NATIONAL TALENT SEARCH EXAMINATION-2019-20, TAMILNADU
MENTAL ABILITY TEST (MAT)_ PAPER & HINTS & SOLUTION

Directions : Questions (1 to 5)

In each question, the numbers are arranged in a sequence based on certain principle, Select the answer from the given four alternatives under each sequence.
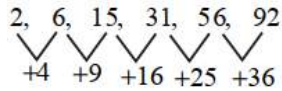
1.   2,6,15,31,56,?
   (1) 87   (2) 67   (3) 93   (4) 92
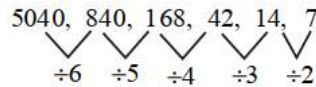
Ans.   (4)

Sol.

2.   5040,840,168,42,14?
   (1) 2   (2) 1   (3) 7   (4) 4

Ans.   (3)

Sol.

3.   14,24,41,65,96,?
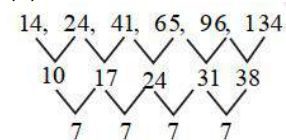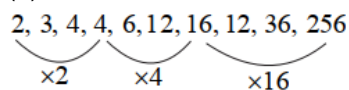   (1) 134   (2) 124   (3) 144   (4) 154

Ans.   (1)

Sol.

4.   2,3,4,4,6,12,16,12,36,?,24
   (1) 64   (2) 256   (3) 48   (4) 28

Ans.   (2)

Sol.

5.   5,1,11,6,17,36,23,?
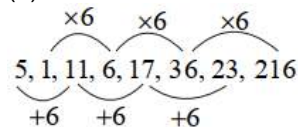   (1) 216   (2) 108   (3) 54   (4) 59

Ans.   (1)

Sol.

Directions : (Questions number 6-10)
Identify the wrong number/letters in the series.

6.   25,62,122,214,341
   (1) 122   (2) 62   (3) 214   (4) 341

Ans.   (1)

Sol.

$$25, \quad 62, \quad 122, \quad 214, \quad 341$$
$$\Downarrow \qquad \Downarrow \qquad \Downarrow \qquad \Downarrow \qquad \Downarrow$$
$$3^3-2 \quad 4^3-2 \quad 5^3-2 \quad 6^3-2 \quad 7^3-2$$

7. 1,3,7,15,31,65,127

(1) 7   (2) 31   (3) 15   (4) 65

Ans. (4)

Sol.

1,   3,   7,   15,   31,   65,   127

+2   +4   +8   +16   +32   +64

∴ 65 is wrong answer.

8. −1,2,2,5,7,10,14,17,23,26

(1) 1   (2) 7   (3) 23   (4) 10

Ans. (NA)

Sol.

9. AD, EG, IJ, MM, QP, UP

(1) EG   (2) UP   (3) QP   (4) MM

Ans. (2)

Sol.

   4   7   10   13   16   19

AD,   EG,   IJ,   MM,   QP,   UR

∴ UP is wrong answer.

10. Z8,W5,T2,Q8,N5,K3

(1) K3   (2) T2   (3) Q8   (4) Z8

Ans. (1)

Sol.

26   23   20   17   14   11

Z8,   W5,   T2,   Q8,   N5,   K3

(2+6) (2+3) (2+0) (1+7) (1+4) (1+1)

∴ K3 is wrong answer

11. 'Sea' is related with 'Waves' Then 'Candle' is related to :

(1) rays   (2) wax   (3) stand   (4) melt

Ans. (2)

Sol. 'Sea' is related with 'waves'. In the same way candle contains 'wax'

12. Which set of number is like the given set? (80,60, 45)

(1) (16,12,9)   (2) (16,12,5)   (3) (20,15,11)   (4) (160,120,80)

Ans. (1)

Sol. (80,60,45)

Similarly (16,12,9)

Directions : Questions number 13 and 14)

First two terms are connected by some relationship. The same relationship is applicable for the next terms. Identify the suitable pair.

13. Square : cube : :

(1) rectangle : Cuboid   (2) Triangle : Square

(3) Quadrilateral : Cuboid   (4) Cuboid : Rectangle

Ans. (1)

Sol. Rectangle : Cuboid

14. 82 : 9 : :
(1) 5 : 26   (2) 6 : 37   (3) 35: 6   (4) 26 : 5
Ans. (4)

Sol.
$$82:9::26:5$$
$$9^2+1 \quad 5^2+1$$

15. If 'tee see pee' means 'prepare fruit juice', 'see kee tee' means 'juice is nice' and 'lee ree mee' means 'it is tall' which word means 'nice'?
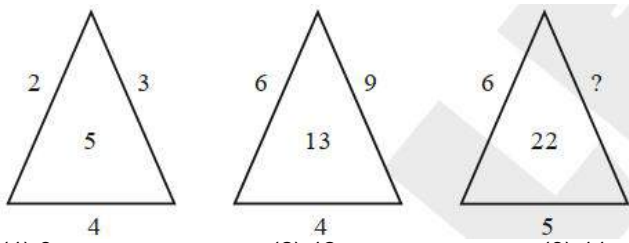(1) ree   (2) mee   (3) kee   (4) pee
Ans. (NA)
Sol.

