

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
(A) abaab (B) abbab
(C) aabba (D) bbabb
2. Which set of numbers is like the given set?
Given set 11; 1210
(A) 8:448 (B) 6:2160
(C) 7:1029 (D) 9:729
3. CIRCLE is related to RICELC in the same way as SQUARE is related to
(A) QSUERA (B) QUSERA
(C) UQSAER (D) UQSERA
4. In code language, ASTARK is written as LBFMG and MOBILE is written as TNRSPJ. How is BLAME written in that code?
(A) TSFRJ (B) RPFTJ
(C) NJFTP (D) TSFGJ
5. If each of the letters in the English alphabet is assigned odd numerical value beginning A = 1, B = 3 and so, what will be the total value of the letters of the word INDIAN?
(A) 86 (B) 88
(C) 89 (D) 96
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?
(A) Light (B) Air
(C) Sky (D) Water
7. Choose the odd numeral pair
(A) 2:4 (B) 4:8
(C) 6:18 (D) 8:32
8. Choose the odd one out
(A) HJN (B) JLP
(C) PRU (D) QSW
9. If A = 2, M = 26, Z = 52, then BET = ?
(A) 44 (B) 54
(C) 64 (D) 72
10. Pointing toward Rita, Nikhil said, "I am the only son of her mother's son". How is Rita related to Nikhil?
(A) Aunt (B) Niece
(C) Mother (D) Cousin

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?
(A) Sachin (B) Kunal
(C) Ravi (D) Gaurav
12. Who is good in Baseball, Cricket, Volleyball and Football?
(A) Sachin (B) Kunal
(C) Gaurav (D) Ravi
13. Who is good in Baseball, Volleyball and Hockey?
(A) Sachin (B) Kunal
(C) Ravi (D) Gaurav
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?
(A) A (B) S
(C) X (D) Z

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?
 (A) South (B) North West
 (C) West (D) South West
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?
 (A) 5 km West (B) 5 km North East
 (C) 7 km East (D) 7 km West
17. A watch reads 4:30. If the minute hand points East, in what direction will the hour hand point?
 (A) North (B) North-West
 (C) South-East (D) 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 1km to the West of A

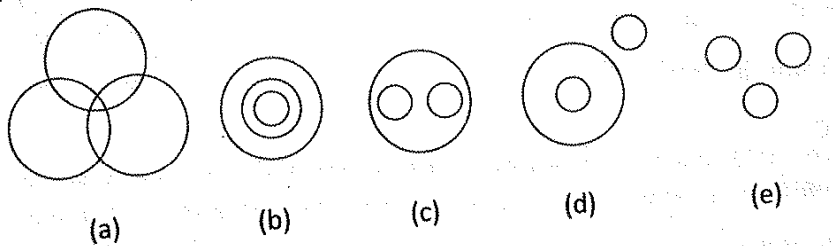
D is 2km to the South of G

G is 2km to the East of C

D is exactly in the middle of B and E

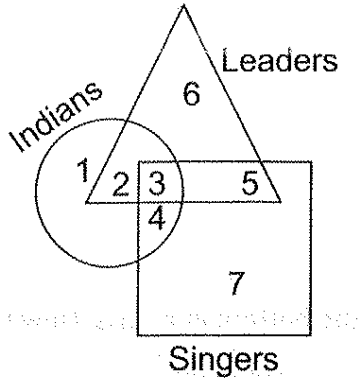
18. A is the middle of
- (A) E and C (B) E and G
 (C) F and G (D) G and C
19. Which two villages are the farthest from one another?
 (A) D and C (B) F and E
 (C) F and B (D) G and E
20. How far is E from F (in km) as the crow flies?
 (A) 4 (B) $\sqrt{20}$
 (C) 5 (D) $\sqrt{26}$

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.



21. Teacher, College, Student
 (A) b (B) c
 (C) d (D) e
22. Universe, Galaxy, Star
 (A) b (B) c
 (C) e (D) a
23. Parrots, birds, Mice
 (A) e (B) c
 (C) d (D) a
24. Professor, Researcher, Scientist
 (A) d (B) a
 (C) b (D) c
25. English, Latin, Greek
 (A) a (B) d
 (C) c (D) e

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



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

(A) 2	(B) 3
(C) 4	(D) 5
27. Which region represent Indian Leaders who are singers?

