



**NATIONAL TALENT SEARCH EXAMINATION
(NTSE-2017) STAGE -1
JHARKHAND STATE : MAT**

Date: 13/11/2016

Max. Marks: 50

SOLUTIONS

Time allowed: 45 mins

Q.1-5

In each of the following questions, a group of letters is given, which are numbered differently. Below four alternatives are given, containing combination of these numbers. Select that combination of numbers which forms a meaningful word.

1. ACESTH

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

Ans. (3)

Sol. 2, 6, 1, 4, 5, 3 gives CHASTE

2. GTAENM

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

Ans. (1)

Sol. 6,3,1,5,4,2 gives MAGNET

3. TLEMNA

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

Ans. (3)

Sol. 4,3,5,1,6,2 gives MENTAL

4. TCOPTER

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

Ans. (4)

Sol. 4,7,3,1,6,2,5 gives PROTECT

5. RTEODP

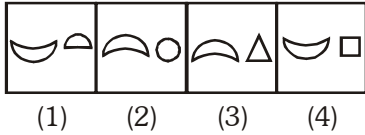
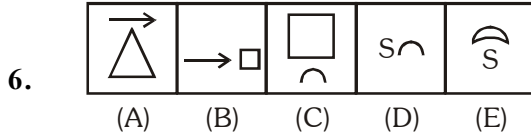
- (1) 5, 3, 6, 4, 1, 2 (2) 6, 5, 1, 3, 4, 2 (3) 2, 3, 1, 6, 4, 5 (4) 1, 3, 5, 6, 4, 2

Ans. (1)

Sol. 5, 3, 6, 4, 1, 2 gives DEPORT

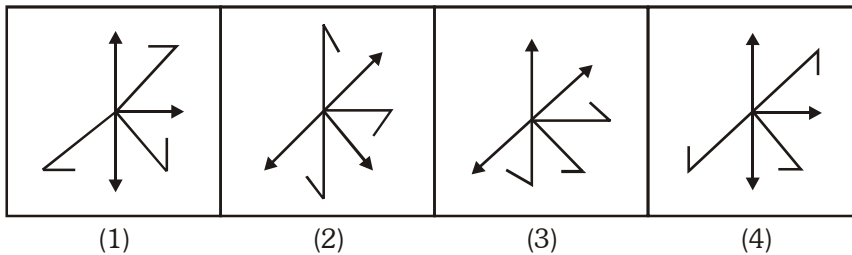
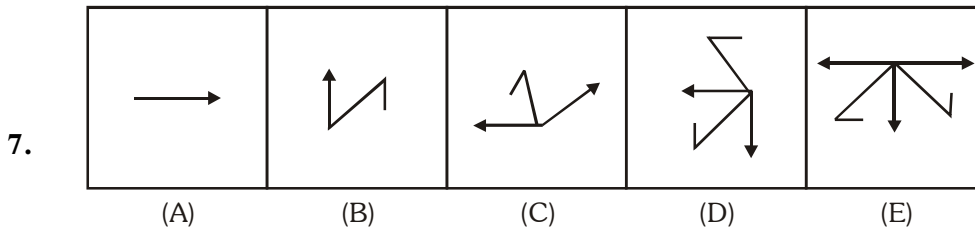
Q.6-10.

In each of the following questions, find the figure from the answer - set (i.e. 1, 2, 3 and 4) which will continue the series given in the problem set (i.e. A, B, C, D and E).



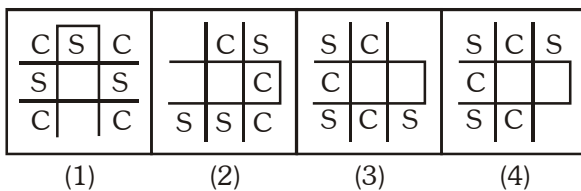
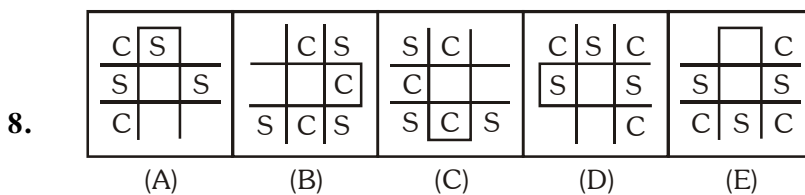
Ans. (2)

Sol. In the next diagram, the diagram are moved anti-clock wise and the earlier are magnified.



Ans. (4)

Sol. Figures are shifted anticlockwise 90° and a new sign is added in right corner.