16. In a certain code HONEY is written as HPPHC then FORGE is written as:
(1) FPTJJ   (2) FPTJI   (3) FQTJI   (4) FPSJI
Ans. (2)

Sol.
H O N E Y   F O R G E
+0 +1+ 2 +3 +4   +0 +1+ 2 +3 +4
H P P H C   F P T J I

17. If A = 2, T = 40 and ACT = 48 then TAKE is:
(1) 68   (2) 58   (3) 74   (4) 76
Ans. (3)
Sol. A = 1 × 2 = 2
T = 20 ×2 = 40
Similarly, TAKE = (20 + 1 + 11 + 5) × 2 = 74

Directions : (Questions number 18 to 21)
The diagram and numbers/letters follow certain principle. Select the missing number/letter indicated.

18.

(1) 8   (2) 12   (3) 11   (4) 33
Ans. (N A)
Sol.

19.

4	5	6	7
6	18	28	?
10	7	8	7

(1) 38   (2) 40   (3) 41   (4) 42
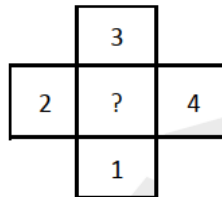**Ans.** (4)

4	5	6	7
6	18	28	?
10	7	8	7

$10 + 6 = 16 = 4^2$

$18 + 7 = 25 = 5^2$

$\therefore 7 + x = 7^2 \Rightarrow x = 42$

20.

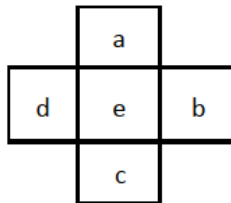| | 2 | |
| 5 | 59 | 7 |
| | 3 | |

	5	
3	48	6
	4	

	3	
2	?	4
	1	

(1) 22   (2) 26   (3) 28   (4) 30

Ans. (1)

Sol.

	a	
d	e	b
	c	

e = b2 + (a + c + d)

21.

(1) P   (2) Q   (3) R   (4) T

Ans. (4)
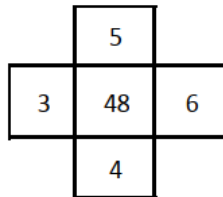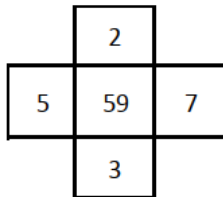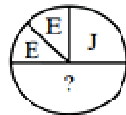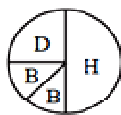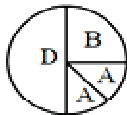
Sol. A + A + B = D $\therefore$ E + E + J = T

1 + 1 + 2 = 4   5 + 5 + 10 = 20

Directions : (Questions number 22 to 24)

First two terms are connected by some relationship. The same relationship is applicable for the next terms in which one is blank space. Identify the blank space.

22. Tree : Plant : : Woman : ?

(1) boy   (2) child   (3) girl   (4) mother

Ans. (3)

Sol. girl

23. Roof : floor :: ? : Dark

(1) Tube light   (2) Bulb   (3) Bright   (4) Black

Ans. (3)

Sol. Bright

24. 7 : 50 : : ? : 65

(1) 9   (2) 64   (3) 8   (4) 1 1

Ans. (3)

Sol. 72 + 1 = 50 $\therefore$ $8^2 + 1 = 65$

25. Drama is related to Director in the same way as `Magazine' is related to:
   (1) Story   (2) Editor   (3) Reader   (4) Printer
Ans. (2)
Sol. Editor

26. The age of the father is twice the age of the elder son. Twelve years hence, the age of the father will be thrice that of the younger son. If the difference between the elder and younger son is 15, the age of the father is:
   (1) 21   (2) 42   (3) 63   (4) 84
Ans. (2)
Sol. Let the age of father, elderson and youngerson be F, E and Y respectively,
   Given
   F = 2E   .... (1)
   (F + 12) = 3(Y + 12)   .... (2)
   E – Y = 15   .... (3)
   from (1), (2) & (3)
   2E + 12 = 3(E – 15 + 12)
   ∴ E = 21
   ∴ F = 2E = 42

27. In an examination, a student got thrice as many sums wrong as he got right. If he attended 120 problems in all, the number of problems incorrectly done is:
   (1) 90   (2) 30   (3) 40   (4) 60
Ans. (1)
Sol. Let the number of problems incorrectly done is x.
   $\Rightarrow$ x = 3(120 – x)
   ∴ x = 90

28. The number of neither composite nor prime number in the set of Natural numbers is:
   (1) 2   (2) 3   (3) 1   (4) 0
Ans. (3)
Sol. Option (3)

29. In a group of cows and hens, the number of legs are 16 more than thrice the number of heads. The possible number of cows and hens are respectively:
   (1) 20, 4   (2) 4, 20   (3) 18, 6   (4) 6, 18
Ans. (1)
Sol. Let the number of cows, and hens be c and h respectively.
   4c + 2h = 16 + 3(c + h)
   ∴ c – h = 16

30. Which of the following statement is correct?
   (1)The number of real numbers between 1 and 2 is same as 1 and 3
   (2) The first positive real number is 0
   (3) The non-negative integer starts with 1
   (4) The number of natural numbers is finite
Ans. (1)
Sol. There are infinite real numbers between 1 and 2 also between 1 and 3.

