

SEAL

MENTAL ABILITY TEST (ENGLISH)

NTS-X-M

NATIONAL TALENT SEARCH EXAMINATION, 2020-21

303454

CENTRE CODE

SEAT NO.

STATE LEVEL EXAMINATION - QUESTION BOOKLET

MENTAL ABILITY TEST

CLASS X

MEDIUM : ENGLISH

[Date : 13th December, 2020]

[Time : 10:30 A.M. to 12:30 P.M.]

Maximum Marks : 100

Time : 120 Minutes

Total Pages : 32

SEAL**SEAL**

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you answer the questions.

1. Answers are to be bubbled only on the separate OMR 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. ascertain it with Hall ticket. Please see that no block is left blank or unfilled.

Example :

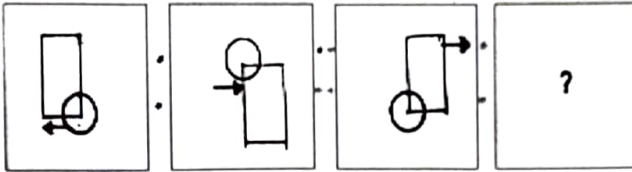
CENTRE CODE	2	1	0	2							
SEATNO.	3	9	2	1	2	1	0	2	1	2	3

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 paper.
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.

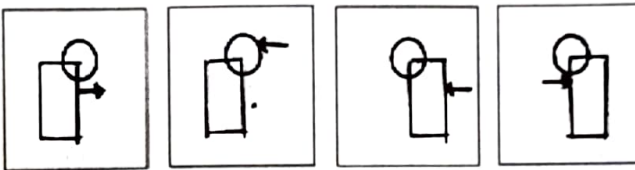
Q. 1 to 3

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



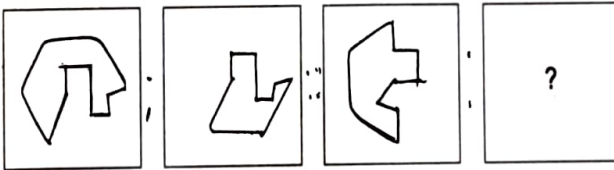
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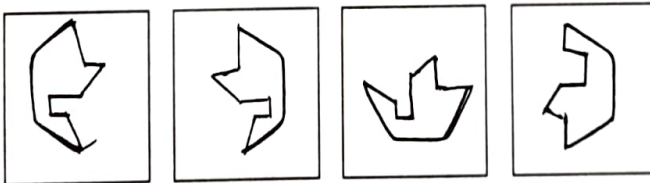
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4

2. Question figures



Answer figures



1

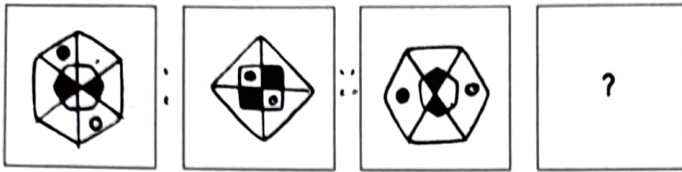
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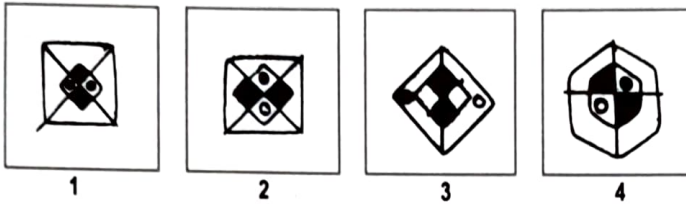
4

Space for Rough work

3. Question figures



Answer 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 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

Space for Rough work

7. 8, 1, 9, 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

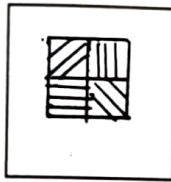
Q. 9 to 11

Directions : Find the odd figure.

