

NATIONAL TALENT SEARCH EXAMINATION 2020-21

STATE LEVEL EXAMINATION QUESTION BOOKLET

MENTAL ABILITY TEST

MEDIUM : MARATHI WITH ENGLISH VERSION

DATE : 13TH December 2020

Maximum Marks : 100

TIME : 120 Minutes

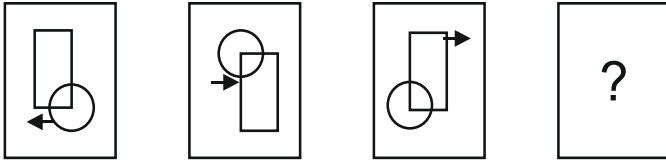
Read the following instruction carefully before you answer the questions,.

1. Answers are to be bubbled only on the separate carbonless answer-sheet provided to you. After examination detach the carbonless copy from original OMR & keep carbonless copy with you till the declaration of result.
2. Please write your Center Code & Seat No. very clearly (only one digit in one block) on question paper. Before writing your seat no. ascertained it with Hall ticket. Please see that no block is left blank or unfilled.
3. Please ensure that you have received Mental Ability Test answer sheet.
4. Total number of questions are 100 for this paper. All questions carry one mark each.
5. All questions are compulsory.
6. For each question there are four options given in question paper. Check for the correct answer and bubble correct option from four circles given in answer sheet by Black/Blue pen. Please do not write any answers on question papers.
7. Start answering from first question one after the other till last question.
8. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. Time permitting you can come back to the questions which you have left in the first instance and try them again.
9. Utilize the allotted time for solving the questions in best possible way. The rough work is to be done in the box given under each page.
10. Do not write anything except Center Code, Seat No. and rough work anywhere in this booklet.

MAT NTSE-Stage 1

Directions: In each of the following questions there is a specific relationship between the first and second figure. The same relationship exists between the third and fourth figure which will replace the question mark. Select the correct option from the given alternatives.

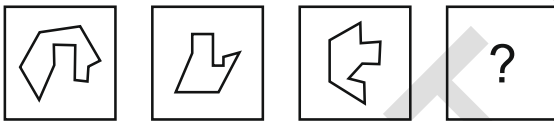
1. Question figures.



Answer figures



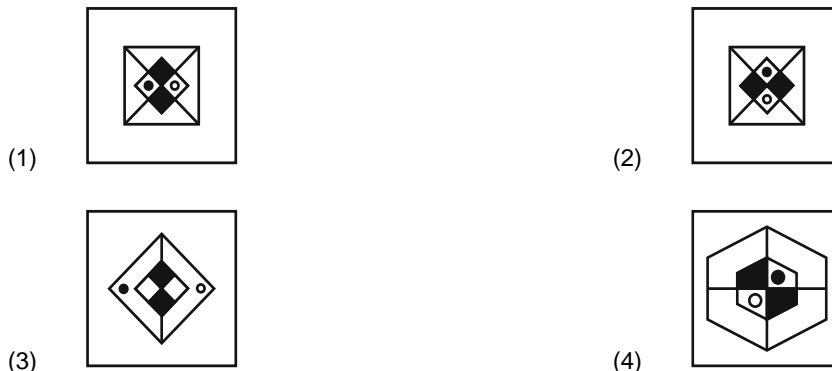
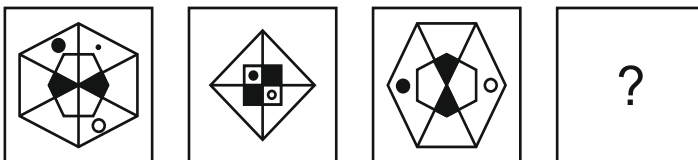
2. Question figures.



Answer figures.



3. Question figures.



4. ABZYCDXWFEVUGHTSIJRQKLPOMN

Observe the letter series and observe letter which is at the central place of letters which is at 8th place from the left and at 13th place from right, find the serial number of that letter from left?

- (1) 13 (2) 14
 (3) 16 (4) 11

Q. 5 to Q. 8

Directions: Which number will replace the question mark in the given series. Select the correct number from the given alternatives.

