



**NATIONAL TALENT SEARCH EXAMINATION
(NTSE-2018) STAGE -1
'CHANDIGARH' STATE PAPER : MAT**

Date: 05/11/2017

Max. Marks: 50

SOLUTIONS

Time allowed: 45 mins

1. In the given sequence some letters are missing. Which of the given options can fill the blanks in the correct order from left to right?

a _ba_b_b_a_b

- (1) abaab (2) abbab (3) aabba (4) bbabb

Ans. 4

Sol. abb | abb | abb |

2. Which set of numbers is like the given set?

Given set 11: 1210

- (1) 8:448 (2) 6:2160 (3) 7: 1029 (4) 9:729

Ans. 1

Sol. $n^2 (n-1)$ pattern

3. CIRCLE is related to RICELC in the same way as SQUARE is related to

- (1) QSUERA (2) QUSERA (3) UQSAER (4) UQSERA

Ans. 4

Sol.
similarly SQUARE UQSERA

4. In a code language, STARK is written as LBFMG and MOBILE is written as TNRSPJ. How is BLAME written in that code?

- (1) TSPRJ (2) RPFTJ (3) NJFTP (4) TSFGJ

Ans. 2

Sol. Direct coding.

5. If each of the letters in the English alphabet is assigned odd numerical value beginning A=1, B=3 and so on, what will be the total value of the letters of the word INDIAN?

- (1) 86 (2) 88 (3) 89 (4) 96

Ans. 4

Sol. INDIAN = 17 + 27 + 7 + 17 + 1 + 27 = 96 { $2n-1$ pattern}

6. On another planet, the local terminology for earth, water, light, air and sky are sky, light, air, water and earth respectively. If someone is thirsty there, what would he drink?

- (1) Light (2) Air (3) Sky (4) Water

Ans. 1

Sol. Water is light

7. Choose the odd numeral pair

- (1) 2:4 (2) 4:8 (3) 6:18 (4) 8:32

Ans. 1

Sol. $n^2 : \frac{n^2}{2}$ pattern

8. Choose the odd one out

- (1) HJN (2) JLP (3) PRU (4) QSW

Ans. 3

Sol. +2,+4, pattern, but in PRU, it does not follow.

9. If A=2, M=26, Z=52, then BET = ?

- (1) 44 (2) 54 (3) 64 (4) 72

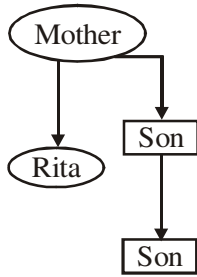
Ans. 2

Sol. BET = 4 + 10 + 40 = 54

10. Pointing toward Rita, Nikhil said, "I am the only son of her mother's son", How is Rita related to Nikhil?

- (1) Aunt (2) Niece (3) Mother (4) Cousin

Ans. 1



Sol.

So, Rita is Aunt of Nikhil.

Directions (Questions 11 to 13) Read the following information carefully and answer the questions given below.

Ravi and Kunal are good in hockey and volleyball. Sachin and Ravi are good in Hockey and baseball. Gaurav and Kunal are good in cricket and volleyball. Sachin, Gaurav and Michael are good in football and baseball.

11. Who is good in Hockey, Cricket and Volleyball?

- (1) Sachin (2) Kunal (3) Ravi (4) Gaurav

Ans. 2

Sol.

	Hockey	Volley	Cricket	Football	Base ball
Ravi	✓	✓			✓
Kunal	✓	✓	✓		
Sachin	✓			✓	✓
Gaurav		✓	✓	✓	✓
Michal				✓	✓

12. Who is good in Baseball, Cricket, Volleyball and Football?

- (1) Sachin (2) Kunal (3) Gaurav (4) Ravi

Ans. 3

13. Who is good in Baseball, Volleyball and Hockey?

- (1) Sachin (2) Kunal (3) Ravi (4) Gaurav

Ans. 3

14. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre, and A and P are at the ends. R is sitting on the left of A. Then who is sitting on the right of P?

- (1) A (2) S (3) X (4) Z

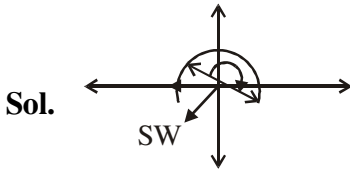
Ans. 3

Sol. $\underline{P} \boxed{X} \underline{S} \underline{Z} \underline{R} \underline{A}$

15. A man is facing west. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anticlockwise direction. Which direction is he facing now?