(A) 2	(B) 3
(C) 4	(D) 5
28. Which region represents leaders who are neither singers nor Indian?

(A) 2	(B) 3
(C) 6	(D) 7
29. Which region represents Indian singers who are not leaders?

(A) 1	(B) 2
(C) 3	(D) 4
30. Which region represents singers who are neither Indians nor leaders?

(A) 2	(B) 4
(C) 6	(D) 7

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

31. (A) Clarinet (B) Clandestine
(C) Clause (D) Clasp
32. (A) Disconnect (B) Disembark
(C) Disclose (D) Disconcert
33. Rohan ranks seventh from the top and twenty sixth from the bottom in a class. How many students are there in the class?

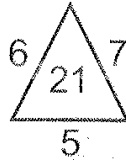
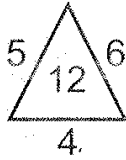
(A) 31	(B) 32
(C) 33	(D) 34
34. If 1st October is Sunday, then 1st November will be

(A) Monday	(B) Tuesday
(C) Wednesday	(D) Thursday
35. If + stands for X, - for ÷, x for – and ÷ for +, find the value of $26 + 74 - 4 \times 5 \div 2$

(A) 220	(B) 376
(C) 478	(D) 488
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.

(A) 100	(B) 104
(C) 108	(D) None of these

Find the missing character from among the given alternatives. Direction (Questions 37-38)



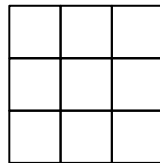
37. (A) 22 (B) 30
(C) 32 (D) None of these

38.

2	5	10
17	?	37
50	65	82

- (A) 20 (B) 26
(C) 27 (D) 32

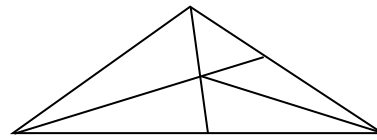
39. Count the number of squares in the given figure.



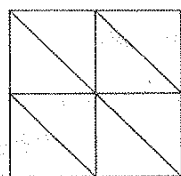
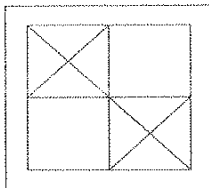
- (A) 18 (B) 14
(C) 10 (D) 9

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

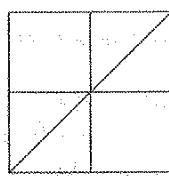
- (A) 6 (B) 10
(C) 11 (D) 12



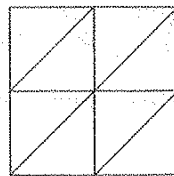
41. Choose the correct mirror image of the figure given below.



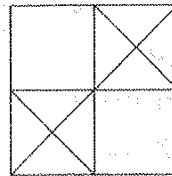
(1)



(2)



(3)



(4)

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



(1)



(2)

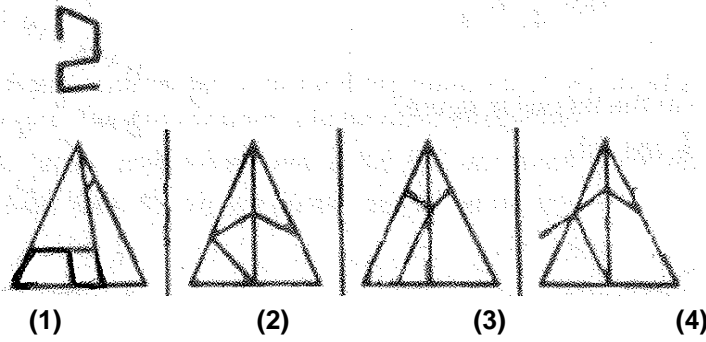


(3)