5. 68, 54, 45, 34, 27, ?

- (1) 13 (2) 17
 (3) 18 (4) 21

6. 18, 30, 48, 72, 96, ?

- (1) 96 (2) 106
 (3) 115 (4) 120

7. 8, 19, 10, 19, 29, ?, 77



- (1) 38 (2) 48
 (3) 52 (4) 56



8. 12, 32, 72, 152, ?, 632

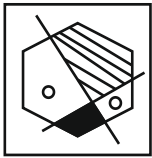
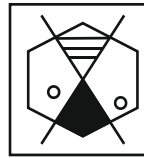
- (1) 312 (2) 515
 (3) 613 (4) 815

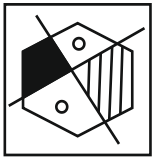
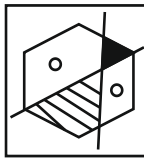
Q. 9 to 11

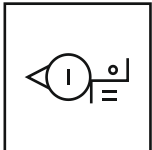
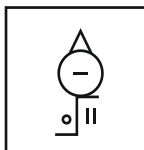
Directions: Find the odd figure.

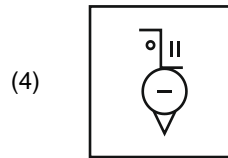
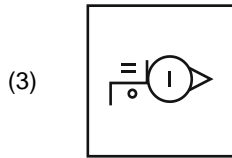
9. (1)  (2) 

(3)  (4) 

10. (1)  (2) 

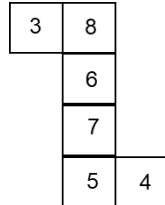
(3)  (4) 

11. (1)  (2) 



Q. 12 to 14

Directions: The figure given alongside is folded on the given lines to construct a cube. Observe the figure and answer the following questions by choosing correct alternative.



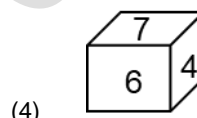
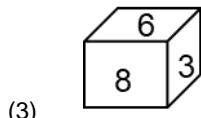
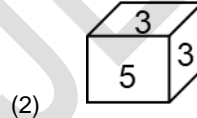
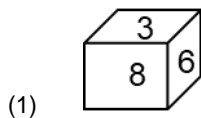
12. From the following which number will be opposite to 8 ?

- (1) 4 (2) 5
(3) 6 (4) 7

13. From the following which number will not be adjacent to 4 ?

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

14. From the following which figure is not obtained by folding the paper to form a cube?



15. In the following question there is a specific relationship between the first and second term. The same relationship exists between the third and fourth term. Considering the relationship select correct alternative to replace question mark:

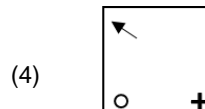
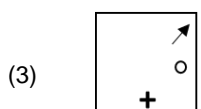
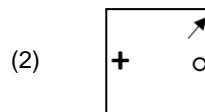
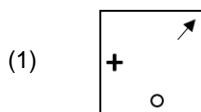
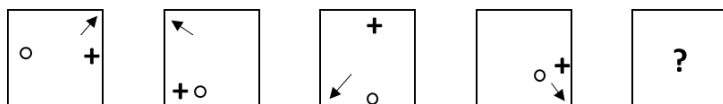
4 : 80 :: 21 : ?

- (1) 9702 (2) 8702
(3) 8820 (4) 421

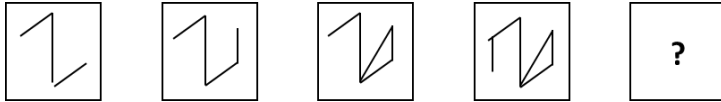
Q.16 and 17

Directions: In each of the following, the question figures change in a particular order. Decide which figure from the given alternatives will replace the question mark.

16. Question figure.



17. Question figure.



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

Q.18 to 20

Directions: Sushil, Vipin, Prashant, Amar are four class friends. Sushil does not like dance. Vipin likes only music and dance. Only three of them like dance and craft. Prashant likes all subjects except music. Sushil is master in drawing and music.