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

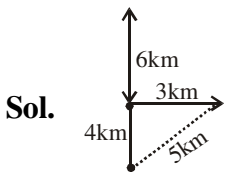
Ans. 4



16. Kunal walks 10km towards North. From there, he walks 6km towards South. Then, he walks 3km towards East. How far and in which direction is he with reference to his starting point?

- (1) 5 km West (2) 5 km North East (3) 7 km East (4) 7 km West

Ans. 2

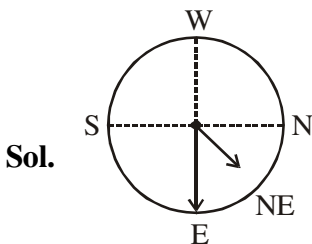


Using pythagoras theorem 5(NE)

17. A watch reads 4:30. If the minute hand points East, in what direction will the hour hand point?

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

Ans. 4

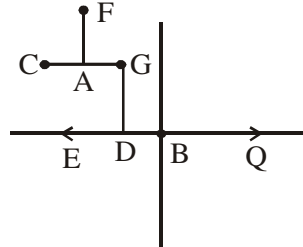


Hour hand points north-east

Direction (Question 18 to 20) These questions are based on the following information:

Seven villages A, B, C, D, E, F and G are situated as follows

- E is 2km to the west of B
- F is 2 km to the North A
- C is 1 km to the West of A
- D is 2km to the South of G
- G is 2km to the East of C
- D is exactly in the middle of B and E



18. A is the middle of.....

- (1) E and C
- (2) E and G
- (3) F and G
- (4) G and C

Ans. 4

19. Which two villages are the farthest from one another?

- (1) D and C
- (2) F and E
- (3) F and B
- (4) G and E

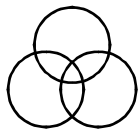
Ans. 3

20. How far is E from F (in km) as the crow flies?

- (1) 4
- (2) $\sqrt{20}$
- (3) 5
- (4) $\sqrt{26}$

Ans. 1

Direction (Questions 21-25) : In each of these question, three words are related in some ways. The relationship among the words in the question can best be represented by one of the five diagrams, (a), (b), (c), (d) and (e) given below. Mark your answer accordingly.



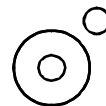
(a)



(b)



(c)



(d)

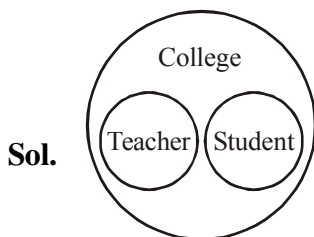


(e)

21. Teacher, College, Student

- (1) b
- (2) c
- (3) d
- (4) e

Ans. 2



22. Universe, Galaxy, Star

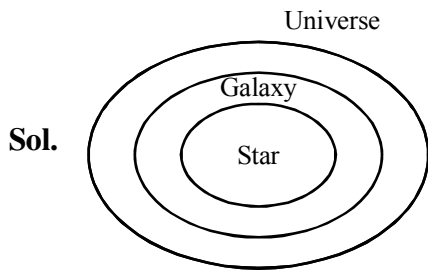
(1) b

(2) c

(3) e

(4) a

Ans. 1



23. Parrots, birds, Mice

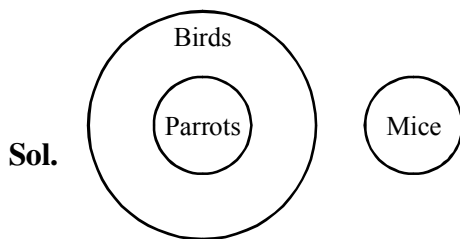
(1) e

(2) c

(3) d

(4) a

Ans. 3



24. Professor, Researcher, Scientist

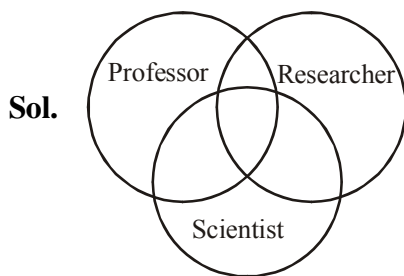
(1) d

(2) a

(3) b

(4) c

Ans. 2



25. English, Latin, Greek

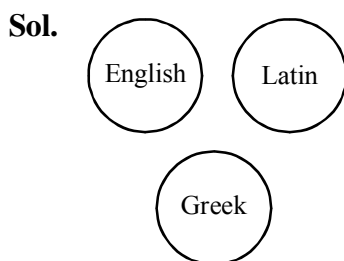
(1) a

(2) d

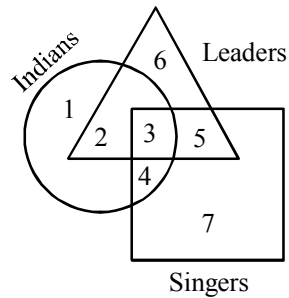
(3) c

(4) a

Ans. 4



Directions (Questions 26-30) study the following figure carefully and answer the given questions:



