NTSE STAGE - I – 2020 - 2021
TAMIL NADU
PART – I MENTAL ABILITY TEST

Direction (Question Numbers 1 to 7): in each series, the alphanumerals are following certain rule or pattern. Choose the answer from the given four alternatives.

1. 5, 12, 26, 47, 75, __?__
    (A) 99   (B) 110   (C) 105   (D) 93

2. 0, 2, 6, 12, 20, __?__
    (A) 24   (B) 26   (C) 28   (D) 30

3. 5, 10, __?__, 50, 122, 170
    (A) 26   (B) 37   (C) 49   (D) 27

4. 2, 2, 5, 4, 10, 8, 17, 14, __?__, 22
    (A) 24   (B) 25   (C) 26   (D) 30

5. 256, 10, 128, 40, __?__, 160, 32
    (A) 64   (B) 50   (C) 58   (D) 54

6. –5A, 0F, –3C, 20Z, ____, 19Y
    (A) 2G   (B) 1G   (C) 2H   (D) 2I

7. PRT, QTW, ___, SXC, TZF
    (A) RWZ   (B) RVY   (C) RUY   (D) RVZ

Direction (Questions Numbers 8 to 12): In each of the following series, ont term is wrong. Identify the wrong term.

8. 0, 6, 24, 64, 120, 210
    (A) 120   (B) 64   (C) 210   (D) 24

9. 73, 58, 94, 69, 116, 80, 136, 91, 157
    (A) 58   (B) 69   (C) 116   (D) 80

10. 1, 3, 5, 9, 18, 33, 65, 129
    (A) 18   (B) 9   (C) 65   (D) 33

11. AB, EG, IL, MP, QV, UA
    (A) IL   (B) QV   (C) MP   (D) UA

12. Z, X, S, T, R, P, N, L
    (A) R   (B) X   (C) T   (D) S

Direction (Question Numbers 13 and 14): Read the questions and choose the proper answer.

13. 'Angle' is related to 'Radian' in the same way as 'Force' is related to:
    (A) Newton   (B) Pascal   (C) Joule   (D) Watt

14. 'Book' is related to 'Page' then 'Flower' is related to:
    (A) Essence   (B) Fragrance   (C) Petal   (D) Garland

Direction (Question Numbers 15 and 16): First two terms are connected by some relationship. The same relationship is applicable for the next pair. Identify the suitable pair.

15. Paddy : Field : :__?__ : __?__
    (A) Steel, Mine
    (B) Steel, Ore
    (C) Steel, Factory
    (D) Steel, Iron

16. 7 : 77 : : __?__ : __?__
    (A) 3, 12
    (B) 5, 30
    (C) 2, 5
    (D) 5, 35

Direction (Question Numbers 17 to 19): First pair is connected by some relationship. The same relationship is applicable for the next pair. Identify the missing term in the second pair.

17. throw : collect : : push : __?__
    (A) pull
    (B) door
    (C) window
    (D) knock

18. apparel : shirt : : __?__ : necklace
    (A) gold
    (B) jewellery
    (C) silver
    (D) ring

19. AB : ZY : : EF : __?__
    (A) UV
    (B) VW
    (C) WV
    (D) VU

Direction (Question Number 20): Choose the set of numbers from the four alternatives which is similar to the given set.

20. (7, 14, 23)
    (A) (18, 25, 32)
    (B) (27, 36, 45)
    (C) (5, 11, 19)
    (D) (18, 25, 34)

Direction (Questions Numbers 21 to 27): Read the information given in the questions and answer the following.

21. In the following letter series, some of the letters are missing which are given in the alternatives in order. Choose the correct alternative.
    abb ___ baa___ a___ bab ___ ab
    (A) cccc
    (B) baab
    (C) abab
    (D) abba

22. Choose the group of letters which is different from others.
    (A) BCE
    (B) KJM
    (C) PQS
    (D) ZAC

23. If, in a certain code language 'FRUIT' is coded as 'ZLOCN' then 'FLOWER' is coded as:
    (A) ZFIQYM
    (B) AFIQYM
    (C) ZFIQYL
    (D) AFIQYL

24. If C = 6, BE = 14, L = 24 and BAG = 20 then 'LUGGAGE' is :
    (A) 120
    (B) 60
    (C) 240
    (D) 44

25. In a code language:
    (i) 'im be pee' means 'petals are blue'
    (ii) 'sik hee' means 'red flowers'
    (iii) 'pee mit hee' means 'flowers' are fragrant'.
    Then, 'fragrant are red flowers' is:
    (A) pee im mit hee
    (B) im be sik mit
    (C) be sik pee mit
    (D) sik hee pee mit

26. If a + b = 51 ; x + y = 5, then p − q is:
    (A) 1
    (B) − 1
    (C) 3
    (D) 20

27. A mountain has always ____
   (A) animals   (B) trees   (C) height   (D) birds

Direction (Question Number 28): Arrange the given words in a meaningful sequence and choose the most appropriate sequence.

28. (a) cow   (c) curd   (c) milk   (d) butter
   (A) (a), (d), (c), (b)   (B) (c), (d), (b), (a)
   (C) (a), (b), (c), (d)   (D) (a), (c), (b), (d)

Direction (Question Number 29): Choose the best reaction from the alternatives for the given situation.

29. You are cycling on the narrow crowded street and suddenly you see a one rupee coin on the pavement. What action will you take?
   (A) Take the coin and give it to a begger
   (B) Take the coin and pocket it yourself
   (C) Leave it where it is.
   (D) Take the coin and deposit in the nearest police station.

Direction (Question Number 30): Arrange the given words in dictionary alphabetical order and choose the word which comes in the middle.

30. (a) credential   (b) creed   (c) colour   (d) credible   (e) creak
   (A) (a)   (B) (c)   (c) (b)   (d) (d)

Direction (Question Number 31 to 40): Read the instructions and information given in the questions, and choose the best alternative.

31. Choose the word which can't be made from the letters of the word CHOREOGRAPHY.
   (A) GRAPH   (B) GEOGRAPHY   (C) CORE   (D) ROGUE

32. Select the combination of numbers so that the letters arranged accordingly will form a meaningful word.
I	P	E	C	L	O
1	2	3	4	5	6

   (A) 265143   (B) 651432   (C) 265134   (D) 261543

33. A meaningful word starting with 'A' and the other four letters are from the first, second, fourth and fifth letters of the word 'CONTRACT'. The last letter of the meaningful word is:
   (A) O   (B) T   (C) R   (D) A

34. The number of P's in the following series which are immediately followed by B as well as immediately preceded by Z is:
   P M B Z P N P P B Z P B P Z B P P Z P B P Z P B
   (A) 5   (B) 6   (C) 4   (D) 3

35. If the alphabet series is written in the reverse order, which letter will be sixth to the left of eighteenth letter from the right?
   (A) C   (B) X   (C) B   (D) Y

36. Three of the following four are alike in a certain way. Which one of them does not belong to that category?
   Carrot, Sweet pototo, Beetroot Potato
   (A) Potato   (B) Beetroot
   (C) Carrot   (D) Sweet potato

37. After walking 10 kms, a person turned right and covered a distance of 5 kms. Then, turned left and covered a distance of 20 kms. In the end, the person was moving towards south. In which direction did the person start his journey?
(A) West   (B) East   (C) North   (D) South

38. A group of 150000 persons consists of captains and soldiers. There is one captain for every 15 soldiers. The number of captains in the group is:
(A) 10000   (B) 9375   (C) 9275   (D) 9475

39. In an examination, a student scores 3 marks for every correct answer and loses one mark for every wrong answer. If she attempts all the 120 questions and secures 80 marks, the number of questions she attempted wrongly, is:
(A) 70   (B) 50   (C) 60   (D) 80

40. Two statement(I) and (II) are followed by conclusions (1) and (2). Read the statements and conclusions and give the correct answer.
Statements:
(I) Some fans are sweets.
(II) All sweets are tube lights.
Conclusions:
(1) Some fans are tube lights
(2) Some tube lights are fans.
(A) Either conclusions follow
(B) Only conclusion (1) follows
(C) Only conclusion (2) follows
(D) Neither conclusion (1) nor (2) follows

Direction (Question Numbers 41 to 46): The given operators convey new meaning. Read the meanings / instructions and find the answer.