18. Amar likes which subjects:

- (1) music and craft (2) dance and drawing
 (3) dance and craft (4) music and drawing

19. Which subject Vipin, Prashant and Amar likes?

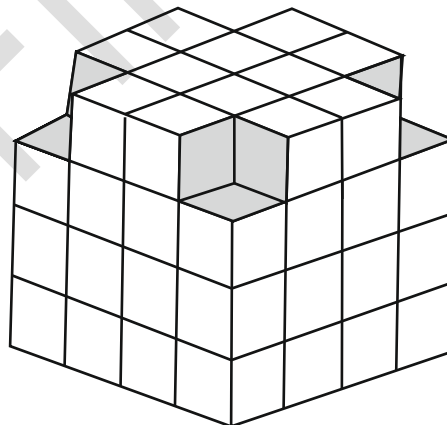
- (1) drawing (2) music
 (3) dance (4) craft

20. Who likes drawing?

- (1) Sushil and Vipin (2) Vipin and Prashant
 (3) Sushil and Prashant (4) Prashant and Amar

Q. 21 to 23.

Directions : A wooden block of 4 x 4 dimensions is taken. All faces of block are painting from outside. As shown in the figure it is cut into smaller cubes. Answer the questions by studying adjoining figure.



21. How many cubes are there having at least one face painted?

- (A) 64 (2) 52
 (3) 48 (4) 24

22. If the base layer of the block would be same as the top layer then how many cubes will be in the block?

- (A) 56 (2) 52
 (3) 60 (4) 62

23. If the base layer and top layer of block is same then at the most how many faces of the cube will be painted?

- (A) 3 (2) 2

(3) 1

(4) 0

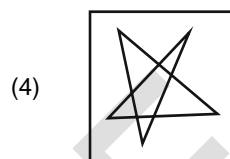
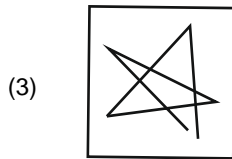
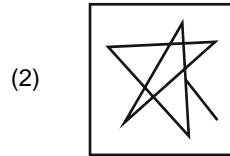
Q.24 and 25.

Directions : Choose the mirror image from the alternatives given for the given question figures.

24. Question Figure.



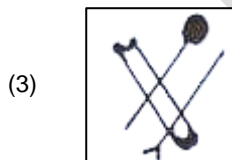
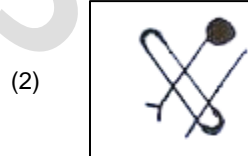
Answer figure.



25. Question figure.



Answer figure.



Q.26 and 27:

Directions: A rhythmic arrangement of letters is given. The missing letters appear in the same order in one of the alternative answers. Find the correct alternative.

26. p _ rsqr _ _ rs _ q _ pqr

- (1) qrspq
- (3) qspps

- (2) qrppr
- (4) qsqpr

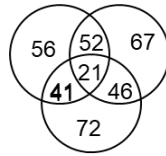
27. a _ cb _ ac _ _ ab _

- (1) bcabb
- (3) bacbc

- (2) bcaab
- (4) bcabc

Q. 28 to Q. 30

Directions: The numbers in the figure show number of tourists from different states. Observe the figure and choose the answer from given alternatives for following questions.



28. How many tourists visited all three states?
 (1) 119 (2) 108
 (3) 21 (4) 195
29. Find number of tourists visiting only two states.
 (1) 93 (2) 98
 (3) 87 (4) 139
30. Find number of tourists who visited Kerala and Rajasthan but not visited Maharashtra?
 (1) 139 (2) 185
 (3) 206 (4) 232

Q.31 and 32:

Directions: Find the odd term.

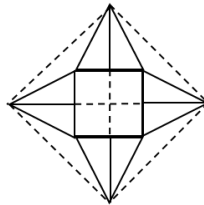
31. (1) ACEDB (2) FULIR
 (3) TVXWU (4) PRTSQ
32. (1) ZBX (2) VFT
 (3) RJO (4) SIO

Q.33 and 34.

Directions: Which symbols will come in the order. Choose the correct alternative.