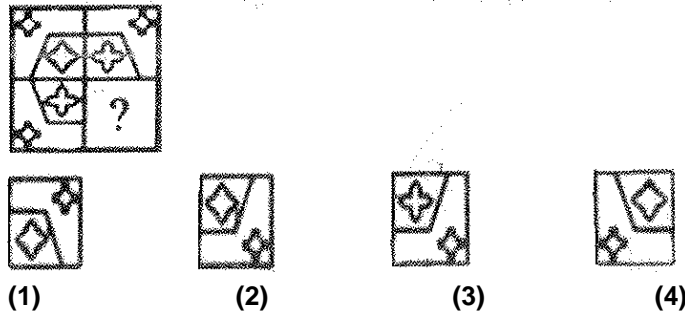


(4)

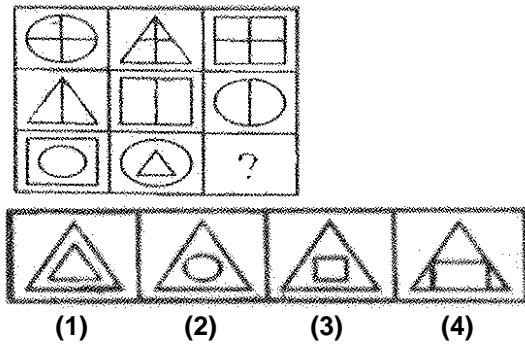
43. Find the figure in which the given figure is embedded.



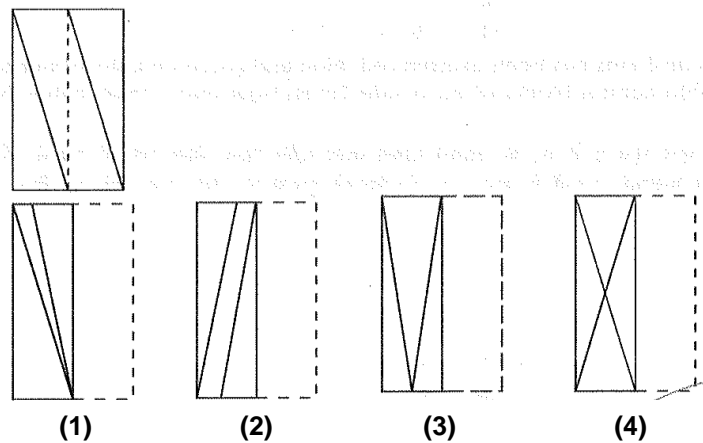
44. Find the correct figure from the given four figures which fits in the question figure.



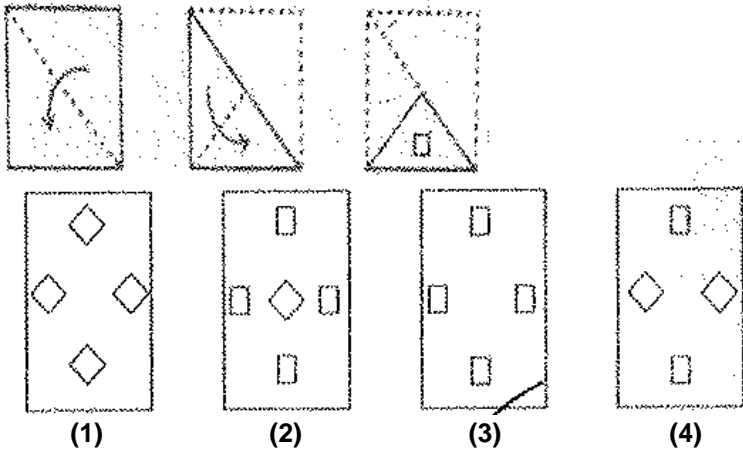
45. Find out, which of the answer figures complete the figure matrix.



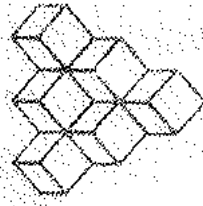
46. Three figures are followed by four answer figures from which you have to choose a figure which would most closely resemble the uploaded form of the figure.



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.

