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

Date: 06/11/2016

Max. Marks: 50 **SOLUTIONS** **Time allowed: 45 mins**

Direction (Q.1-Q.5) : In the following questions four items are given, out of them, there are a like in a certain way but one is different. Find the different item.

1. (A) L N O R (B) J R P S (C) C E F I (D) G I J M

Ans. ***(B)***

Sol. Pattern in other there are +2, +1, + 3

2. (A) 51 (B) 85 (C) 119 (D) 138

Ans. ***(D)***

Sol. All number divisible by 17, except option (D)

3. (A) Valley (B) River (C) Mountain (D) Tower

Ans. ***(D)***

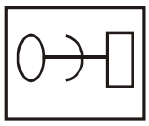
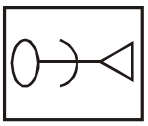
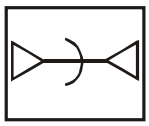
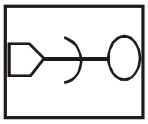
Sol. All are natural things except option (D)

4. (A) ZS12 (B) PM4 (C) RJ16 (D) FD2

Ans. ***(C)***

Sol. $\underbrace{Z\ S}_{6} = 6 \times 2 = 12$

number of multiply by 2 in betweem letters except.

5. (A)  (B)  (C)  (D) 

Ans. ***(C)***

Sol. In all figure both side are different figures except option (C)

Direction (6-11) : In the following questions letter/figure are arranged on the basis of some logic. On the basis of that logic select the correct answer of the missing place from given alternatives.

6. 3 F, 6 F, 11 I, 18 L, ?

(A) 21 O (B) 25 N (C) 27 N (D) 27 P

Ans. ***(D)***

Sol.

3 5 7 +9

3 F, 6 G, 11 I, 18 L, 27 P

6 7 9 12 16

1 2 +3 +4

7. PMT, OOS, NQR, MSQ, ?

(A) LUP (B) LVP (C) LVR (D) LWP

Ans. ***(A)***

Sol.

–1 –1 –1 –1

PMT , OOS, NQR, MSQ, LUP

+2 +2 +2 +2

8. 31, 32, 33, 37, 45, ?

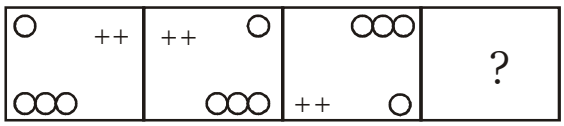
(A) 52 (B) 54 (C) 57 (D) 59

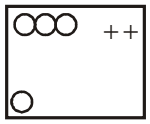
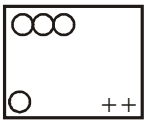
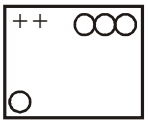
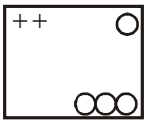
Ans. (B)

Sol. 31, 32, 33, 37, 45, 54

+1 +1 +4 +8 +9

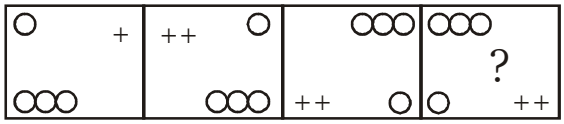
9. Question figure



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

Ans. (B)

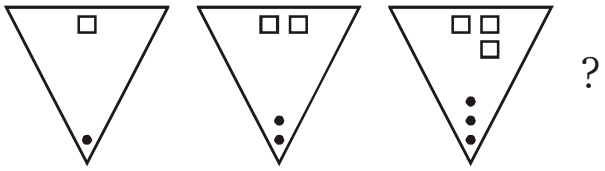
Sol. Question figure

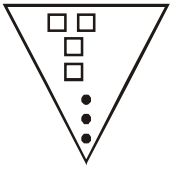
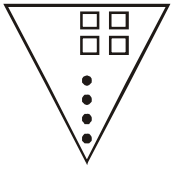
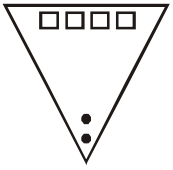
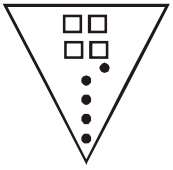


10. BCDB, CDDEC, DEEEFD, ?

(A) EFFFGE (B) EFFFFGF (C) EFFFFGE (D) FEEFGF

Ans. (C)

11.  ?