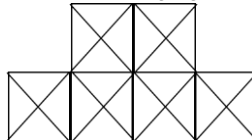
33. $\Sigma\theta\Delta\mu\beta, \theta\Sigma\Delta\mu\beta, \theta\Delta\Sigma\mu\beta, ?$
 (1) $\theta\Delta\beta\Sigma\mu$ (2) $\theta\Delta\mu\beta\Sigma$
 (3) $\theta\Delta\Sigma\beta\mu$ (4) $\theta\Delta\mu\Sigma\beta$
34. $\psi\Omega\mathbb{W}\delta, \Omega\mathbb{W}\delta, \mathbb{W}\delta\alpha, ?$
 (1) $O\delta\alpha n$ (2) $O\delta\alpha\Omega$
 (3) $O\delta\alpha\psi$ (4) $O\delta\alpha\mathbb{W}$

35. **Directions:** Find number of triangles in the given figure.



- (1) 16 (2) 20
 (3) 24 (4) 32

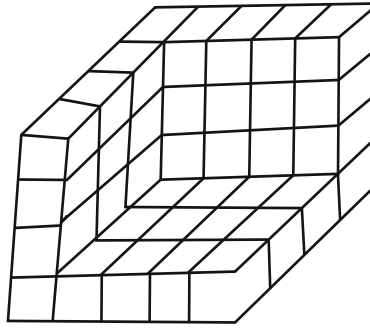
36. **Directions:** Find total number of squares in the following figure.



- (1) 6 (2) 12
 (3) 13 (4) 15

Q.37 to 39

Directions : The following figure is made by arranging some cubes having each side 1 unit. This is painted from all sides. Observe the figure and choose correct alternative for following questions.

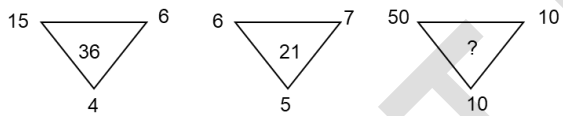


37. Find the number of cubes having maximum number of faces painted.
 (1) 1 (2) 2
 (3) 3 (4) 4
38. How many cubes are used to make the arrangement as shown in the figure?
 (1) 35 (2) 40
 (3) 44 (4) 46
39. Find the number of cubes having no face painted.
 (1) 0 (2) 1
 (3) 2 (4) 3

Q.40 and 41.

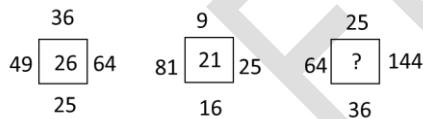
Directions: In the following figure numbers are written with a specific rule. Find the rule and decide which alternative will be in place of question mark.

40.



- (1) 140 (2) 220
 (3) 320 (4) 500

41.



- (1) 19 (2) 23
 (3) 31 (4) 25

Q.42 to 44

Directions: In the following questions there is a specific relation between first and second term. The same relationship exists between third and fourth term, which will replace the question mark. Select the correct alternative from the given alternative.

42. EJOT : VQLG :: BGLQ : ?
 (1) DINS (2) RMHC
 (3) SNID (4) EJOT
43. FJUL : BOQQ :: LHRX : ?
 (1) BKPR (2) MNCC
 (3) HRY Y (4) HMNC
44. QPRS : TUWV :: JIKL : ?
 (1) MNOP (2) NMOP
 (3) MNPO (4) NMPO

Q.45 to 46

Directions: Choose the mirror image from the alternative given for the given question figures.

45. Question figure.



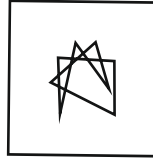
Answer figure.



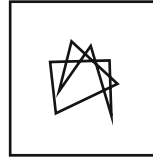
1



2

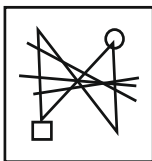


3

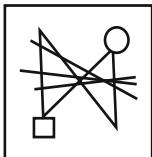


4

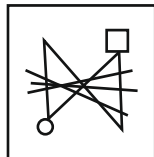
46. Question figure.



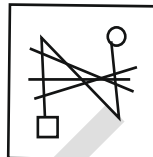
Answer figure.