31. If South becomes north-east and North becomes south-west then north-west becomes.
   (1) East   (2) West   (3) North   (4) South
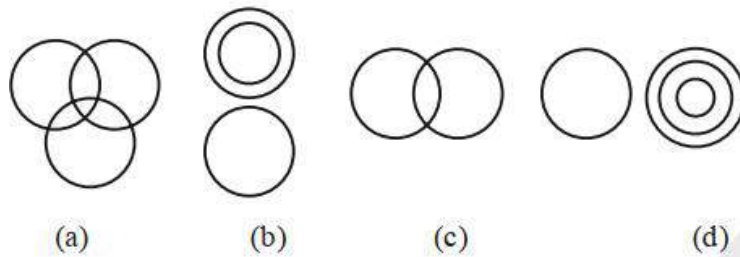**Ans.** (4)
Sol. Hint: 135° anti clock wise rotation

32. One evening during sunset, a person is standing facing a pole. The shadow of the pole fell exactly to his left. The person faces the direction:

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

Ans. (1)

Sol. South

33. The number of two digit combinations having 9 as at least one of the digits from the digit 0, 6, 9, 5, 4 is:

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

Ans. (4)

Sol. 90, 96, 95, 94, 99, 59, 49, 69

34. In a row of students, a boy is 12th from the left end and 18th from the right end. The total number of students is a/an :

(1) prime number   (2) composite number

(3) even number   (4) can't be predicted

Ans. (1)

Sol. Hint : Total = Left + Right -1

Total =12 + 18 –1 = 29.

35. Six different bells in a tower toll at the intervals of 9 sec, 12 sec, 15 sec, 18 sec, 21 sec and 24 sec respectively:

If all of them toll at 6 am, the next time they toll together is:

(1) 7.42 am   (2) 6.42 am   (3) 8.00 am   (4) 9.00 am

Ans. (2)

Sol. Hint : LCM (9,12,15.18,21 and 24)

36. In the series 5 8 6 4 9 8 5 4 2 6 7 9 8 1 3 5 4 2, the number of pairs of alternate numbers have difference 3,is

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

Ans. (1)

Sol. By observation

37. The arrangement of alphabetical order of the words:

(a) music   (b) monk   (c) minimum   (d) maximum

(1) (d), (c), (b), (a)   (2) (a), (c), (d), (b)   (3) (d), (c), (a), (b)   (4) (d), (a), (c), (b)

Ans. (1)

Sol. By observation

38. Select the combination of number so that the letters arranged accordingly will form a meaningful words:

R T F I U

1 2 3 4 5

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

Ans. (1)

Sol. By observation [F R U I T]

39. The letter ninth to the left of seventeenth letter from the right end of the English alphabet is:

(1) B   (2) Z   (3) Y   (4) A

Ans. (4)

Sol. Hint: 9th Left + 17th right = 26th from right

∴ 26th from right is A.

40. A group of letters is given which are numbered 1, 2, 3, 4, 5, 6. Choose the combination of numbers, so that letters arranged form a meaningful word.

R O P N E S

1 2 3 4 5 6

(1) 3, 5, 1, 6, 2, 4   (2) 1, 3, 5, 6, 2, 4   (3) 3, 5, 6, 1, 2, 4   (4) 3, 5, 2, 1, 6, 4

Ans. (1)

Sol. By observation [PERSON]

Directions: (Questions number 41 to 45)
Select from the given diagrams (a), (b), (c) or (d) the one that illustrates the relationship among given classes.

(a)   (b)   (c)   (d)

41.   Birds, Tigers, Peacocks:
     (1) (b)   (2) (c)   (3) (a)   (4) (d)
Ans. (1)
Sol. By observation

42.   Languages, Tamil, Telugu:
     (1) (a)   (2) (b)   (3) (d)   (4) none of these
Ans. (4)
Sol. By observation

43.   Football fans, Cricket fans, Kabaddi fans
     (1) (b)   (2) (c)   (3) (a)   (4) (d)
Ans. (3)
Sol. By observation

44.   Human beings, Indians, Tamilians:
     (1) (a)   (2) (d)   (3) (c)   (4) (b)
Ans. (2)
Sol. By observation

45.   Tamil Nadu, Punjab, Haryana:
     (1) (c)   (2) (a)   (3) (d)   (4) (b)
Ans. (1)
Sol. By observation

Directions : (Questions number 46 to 50)
In the following figure, Rectangle, Square, Circle and Triangle represent the regions of rice, gram maize and wheat cultivation respectively. On tha basis of the given figure answer the questions.
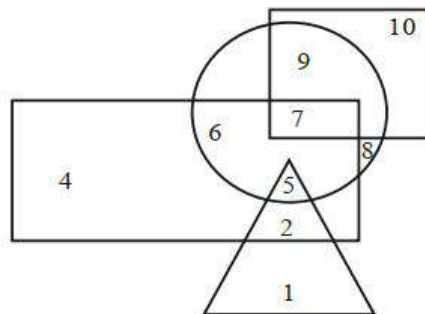
46. Which region cultivates all the four?
(1) 7   (2) 5   (3) 6   (4) None
Ans. (4)
Sol. By observation