41. If 'x' means '+', '÷' means '– ', '– ' means 'x' and '+' means '÷' then:
8 x 7 – 8 + 40 ÷ 2 =
(A) 48   (B) 68   (C) $7\frac{2}{5}$ (D) 7

42. If '–' means '÷', '+' means 'x ', '÷ ' means '–' and 'x' means '+' then which of the following is correct?
(A) 52 ÷ 4 + 5 x 8 – 2 = 36   (B) 43 x 7 ÷ 5 + 4 – 8 = 25
(C) 36 x 4 – 12 + 5 ÷ 3 = 420   (D) 36 – 12 x 6 ÷ 3 + 4 = 60

43. The following relation became incorrect due to the interchange of two signs. Which of the two signs when interchanged makes the relation correct?
7 ÷ 8 x 2 – 16 + 2 = 15
(A) + and -   (B) + and ÷   (C) + and x   (D) ÷ and x

44. If the interchanges are made in signs and numbers, which of the following would be correct?
Interchanges in signs   : + and x
Interchanges in numbers   : 4 and 5
(A) 5 x 4 + 20 = 40   (B) 4 x 5 + 20 – 10 = 95
(C) 5 x 4 + 20 = 104   (D) 5 x 4 + 20 = 75

45. If 5*7 = 74 and 2*8 = 68, then 7*8 is:
(A) 56   (B) 113   (C) 103   (D) 123

46. If 17 + 22 = 12 and 26 + 19 = 18, then (10 + 20) + (12 + 2) is:
(A) 44   (B) 16   (C) 24   (D) 8

Direction (Question Numbers 47 to 54): Read the questions and choose the appropriate answer.

47. A mirror is placed in front of a clock. The clock shows the time 5 hours 50 minutes. The reflection in the mirror is:
    (A) 6 hours 10 min.   (B) 5 hours 10 min.
    (C) 6 hours 50 min.   (D) 5 hours 50 min.

48. The angle between the hour hand and minute hand when the time is 6 hours 45 minutes, is:
    (A) 60°   (B) 62.5°   (C) 65°   (D) 67.5°

49. Raj introduced a girl as the daughter of the daughter of his Aunt's mother. The girl is Raj's:
    (A) daughter   (B) sister   (C) granddaughter   (D) mother

50. The number of combinations of two digit numbers having 4, can be made from the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9 is:
    (A) 16   (B) 11   (C) 17   (D) 18

51. The number of numbers from 1 to 200 which are divisible by 10 but not divisible by 30, is:
    (A) 13   (B) 15   (C) 14   (D) 20

52. A class of students strength 44 took an ability test. Five of them are not qualified the test. Out of the remaining qualified students Sam ranked 18th from the last. His rank from the top is:
    (A) 22   (B) 23   (C) 24   (D) 21

53. Which of the following statements are true?
    (a) Zero in neither positive nor negative
    (b) 1 is neither prime nor composite
    (c) The set of non-negative numbers is different from set of positive numbers
    (d) 2 is a prime but not composite
    (A) (a) and (b) only   (B) (a), (b) and (c) only
    (B) (a), (c) and (d) only   (D) All of the above

54. Which of the following are not true?
    (a) All the integers are rational numbers
    (b) π is an irrational number
    (c) A rational number need not be a proper fraction
    (d) 0 is a rational number
    (A) None of the above   (B) (a) and (d) only
    (C) (a) and (b) only   (D) All the above

Direction (Question Numbers 55 to 58): Find the missing character.

55.

    (A) 23   (B) 22   (C) 27   (D) 3

56.

(A) 348   (B) – 348   (C) -8   (D) 7

57.

(A) 86   (B) 73   (C) 33   (D) 104

58.

3C	27D	9E
7I	84K	12M
5A	?	13G

(A) 65D   (B) 65G   (C) 35H   (D) 65B
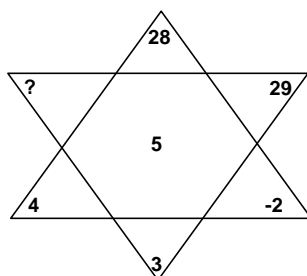
Direction (Question Numbers 59 to 61): Select from the given diagrams (1), (2), (3) or (4), the one that illustrates the relationship among the three classes.
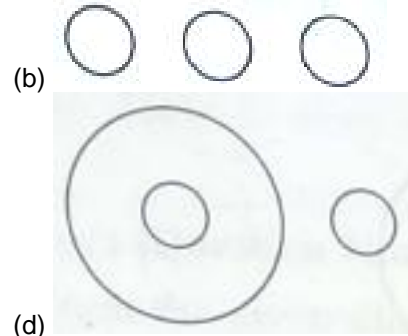
59. Engineers, Agricultural Officers, Professionals

(A)

(B)

(C)

(D)
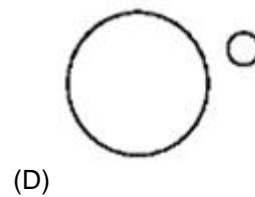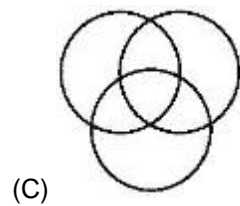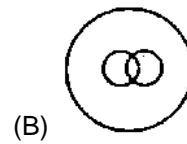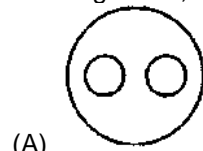
60. Diagrams, triangles, polygons

(A)

(B)

(C)

(D)
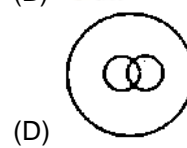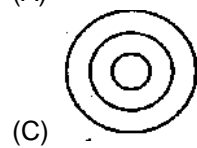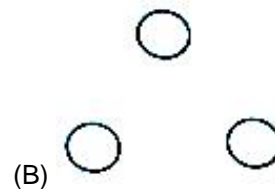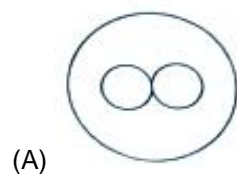
61. Boys, girls, women

(A)

(B)

(C)

(D)
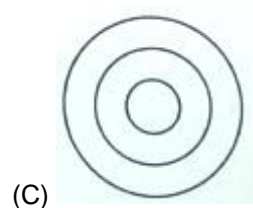
Direction (Question Numbers 62 to 63): Select from the given diagrams (a), (b), (c) or (d) that one illustrates the relationship among given classes.