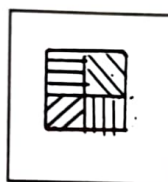
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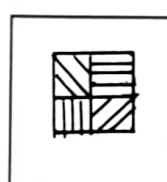
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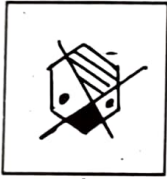


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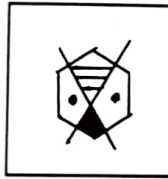


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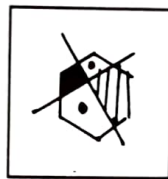
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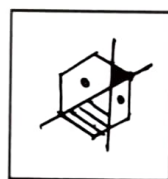
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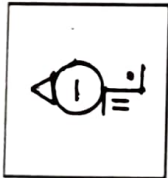


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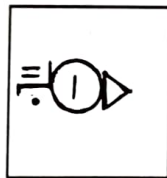
11.



1



2



3

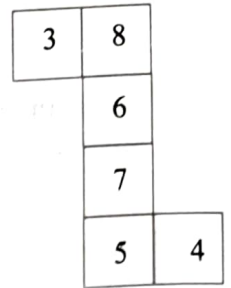


4

Space for Rough work

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.



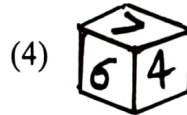
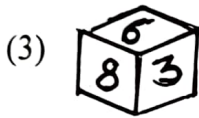
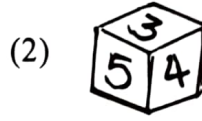
12. From the following which number will be opposite to 8 ?

- (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 :

$$4 : 80 :: 21 : ?$$

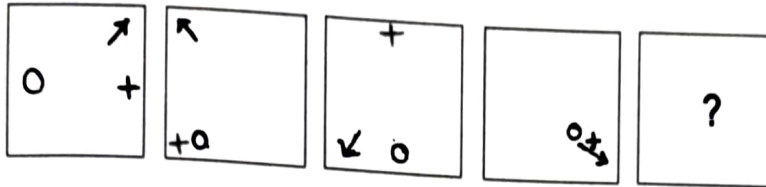
- (1) 9702
- (2) 8702
- (3) 8820
- (4) 421

Space for Rough work

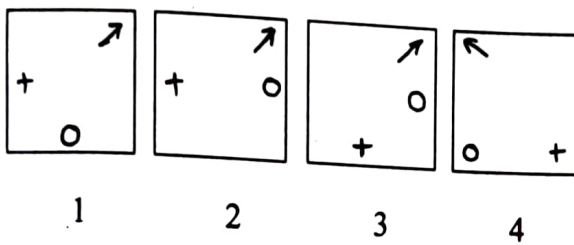
Q. 16 and 17

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.

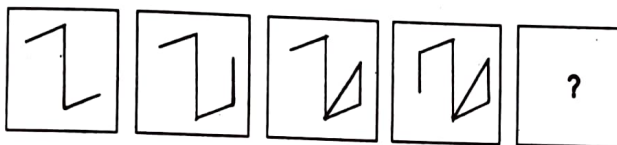
16. Question figures



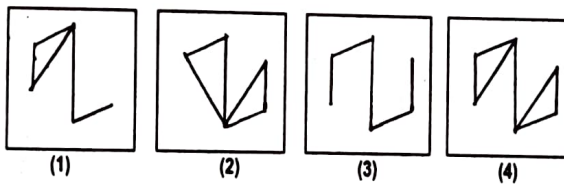
Answer figures



17. Question figures



Answer figures



Space for Rough work

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

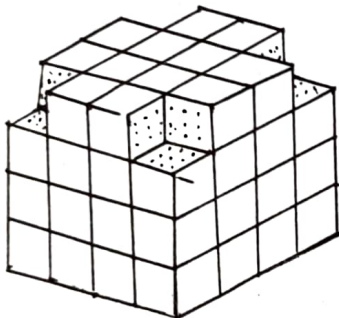
19. Which subject Vipin, Prashant and Amar likes?

- (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 4×4 dimensions is taken. All faces of block are painted 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?

