



NATIONAL TALENT SEARCH EXAMINATION (NTSE-2016) STAGE -1 JHARKHAND MAT

Date: 08/11/2015

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. uteseqoin

- (1) 34512768 (2) 51432768 (3) 21345678 (d) 86527143

Sol. Question, so option (2) is correct (leave 'e' after t from question before coding)

2. eeeadrls

- (1) 61234578 (2) 81245673 (3) 14526378 (4) 61724835

Sol. Released, so option (4) is correct.

3. reegnal

- (1) 7625341 (2) 4253167 (3) 1243765 (4) 4527361

Sol. General, so option (2) is correct.

4. ceeubas

- (1) 5216473 (2) 7243156 (3) 6213475 (4) 5276314

Sol. Because, so option (1) is correct.

5. sgthin

- (1) 156234 (2) 156423 (3) 345621 (4) 453216

Sol. Things, so, option (3) is correct.

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)

6.

CUTE *	* CUT Δ	ΔTOC*	TΔ*OC	AT◇*O
A	B	C	D	E

TAZ◇*	O*T◇A	O*◇TZ	OT*◇Z
1	2	3	4

Sol. So, option (2) is correct.

A	B	C	D	E

7.

1	2	3	4

Sol. Option (4) is correct.

8.

C ↙	← C	C ↑	↗ C	↘ C
A	B	C	D	E

C ↑	↑ C	C ↓	C ↙
1	2	3	4

Sol. Option (2) is correct.

9.

BLIND	EBLND	BELNC	ABECN	BACNO
A	B	C	D	E

SBAON	CBAON	ABONS	SBANO
1	2	3	4

Sol. Figure A and B BL is common and new symbol is inserted in figure B. Figure C and D BE is common and new symbol is inserted in figure D. From options BA is common in E and option 1 and 2 but new symbol is only inserted in options (1) only so option (1) is correct.

10.

△	○ △	○	= ○	= =
A	B	C	D	E

□	= □	□	□ =
1	2	3	4

Sol. Option (2) is correct.

△ +1	○ △ +2	○ +3	= ○ +4	○ = +5
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□ = □

Q 11-13

Study the pattern of the 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.

9	7	8
3	6	7
3	7	?
30	55	31

- (1) 25 (2) 3 (3) 4 (4) 9

Sol. As $8 \times 3 + 7 = 31$, so option (2) is correct.

12.

2		
9	197	0
3		7
2		

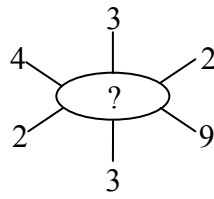
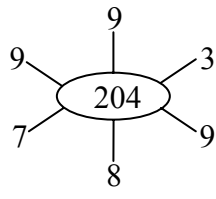
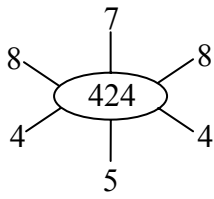
8		
8	?	0
8		4
2		

3]
8	?	2
6		5
4		

- (1) 196 (2) 461 (3) 65 (4) 244

Sol. As $889 - 428 = 461$, so, option (2) is correct.

13.



(1) 6611

(2) 207

(3) 193

(d) 607

Sol. As $432 - 239 = 193$, so option (3) is correct.

Q 14-19

14. If 'x' means '+', '÷' means '-', then the value of $39 \times 23 \div 21 \times 5 = ?$

(1) 46

(2) 36

(3) 62

(4) 89

Sol. $39 + 23 - 29 + 5 = 46$, so option (1) is correct.

15. If 'x' means '÷', '+' means '÷', '-' means 'x' and '÷' means '+', then :

(1) 180

(2) 190

(3) $\frac{3}{1600}$

(4) 90

Sol. $15 \times 12 + 900 \div 90 - 100 = 90$, so option (4) is correct.

16. If '+' means '-', '-' means 'x', 'x' means '÷' and '÷' means '+', then,

(1) 118

(2) 82

(3) 72

(4) 90

Sol. $40 + 360 \div 24 \times 4 - 18 = 82$, so option (2) is correct.

17. If '+' means 'x', '-' means '÷', 'x' means '-' and '÷' means '+', then,

(1) 11

(2) 17

(3) 26

(4) 65

Sol. $9 \times 8 + 8 \div 4 - 9 = 65$, so option (4) is correct.

18. If 'x' means '+', '+' means '÷', '-' means 'x' and '÷' means '-', then

(1) 10

(2) 11

(3) 12

(4) none

Sol. $6 + 4 \times 5 \div 2 - 1 = 15$, so option (4) is correct.

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

(1) -, +, =, x

(2) +, x, =, +

(3) =, x, +, -

(4) x, =, +, +

Sol. As $7 \times 2 = 3 + 5 + 6$, so option (4) is correct

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.