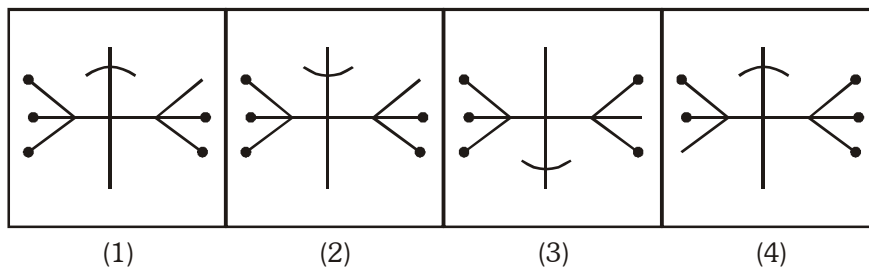
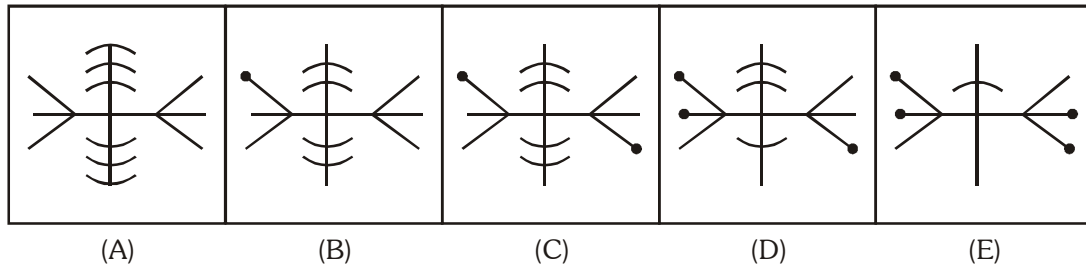


Ans. (4)

Sol. Figures are shifted clockwise and the letters are shifted clockwise by one more steps. from 1st to 2nd → letters are same.

2nd to 3rd letter are changed sly 3rd to 4th letter are same and 4 to 5th letter are changed (C-S).

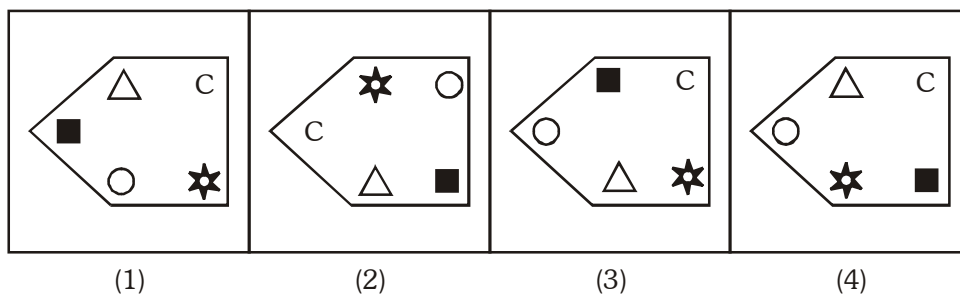
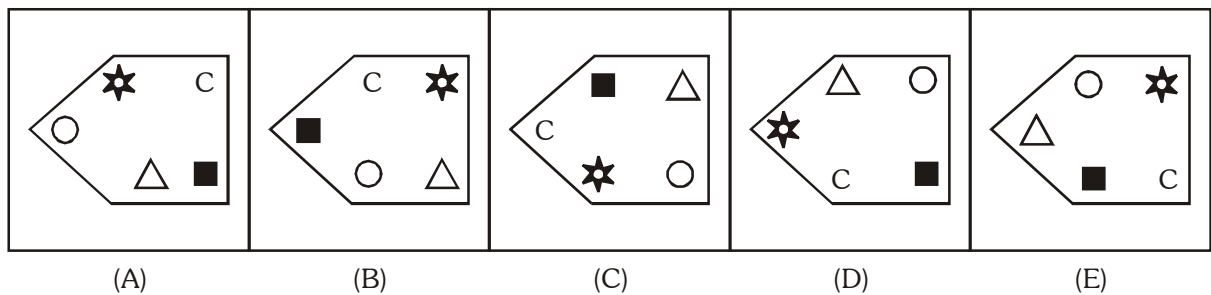
9.



Ans. (1)

Sol. By option elimination

10.



Ans. (3)

Sol. C moves anti-clockwise one places traingle moves anticlockwise one places and star moves clockwise one place & two place alternatively

Q 11-13

Study the pattern of numbers in the following questions and select the missing numbers in the place of question mark (?). Mark the correct alternative on your answer-sheet as directed.

11.