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

Ans. (B)

Direction (Q.12 to Q.16) : In the following questions there is a relationship between the two words/letters/numbers and figures given to the left of the proportionality (: :) sign. The same relationship exists between the words/letters/numbers/figures given to the right of the sign (: :) of which one is missing. Find the missing one from the given alternatives.

12. 35 : 91 : : 189 : ?

(A) 343 (B) 341 (C) 280 (D) 210

Ans. (B)

Sol. $2^3 + 3^3 : 3^3 + 4^3 : : 4^3 + 5^3 : 5^3 + 6^3$

13. Smoke : Pollution : : War : ?

(A) Destruction (B) Friendship (C) Victory (D) Peace

Ans. ***(A)***

14. SANTOR : NASROT :: VANITY : ?

(A) NAVYTI (B) NAVTIY (C) NAVTYI (D) AVNTIY

Ans. ***(A)***

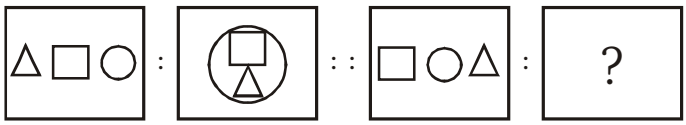
15. 5 : 36 :: 6 : ?

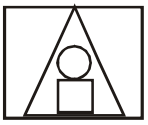
(A) 48 (B) 49 (C) 50 (D) 56

Ans. ***(B)***

Sol. $5 : (5 + 1)^2$

$6 : (6 + 1)^2$

16. 

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

Ans. ***(B)***

17. The station master told Vishwanath that the bus for Kareemnagar goes in every 45 minute. The last bus departed 15 minutes ago. The next bus is scheduled to depart at 7 : 30 pm. At what time the station master informed Vishwanath?

(A) 1 : 20 pm (B) 1 : 40 pm (C) 7:00 pm (D) None of these

Ans. ***(C)***

Sol. 7 : 30 – 45 min + 15 min = 7:00 pm

18. Priyanka was born on 5 September, 1992 and Ankita was born 10 days earlier. If in that year the Independence day was on Thursday then on which day Ankita was born ?

(A) Sunday (B) Monday (C) Tuesday (D) Friday

Ans. ***(B)***

Sol. 5 September, 1992 – 10 = 26 Aug 1992

15 Aug 1992 – Thursday

Then 26 Aug 1992 – Monday

19. If A means division, B means substraction, C means multiplication and D means addition, then which equation will have correct option ?

(A) 100A5B5C10D50 = 200 (B) 70D20A30B10C5 = 70

(C) 20D30A5B10C100 = 100 (D) 240A60B10C5D16 = –30

Ans. ***(D)***

Sol. $240 \div 60 - 10 \times 5 + 16 = -30$

20. In a certain code language PERILOUS is written as RGTKNQWU, then how will OLYMPIC be written as in that language ?

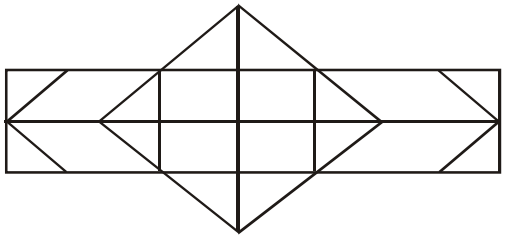
(A) QNOAKRE (B) QONARKE (C) QNAORKE (D) QKNOARE

Ans. ***(C)***

Sol.

16	5	18	9	12	15	21	19		18	7	20	11	14	17	23	21
P	E	R	I	L	O	U	S		R	G	T	K	N	Q	W	U
+2	+2	+2	+2	+2	+2	+2	+2									

21. How many Hexagons are there in the given figure :



(A) 2 (B) 4 (C) 5 (D) 6

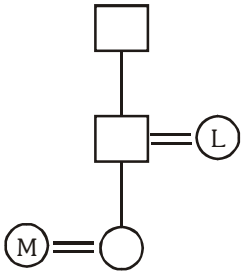
Ans. ***(C)***

22. Introducing a man, a lady said "the father of his father-in-law is my father-in-law". How is that man realated to that lady ?