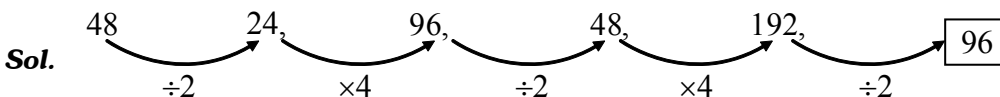
20. 48, 24, 96, 48, 192, ?

(1) 98

(2) 90

(3) 96

(4) 76



Sol.

∴ Option (3) is correct.

21. 3, 10, 101, ?

(1) 10101

(2) 11012

(3) 10202

(4) 10201

Sol. $3 \xrightarrow{\times 3 + 1} 10 \xrightarrow{\times 10 + 1} 101 \xrightarrow{\times 101 + 1} \boxed{10202}$

∴ Option (3) is correct.

22. 33, 28, 24, ?, 19, 18

- (1) 21 (2) 22 (3) 20 (4) 23

Sol. $33 \xrightarrow{-5} 28 \xrightarrow{-4} 24 \xrightarrow{-3} 21 \xrightarrow{-2} 19 \xrightarrow{-1} 18$

∴ Option (1) is correct.

23. 6, 10, 18, 34, ?

- (1) 46 (2) 56 (3) 66 (4) 76

Sol. $6 \xrightarrow{+4} 10 \xrightarrow{+8} 18 \xrightarrow{+16} 34 \xrightarrow{-32} \boxed{66}$

∴ option (3) is correct.

24. 4, 8, 12, 24, 36, ?

- (1) 72 (2) 48 (3) 60 (4) 144

Sol. $4 \xrightarrow{\times 2} 8 \xrightarrow{\times 1.5} 12 \xrightarrow{\times 2} 24 \xrightarrow{\times 1.5} 36 \xrightarrow{\times 2} \boxed{72}$

∴ option (1) is correct

25. 1, 1, 9, 27, 25, ?, 49

- (1) 625 (2) 250 (3) 225 (4) 125

Sol. $(1^2), (1^3), (3^2), (3^3), (5^2), (5^3), (7^2)$

∴ option (4) is correct

Q 26-30

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

26. AEB, FJG, LPM, ?

- (1) NOP (2) SWT (3) STW (4) MNO

Sol. AEB, FJG, LPM, SWT
152 6107 121613, So, 19,2320

∴ option (2) is correct

27. NOABOPBCPQCD????

- (1) QRDE (2) RTEF (3) QSDE (4) QRGI

Sol. NOABOPBCPQCD, So, QRDE
 $\begin{matrix} 14 & 15 & 1 & 2 & 15 & 16 & 2 & 3 & 16 & 17 & 3 & 4 \\ 17 & 18 & 4 & 5 \end{matrix}$

∴ option (1) is correct.

28. KDW, MGT, OJQ, ?

- (1) MNQ (2) QNM (3) NMQ (4) QMN

Sol. $\begin{matrix} K & D & W & & M & G & T & & O & J & Q & & Q & M & N \\ 11 & 4 & 23 & & 13 & 7 & 20 & & 15 & 10 & 17 & & 17 & 13 & 14 \end{matrix}$, So

∴ option (4) is correct.

29. AE, CG, EI, GK, ?

- (1) MI (2) IM (3) HM (4) IL

Sol. $\begin{matrix} A & E & C & G & E & I & G & K \\ 1 & 5 & 3 & 7 & 5 & 9 & 7 & 11 \end{matrix}$, So, $\begin{matrix} I & M \\ 9 & 13 \end{matrix}$

∴ option (2) is correct.

30. ADG, GJM, MPS, ?

- (1) SVW (2) SVY (3) SUW (4) SWY

Sol. $\begin{matrix} A & D & G & & G & J & M & & M & P & S \\ 1 & 4 & 7 & & 7 & 10 & 13 & & 13 & 16 & 19 \end{matrix}$, So, $\begin{matrix} S & V & Y \\ 19 & 22 & 25 \end{matrix}$

∴ option (2) is correct.

Q 31-34

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

31. RIVER

- (1) RIVEK (2) RIVAK (3) RIVAK (4) RIVEK

Sol. Option (2) is correct.

32. PR9YA

- (1) RPY9A (2) RPY9A (3) RPY9A (4) RPY9A

Sol. Option (2) is correct.

33. R1HU7

- (1) R1HU7 (2) R1HU7 (3) R1HU7 (4) R1HU7

Sol. Option (1) is correct.

34. WINER

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

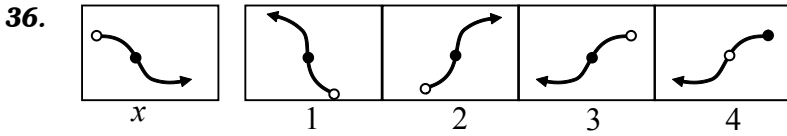
Sol. Option (1) is correct.