8	4	5
6	4	0
?	9	4
90	40	20

(1) 42

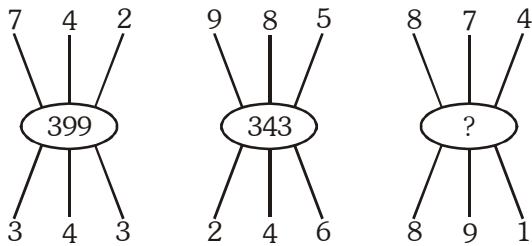
(2) 8

(3) 16

(4) 4

Ans. NA

12.



(1) 667

(2) 676

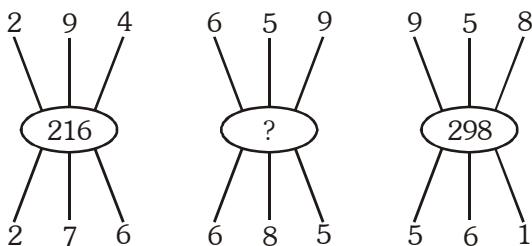
(3) 766

(4) 340

Ans. (2)

Sol. Upper number as it is and lower number is reversed and then subtracted $(874-198) = 676$

13.



(1) 271

(2) 712

(3) 331

(4) 261

Ans. (1)

Sol. Upper number is reversed and subtracted from lower. $(956-685) = 271$

14. If '−' means '+', '×' means '−', '÷' means '×' and '+' means '÷'; then

- (1) 18 (2) 20 (3) 15 (4) 12

Ans. (1)

Sol. Replacing the signs

15. If '−' means '+', '÷' means '×', '×' means '−' and '+' means '÷'; then which of the following is right.

- (1) $25 - 12 + 14 \div 2 \times 4 = 15$ (2) $25 - 11 - 4 \div 10 \times 6 = 20$
(3) $25 - 15 + 5 \div 4 \times 16 = 21$ (4) $25 \times 12 - 14 \div 4 + 6 = 16$

Ans. (3)

Sol. Replacing the signs

16. If $16 - 2 = 2$; $9 - 3 = 0$, $81 - 1 = 8$; then, $64 - 4 = ?$

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

Ans. (2)

Sol. $4^2 - 2 = 2$ similarly $9^2 - 1 = 8$ so $8^2 - 4 = 4$

17. Choose the correct arrangement of mathematical signs at the place of * for equating the given equation.

$5 * 5 * 5 * 3 * 10$

- (1) $\times + = \times$ (2) $+ \div \times =$ (3) $+ - \times =$ (4) $+ \div = \times$

Ans. (1)

Sol. By keeping the options

18. If 'M' means '−', 'Y' means '×', 'P' means '÷' and R means '+' then $60 P 2 R 10 Y 5 M 20 = ?$

- (1) 60 (2) 100 (3) 50 (4) 40

Ans. (1)

Sol. Replacing the signs

19. If 'A' means '−', 'B' means '×', 'C' means '÷' and 'D' means '+' then

$80 C 4 B 13 A 5 B 6 D 15 C 5 = ?$

- (1) 263 (2) 200 (3) 233 (4) 333

Ans. (3)

Sol. Replacing the letters by signs

Q.20-25

In each of the following questions, a series of number is given which follow certain rules. One of the numbers is missing. Choose the missing number from the alternatives given below and mark it on your answer-sheet as directed.

20. 70, 71, 76, ?, 81, 86, 70, 91.

- (1) 70 (2) 80 (3) 96 (4) 71

Ans. (1)

Sol. Every third number is 70 and in rest numbers 5 is added.

21. 83, 73, 93, ?, 103, 53.

- (1) 93 (2) 73 (3) 63 (4) 33

Ans. (3)

Sol. $-10, +20, -30, +40, -50$

22. 17, 44, 62, 53, ?

- (1) 26 (2) 66 (3) 29 (4) 63

Ans. (1)

Sol. sum of digits is 8

23. 2, 6, 12, 20, 30, ?

- (1) 44 (2) 42 (3) 36 (4) 40

Ans. (2)

Sol. Difference in numbers are increased by 2 i.e. $+4, +6, +8, +10, +12$

24. ?, 19, 37, 61, 91, 127, 269.

- (1) 17 (2) 13 (3) 11 (4) 7

Ans. (4)

Sol. Difference increases by 6

25. 16, 33, 65, 131, 261, ?

- (1) 523 (2) 521 (3) 625 (4) 725

Ans. (1)

Sol. $(16 \times 2) + 1, (33 \times 2) - 1, (65 \times 2) + 1$ similarly $(261 \times 2) + 1 = 523$

Q. 26-30

In the series given below what will come in the place of question mark (?).