(A) Son-in-law (B) Son (C) Father (D) Brother

Ans. ***(A)***

Sol.



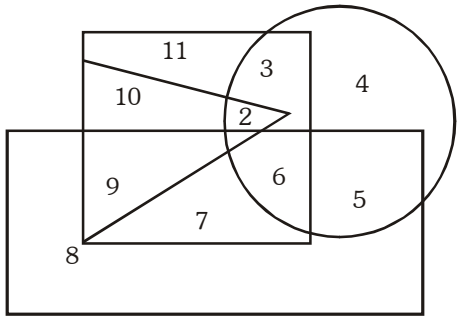
23. If the even numbered latters of English alphabet are written in small letters and odd numberd letters of an alphabet are written in capital letter, then how CONGRATULATION will be written :

(A) CoNGra Tulation (B) CoNgRaTULATion (C) CoNGrATulatioN (D) COnGrAtUlAtOn

Ans. ***(D)***

Sol. $\underset{3\ 15\ 14\ 7\ 18\ 120\ 21\ 121\ 1\ 20\ 9\ 15\ 14}{\text{CONGRATULATION}}$ — COnGrAtUlAtOn

Directions (Q. 24 to 28) : Study the diagram and answer the questions from 24 to 28 on the bases of given descriptions. Rectangle means male, Circle means urban, Square means educated and triangle means government employee.



24. Which number represents urban, educated, male, government employee :

(A) 3 (B) 8 (C) 2 (D) 1

Ans. ***(D)***

Sol. Common to all figure.

25. Rural, educted, male who is not a government employee is represented by ?

(A) 1 (B) 8 (C) 7 (D) 6

Ans. ***(C)***

Sol. Number common to square and rectangle

26. Rural, educated, female goverment emplyee is represented by ?

(A) 9 (B) 10 (C) 7 (D) 8

Ans. (B)

Sol. Number common to square and triangle

27. Urban, uneducated, male who is not a government employee is represented by ?

(A) 5 (B) 4 (C) 1 (D) 9

Ans. (A)

Sol. Number common to circle and rectangle

28. Urban, educated, female government employee is represented by ?

(A) 9 (B) 5 (C) 2 (D) 1

Ans. (C)

Sol. Number common to circle, square, triangle

Directions (Q.29 to 33) : Answer these questions on the bases of information given below.

(1) Five persons P,Q,R,S and T are travelling in a group.

(2) In this group there is a tennis player, a cricketer and a chess player.

(3) P, is son of a doctor and his income is more than the Tennis player.

(4) S is unmarried lady.

(5) In the group there is a married couple of which Q is the husband.

(6) T is the brother of R and is neither a cricketer nor a chess player.

(7) There is no lady player in the group.

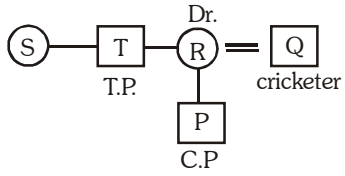
(8) The income of the cricketer is least.

29. Out of the following which group is represented by males :

(A) P, Q, R (B) Q. T, R (C) P, R, T (D) P, Q, T

Ans. (D)

Sol.



30. Who is Cricketer ?

(A) P (B) Q (C) R (D) S

Ans. (B)

31. Who is sister of R ?

(A) P (B) Q (C) S (D) T

Ans. (C)

32. Who is a chess player ?

(A) P (B) Q (C) R (D) S

Ans. (A)

33. Whose income is highest ?

(A) P (B) Q (C) R (D) T

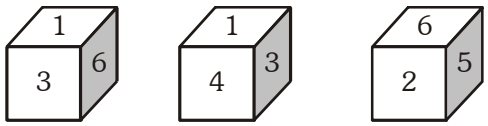
Ans. (NA)

34. Five girls are standing facing west. Vineeta is immediate right to Rashmi. Gunjan is in between Shweta and Aparna. Shweta is third from right. Who is in exterme left ?