(a)

(b)

(c)

(d)

62. Haryana, Punjab, Chandigarh
    (A) (b)   (B) (c)   (C) (a)   (D) (d)

63. Pets, Cats, Dogs
    (A) (a)   (B) (b)   (C) (d)   (D) (c)

Direction (Question Numbers 64 to 68): In the following figure, the trapezium stands for employed, the square stands for high salaried, the triangle stands for IT sector, the rectangle stands for people and the circle stands for managerial cadre. Study and go through the figure carefully and answer the questions.
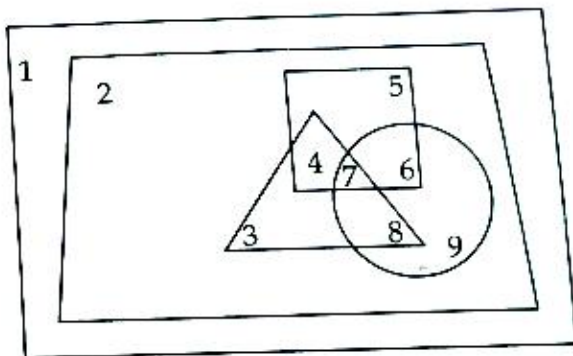
64. The region which represents high salaried, managerial cadre in IT employees is:
    (A) 7   (B) 4   (C) 3   (D) 8

65. The unemployed people represents the region:
    (A) 2   (B) 9   (C) 5   (D) 1

66. Low salaried Managerial Cadre, non-IT employees represents the region:
    (A) 8   (B) 9   (C) 6   (D) 5

67. The region 8 represents:
    (A) High salaried, IT professionals
    (B) Low salaried, men IT professionals
    (C) Low salaried, women IT professionals
    (D) Managerial cadre low salaried IT professionals

68. The regions 4, 5, 6 and 7 represent:
    (A) High salaried people
    (B) High salaried IT sector people
    (C) High salaried managerial cadre people
    (D) Unemployed people

Direction (Question Numbers 69 to 72): Seven persons A, B, C, E, D, F and G are standing in a row left to right. 'A' is standing left to 'D' but right to 'C'. 'G' is standing right to 'E' and left to 'C'. 'B' is standing right to 'D' and left to 'F'.
Read the above information and answer the following questions.

69. The person who is standing in the right end of the row is:
    (A) B   (B) C   (C) D   (D) F

70. The person who is standing in the left end of the row is:
    (A) A   (B) F   (C) E   (D) G

71. The person who is standing in the middle of the row is:
    (A) A   (B) C   (C) D   (D) E

72. The person standing right of G is:
    (A) B   (B) C   (C) A   (D) F

Direction (Question Numbers 73 to 75):

(i) There are four persons P, Q, R, S.
(ii) They wear different colour caps – Red, Green, Blue and White.
(iii) P is neither wearing White nor Green.
(iv) Q is not wearing White.
(v) S wears Red.
Based on the above information answer the questions.

73. R wears :
    (A) White cap   (B) Green cap
    (C) Red cap   (D) Blue cap

74. P wears :
    (A) White cap   (B) Green cap
    (C) Red cap   (D) Blue cap

75. Q wears :
    (A) White cap   (B) Green cap
    (C) Red cap   (D) Blue cap

Direction (Question Numbers 76 to 79): Go through the diagrams in each of the question and choose the answer.

76.
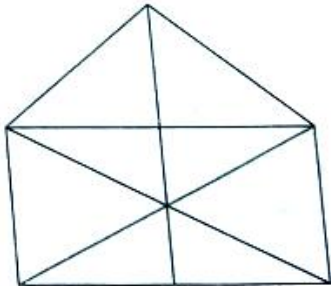
The number of triangles in the given diagram is:
(A) 17   (B) 11   (C) 8   (D) 10

77.
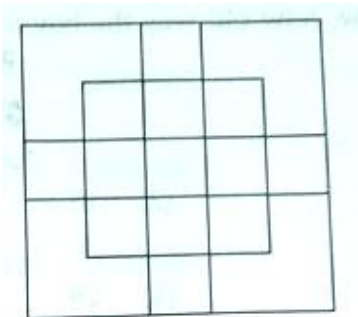
The number of squares in the given figure is :
(A) 18   (B) 27   (C) 21   (D) 24

78.
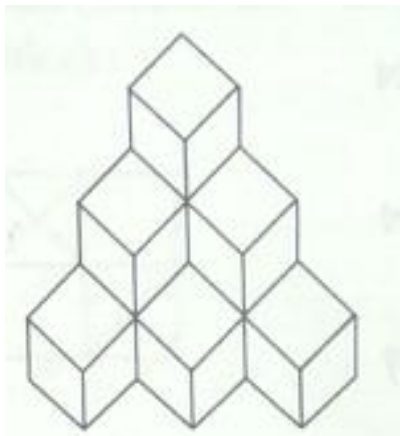
The number of cubes in the following figure is :
(A) 6   (B) 8   (C) 10   (D) 9

79.
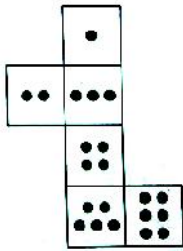
The number of dots lie opposite to the face having three dots, when the given figure is folded to form a cube, is:

(A) 5   (B) 6   (C) 4   (D) 3

80. Father tells his son "I was your present age when you were born". If the father's age is 48 now, how old was the boy 6 years back?

(A) 16   (B) 17   (C) 18   (D) 19

81. The water image of QPN5764 is:

(A)

(B)

(C)

(D)

82. The water image of the given figure is:

(1)   (2)   (3)   (4)
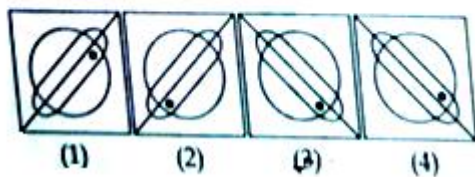
83. The mirror image of 259RSWZ is:

(A)

(B)

(C)

(D)

84. The mirror image of given figure is:

(1)   (2)   (3)   (4)
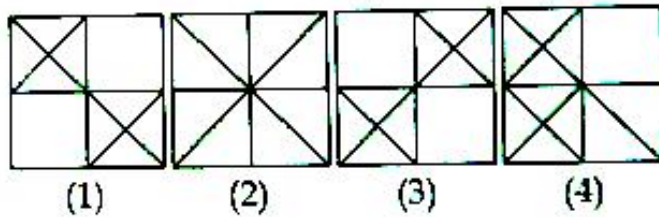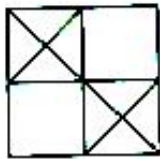
85. A cube is coloured green on all six faces. The side of the cube is 3 cm. It is cut into smaller cubes of equal size of length 1 cm. The number of cubes without colour on any faces:
(A) 1   (B) 3   (C) 4   (D) 0

Direction (Question Numbers 86 to 88): Out of the four figures (1), (2), (3) and (4) three are similar in some way. One figure is not like other three. Select the unlike figure.

86.

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

87.