26. Which region denotes Indian leaders who are not singers.

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

Ans. 1

Sol. Go with observation

27. Which region represent Indian Leaders who are singers?

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

Ans. 2

Sol. Go with observation

28. Which region represents leaders who are neither singers nor Indian?

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

Ans. 3

Sol. Go with observation

29. Which region represents Indian singers who are not leaders?

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

Ans. 4

Sol. Go with observation

30. Which region represents singers who are neither Indians nor leaders?

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

Ans. 4

Sol. Go with observation

Directions question (31-32) : In each of the following questions choose the word which comes at the end in the English dictionary.

- 31.** (1) Clarinet (2) Clandestine (3) Clause (4) Clasp

Ans. 3

Sol. Go with observation

32. (1) Disconnect (2) Disembark (3) Disclose (4) Disconcert

Ans. 2

Sol. Go with observation

33. Rohan ranks seventh from the top and twenty sixth from the bottom in a class. How many students are there in the class?

- (1) 31 (2) 32 (3) 33 (4) 34

Ans. 2

Sol. Total students = $(7 + 26) - 1 = 32$

34. If 1st October is Sunday, then 1st November will be

- (1) Monday (2) Tuesday (3) Wednesday (4) Thursday

Ans. 3

Sol. 1st Oct. is Sunday, it means 31st Oct is Tuesday and 1st Nov. is Wednesday.

35. If + stands for \times , - for \div , \times for - and \div for +, find the value of $26 + 74 - 4 \times 5 \div 2$

- (1) 220 (2) 376 (3) 478 (4) 488

Ans. 3

Sol. After interchanging

$$26 \times 74 \div 4 - 5 + 2 = 478$$

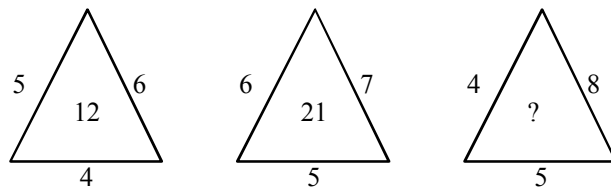
36. A farmer built a fence around his square plot. He used 27 fence on each side of the square. How many poles did he need altogether.

- (1) 100 (2) 104 (3) 108 (4) None of these

Ans. 2

Sol. Total poles = $108 - 4 = 104$

Direction (Q.no 37 and 38):-Find the missing character from among the given alternatives.



37. (1) 22 (2) 30 (3) 32 (4) None of these

Ans. 4

Sol. Pattern = $(4 \times 8 \times 5) \div 10 = 16$

38.

2	5	10
17	?	37
50	65	82

(1) 20

(2) 26

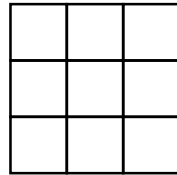
(3) 27

(4) 32

Ans. 2

Sol. $n^2 + 1$ pattern ($1^2 + 1, 2^2 + 1, 3^2 + 1, \dots$ so on)

39. Count the number of squares in the given figure.



(1) 18

(2) 14

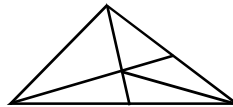
(3) 10

(4) 9

Ans. 2

Sol. Go with observation

40. How many triangles are there in the following figure?



(1) 6

(2) 10

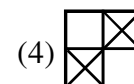
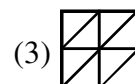
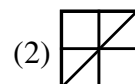
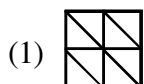
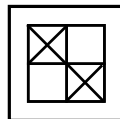
(3) 11

(4) 12

Ans. 4

Sol. Go with observation

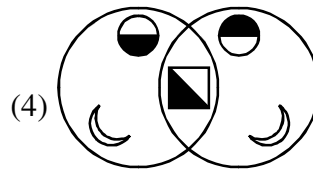
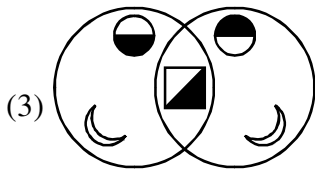
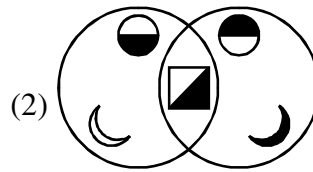
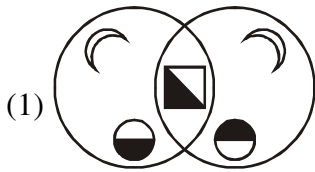
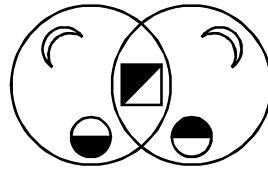
41. Choose the correct mirror image of the figure given below.