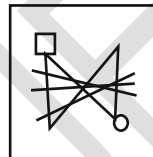
1



2



3



4

Q.47 and 48.

Directions: In a row Pradyuman is twelfth from front and Sarvesh is Twentyfifth from behind. Rahul is exactly at the centre place between Pradyuman and Sarvesh. There are 70 persons in the row then.

47. Rahul is standing at which place form front?

- (1) 29
- (3) 17

- (2) 33
- (4) 42

48. Rahul is at which place from behind?

- (1) 29
- (3) 33

- (2) 42
- (4) 17

Q. 49 to 52

Directions: In each of the following questions write which correct term in sequence replaces the question mark?

49. CD, HI, MN, ?

- (1) QS
- (3) RS

- (2) OP
- (4) PQ

50. RD, PG, MK, IN, ?

- (1) ER
- (3) CQ

- (2) DR
- (4) DQ

51. BM26 , EN70 , HO120 , KP176 ,?

- (1) NQ250
- (3) MQ221

- (2) NP224
- (4) NQ238

52. T23C , QG24 , 26NL , KP27 ,?

- (1) 29GV

- (2) 29HU

(3) 27GT

(4) 28HT

Q.53 to 55

Directions: Observe the following pyramid and decide which alternative will be place of question mark in each of the following questions



53. oab : zpq : gab : ?

- (1) mde
- (3) jhi

- (2) bxy
- (4) tjk

54. pqcb : utfg : : yzqr : ?

- (1) abcd
- (3) ekig

- (2) lscb
- (4) wvts

55. opnqm : ijtk : : ? : gjfke

- (1) bncmd
- (3) jfxle

- (2) gbfce
- (4) ybxsr

56. A map was so placed that north-west becomes south then what will east become?

- (1) South – west
- (3) North – east

- (2) North
- (4) West

57. A map was so placed that south-east becomes west then what will north-east become?

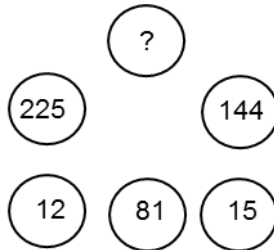
- (1) South-West
- (3) North-West

- (2) West
- (4) South

Q.58. to 60.

Directions: There is a certain relationship between the numbers that are given in the following figure. According to that relationship which alternative will replace the question mark?

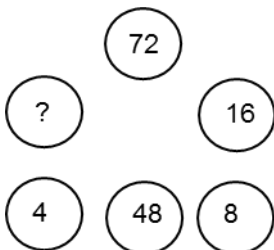
58.



- (1) 75
- (3) 360

- (2) 240
- (4) 400

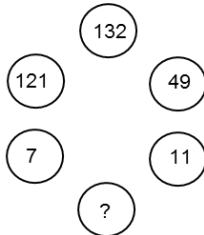
59.



- (1) 32
- (3) 64

- (2) 40
- (4) 80

60.



- (1) 114
- (3) 72

- (2) 83
- (4) 60

Q.61 to 63

Directions: A, B, C, D, E, F, G, H eight friends are sitting around their circular table. C is sitting in front of A and H is sitting at the first position to the left of A. F is in front of H. Whereas D is at the first position to right of E and C is at the first position to left of E. A is between G and H. Choose the correct alternatives for the question given below:

61. Who is sitting between B and C?

- (1) D
- (3) F

- (2) G
- (4) H

62. Who is sitting between A and B?

- (1) D
- (3) E

- (2) G
- (4) F

63. If E and B would have interchanged the places then who will be sitting at the first position to the left of B?

- (1) G
- (3) F

- (2) C
- (4) E

64. If according to mathematical code language $8+2=70$, $9+3=87$, $10+4=106$ then $7+5=?$

- (1) 65
- (3) 51

- (2) 58
- (4) 63

65. If according to mathematical code $9+2=36$, $8+3=72$, $7+4=112$ then $6+5=?$

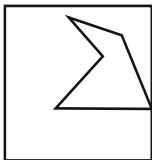
- (1) 84
- (3) 75

- (2) 130
- (4) 150

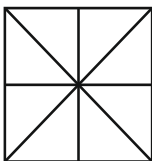
Q.66 and 67

Direction: A square shaped paper is folded as shown in the figure. The paper when unfolded will look like as shown in one of the alternatives. Select the correct alternatives.