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

88.
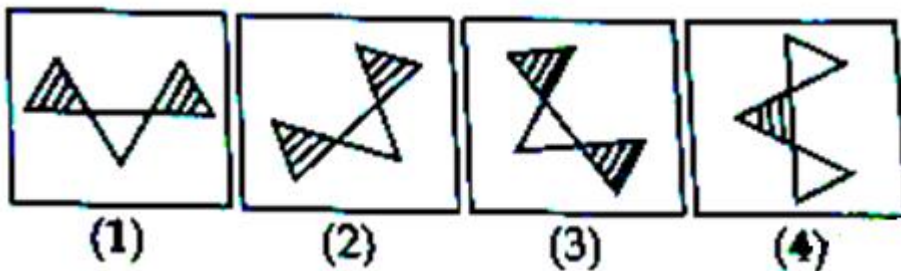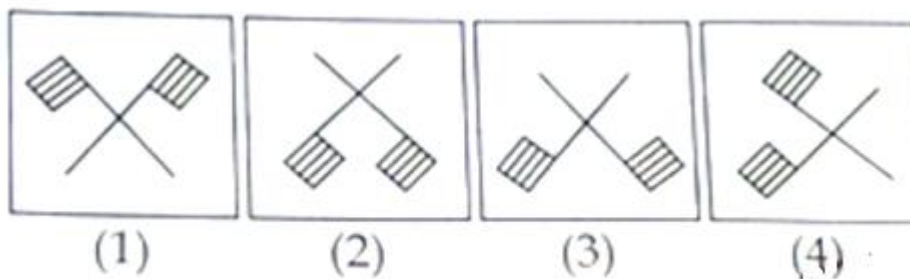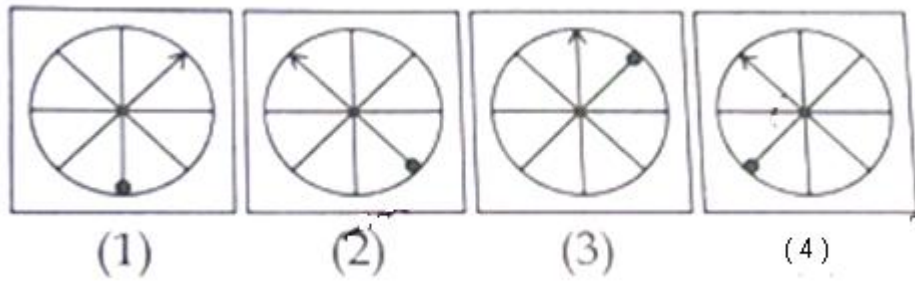
(1) (2) (3) (4)

Direction (Question Number 89): Select the portion of the picture from the four alternatives (1), (2), (3), (4) to complete the following figure.

89.

(1) (2) (3) (4)
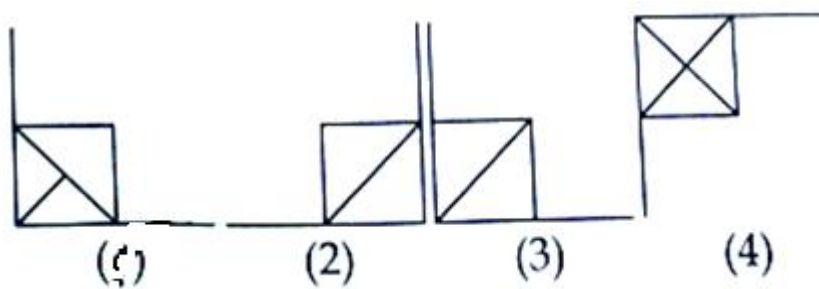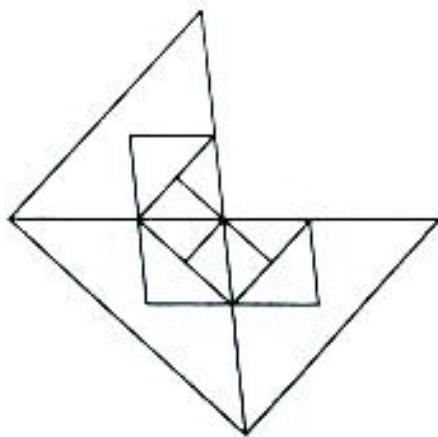
Direction (Question Number 90): A square transparent paper with a pattern is given. Choose amongst the four solution figures which would look like the one when the paper is folded at the dotted line.'

90.

(1)   (2)   (3)   (4)
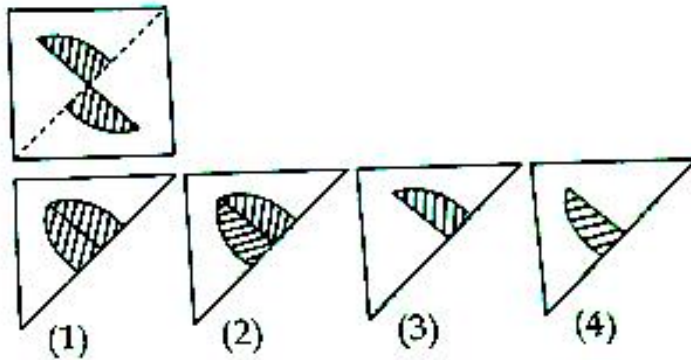
Direction (Question Numbers 91 to 95): In each of the following questions, find the answer figure (1), (2), (3) or (4) which would continue the given series of four figures (A), (B), (C) and (D).

91.

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

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

92.

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

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

93.

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

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

94.

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

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

95.

A 8	E Ǝ	I H	M Ж
(A)	(B)	(C)	(D)