47. Which region cultivates only rice?
(1) 6   (2) 4   (3) 5   (4) 3
Ans. (2)
Sol. By observation

48. Which region cultivates wheat and maize?
(1) 5   (2) 2   (3) 6   (4) 7
Ans. (1)
Sol. By observation

49. Which region cultivates all except rice?
(1) 1, 8, 9, 10   (2) 2, 8, 9, 10   (3) 1, 7, 8, 9   (4) 1, 4, 7, 9
Ans. (1)
Sol. By observation

50. Which region cultivates gram only?
(1) 9   (2) 7   (3) 8   (4) 10
Ans. (4)
Sol. By observation

Directions : (Questions number 51 and 52)

Read the given statements and answer the questions 51 and 52
(i) A + B means A is the father of B
(ii) A – B means A is the wife of B
(iii) A x B means A is the brother of B
(iv) A ÷ B means A is the daughter of B

51. A – B + C means:
(1) A is the mother of C   (2) C is the mother of A
(3) B is the mother of C   (4) C is the mother of B
Ans. (1)

Sol.

So A is mother of C

52. A x B ÷ C
(1) C is mother of B   (2) B is mother of C
(3) A is mother of C   (4) A is mother of B
Ans. (1)
Sol. A x B ÷ C
A × B → A is brother of B
B ÷ C → B is daughter of C.
C is mother of father of B
According to options. C is mother of B.

Direction : (Question number 53 to 55)
Study the following information and answer the questions (53 to 55) given below, These is a group of five persons A, B, C, D and E.
(i) A, B and C are Tall   (ii) A, D and E are Educated
(iii) D, C and E are Urban   (iv) A, B and E are Hardworking

53. Which of the following persons is neither educated nor hardworking?
(1) A   (2) C   (3) D   (4) E

Ans. (2)

Sol. A → Tall, Educated, Hardworking
B → Tall, Hardworking
C → Tall, Urban
D → Educated, Urban
E → Educated, Urban, Hardworking
Neither educated nor hardworking `C'
C - Tall, Urban

54. Which of the following persons is neither urban nor educated but is hardworking?
(1) A   (2) C   (3) B   (4) D

Ans. (3)

Sol. Neither urban nor educated but is hardworking. 'B'
B → Tall, Hardworking

55. Which of the following persons is either tall or hardworking?
(1) A,B.C,E   (2) all   (3)A,B,D,E   (4)A.B,C,D

Ans. (1)

Sol. Either tall of Hardworking
A, B, C, E

56. How many numbers from 1 to 100 are there each of which is exactly divisible by 6 but also contain 6 as a digit in it?
(1) 6   (2) 4   (3) 5   (4) 7

Ans. (3)

Sol. Between 1 and 100 (numbers) divisible by '6' and having 6 as a digit.
6, 36, 60, 66, 96.
Total numbers are '5'

Direction : (Read the passage and answer the questions 57 and 58)
Five boys P, Q, R, S and T took part in a race. R finished before T but behind S. P finished before Q but behind T.

57. Who won the race?
(1) Q   (2) P   (3) R   (4) S Ans. (4)

Sol. In a race
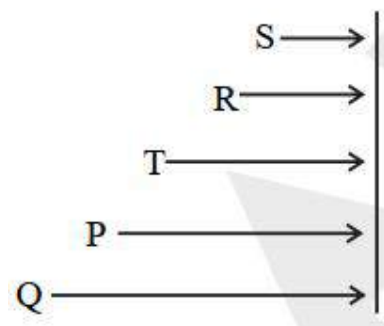
Race won by `S'.

58. Who got the last place?
(1) Q   (2) S   (3) P   (4) T

Ans. (1)

Sol. Last place got by `Q'

Direction : (Question number 59 and 60)

Arrange the given words in a meaningful sequence and choose the most appropriate sequence from the given alternatives.

59.   (a) appendix   (b) contents   (c) chapters   (d) introduction
          (1) (a), (c), (b), (d)   (2) (a), (b), (c), (d)   (3) (d), (c), (b), (a)   (4) (c). (d), (a), (b)
Ans.   (2)
Sol.   Order is appendix, contents, Chapters, Introductions
                    a   b   c   d

60.   (a) protect   (b) relief   (c) flood   (d) rain
          (1) (c), (d), (a), (b)   (2) (c), (a), (d), (b)   (3) (a). (b), (c), (d)   (4) (d), (c), (a), (b)
Ans.   (4)
Sol.   Order is rain, flood, protect, relief
                    d   c   a   b

If '–' means '×', 'x' means '+' '+' means '÷' '÷'means '–' then answer the question 61 and 62.