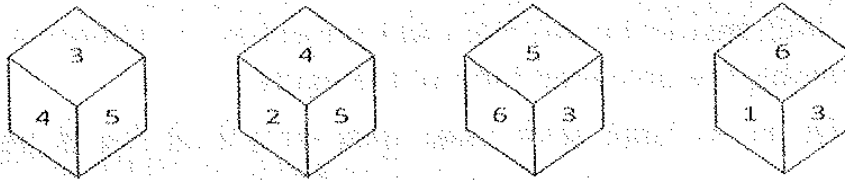


48. Count the number of cubes in the given figure.



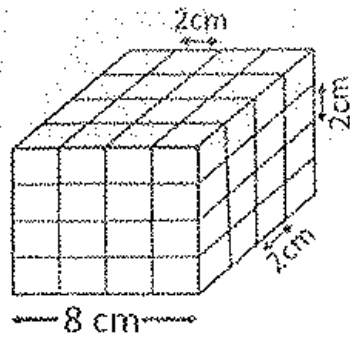
- (A) 6 (B) 9
(C) 10 (D) 11

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



- (A) 1 (B) 2
(C) 4 (D) 5

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?



- (A) 0 (B) 4
(C) 6 (D) 8

FIITJEE

MENTAL ABILITY TEST

NTSE – 2017

ANSWERS

1. D	2. A	3. D	4. B	5. D
6. A	7. A	8. C	9. B	10. A
11. B	12. C	13. C	14. C	15. D
16. B	17. D	18. D	19. C	20. A
21. B	22. A	23. C	24. B	25. D
26. A	27. B	28. C	29. D	30. D
31. C	32. B	33. B	34. C	35. C
36. B	37. D	38. B	39. B	40. D
41. D	42. D	43. A	44. B	45. C
46. D	47. C	48. C	49. C	50. D

MENTAL ABILITY TEST

SOLUTIONS

1. $a^b_ba^b_b^a_b^b_a^b_b$

2. $11^3 - 11^2 = 1210$
 $8^3 - 8^2 = 448$

3. CIR CLE
RIC ELC
SQU ARE
UQS ERA

4. DIRECT CODING
 B → R
 L → P
 A → F
 M → T
 E → J

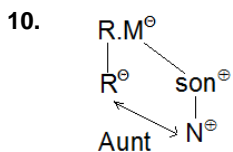
5. INDIAN
 $I = 9 \times 2 - 1 = 17$
 $N = 14 \times 2 - 1 = 27$
 $D = 4 \times 2 - 1 = 3$
 $I = 9 \times 2 - 1 = 17$
 $A = 1 \times 2 - 1 = 1$
 $N = 14 \times 2 - 1 = 27$
 $17 + 27 + 3 + 17 + 1 + 27 = 96$

6. Water → light ∈

7. $4 \times \frac{4}{2} = 8$
 $6 \times \frac{6}{2} = 18$
 $8 \times \frac{8}{2} = 32$

8. $\begin{matrix} 8 & 8 & 14 \\ H & J & N \\ +2 & +4 & \end{matrix}$

9. BET = ?
 $B = 2 \times 2 = 4$
 $E = 5 \times 2 = 10$
 $T = 20 \times 2 = 40$
 $4 + 10 + 40 = 54$

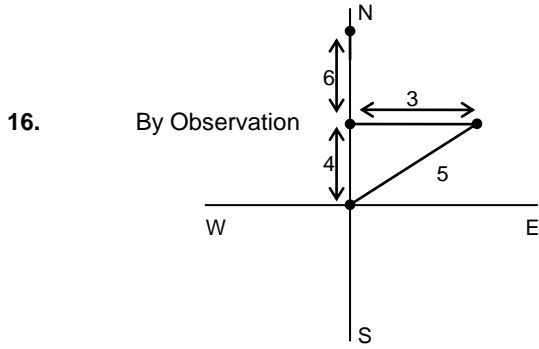


11-13

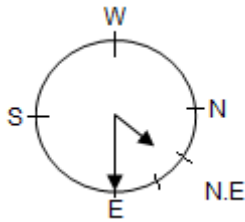
Hockey	Volleyball	Baseball.	Cricket	Football
Ravi, Kunal, Sachin	Ravi, Kunal, Gaurav	Ravi, Sachin, Gaurav, Michael	Gaurav, Kunal	Sachin, Gaurav, Michael

