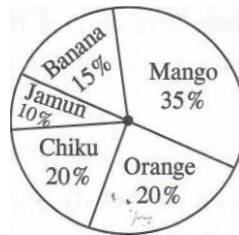
- (1) 1 : 2 (2) 3 : 10 (3) 2 : 3 (4) 5 : 4

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

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°

24.

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

- (1) 192 (2) 288 (3) 384 (4) 336

25.

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

- (1) 1 (2) 1 : 3 (3) 11 : 9 (4) 3 : 1

26.

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

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

27.

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

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

Questions 28 – 32 : Which of the following question is based on the following alphabet series: ABCDEFGHIJKLMNOPQRSTUVWXYZ

28.

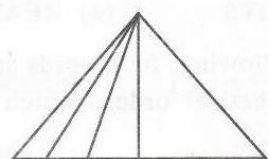
Which letter is exactly midway between G and Q in the given alphabet?

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

29.

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

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

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
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
32. If 'ROME' is written as 'MORE' then 'DARE' is written as:
 (1) RDAE (2) RDEA (3) RAED (4) RADE
33. How many triangles are there in the figure given below?
- 
- (1) 5 (2) 12 (3) 9 (4) 10
34. 'Mirror' is related to 'Reflection' in the same way as 'water' is related to
 (1) Conduction (2) Dispersion (3) Immersion (4) Refraction
35. If the car be a transistor, then what would be Petrol?
 (1) Transmitter (2) Electric (3) Battery/Cell (4) Transmission
36. If the fish were birds, what would be the sea be?
 (1) Forest (2) Sky (3) Nest (4) Island.
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

Questions 38-40 : Three words in bold letters are given 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

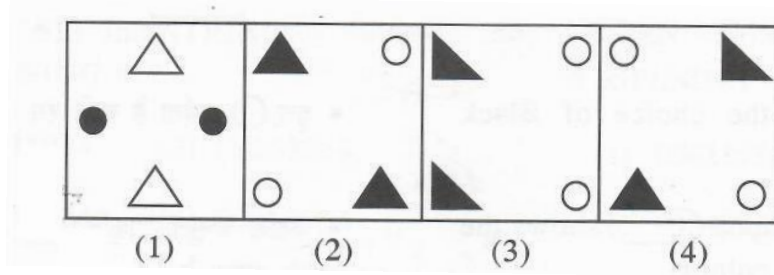
38. Vote : Ballot : Poll
 (1) Election (2) Nomination (3) Selection (4) Participation
39. Newspaper : Hoarding : Television
 (1) Press (2) Media (3) Broadcast (4) Rumour
40. Wheat : Barley : Rice
 (1) Food (2) Agriculture (3) Grams (4) Cereals

Questions 41-45 : 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.

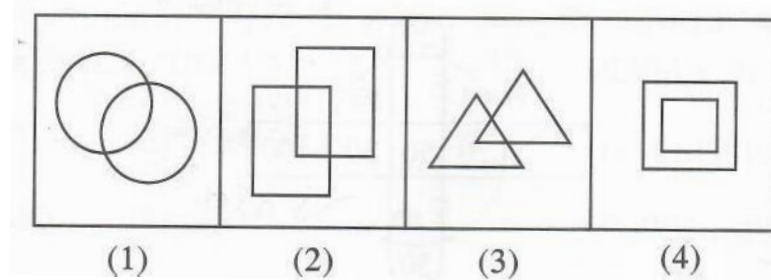
41. (1) Venus (2) Moon (3) Saturn (4) Silver
42. (1) Iron (2) Silver (3) Mercury (4) Zinc
43. (1) Infrared rays (2) Ultraviolet rays (3) Radio waves (4) X-rays
44. (1) Man-Earth (2) Birds- Sky (3) Fish-Water (4) Train-Station
45. (1) Mother (2) Father (3) Brother (4) Teacher

Questions 46-50 : 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.

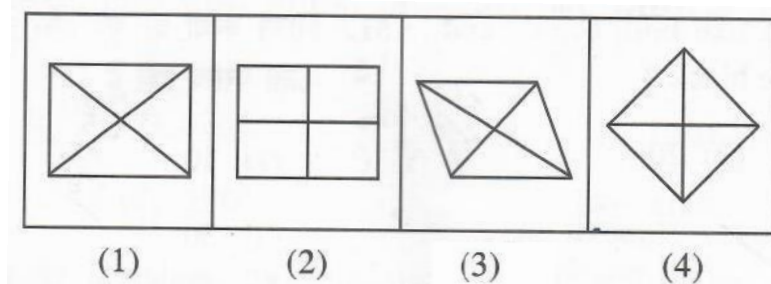
46.