61.   8 + 4 – 3 × 2 ÷ 1 =
          (1) 8   (2) 7   (3) 22   (4) 21
Ans.   (2)
Sol.   '–' means '×'
          'x' means '+'
          '+' means '÷'
          '÷' means '–'
          8 + 4 – 3 ×2 ÷1 ⟹
          8 + 4 × 3 × 2 –1 ⟹ 2 × 3 + 2 – 1 = 8 – 1 = 7

62.   12 × 8 + 2 – 4 ÷ 6 =
          (1) 7   (2) 16   (3) 18   (4) 8
Ans.   (NA)
Sol.   12 × 8 + 2 – 4 ÷ 6
          ⟹ 12 + 8 ÷ 2 × 4 – 6
          ⟹ 12 + 4 × 4 – 6
          ⟹ 12 + 16 – 6
          ⟹ 22

63.   If '– ' means '÷','+' means '× '÷' means '–' 'x' means '+' then which of the following is correct?
          (1) 36 –12 x 6 ÷ 3 + 3 = 60   (2) 52 ÷ 4 + 5 × 8 – 2 = 36
          (3) 42 –8 × 3 ÷ 4 + 3 = 38   (4) 49 – 10 + 8 ÷ 4 + 4 = 40
Ans.   (2)
Sol.   '–' means '÷'
          '+' means '×'
          '÷' means '–'
          'x' means '+'
          option (2)"52 ÷ 4 + 5 × 8 – 2 = 36"
          52 - 4 × 5 + 8 ÷ 2 = 36
          52 – 20 + 4 = 36
          36 = 36

64.   If 8*1 = 81,9 *1 = 100 then 7 * 1 = is:
          (1) 50   (2) 64   (3) 51   (4) 48
Ans.   (2)
Sol.   8 × 1 = 8 1 , 9 x 1 = 100 , 7 ×1 =
          $(8 + 1)^2 = 81$, $(9 + 1)^2 = 100$, $(7 + 1)^2 = 64$

65. If 37 + 42 = 16,43 + 54 =16,25 + 34 = 14 then 65 + 35 =

    (1) 100   (2) 91   (3) 1 8   (4) 1 9

Ans. (4)

Sol. $\rightarrow$ 37 + 42 = 16

sum of all the digits 3 + 7 + 4 + 2 = 16

$\rightarrow$ 43 + 54 = 16

4 + 3 + 5 + 4 = 16

$\rightarrow$ 25 + 34 = 14

2 + 5 + 3 + 4 =14

$\rightarrow$ 65 + 35 $\Rightarrow$ 6 + 5 + 3 + 5 =19

Direction : (Question number 66 and 67)

Choose the best alternative as the answer.

66. If A + B > A + C and A + B > A – C then

    (1) B > 0   (2) A > 0   (3) C > 0   (4) None of these

Ans. (1)

Sol.

$$A + B > A - C$$
$$(+) \quad A + B > A - C$$
$$\overline{2A + 2B > 2A}$$

2(A + B) > 2A

A + B > A

B > 0

67. Danger always involves:

    (1) fear   (2) help   (3) attack   (4) enemy

Ans. (1)

Sol. Danger always involves 'fear'

68. When the time is 4.20 the angle between the hands of the clock is:

    (1) 0°   (2) 15°   (3) 20°   (4) 10°

Ans. (4)

Sol. 4 :20

   H M

$$\theta = \left|30H - \frac{1}{2}M\right| = \left|30 \times 4 - \frac{11}{2} \times 20\right| = \left|120 - 110\right| = 10°$$

Direction : (Question number 69 to 73)

Read the following information carefully and answer the questions given below:

(i) There is a group of 5 persons P, Q, R, S and T.

(ii) Among them there is an Agriculturist, a Teacher, a Lawyer, a Doctor and an Editor by profession.

(iii) Three of them P, R and the Editor prefer meals to tiffin and two of them Q and the Lawyer prefer tiffin to meals:

(iv) The doctor, S and P are friends to one another but two of these prefer tiffin to meals.

(v) Agriculturist is R's Brother.

Agriculturist	Teacher	Editor	Doctor	Lawyer
P	Q	R	S	T
Prefer	Prefer	Prefer	Prefer	Prefer
Meals	Meals	Meals	Tiffin	Tiffin
to tiffin	to tiffin	to tiffin	to meals	to meals

69. Who is Doctor ?
(1) Q   (2) R   (3) S   (4) T
Ans. (1)
Sol. 5 persons P, Q, R, S and T in the group

70. Who is Agriculturist?
(1) T   (2) S   (3) R   (4) P
Ans. (4)
Sol. Agriculturist - P

71. Which of the following groups prefer tiffin?
(1) P, R, T   (2) P,R   (3) Q,S   (4) P,S
Ans. (3)
Sol. Prefer Tiffin - Q and S

72. Who is Teacher?
(1) Q   (2) R   (3) P   (4) T
Ans. (2)
Sol. Teacher - R

73. Who is the Editor?
(1) T   (2) P   (3) Q   (4) S
Ans. (1)
Sol. Editor - T

Direction : [Question number 74 and 75]
In each of the questions given below, two statements I and II are followed by the conclusions numbered 1 and 2 . Read the conclusion and give the answer.