(A) Rashmi (B) Aparna (C) Vineeta (D) Gunjan

Ans. NA

35. Give, which digit opposite to 4 :

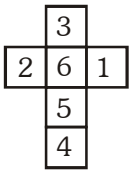


(i) (ii) (iii)

(A) 1 (B) 2 (C) 5 (D) 6

Ans. ***(D)***

Sol.

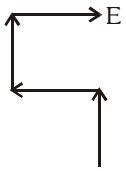


36. A boy walks towards north to school. He turns left, then turns right and then again turns towards right. Which direction is he facing now :

(A) South (B) West (C) East (D) North

Ans. ***(C)***

Sol.



Directions (Q.37 to 40) : In the given number matrix, find out the number that will come in place of question mark (?).

37.

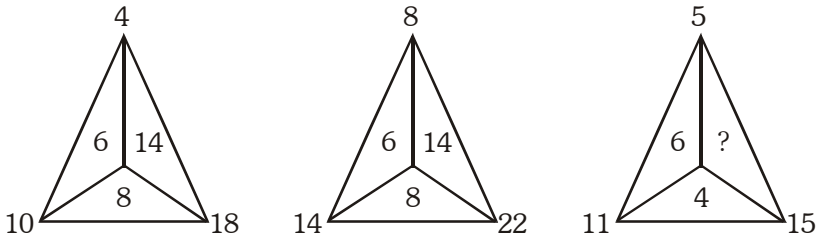
4	1	15
9	2	79
4	3	?

(A) 13 (B) 17 (C) 34 (D) 25

Ans. ***(A)***

Sol. $4^2 - 3 = 13$

38.



(A) 11 (B) 13 (C) 10 (D) 15

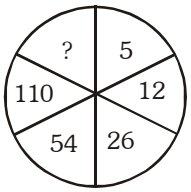
Ans. ***(C)***

Sol. $11 - 5 = 6$

$15 - 11 = 4$

$15 - 5 = 10$

39.



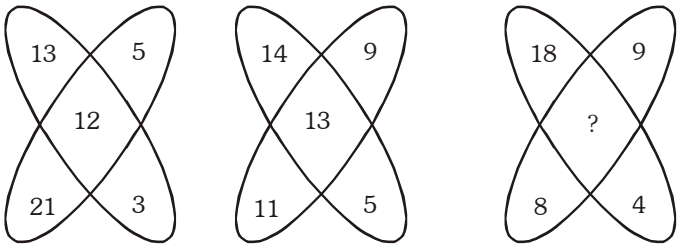
(A) 222 (B) 212 (C) 132 (D) 122

Ans. ***(A)***

Sol. $5 \times 2 + 2 = 12$

$110 \times 2 + 2 = 222$

40.



(A) 13 (B) 12 (C) 11 (D) None of these

Ans. ***(B)***

Sol. $13 \times 3 + 21 \times 5 = (12)^2$

$18 \times 4 + 8 \times 9 = 72 + 72 = 144 = (12)^2$

41. If in a certain code language Z is written as 52 and ACT as 48 then BAT = ?

(A) 23 (B) 46 (C) 69 (D) 92

Ans. ***(B)***

Sol. $Z = 26 \times 2 = 52$

$ACT = 24 \times 2 = 48$

$BAT = 23 \times 2 = 46$

42. In an group, there are six people A,B,C,D,E and F of different age. Out of them only A is younger to D. Only three are younger to C. F is younger to E but F is not youngest. Who is the youngest ?

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

Ans. ***(B)***

Sol. E > C > F > D > A

Direction (Q.43 & 44) : Answer the questions on the bases of the following information. Suppose the first letter of each book is represented by the book of that subject (History-H, Geography-G, Political Science-P, Mathematics-M, Economics-E, Science-S and Chemistry-C and all the books are arranged in the following series :

HGCSEMPGSHCSEPCGHMCEGPMP

43. In the above series how many books of political science the there which are immediately preceded or followed by a mathematics book ?