Q И	Q N	P И	O ٩
(1)	(2)	(3)	(4)
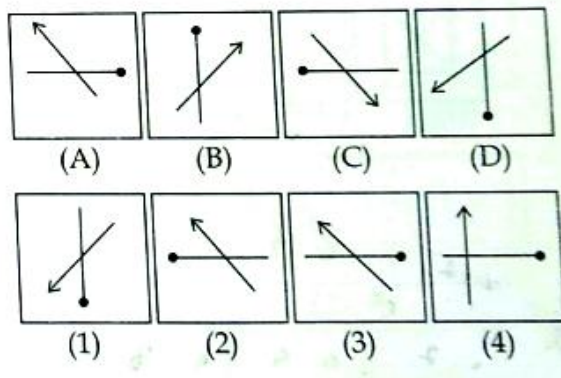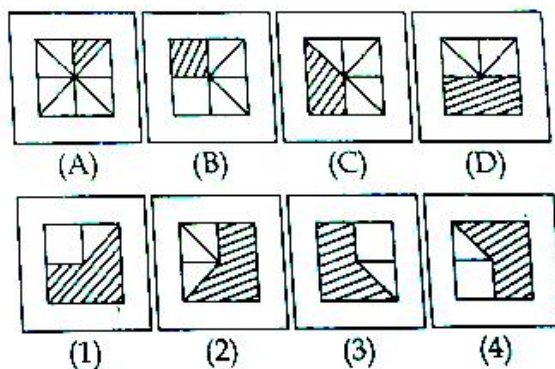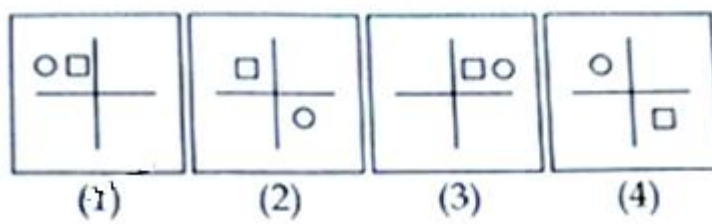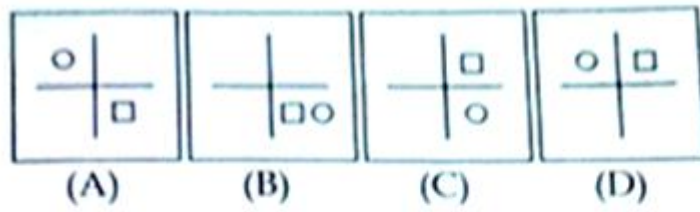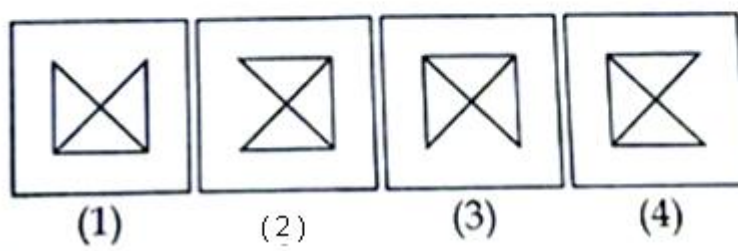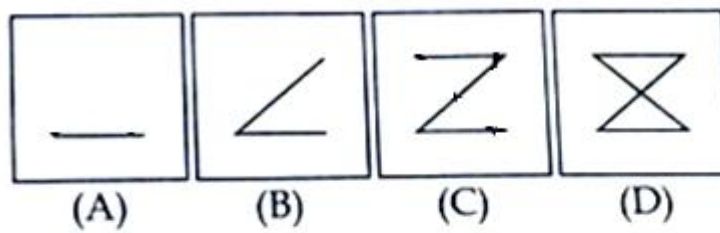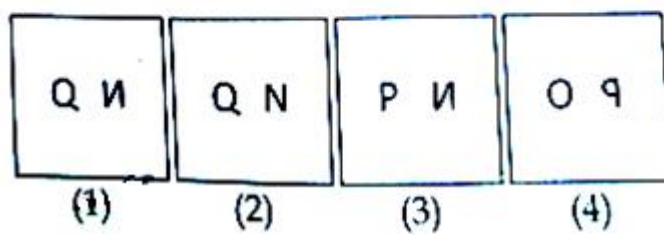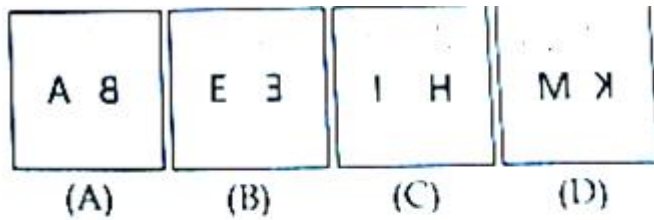
Direction (Question Numbers 96 to 98): The pair of figures (A) and (B) are realted in some manner. In the same manner the other pair of figures (C) and (D) are connected. Choose the figure which replaced (D).

96.

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

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

97.

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

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

98.

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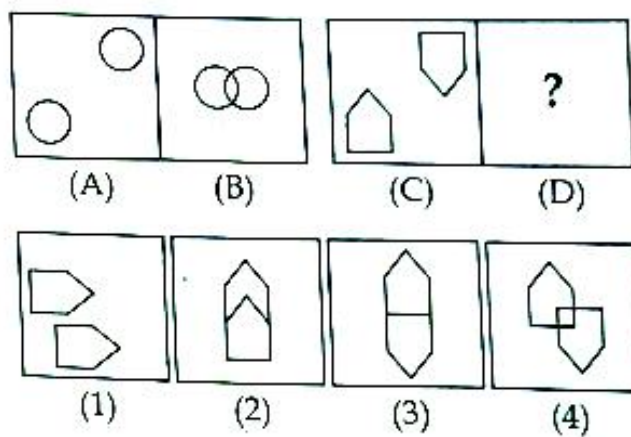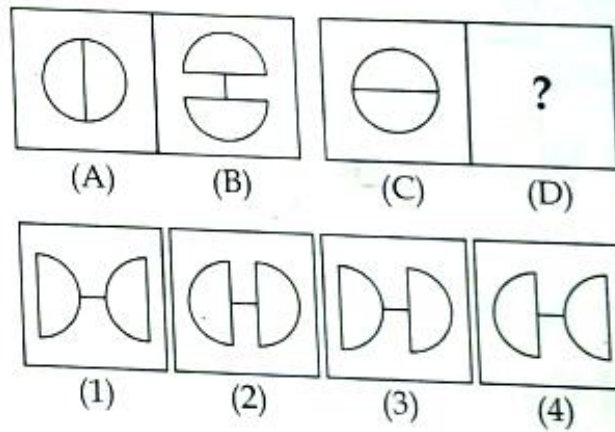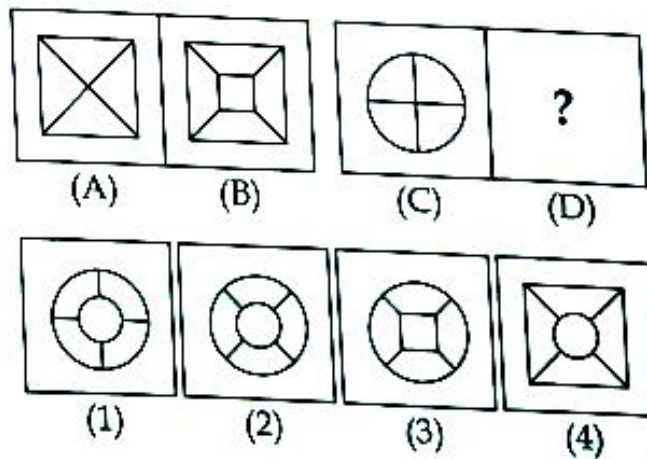
(1) (2) (3) (4)

Direction (Question Numbers 99 to 100): Figure (X) is embedded in any one of the four alternatives (1), (2), (3) or (4). Choose the figure which contains the figure (X).

99.
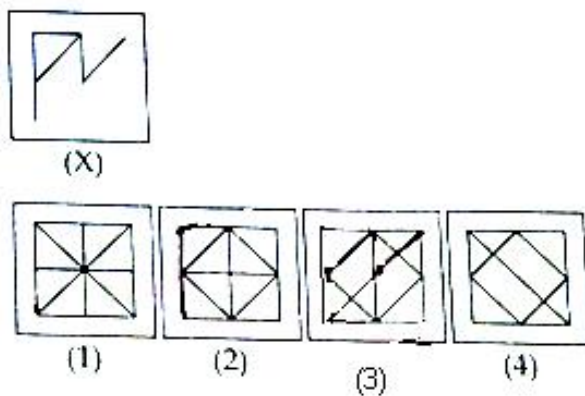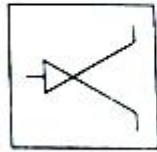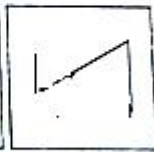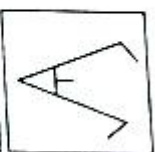
(X)

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

100.

(X)

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

1. (2)

5,   12 ,   26 ,   47 ,   75 ,   ?

+7   +14   +21   +28   +35

$$\therefore 75 + 35 = 110$$

2. (4)

0 , 2 , 6 , 12 , 20 , ?