26. MDDM, OFFO, QHHQ, ?, ULLU.

- (1) RITR (2) SIIS (3) RJJR (4) SJJS

Ans. (4)

Sol. Letters are moved by two places from previous letters.

27. BXF, DVI, FTL, ?, JPR.

- (1) HRP (2) HRN (3) HRO (4) HSO

Ans. (3)

Sol. $+2$ places in first letters -2 in second letters and $+3$ in third letters.

28. ATTRIBUTION, TTRIBUTIO, RIBUTIO, BUTI, ?

- (1) IBU (2) UT (3) UTI (4) BUT

Ans. Question Wrong

29. BEH, DGJ, ?, EJO, GLQ, INS.

- (1) FLR (2) FIS (4) FKO (4) FIL

Ans. (4)

Sol. Words are group in three's in first three $+2$ in each letters from the previous one

30. DCXW, FEVU, HGTS, JIRQ, ?

(1) LMRS

(2) ABYZ

(3) LKPO

(4) JIRQ

Ans. (3)

Sol. +2 in first letters, + 2 in second, -2 in third and -2 fourth

Q.31-34

Choose the correct mirror image of the given words/numbers from amongst the alternatives.

31. JUDGEMENT

(1) T N E M E G D U J

(2) T N E M E G D U J

(3) T N E M E G D U J

(4) J U D G E M E N T

Ans. (3)

Sol. Option elimination

32. EFFECTIVE

(1) E V I T C E F F E

(2) E V I T C E F F E

(3) E F F E C T I V E

(4) E V I C E F F E

Ans. (1)

Sol. Option elimination

33. UTZFY6KH

(1) H K 9 Y F S L N

(2) N T S F A 9 K H

(3) H K 8 A F S L N

(4) H K 8 Y F S T U

Ans. (4)

Sol. Option elimination

34. SUPERVISOR

(1) R O S I V R E P U S

(2) S O N B E B A I S O B

(3) B S O N B S E B I A

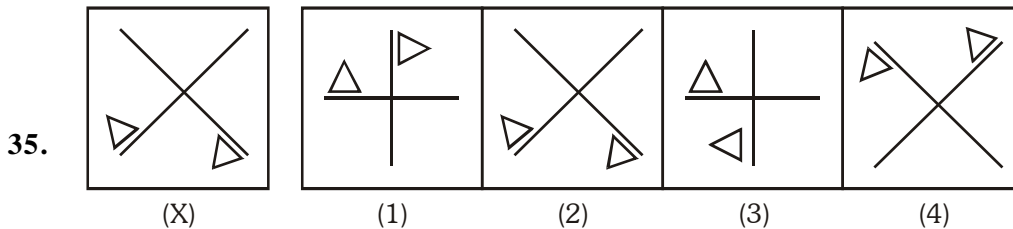
(4) S O N B E R A I S O R

Ans. (1)

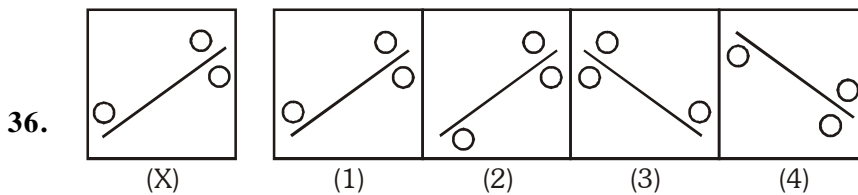
Sol. Option elimination

Q.35-36

Find the mirror image of x from 1, 2, 3 and 4 amongst the given alternatives.



Ans. NA

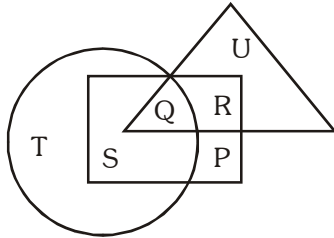


Ans. (3)

Sol. Option elimination (Mirror Image)

Questions 37-41

In the diagram below \square rectangle represents married people, \bigcirc circle represents people who live in joint family, \triangle triangle represents school teacher.



37. By which letter, the married teachers who live in joint family are represented?

- (1) R (2) Q (3) S (4) P

Ans. (2)

Sol. Q represents the married teacher's who lives in joint family.