74. Statement (I)   : All women are mothers
         (II)   : All mothers are sisters
   Conclusion (1)   : All women are sisters
           (2)   : Some women are not sisters

(1) Only conclusion (I) follows   (2) Only conclusion (2) follows
(3) Either conclusion (I) or (2) follow   (4) Neither conclusion (1) nor (2) follows
Ans. (1)

Sol.
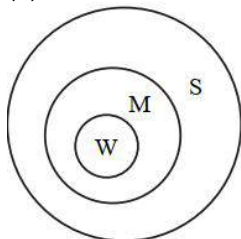
Conclusions (I)   : All women are sisters
Conclusion (2)   : Some women are not sisters

75. Statement (I)   Some books are Tables
       (II)   Some Tables are pencils
Conclusion (1)   All books are pencils
       (2)   Some pencils are books

(1) Only conclusion (I) follows   (2) Only conclusion (2) follows
(3) Either conclusion (1) or (2) follow   (4) Neither conclusion (I) nor (2) follows

Ans. (4)

Sol.
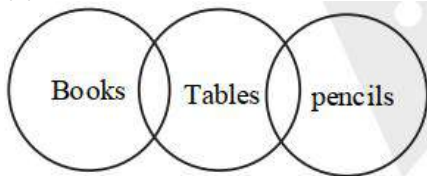
Conclusion (1)   : All books are pencils
Conclusion (2)   : Some pencils are books

Direction : (Question number 76 to 80)
Out of the four figures (1), (2), (3), (4) given in each problem, three are similar in a certain way. One figure is not like other three. Select that figure.

76.

I	O	N	U

   (1)   (2)   (3)   (4)
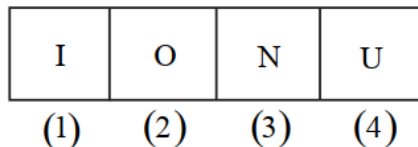
Ans. (3)
Sol. Except option '3' (N) remaining all are vowels

77.

4 8 5 1	3 9 4 2	6 2 0 4	2 7 1 8

   (1)   (2)   (3)   (4)
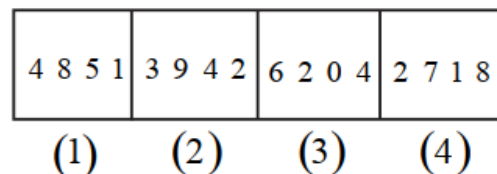
Ans. (3)
Sol. Sum of all digits is ' 18' except for option `3'

78.

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

Ans. (2)
Sol. By Observation

79.

   (1)   (2)   (3)   (4)
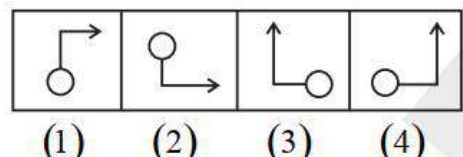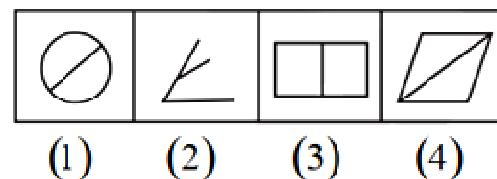
Ans. (2)
Sol. By Observation (All are symmetric partition except option `2')

80.
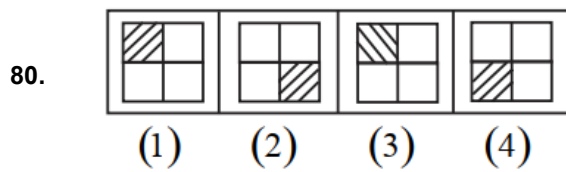
Ans. (3)

Sol. By Observation (Pattern of shading)

81.
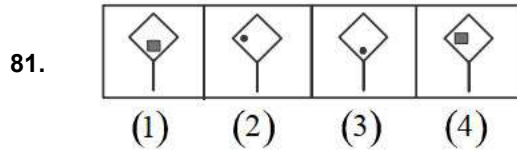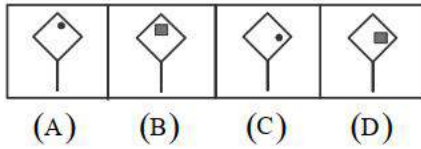
Ans. (3)

Sol. Alternatively ' • ' and ' ■ ' changing and shifting one more clockwise so answer is option (3)

82.
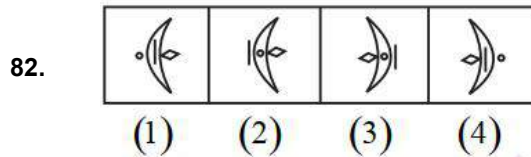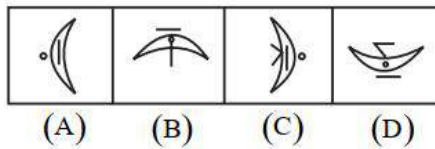
Ans. (1)

Sol. By observation (Rotating 90° clockwise every time)

83.

Ans. (1)

Sol. By observation

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

84.

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

Ans. (2)
Sol. By observation

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

85.