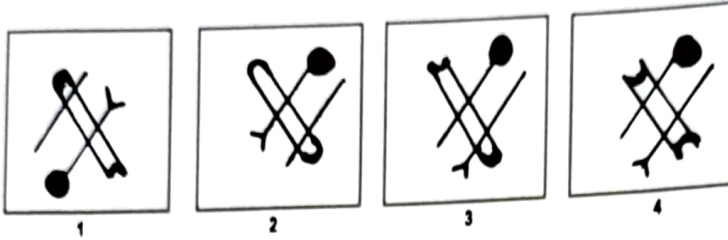
- (1) 64 (2) 52 (3) 48 (4) 24

Space for Rough work

25. Question figure



Answer figures



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

(2) qrppr

(3) qspps

(4) qsqpr

27. a - cb - ac - - ab -

(1) bcabb

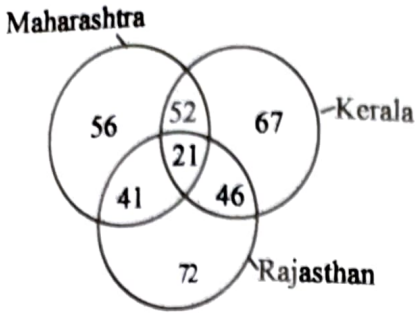
(2) bcaab

(3) bacbc

(4) bcabc

Space for Rough work

Q. 28 to 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) HJLIK (3) TVXWU (4) PRTSQ
32. (1) ZBX (2) VFT (3) RJO (4) SIQ

Q. 33 and 34

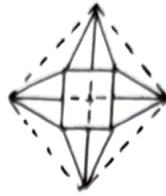
Directions : Which symbols will come in the order. Choose the correct alternative.

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) $\theta\Delta\mu\Sigma\beta$

Space for Rough work

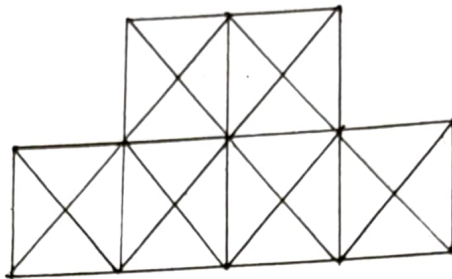
34. $\psi\Omega\Box\circ, \Omega\Box\circ\delta, \Box\circ\delta\alpha, ?$
 (1) $\circ\delta\alpha n$ (2) $\circ\delta\alpha\Omega$ (3) $\circ\delta\alpha\psi$ (4) $\circ\delta\alpha\Box$

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



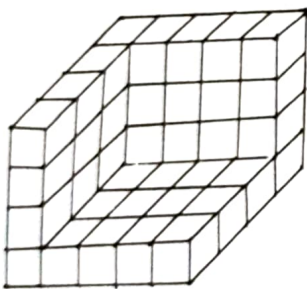
- (1) 16 (2) 20 (3) 24 (4) 32

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



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

Q. 37 to 39



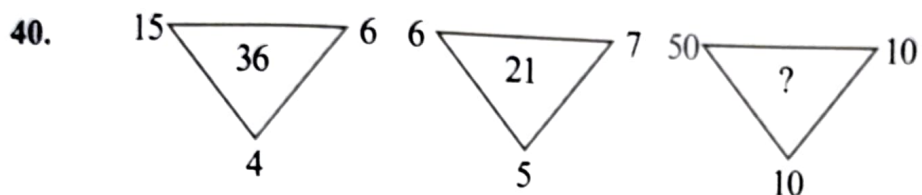
Directions : The following figure is made by arranging some cubes having each side 1 unit. This is painted from all sides. Observe the figure and choose correct alternative for following questions.

Space for Rough work

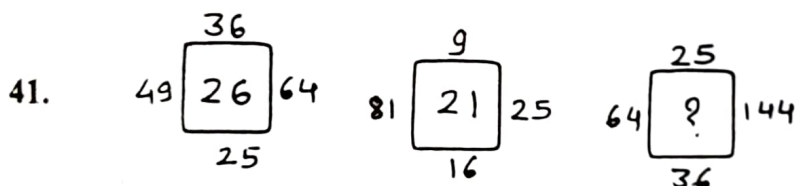
37. Find the number of cubes having maximum number of faces painted.
 (1) 1 (2) 2 (3) 3 (4) 4
38. How many cubes are used to make the arrangement as shown in the figure?
 (1) 35 (2) 40 (3) 44 (4) 46
39. Find the number of cubes having no face painted.
 (1) 0 (2) 1 (3) 2 (4) 3

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.