Q 35-36

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

35.

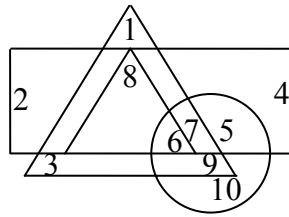
Sol. Option (2) is correct.



Sol. Option (3) is correct.

Q. 37-41

In the diagram given below Δ big triangle represents writer, \square rectangle represents poet, \triangle small triangle represents dramatician and \circ circle represents essay writer. Study the diagram and choose answers of the given questions.



37. Which number denotes the poets who are easy writer, dramatician and writer also?
 (1) 7 (2) 5 (3) 6 (4) 8

Sol. Option (3) is correct.

38. Which number denotes those dramatician who are not essay writer?
 (1) 8 (2) 7 (3) 5 (4) 1

Sol. Option (1) is correct.

39. Which number denotes those poets who are essay writer also but writer or dramatician?
 (1) 5 (2) 6 (3) 7 (4) 8

Sol. Option (1) is correct.

40. Which number only denotes writers who not poets neither dramatician nor eassy dramatician?
 (1) 2 & 3 (2) 1 & 3 (3) 4 & 5 (4) 8 & 6

Sol. Option (2) is correct.

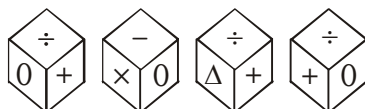
41. Which numbers only denotes poets who are not writers neither essay writer nor dramatician?
 (1) 2 & 4 (2) 8 & 3 (3) 7 & 9 (4) 5 & 1

Sol. Option (1) is correct.

Q 42-46

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

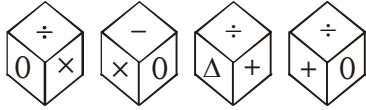
42. Which symbol is just opposite to symbol '+' ?



(1) × (2) + (3) 0 (4) ÷

Sol. Option (3) is correct.

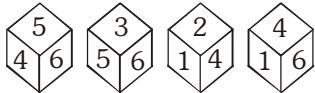
43. Which symbols is just opposite to symbol '+'?



- (1) Δ (2) \times (3) $-$ (4) \div

Sol. Option (2) is correct.

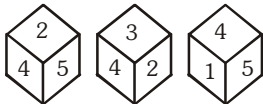
44. Which number is opposite to the number 3?



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

Sol. Option (3) is correct.

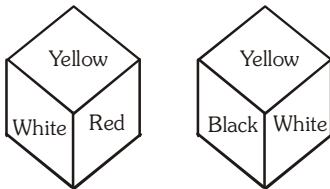
45. Which number will come at the bottom of last cube?



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

Sol. Option (3) is correct.

46. Which colour will come at the opposite of red colour?



- (1) Blue (2) Black (3) White (4) Yellow

Sol. Option (2) is correct.

47. Amongst P, Q, R, S and T, S is bigger than R but not as big as T, only Q is bigger than P. Who is smallest among them.

- (1) P (2) Q (3) R (4) None of them

Sol. $Q > P > T > S > R$. So, option (3) is correct.

48. M, N, P, R and T, each has got different marks in an exam. R has got more marks than M and T, N has got less marks than P. Who has got the highest marks in third rank?

- (1) N (2) R (3) M (4) Data in-sufficient

Sol. $R > M \& T$, $N < P$, data insufficient, so option (4) is correct.

49. Age of A is three times the age of B. Four years earlier, age of C was two times the age of A. After four years A will become 31 years old. What is the present age of B and C?

- (1) 10, 50 (2) 10, 45 (3) 9, 50 (4) 9, 45

Sol. $A - 3B$... (1)

$$C - 4 = 2(A - 4) \quad \dots(2)$$

$$A + 4 = 31 \Rightarrow A = 27 \text{ years.}$$

$$\text{By (1), } B = \frac{A}{3} \Rightarrow B = 9 \text{ years}$$

$$\text{By (2), } C - 4 = 2(27 - 4) \Rightarrow C - 4 = 2(23), \quad C - 4 = 46$$

$\therefore C = 50$ years, so option (3) is correct.

50. The sum of present age of a father and son is 70 years. After 10 years the age of son will be half the age of his father. What is their present age?

- (1) 45 years, 25 years (2) 50 years, 20 years (3) 47 years, 23 years (4) 50 years, 25 years

Sol. Let, present age of father = x

Let, present age of son = y

$$\text{Now, } x + y = 70 \quad \dots(1)$$

$$\text{After 10 years, } y + 10 = \frac{x + 10}{2} \Rightarrow 2y + 20 = x + 10$$

$$\therefore x - 2y = 10 \quad \dots(2)$$

By option (1) $-(2)$, $3y = 60 \Rightarrow y = 20$ years

Using (1), $x = 70 - 20 \Rightarrow x = 50$ years, so option (2) is correct.