+2   +4   +6   +8   +10

$$\therefore 20 + 10 = 30$$

3. (1)

5 , 10 , ?   50 , 122 , 170

$2^2 + 1$ $3^2 + 1$ $7^2 + 1$ $11^2 + 1$ $13^2 + 1$

Then $5^2 + 1 = 26$

4. (3)

2 , 2, 5, 4, 10, 8, 17, 14, ? ,22

Alternate   Series

2 , 5 , 10 , 17 , ?

+3   +5   +7   +9

5. (1)

256, 10, 128, 40, ?, 160, 32

Alternate series

256   128 , ? , 32

÷2   ÷2   ÷2
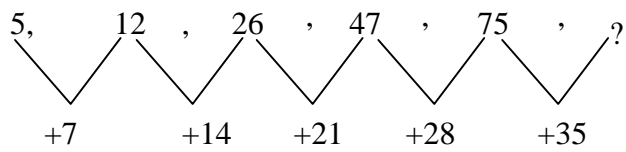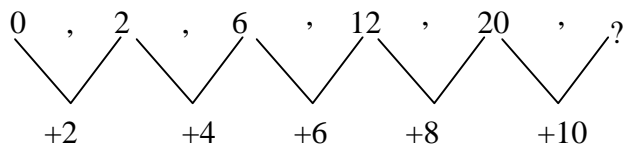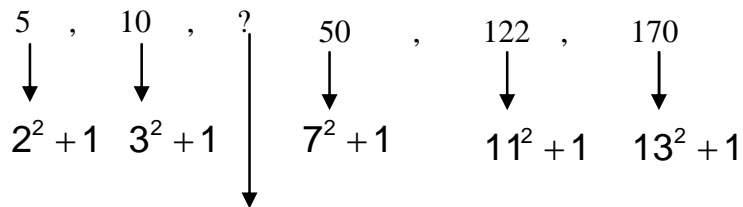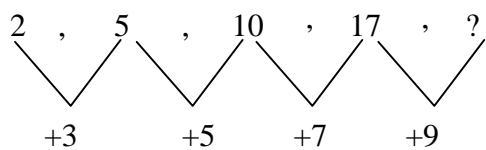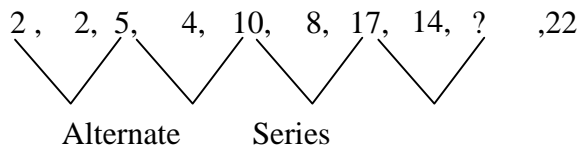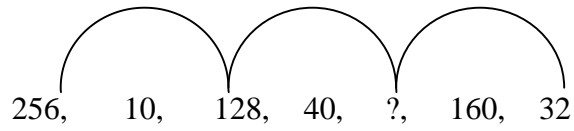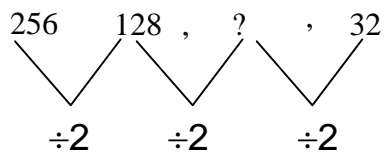
$\therefore 128 \div 2 = 64$

6. (2/3)

-5A	0F	-3C	20Z	?	19y
1	6	3	26		25

Position of Alphabet – 6 = number
From options

(2) 1 G   (3) 2 H

      7   8

$7 - 1 = 6$ $8 - 2 = 6$

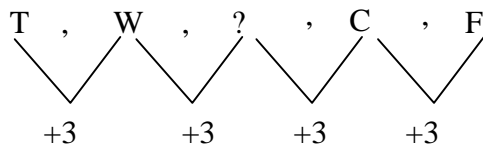$\therefore$ Both (2) and (3) answers
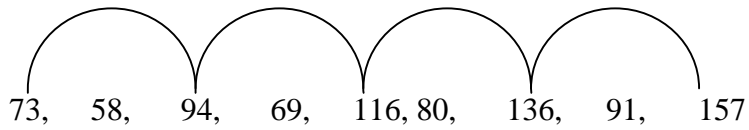
7. (4)
PRT, QTW, ?, SX , TZF
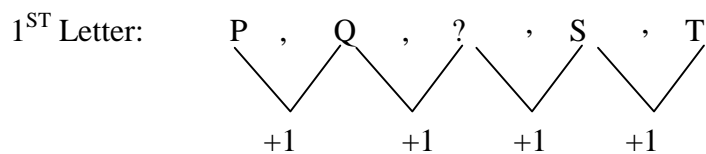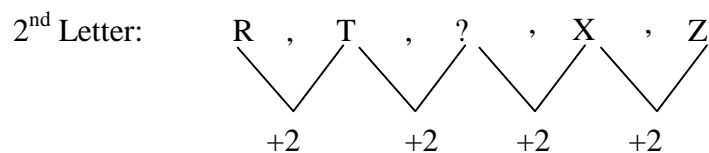
1ST Letter: P , Q , ? , S , T

                +1   +1   +1   +1

So, R

2nd Letter: R , T , ? , X , Z

                +2   +2   +2   +2

So, V

3rd Letter: T ,   W ,   ? ,   C ,   F

$+3$ $+3$ $+3$ $+3$

So, Z

$\therefore$ Answer is RVZ

8.   (2)

0 ,   6 ,   24 ,   64 ,   120 ,   210

$1^3 - 1$ $2^3 - 2$ $3^3 - 3$ 4^3 $5^3 - 5$ $6^3 - 6$

$\therefore$ 64 is wrong

9.   (3)

73,   58,   94,   69,   116, 80,   136,   91,   157

Alternate series:

58 ,   69 ,   80 ,   91

$+11$ $+11$ $+11$

73 ,   94 ,   116 ,   136 ,   157

$+21$ 22 $+20$ $+21$

Next,

73 ,   94 ,   115 ,   136 ,   157

$+21$ $+21$ $+21$ $+21$

$\therefore$ 116 is wrong;

10. (1)

1, 3, 5, , 9, 18, 33, 65, 129
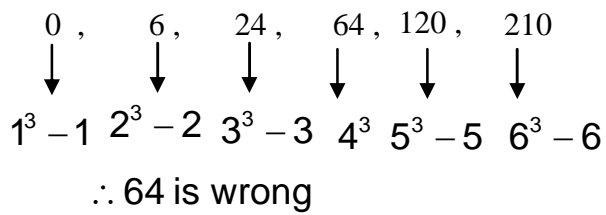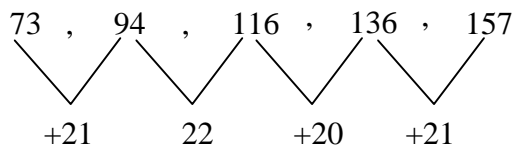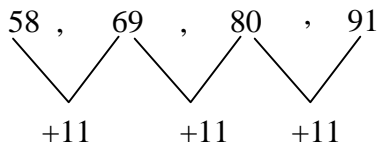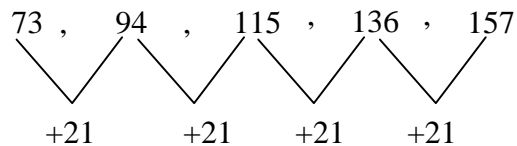
×2−1 ×2−1   ×2−1 ×2−1
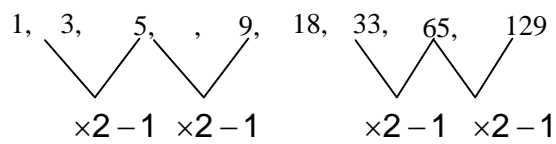
$9 \times 2 - 1 = 17$
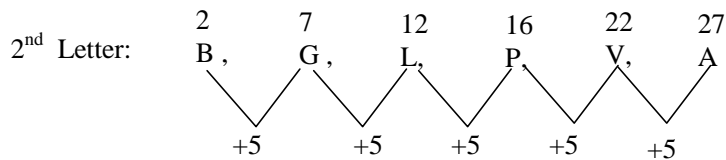
$17 \times 2 - 1 = 33$