66. Question figure

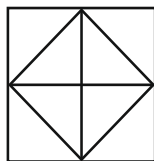


Answer figure

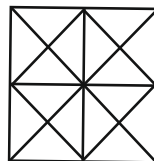


1

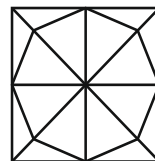
- (1) 1
- (3) 3



2



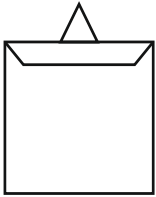
3



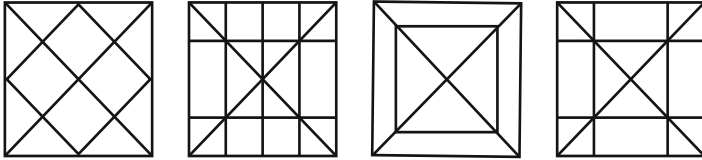
4

- (2) 2
- (4) 4

67. Question figure



Answer figure



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

Q.68 and 69.

68. Ten years before ratio of ages Ram and Shyam was 1 : 7 , ten years after ratio of their ages is 1 : 3 . Find present age of Ram.

- | | | | |
|-----|----------|-----|----------|
| (1) | 10 years | (2) | 20 years |
| (3) | 30 years | (4) | 70 years |

69. From the above information what will be the age of Shyam after 10 years?

- | | | | |
|-----|----------|-----|----------|
| (1) | 70 years | (2) | 80 years |
| (3) | 90 years | (4) | 30 years |

Q.70 and 71

Directions: In the following questions the numbers outside the bracket are related to number inside the bracket in a specific manner. From the given manner find the right number which matches and will replace the question mark.

70. 78(20)82

37(12)59

45(?)91

- | | | | |
|-----|----|-----|----|
| (1) | 13 | (2) | 17 |
| (3) | 19 | (4) | 23 |

71. 95(53)87

152(82)58

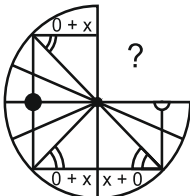
76(?)174

- | | | | |
|-----|----|-----|----|
| (1) | 46 | (2) | 93 |
| (3) | 89 | (4) | 78 |

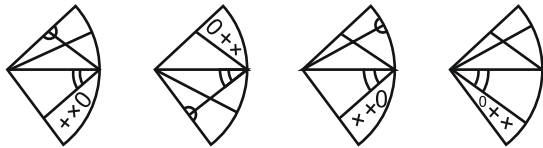
Q.72 and 73

Direction: Select the correct alternatives which can complete the figures.

72. Question figure

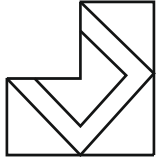


Answer figure

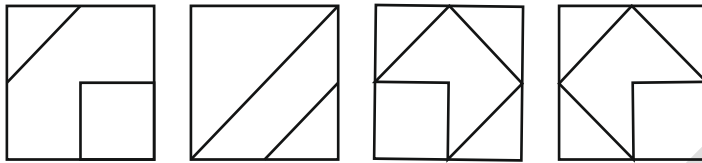


- 1 2 3 4
- (1) 1 (2) 2
 (3) 3 (4) 4

73. Question figure



Answer figure



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

Q 74 and 76

Directions: In the following specific group of letters are given. From the given alternatives, find out the right letters which matches the given group.

74. GECA ZXVT SQOM

- (1) YWUT (2) VTRQ
 (3) MKIH (4) LJHF

75. BEIN EHLQ ILPU

- (1) NQUZ (2) HKOS
 (3) LOSY (4) JMQT

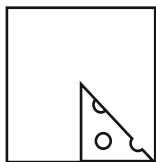
76. BYEV DWHS IRLO

- (1) FUKO (2) CXJP
 (3) GTDW (4) AZCW

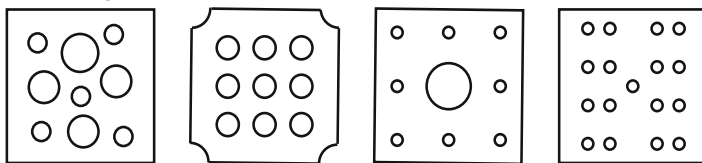
Q.77 and 78

Direction: A square piece of paper is folded and cut at a specific spots as shown in the figure. The paper when unfolded will look – like as shown in one of the alternatives. Select the correct alternative.