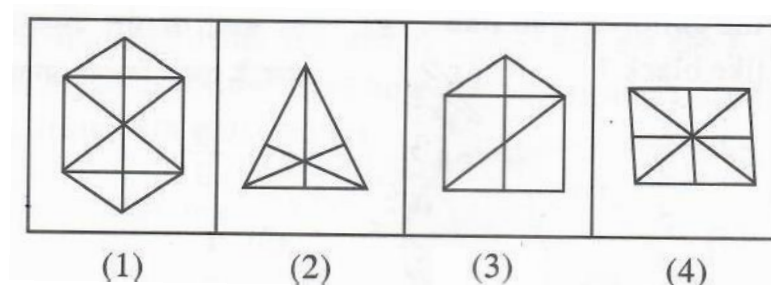
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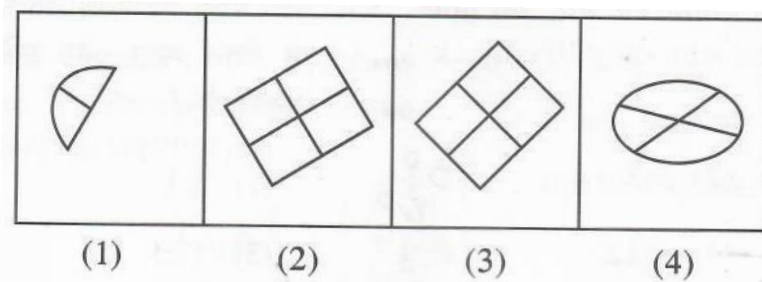
48.



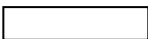


49.

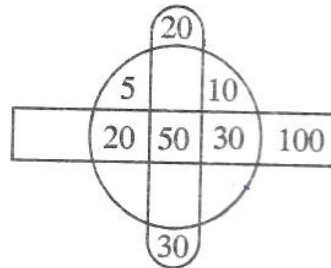


50.



Questions 51 – 53 : Study the diagram shown below and answer the questions based on it. This Venn diagram shows children's choice of colour.

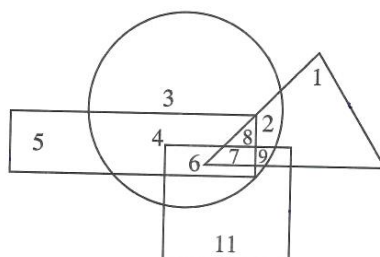
- Rectangle  shows the choice of white colour.
- Circle  Shows the choice of Black colour
- While capsule shaped  shows the choice of Brown colour.



51. How many children like both brown and white but do not like black?
 (1) 10 (2) 20 (3) 50 (4) None of these
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) $\frac{5}{6}$
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
54. If, WORLD = YMTJF then, CONCERN = ?
 (1) AQLECTL (2) AMLACPL (3) EMPAGPP (4) AMLACPL
55. If, PEN = 613 and STRING = 580934 then, RIPENING = ?
 (1) 09631934 (2) 09163934 (3) 09316934 (4) 09613934
56. If 'UNCLE is written as 'QQTOA' then what will be written to ' COLUMN'?
 (1) YROXIQ (2) YRHQIQ (3) YHRXIQ (4) YRHXIQ
57. If, HIDE = 1440, then what will be the value of 'WIDE'?
 (1) 1560 (2) 3265 (3) 4140 (4) 2580
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
59. If P means '÷', Q means '+', R means '-' and S means '×', then what will be the value of 10R192P48S48P96Q1?
 (1) 10 (2) 9 (3) 8 (4) 7
60. If '+' means '×', '-' means '÷', '×' means '+' and '÷' means '-' then compute the value of following expression
 $45 - 9 + 4 \times 5$
 (1) 21 (2) 25 (3) 26 (4) 23

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
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 - (4) + and \times
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
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 journey?
 (1) North (2) South (3) East (4) West

Question 65 – 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 figure, answer the following questions.



65. Which area is cultivated by all the four commodities?
 (1) 7 (2) 8 (3) 9 (4) 2
66. Which area is cultivated by wheat and maize only?
 (1) 8 (2) 6 (3) 5 (4) 4
67. Which area is cultivated by Rice only?
 (1) 5 (2) 1 (3) 2 (4) 11
68. Which area is cultivated by maize only?
 (1) 5 (2) 1 (3) 2 (4) 9
69. Which area is cultivated by rice and maize and nothing else?
 (1) 9 (2) 8 (3) 2 (4) 7
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
71. How many combinations 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
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

73. In a row of men, Manoj is 30th from the right and Kiran is 20th from the left. When they 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

Questions 74-77 : In each of the questions given below, there are two statements labelled as **Assertions (A)** and **Reason (R)**.