$\therefore 18$ is wrong

11. (3)

AB, EG, IL, MP, QV, UA

1st Letter:

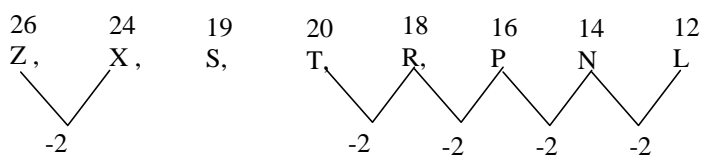| 1	5	9	13	17	21
A,	E,	I,	M,	Q,	U

+4 +4 +4 +4 +4

2nd Letter:

2	7	12	16	22	27
B,	G,	L,	P,	V,	A

+5 +5 +5 +5 +5

$\therefore P$ is wrong

$\therefore MP$ is wrong

12. (4)

26	24	19	20	18	16	14	12
Z,	X,	S,	T,	R,	P	N	L

-2   -2 -2 -2 -2

$\therefore S$ is wrong

X   V   T

-2   -2
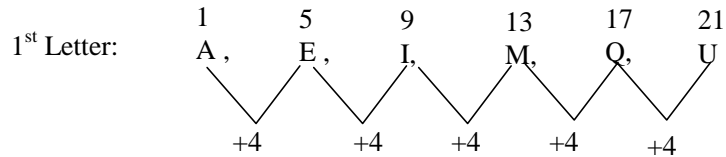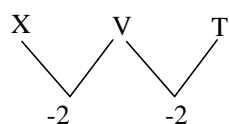
13. (1)
Newton

14. (3)
Petal

15. (3)
Steel: Factory
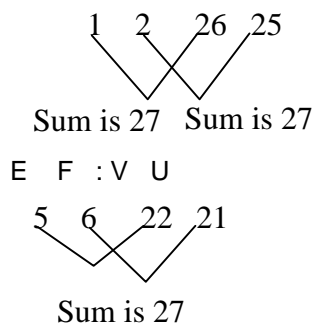
16. (4)
7 : 77 :: ? : ?

$7 \times 11 = 77$

7, 11 are consecutive primes

∴ From optios

(4)   5   : 35
35

5×7

(consecutive primes)

17. (1)
Pull

18. (2)
Jewellery

19. (4)
AB : ZY :: EF : ?

1 2   26 25

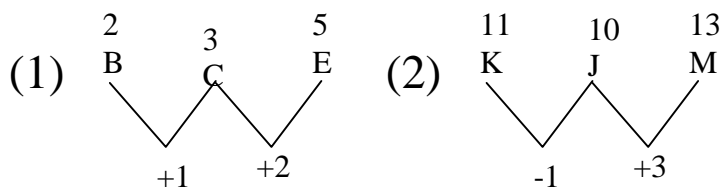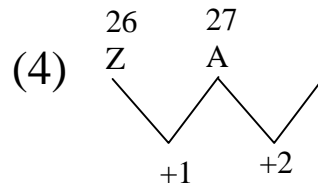Sum is 27   Sum is 27
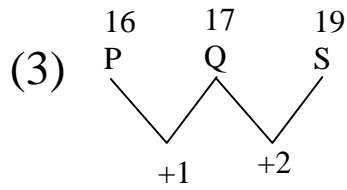
E F :V U

5 6   22 21

Sum is 27

20. (4)

(7   14   23)

+7   +9

(18   25   34)

From options: (4) :   +7   +9

21. (4)
a b b a b a a b | a b b a b a a ab
Sin Answer is a b b a

22. (2)
From options:

(1)
2   3   5
B   C   E
+1 +2

(2)
11   10   13
K   J   M
-1 +3

16   17   19   26   27
(3)   P   Q   S   (4)   Z   A

So, KJM is different

23.   (3)
        6   18   21   9   20
        F   R   U   I   T
        | | | | |
       −6   −6   −6   −6   −6
        | | | | |
        Z   L   O   C   N
       26   12   15   3   14

          6   12   15   23   5   18
          F   L   O   W   E   R
          | | | | | |
      ∴ −6   −6   −6   −6   −6   −6
          | | | | | |
         26   6   9   17   25   12
          Z   F   I   Q   Y   L

        ∴ Answer is ZFIQYL

24.   (1)

L	U	G	G	A	G	E
12	21	7	7	1	7	5

$(\text{sum} \times 2) = (12 + 21 + 7 + 7 + 1 + 7 + 5) \times 2$

$= 60 \times 2 = 120$

∴ Answer is 120

25.   (4)
        Red flowers – sik hee
        Gre   - pee
        Fragrant – mit
   ∴ Fragrant are red flowers is
        (4) sik   hee   pee   mit.

26. (1)

A   B   C X   Y   Z
26   25 24   3   2   1
a + b = 51
26 + 25 = 51
x + y = 5
3 + 2 = 5
p − q = ?
11 − 10 = 1

27. (3)
Height

28. (4)
Cow, Milk, Curd, Butter

29. (4)
As a responsible citizen we should not take which is not ours.

30. (1)
Credential

31. (4)
'U' is not there in the word

32. (1)

2	6	5	1	4	3
P	O	L	I	C	E

33. (3)
A, C, O, T, R
ACTO<u>R</u>

34. (4)
ZPB, 3 such sequences

35. (2)

Z Y ⊗ ………C B R

$\longleftarrow$

6 − L + 18 − R = 24 R

36. (1)
Potato is a Tuber, all others are root

37 (4)
South

10km

5km

20km
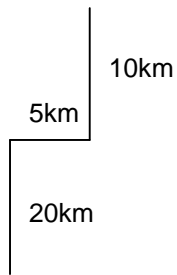
38.   (2)
15 + 1 = 16

$$\frac{150000}{16} = 9375$$

39.   (1)
Wrong – x
Correct – (120 – x)
(120 – x) 3 – x = 80
360 – 3x – x = 80
4x = 280
X = 70

40.   (1)

E   TL
                    S
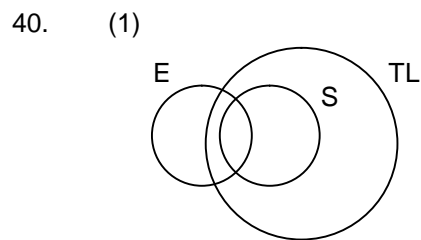
1 -   √

2 -   √

Both 1 and 2 correct

41.   (3)

$$8 + 7 \times 8 \div 40 - 2$$

BODMAS Rule

$$8 + \frac{7}{5} - 2$$

$$= 7\frac{2}{5}$$

42. (1)
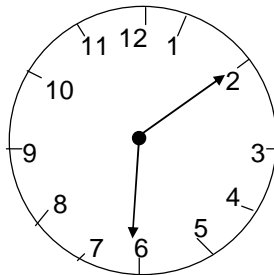$$52 - 4 \times 5 + 8 \div 2 = 36$$
$$52 - 20 + 4 = 36$$
$$36 = 36$$