77. Question figure

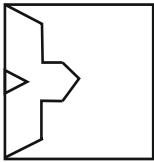


Answer figures

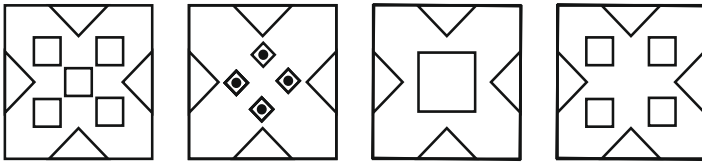


- 1 2 3 4
- (1) 1 (2) 2
 (3) 3 (4) 4

78. Question figure



Answer figures

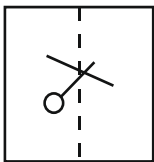


- 1 2 3 4
 (1) 1 (2) 2
 (3) 3 (4) 4

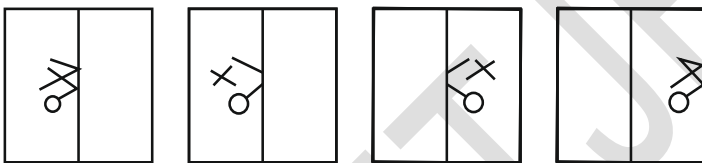
Q.79 and 80.

Directions: In the given below a transparent square shaped paper is folded along the dotted lines, which figure will be obtained? Find the figure from the alternative figure given.

79. Question figure

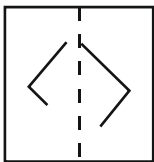


Answer figures

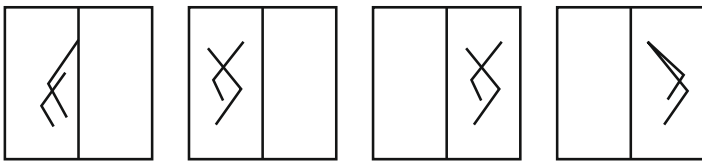


- 1 2 3 4
 (1) 1 (2) 2
 (3) 3 (4) 4

80. Question figure



Answer figures



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

Q.81 to 83

Directions: In a certain code language the word BASIC has been written in four different code languages. Understanding the code, find out the correct code language for the word given in each the following questions.

Word

BASIC =

Code language

- (1) EDVLF
 (2) CISAB
 (3) YASIZ

(4) BZRHC

81. EARTH = BARTE

82. CLOUD = CKNTD

83. LEARN = OHDUQ

84. In a certain code language if

$$\begin{aligned} @ \times \star &= 45, & \text{flag} \times \star &= 40 \\ \text{crescent} \times \text{flag} &= 48 \end{aligned}$$

And # × @ = 27 then find the value of # ?

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

85. In a certain code language if ↓↑ means 4

↓↑↓↑↓↑ means 12, @ means ×, e means ÷,

means + and \$ means – is used

Then find ↓↑↓↑ @ ↓↑↓↑↓↑ \$ ↓↑↓↑ e ↓↑ # ↓↑↓↓↑ = ?

- (1) 104 (2) 106
(3) 102 (4) 30

Q 86 to 88

Directions : In the following questions specific group of numbers are given. From the given alternatives, find out the right number which matches the given group.