(1)   (2)   (3)   (4)
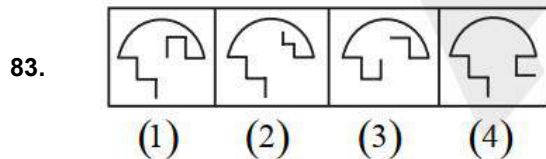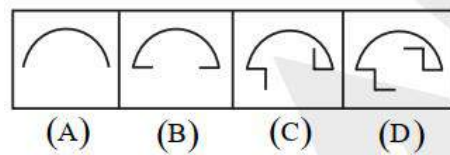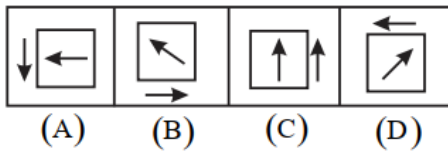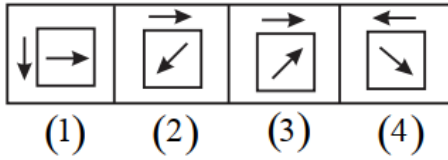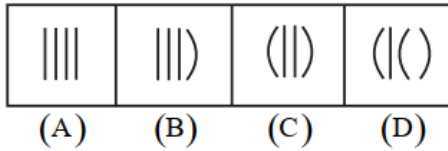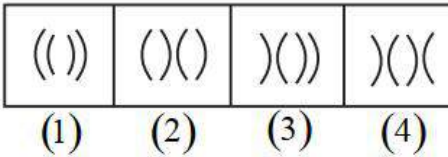
Ans. (2)
Sol. By observation

Direction : (Question number 86 to 88)
Figures A and B are related in some manner. Find the same relationship between figures C and D by choosing the alternatives (1), (2), (3) or (4) to replace the figure in D.

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

86.

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

Ans. (1)
Sol. By observation

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

87.

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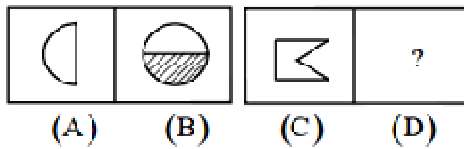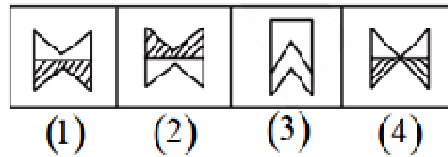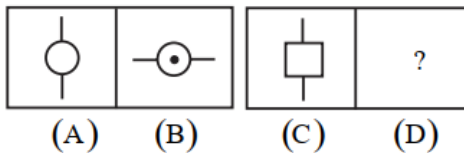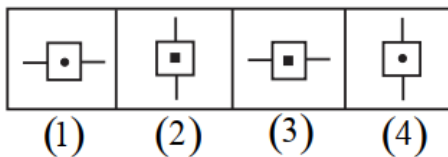
Ans. (3)

Sol. By observation (same shape shaded small figure is placed inside)
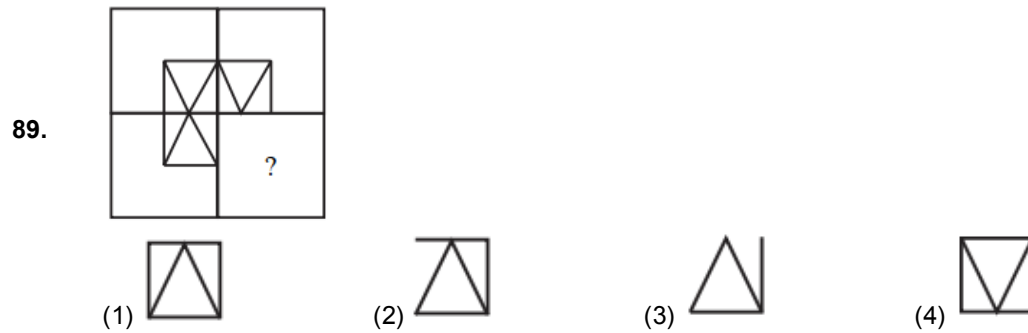
88.

/28\	65	65	?
(A)	(B)	(C)	(D)

127	125	124	126
(1)	(2)	(3)	(4)
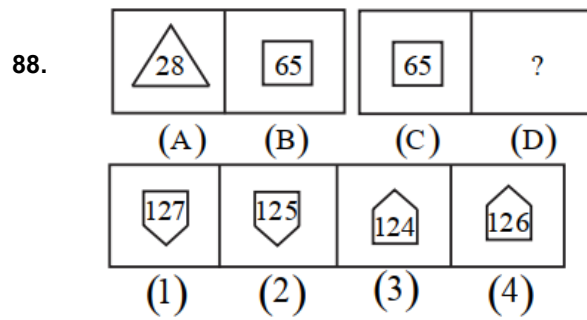
Ans. (4)

$\triangle \rightarrow$ 3 sides $\rightarrow 3^3 + 1 = 28$

$\square \rightarrow$ 4 sides $\rightarrow 4^3 + 1 = 65$

$\square \rightarrow$ 4 sides $\rightarrow 4^3 + 1 = 65$

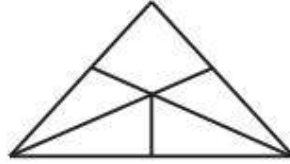$\pentagon \rightarrow$ 5 sides $\rightarrow 5^3 + 1 = 126$

Sol.

89.