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



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

Space for Rough work

Q. 42 to 44

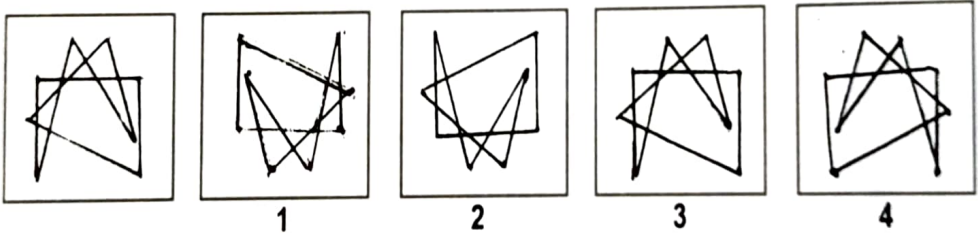
Directions : In the following questions there is a specific relation between first and second term. The same relationship exists between third and fourth term, which will replace the question mark. Select the correct alternative from the given alternatives.

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 and 46

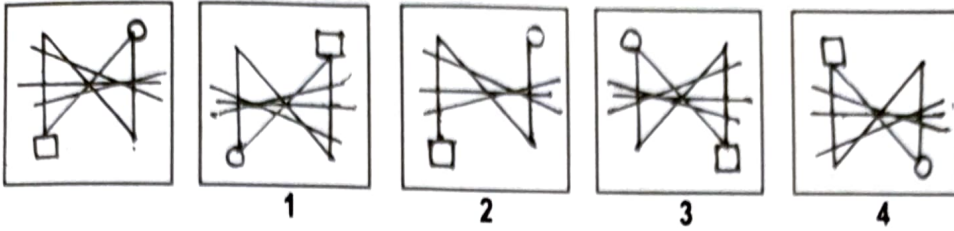
Directions : Choose the mirror image from the alternatives given for the given question figures.

45. Question figure Answer figures



Space for Rough work

46. Question figure Answer figures



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 from front?

- | | |
|--------|--------|
| (1) 29 | (2) 33 |
| (3) 17 | (4) 42 |

48. Rahul is at which place from behind?

- | | |
|--------|--------|
| (1) 29 | (2) 42 |
| (3) 33 | (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 | (2) OP | (3) RS | (4) PQ |
|--------|--------|--------|--------|

50. RD, PG, MK, IN, ?

- | | | | |
|--------|--------|--------|--------|
| (1) ER | (2) DR | (3) CQ | (4) DQ |
|--------|--------|--------|--------|

Space for Rough work

51. BM26, EN70, HO120, KP176, ?
 (1) NQ250 (2) NP224 (3) MQ221 (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 in place of question mark in each of the following questions.



53. oab : zpq :: gab : ?
 (1) mde (2) bxy (3) jhi (4) tjk
54. pqcb : utfg :: yzqr : ?
 (1) abcd (2) lscb (3) ekig (4) wvts
55. opnqm : ijtk :: ? : gjfke
 (1) bncmd (2) gbfce (3) jfxle (4) ybxsr
56. A map was so placed that north-west becomes south then what will east become?
 (1) South-west (2) North (3) North-east (4) West

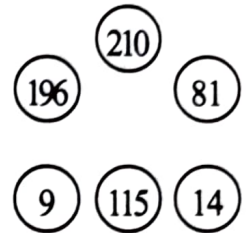
Space for Rough work

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

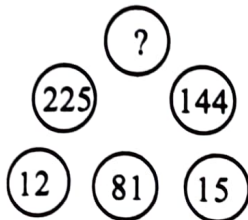
- (1) South-west (2) West (3) North-west (4) South

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?

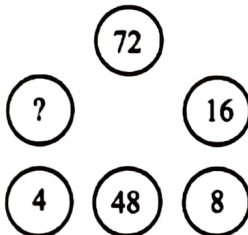


58.



- (1) 75 (2) 240
(3) 360 (4) 400

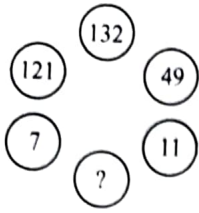
59.



- (1) 32 (2) 40
(3) 64 (4) 80

Space for Rough work

60.



- (1) 114 (2) 83 (3) 72 (4) 60

Q. 61 to 63

Directions : A, B, C, D, E, F, G, H eight friends are sitting around the 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 questions given below.