38. By which letter, the married people, who live in joint family but are not school teachers, are represented ?

- (1) R (2) U (3) S (4) P

Ans. (3)

Sol. It is represented by letter S

39. By which letter, the people, who live in joint family but are neither married nor teachers, are represented ?

- (1) T (2) R (3) Q (4) S

Ans. (1)

Sol. It is represented by letter T

40. By which letter, the people who are married but neither teacher nor live in a joint family are represented ?

- (1) R (2) P (3) Q (4) S

Ans. (2)

Sol. It is represented by letter P

41. By which letter, the people, who are married teacher but do not live in joint family, are represented?

- (1) S (2) Q (3) R (4) P

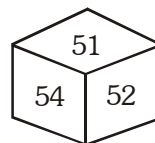
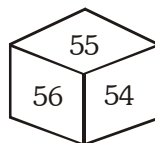
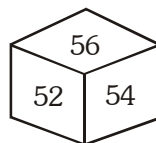
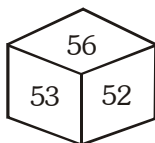
Ans. (3)

Sol. It is represented by letter R

Q. 42-46

In every question a dice has been shown in different faces on which letters/numbers/symbol have been written randomly. Carefully study the faces of the dice and answer the questions based on it.

42. Which number is just opposite of 56?

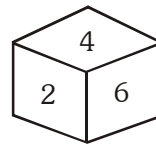
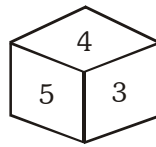
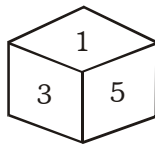
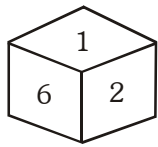


- (1) 54 (2) 55 (3) 52 (4) 51

Ans. (4)

Sol. Except 51, every number is adjacent to 56

43. Which number is just opposite of 1 ?



(1) 5

(2) 6

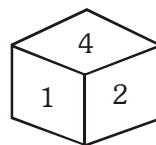
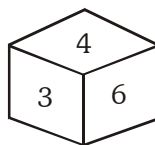
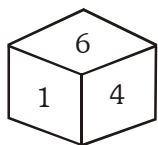
(3) 3

(4)

Ans. (4)

Sol. Except 4, every number is adjacent to 1

44. Which number is on the opposite of 4?



(1) 6

(2) 5

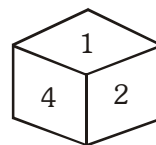
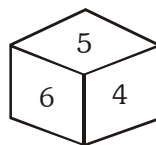
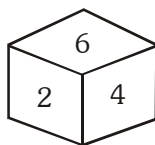
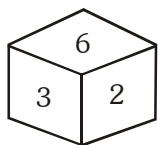
(3) 3

(4) 1

Ans. (2)

Sol. Except 5, every number is adjacent to 4

45. Which number is on the opposite of 6?



(1) 4

(2) 1

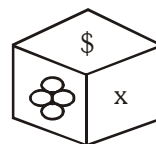
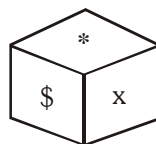
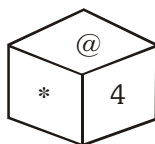
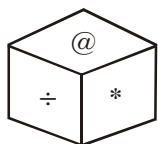
(3) 2

(4) 3

Ans. (2)

Sol. Except 1, every number is adjacent to 6

46. Which symbol will be on the face opposite to the face with symbol '*' ?



(1) @

(2) \$

(3)

(4) X

Ans. (3)

Sol. Except , every number is adjacent to *

47. Some boys are sitting in a row. P is sitting fourteenth from the left and Q is seventh from the right. If there are four boys between P and Q, How many boys are there in the row?

- (1) 25 (2) 23 (3) 21 (4) 19

Ans. (1)

Sol. P position from left end = 14, Q position from left end = P + 5 (4 students are in between P & Q)
= (14+5) = 19. Q position from right end is 7 \Rightarrow total number of students = (19 + 7) - 1 = 25.

48. Malai is fourteenth from the right end in a row of 40 boys. What is his position from the left end?

- (1) 24th (2) 26th (3) 27th (4) 28th

Ans. (3)

Sol. Position from left end $(40+1)-14 = 27$

49. A father is now three times as old as his son. Five years back, he was four times as old as his son. The age of the son (in years) is.

- (1) 10 (2) 12 (3) 15 (4) 18

Ans. (3)

Sol. $3x-5 = 4(x-5) \Rightarrow x = 15$

50. When Rahul was born, his father was 32 years older than his brother and his mother was 25 years older than his sister. Rahul's brother is 6 years older than him and his mother is 3 years younger than his father. How old was Rahul's sister when he was born?

- (1) 14 years (2) 10 years (3) 8 years (4) 20 years

Ans. (2)

Sol. Rahul's brother's age = 6 years when rahul was born

Rahul's father's age = 38 years when rahul was born

Rahul's mother's age = 35 years when rahul was born

\therefore Rahul's sister's age = 35-25 = 10 years.