43. (2)
$$7 + 8 \times 2 - 16 \div 2 = 15$$
$$7 + 16 - 8 = 15$$
$$15 - 15$$

44. (3)
$$5 \times 4 + 20 = 104$$
$$4 + 5 \times 20 = 104$$
$$4 + 100 = 104$$
$$104 = 104$$

45. (2)
$$5 \times 7 = 74$$
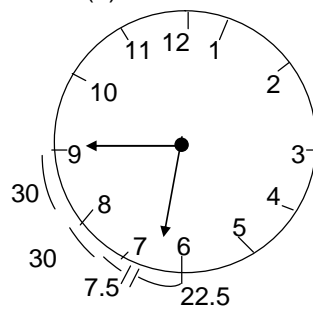$$5^2 + 7^2 = 74$$
$$25 + 49 = 74$$
$$7 \times 8 =$$
$$49 + 64 = 113$$

46. (4)
17 + 22 = 12
(1 + 7) (2 + 2) = 12
8 + 4 = 12
2 6 + 19 = 18
(2 + 6) + (1 + 9) = 18
8 + 10 = 18
(10 + 20) + (12 + 2)
(1 + 0) + (2 + 0) + (1 + 2) + (2)
(1 + 2) + (3 + 2)
3 + 5 = 8

47.   (1)

6 : 10

48.   (4)

Hour needle
60M – 30°
45M – 22.5°
$\therefore 30 + 30 + 7.5$

$= 67.5°$

49.   (2)
The daughter of the daughter of (his Aunt's mother)
The daughter of the (daughter of Grand mother)
The daughter of the (Aunt / Mother)
Cousin / Sister

50.   (3)
14, 24, 34, 41, 42, 43, 44, 45, 46, 47, 48, 49, 54, 64, 74, 84, 94

51.   (3)
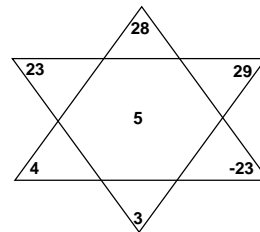The no. of no's dt $\rightarrow$ 200 which divi 10 but not 30

divisible $10 \rightarrow 20$

divisible $30 \rightarrow 6$

$\overline{14}$

52. (1)
Total is 44 − 5 = 39

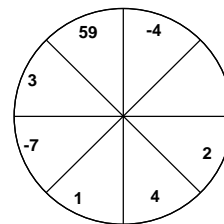$$\text{Total} = 40$$
$$- 18$$
$$\overline{\underline{22}}$$

53. (4)
All the given options are true.

54. (1)
All the given options are true
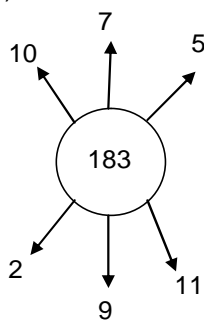
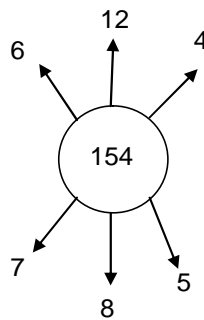55. (1)
28 − 3   = 25
29 − 4   = 25
23 − (-2) = 25
(1) 23

56. (2)

$$2^3 - 5 = 3$$
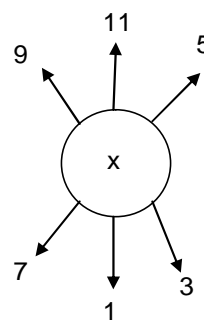$$4^3 - 5 = 59$$
$$1^3 - 5 = -4$$
$$(-7)^3 - 5 = -348$$

57. (2)

= 5 × 2 + 10 × 11 × 7 + 7 × 9
=10 + 110 + 63
= 183

= 12 × 8 + 4 × 7 + 6 × 5
=96 + 28 + 30
= 154

= 9 × 3 +
5 × 7 + 11
× 1
=27 + 35
+ 11
= 73

58. (1)

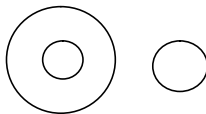| 3C	27D	9E
7I	84K	12M
5A	?	13G

3C × 9 E = 27 D   (D is middle letter of C and E)
7I × 12 M = 84 K (K is middle letter of I and M)

$$5A \times 13G = 65 \text{ D}$$ (D is middle letter of A and G)

59. (2)
Engineer, Agriculture officer, professional

60. (3)
Polygon is diagram triangle is a polygon

61. (1)
Boys, girls is a part of women

62. (3)
Haryana, Punjab as common capital Chandigarh

63. (4)
Cats, Dogs are Pets

(64 – 68)

64. (1)
The region which represents high salaried managerial cadre in IT employers

65. (4)
One employed people represents the region 1

66. (2)
low salaried managerial cadre, non IT employees represents the region is 9.

67. (4)
The region 8 represents managerial cadre low salaried IT professionals.

68. (1)
The region 4, 5, 6 and 7 represents high salaries people

(69 – 72)
   (b) (i) C A D
   (ii) E G C
   (iii) D B F

69. (4)
The person standing right end of row is F

70. (3)
The person standing lift end of row is E

71. (1)
The person who is standing in the middle of row is A
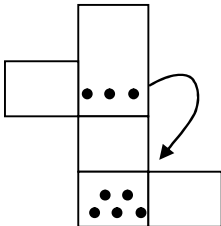
72. (2)
The person standing right of G is C

73 - 75.

Person	P	Q	R	S
CAP	Blue	Green	White	Red

73. (1)
R wears white cap

74. (4)
P wears blue cap

75. (2)
Q wears Green cap

76. (1)
No of triangles = 17

77. (2)
$1 \times 1 = 13$
$2 \times 2 = 8$
$3 \times 3 = 5$
$5 \times 5 = 1$
$\therefore$ 27

78. (3)
$1 + 3 + 6 = 10$

79. (1)

80. (3)
Son's present age = x
$\therefore$ Father present age = 2x
$2x = 48$ $x = 24$
$\therefore$ 6 years ago $\Rightarrow$ **18**

81. (2)

82. (3)

83. (1)

84. (3)
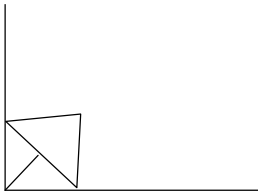
85. (1)
(3 – 2) (3 – 2) (3 – 2) = 1

86. (4)
only 1 shaded triangle
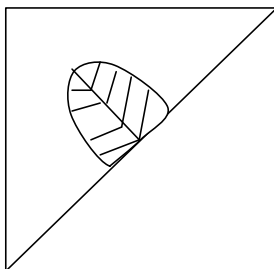
87. (4)
shaded region on same direction

88. (3)
number of gap between dot and arrow should be 4.

89. (1)

90. (2)

91. (3)
The arrow line (↑) is moving 90° clockwise.
The dot-line ( ) is moving 90° anti-clockwise.

92. (2)
In fig(A) the shaded part is 1
fig (B) the shaded part is 2
so, its increasing.

93. (1)
From fig. (A) to fig (B), square is constant and circle is moving 180° clockwise.
from fig (B) to fig (C)
Now, circle is constant & square is moving 90° anti clockwise.
This process is repeating.

94. (2)

95. (1)
First letter is +4.
second letter is +3 and mirror image of that letter.

96.   (4)

97.   (2)

98.   (1)
        square appears in fig (B)
        similarly, circle should be there.

99.   (3)

100.   (2)

***************** **All the best** ******************