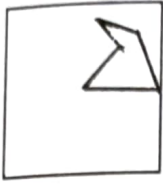
61. Who is sitting between B and C ?
(1) D (2) G (3) F (4) H
62. Who is sitting between A and B ?
(1) D (2) G (3) E (4) F
63. If B and D would have interchanged the places then who will be sitting at the first position to the left of B ?
(1) G (2) C (3) F (4) E
64. If according to mathematical code language $8+2=70$, $9+3=87$, $10+4=106$ then $7+5=?$
(1) 65 (2) 58 (3) 51 (4) 63
65. If according to mathematical code $9+2=36$, $8+3=72$, $7+4=112$ then $6+5=?$
(1) 84 (2) 130 (3) 75 (4) 150

Space for Rough work

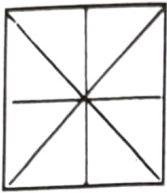
Q. 66 and 67

Directions : 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 alternative.

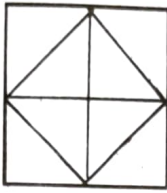
66. Question figure



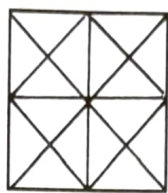
Answer figures



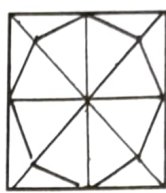
1



2



3

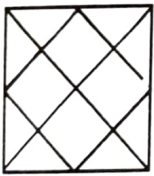


4

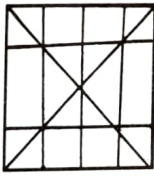
67. Question figure



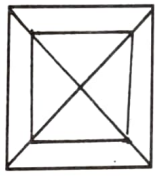
Answer figures



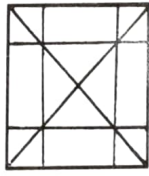
(1)



(2)



(3)



(4)

Space for Rough work

Q. 68 and 69

68. Ten years before ratio of ages of 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 alternatives 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

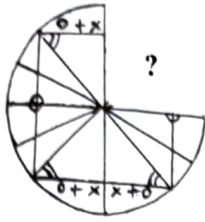
- (1) 46 (2) 93 (3) 89 (4) 78

Space for Rough work

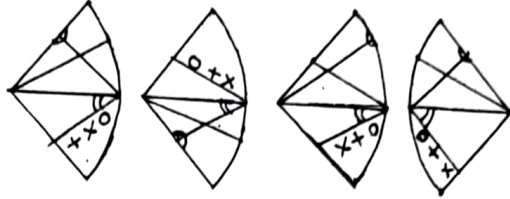
Q. 72 and 73

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

72. Question figure

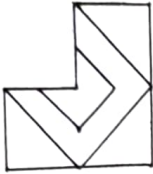


Answer figures

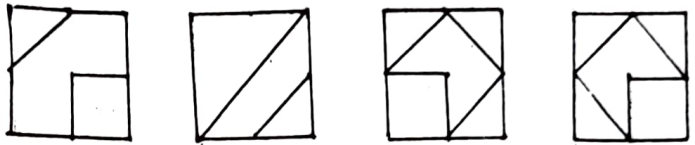


(1) (2) (3) (4)

73. Question figure



Answer figures



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

Q. 74 to 76

Directions : In the following questions 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

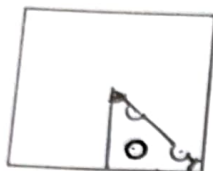
(1) FUKO (2) CXJP (3) GTDW (4) AZCW

Space for Rough work

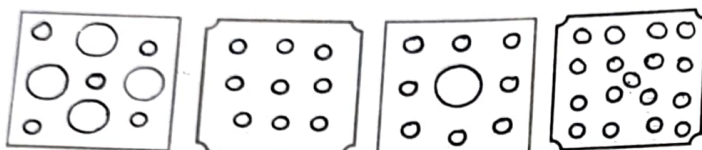
Q. 77 and 78

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

77. Question figure

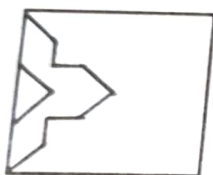


Answer figures

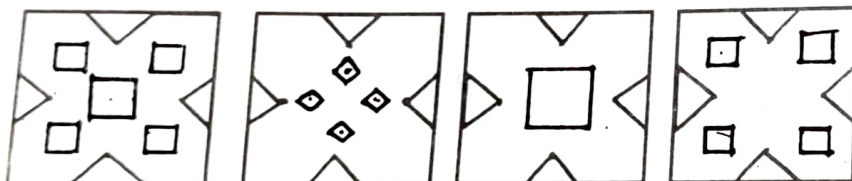


(1) (2) (3) (4)