Ans. 4

Sol. Go with observation

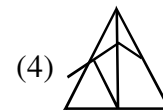
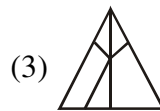
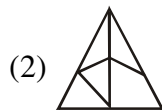
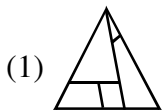
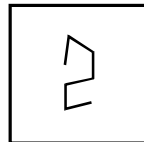
42. Choose the correct water image for the given figure.



Ans. 4

Sol. Go with observation

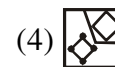
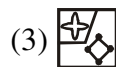
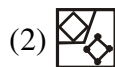
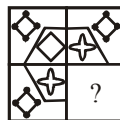
43. Find the figure in which the given figure is embedded.



Ans. 1

Sol. Go with observation

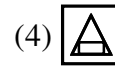
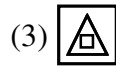
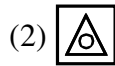
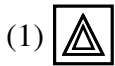
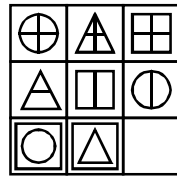
44. Find the correct figure from the given four figures which fits in the question figure.



Ans. 2

Sol. Go with observation

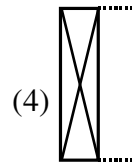
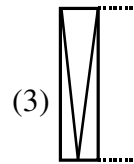
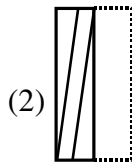
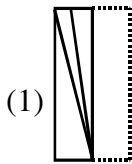
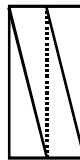
45. Find out, which of the answer figures complete the figure matrix.



Ans. 3

Sol. Go with observation

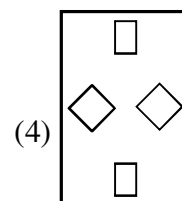
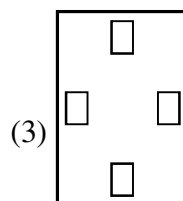
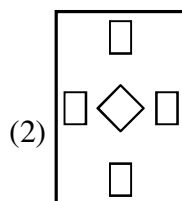
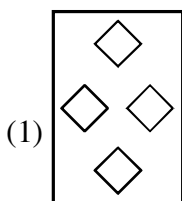
46. Three figures are followed by four answer figures from which you have to choose a figure which would most closely resemble the uploaded form of the figure.



Ans. 4

Sol. Go with observation

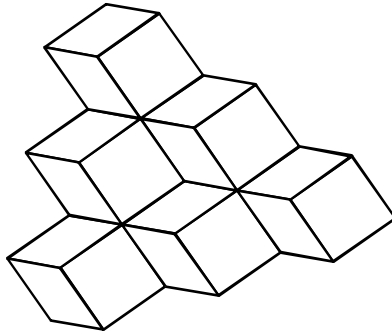
47. Figure out from amongst the four alternatives as to how the pattern would have appear when the transparent sheet is placed along the dotted line.



Ans. 3

Sol. Go with observation

48. Count the number of cubes in the given figure.

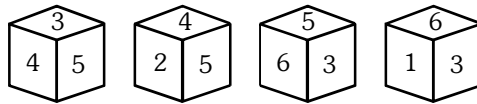


- (1) 6 (2) 10 (3) 9 (4) 11

Ans. 3

Sol. Go with observation

49. What number is opposite to 6, if four different positions of a dice are shown below.

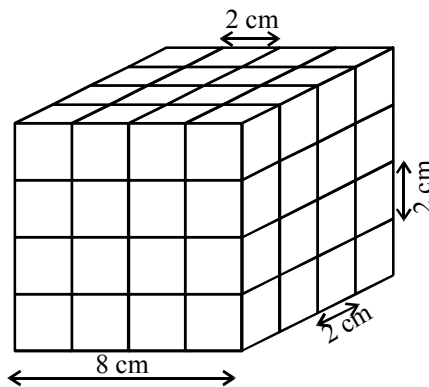


- (1) 1 (2) 2 (3) 4 (4) 5

Ans. 3

Sol. Go with observation

50. A solid cube of each side 8 cms has been painted red, blue and green on pairs of opposite faces. It is then cut into cubical blocks of each side 2 cms. How many small cubes have three faces painted?



- (1) 0 (2) 4 (3) 6 (4) 8

Ans. 4

Sol. Go with observation