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

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
75. **Assertion (A) :**
Vaccines prevents disease.
- Reason (R)**
Vaccine must be given to children.
- (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
76. **Assertion (A) :**
Copper is used to make electrical wires.
- Reason (R)**
Copper has very low electrical resistance.
- (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
77. **Assertion (A) :**
Leakage in household gas (LPG) cylinders can be detected.
- Reason (R)**
LPG has a strong smell.
- (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

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

Select 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.
79. A train always has :
- (1) Engine (2) Guard (3) Driver (4) Passengers

80. Atmosphere always has :
 (1) Oxygen (2) Air (3) Dust (4) Germs

Questions 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

81. $\frac{3}{7}, \frac{4}{11}, (?), \frac{9}{31}, \frac{13}{17}$
 (1) $\frac{6}{15}$ (2) $\frac{6}{19}$ (3) $\frac{6}{17}$ (4) $\frac{5}{15}$
82. AJS, GPY, (?), SBK, YHQ
 (1) DMV (2) MVE (3) OUA (4) QZI
83. 2A11, 4D13, 12G17, (?)
 (1) 48I19 (2) 36J21 (3) 48J21 (4) 48J23
84. 625, 5, 125, 25, 25, (?), 5
 (1) 5 (2) 25 (3) 125 (4) 625
85. 4, 8, 28, 80, 244, (?)
 (1) 278 (2) 428 (3) 628 (4) 728

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
87. Which of the following pairs of people are sitting at the extreme ends?
 (1) AB (2) AE (3) CB (4) FB
88. Name of the person who should change place with C, such that he gets the third place from the north end.
 (1) E (2) F (3) G (4) D
89. Immediately between which of the following pairs of people is D sitting?
 (1) AC (2) AF (3) CE (4) CF
90. Who is sitting exactly in the middle of this seating arrangement?
 (1) F (2) G (3) D (4) None of these

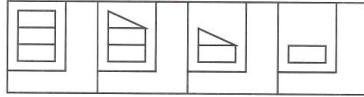
Questions 91-100: Each of the following consists of four 'Problem-figures' marked A, B, C and D, and four 'Answer-figure' marked 1, 2, 3, & 4. Select the figure from amongst the Answer-figure which will continue the series established by the four problem-figures.

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.

91. Problem Figures / समस्या चित्र
- | | | | |
|-----|-----|-----|-----|
| | | | |
| (A) | (B) | (C) | (D) |
- Answer Figures / उत्तर चित्र
- | | | | |
|-----|-----|-----|-----|
| | | | |
| (1) | (2) | (3) | (4) |

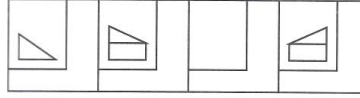
92.

Problem Figures / समस्या चित्र



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

Answer Figures / उत्तर चित्र



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

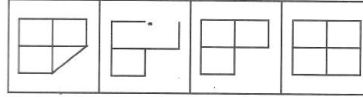
93.

Problem Figures / समस्या चित्र



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

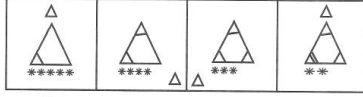
Answer Figures / उत्तर चित्र



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

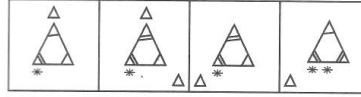
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Problem Figures / समस्या चित्र



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

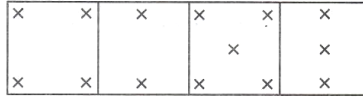
Answer Figures / उत्तर चित्र



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

95.

Problem Figures / समस्या चित्र



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

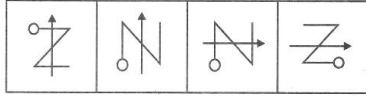
Answer Figures / उत्तर चित्र



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

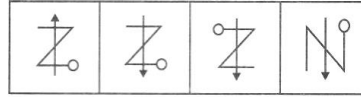
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Problem Figures / समस्या चित्र



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

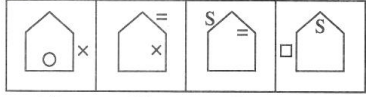
Answer Figures / उत्तर चित्र



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

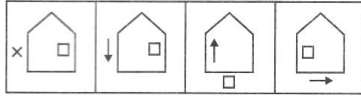
97.

Problem Figures / समस्या चित्र



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

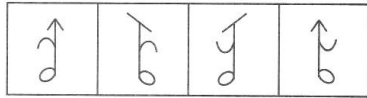
Answer Figures / उत्तर चित्र



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

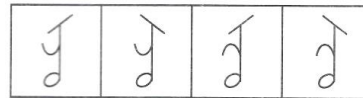
98.

Problem Figures / समस्या चित्र



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

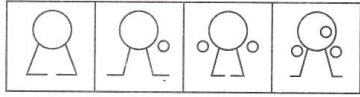
Answer Figures / उत्तर चित्र



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

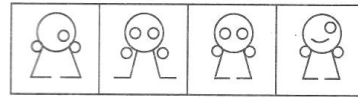
99.

Problem Figures / समस्या चित्र



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

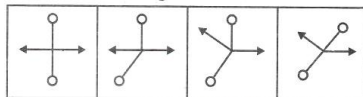
Answer Figures / उत्तर चित्र



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

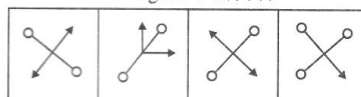
100.

Problem Figures / समस्या चित्र



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

Answer Figures / उत्तर चित्र



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