86. 416 749 525

- (1) 982 (2) 864
(3) 637 (4) 319

87. 294 648 448

- (1) 84 (2) 94
(3) 100 (4) 194

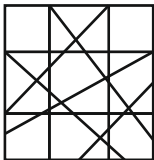
88. $3\frac{1}{3}$ 3.2 3.25 $3\frac{2}{3}$

- (1) 3.5 (2) 5
(3) 4.2 (4) $\frac{13}{3}$

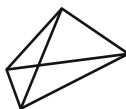
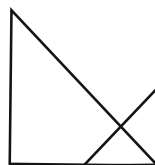
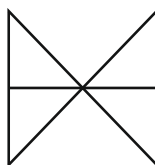
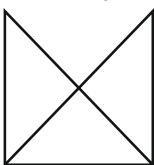
Q. 89 and 90

Direction: In the given questions a complex figure is given. Find out which of the simple figures given in the alternatives is hidden in the complex figure.

89. Question figure



Answer figure

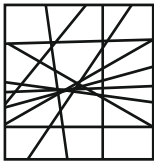


- 1 2 3 4
(1) 1 (2) 2

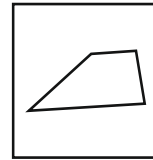
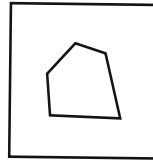
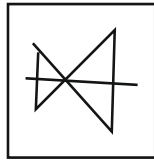
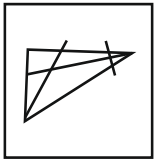
(3) 3

(4) 4

90. Question figure



Answer figure



1

2

3

4

(1) 1
(3) 3

(2) 2
(4) 4

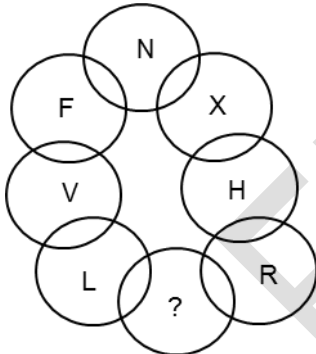
91. In the following question letters and numbers are written with a specific rule in horizontal rows. Find the rule and decide which will be in place of question mark.

JN	28	27	GP
CE	12	45	TU
LR	?	?	MS

(1) 30, 41
(3) 34, 36

(2) 30, 32
(4) 35, 35

92. Write the correct alternative to replace question mark.



(1) C
(3) Z

(2) B
(D) A

Q.93 and 94.

Directions: In the following table the digits are assigned with certain symbols. Observe the carefully and choose the correct alternative to answer the questions.

Digits	1	2	3	4	5	6	7	8	9
Symbols	⊕	卐	+	☾	▽	#	⊗	☺	\$

93. How will you write the number 635104 ?

94. Which number will be expressed by \$ # 卐 △ ☺ ▽ ?

(1) 951478
(3) 951847

(2) 958174
(4) 951874

Q.95 and 96

Directions: In the following questions word letters are given in column I and are coded in column II. But they are not arranged according to the order of word letters in column I. Find the code language and choose the correct alternative to answer the questions.

Column I	Column II
TEAR	8623
PURN	5641
TALK	9872
NET	235

95. What is the code for the PREAK?

- (1) 13689 (2) 16389
 (3) 16839 (4) 16489

96. 542687 code is for which word?

- (1) NATURE (2) NATEUR
 (3) NUTRAL (4) NURTAL

97. Observe the following code language and choose the correct alternative to answer the questions.

Letters	Z	A	W	O	D	I	Y	L	P	C
Digits	0	1	2	3	4	5	6	7	8	9

What is the code for the word ZODIAC?

- (1) 034159 (2) 034519
 (3) 043951 (4) 093415

Q.98 to 100

Directions: Observe the pyramid of number and choose the correct alternative which will replace question mark.

1
 2 3 4
 5 6 7 8 9
 10 11 12 13 14 15 16
 17 18 19 20 21 22 23 24 25
 26 27 28 29 30 31 32 33 34 35 36
 37 38 39 40 41 42 43 44 45 46 47 48 49

98. 18284041 : 24344645 :: 20304243 : ?

- (1) 22324443 (2) 21314344
 (3) 22324445 (4) 24344647

99. 261728 : ? :: 292031 : 332231

- (1) 281930 (2) 302132
 (3) 362534 (4) 352433

100. 37261718 : 49362524 :: 39271710 : ?

- (1) 39281920 (2) 47352516
 (3) 47342322 (4) 46342416