(A) 3 (B) 4 (C) 2 (D) 5

Ans. ***(A)***

Sol. PM or MP combination

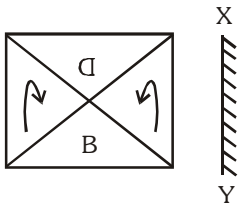
44. If each History book is replaced by Geography book, then the total number of Geography & Science books will be

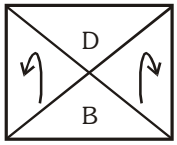
(A) 9 (B) 10 (C) 11 (D) 12

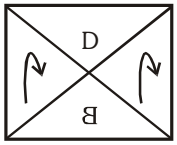
Ans. (B)

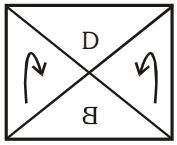
Sol. $S \rightarrow 3,\ G \rightarrow 4, H \rightarrow G \rightarrow 3\ 4 + 3 + 3$

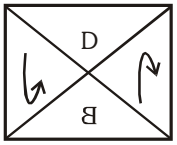
45. What will be the mirror image of the given question figure :



(A) 

(B) 

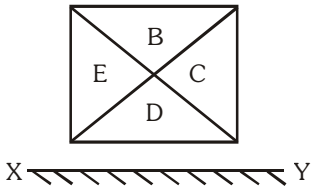
(C) 

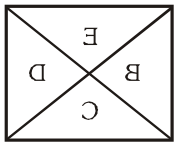
(D) 

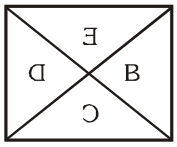
Ans. (C)

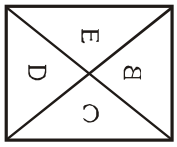
Sol. By observation

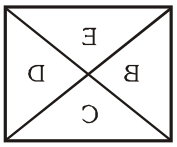
46. If the problem figure is rotated in the clockwise direction at 90° degree and then kept at the bottom of mirror XY on D side. Then what will be the answer figure :



(A) 

(B) 

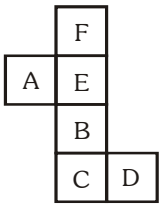
(C) 

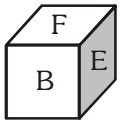
(D) 

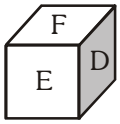
Ans. (NA)

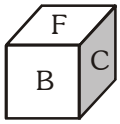
Direction : (Q. 47 to 48) : In this question an unfolded dice is given in the form of problem figure, while four answer choices are given in the form of Answer of complete dice. You are required to select the correct answer choice which is formed by folding the unfolded dice.

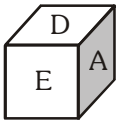
47. Problem figure :



(A) 

(B) 

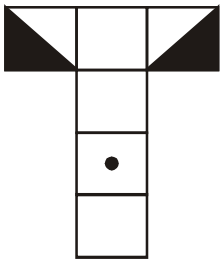
(C) 

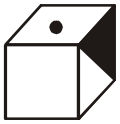
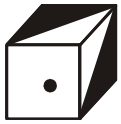
(D) 

Ans. (B)

Sol. F — opp. — B
E — opp. — C
A — opp. — D

48. Problem figure

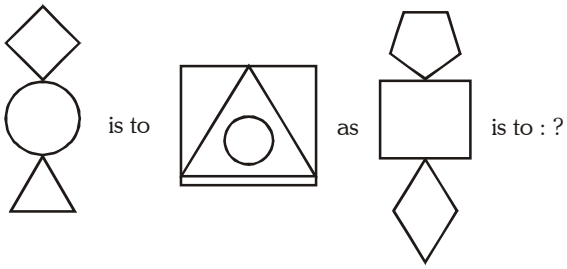


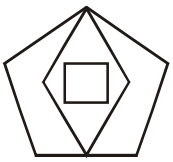
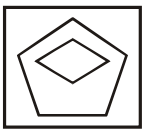
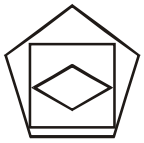
(A)  (B)  (C)  (D) 

Ans. ***(A,C)***

Sol.

49. Find the figure from the answer figure that will replace the question mark (?) given in the problem figure :



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

Ans. ***(A)***

Sol. By observation

50. How many numbers will be left if all the odd numbrs are removed from the numbers between 3 to 36 ?

(A) 16 (B) 20 (C) 15 (D) 17

Ans. ***(A)***

Sol. Only even numbeer between 3 to 36