78. Question figure



Answer figures



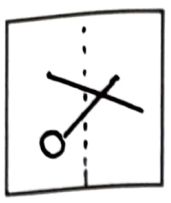
(1) (2) (3) (4)

Space for Rough work

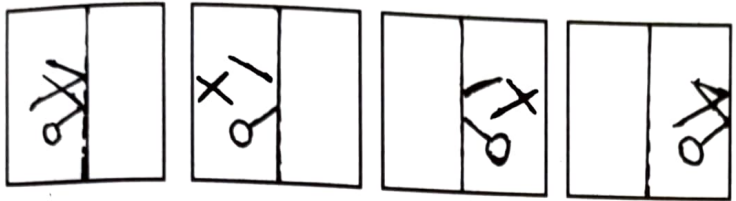
Q. 79 and 80

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

79. Question figure

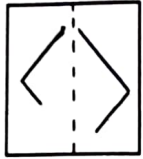


Answer figures

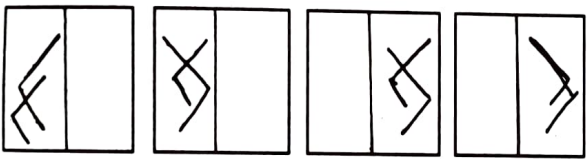


- (1)
- (2)
- (3)
- (4)

80. Question figure



Answer figures



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

Space for Rough work

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 of the following questions.

Word Code language

BASIC = (1) EDVLF

(2) CISAB

(3) YASIZ

(4) BZRHC

81. EARTH = BARTE

82. CLOUD = CKNTD

83. LEARN = OHDUQ

84. In a certain code language if

$$@ \times \star = 45, \quad \smile \times P = 48,$$

$$P \times \star = 40 \text{ and } \# \times @ = 27 \text{ then find the value of } \# ?$$

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

85. In a certain code language if || means 4,

||||| means 12, @ means \times , \odot means +,

means + and \$ means - is used

then find |||| @||||| \$ |||| \odot || #||||| = ?

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

Space for Rough work

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

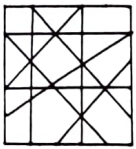
88. $3\frac{1}{3}$ 3.2 3.25 $3\frac{2}{3}$

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

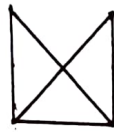
Q. 89 and 90

Directions : 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.

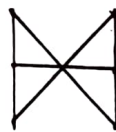
89. Question figure



Answer figures



(1)



(2)

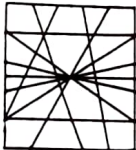


(3)

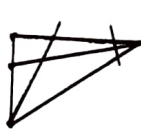


(4)

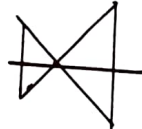
90. Question figure



Answer figures



(1)



(2)



(3)



(4)

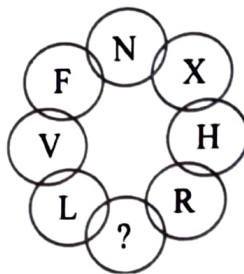
Space for Rough work

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 (2) 30, 32 (3) 34, 36 (4) 35, 35

92. Write the correct alternative to replace question mark.



- (1) C (2) B (3) Z (4) A

Q. 93 and 94

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

Digits	0	1	2	3	4	5	6	7	8	9
Symbols	⊕	卐	+	∪	▽	#	⊗	∩	△	\$

Space for Rough work

93. How will you write the number 635104 ?

- (1) $\oplus \nabla \oplus \cup \# \text{卐}$ (2) $\otimes \cup \# \text{卐} \oplus \nabla$
 (3) $\oplus \cup \Delta \# \text{卐} \otimes$ (4) $\otimes \Delta \cup \# \text{卐} \oplus$

94. Which number will be expressed by \$ # 卐 Δ \cup ∇ ?

- (1) 951478 (2) 958174
 (3) 951847 (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
T E A R	8 6 2 3
P U R N	5 6 4 1
T A L K	9 8 7 2
N E T	2 3 5

95. What is the code for the word PREAK?

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

96. 542687 code is for which word?

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

Space for Rough work

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

Space for Rough work