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

Ans. (3)

Sol. By observation

90.
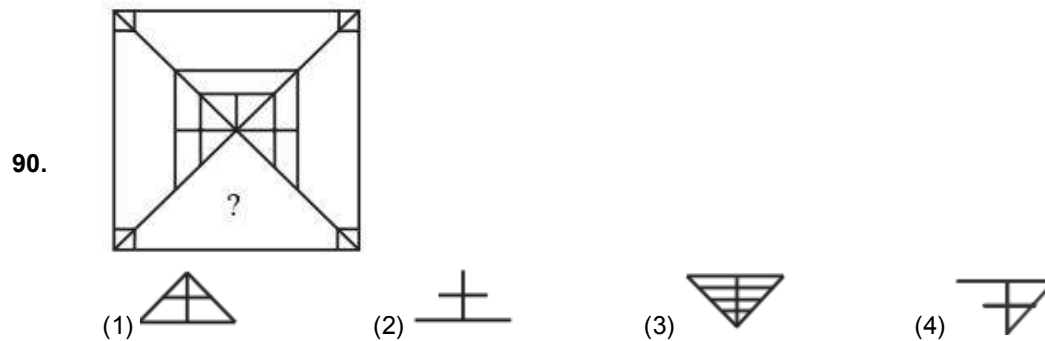
(1)   (2)   (3)   (4)

Sol. By observation
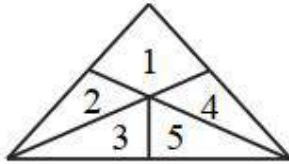
91. Find the number of quadrilaterals in the figure ?

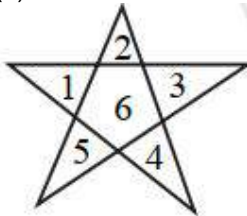(1) 0   (2) 2   (3) 3   (4) 4

Ans. (4)

No. of quadrilaterals (2,3),(4,5),1,(1,2,4) = 4

92. Find the number of triangles in the figure:

(1) 8   (2) 7   (3) 5   (4) 10

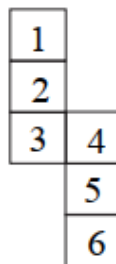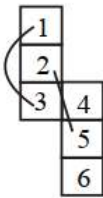**Ans.** (4)

Sol.

Individual triangles =1, 2, 3, 4, 5
Combinations (1, 6, 3), (1, 6, 4), (2, 5, 6) (2, 6, 4) (5, 6, 3)
Total = 10

93. When a box is unfolded, the figure looked like the given one. What are the faces opposite to 4 and 5 respectively?
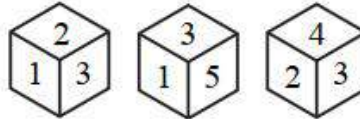

(1) 2,6   (2) 6, 2   (3) 1, 3   (4) 2, 4

Ans. (2)

Sol.

Numbers opposite to 4 and 5 are 6 and 2

94. A die is thrown three times and its three different positions are given below. Find the number on the face opposite to 3.
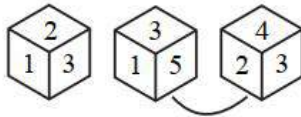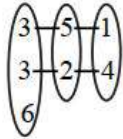

(1) 6   (2) 5   (3) 4   (4) 2

Ans. (1)

Sol.

95. The water image of PENCIL is :

(1) ꟼƎИϽI⅃   (2) ᑲƎИϹI⅃   (3) ꟼƎИϽI⅃   (4) ᑲƎИϹI⅃

Ans. (2)

Sol. Water image of P E N C I L :

96. The water image of 4 5 6 7 8 is :

(1) ᣠ ꙅ ℮ ⅄ 8   (2) ᣠ ꙅ ℮ ⅄ 8   (3) ᣠ ꙅ 9 ⅄ 8   (4) ᣠ ꙅ ℮ ⅄ 8

Ans. (1)

Sol. Water image of 4 5 6 7 8: ᣠ ꙅ ℮ ⅄ 8

97. The mirror image of PROPER is:

(1) ꟼЯOꟼƎЯ   (2) ꟼЯOꟼƎЯ   (3) ꟼRORƎR   (4) ЯƎꟼOЯꟼ
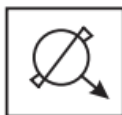
Ans. (4)

Sol. Mirror image of PROPER is (As per the options mirror image for individual letters) : ЯƎꟼOЯꟼ

98. The mirror image of the given diagram :

Ans. (2)

Sol. By observation

99. In a hockey tournament each of 5 teams will play other team exactly once. The number of matches will be played is :

(1) 5   (2) 4   (3) 20   (4) 10

Ans. (4)

Sol. 5 teams let A, B, C, D, E

A play with other four teams, B with 3 teams, C with 2 teams

$$^5C_2 = \frac{5 \times 4}{2 \times 1} = 10$$

100. Which letter is midway between 22nd letter from the left and 21st letter from the right in English alphabets?

(1) N   (2) M   (3) L   (4) O

Ans. (1)

Sol. 22nd letter from the left end is 'V'

21st letter from the right end is 'F'

ketter, midway between $\underset{22}{V}$ and $\underset{6}{F}$ $\left(\frac{22+6}{2} = \underset{'N'}{14}\right)$ is 'N'