14. Arrangement is
P X Z/S S/Z R A

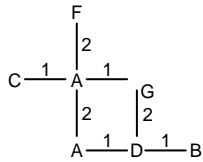
15. By Observation



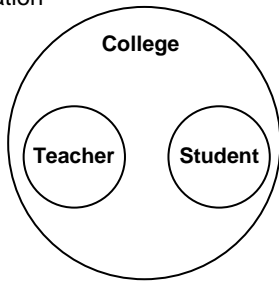
17. AL 4 : 30

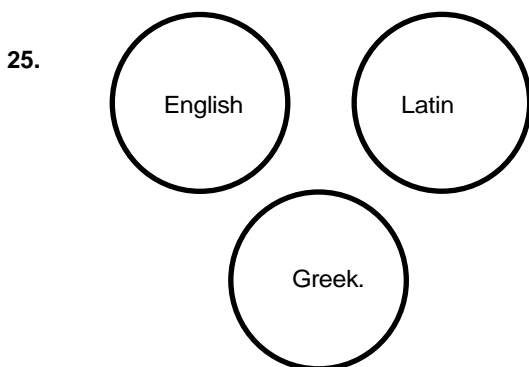
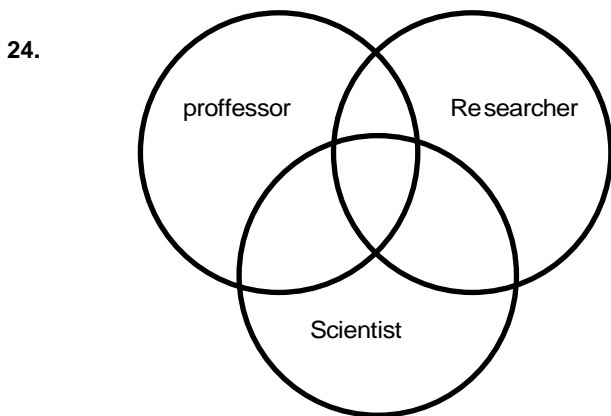
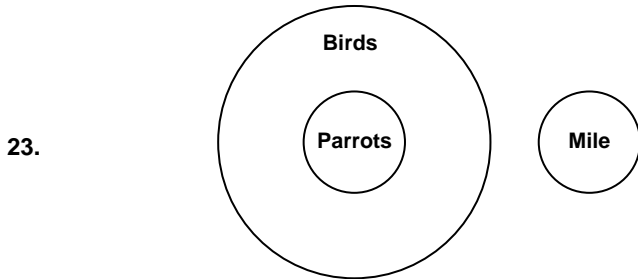
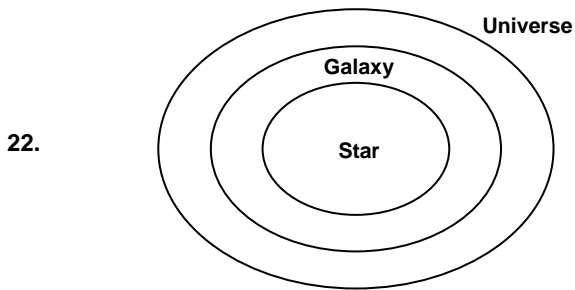


(18 – 20) By direction



21. By observation





- 26. No. 2 represent the Indian leaders who are not singers.
- 27. No. 3 represents Indian leaders who are singers
- 28. No. 6 represents leaders who are neither singers nor Indians.
- 29. No. 4 represents Indian singers who are not leaders.
- 30. No. 7 represents singers who are neither Indians nor leaders.
- 31. 'Clause' is the word which comes at the end in the English dictionary.
- 32. 'Disembark' is the word which comes at the end in the English dictionary.

33. No. of students in the Class = $(7 + 26) - 1 = 32$
34. 1 October = Sunday
Odd days from 1 October to 1 November are 3
Sunday + 3 = Wednesday
35. The equation is
 $26 \times 74 \div 4 - 5 + 2$
By BODMAS RULE
 $26 \times \frac{74}{4} - 5 + 2$
 $13 \times 37 - 5 + 2 = 478$
36. By observation answer is 104.
37. (A) $5 \times 6 \times 4 = \frac{120}{10} = 12$
 $6 \times 7 \times 5 = \frac{210}{10} = 21$
 $4 \times 8 \times 5 = \frac{160}{10} = 16$
(B) $(6 \times 4) - (5 \times 2 + 2) = 24 - 12 = 12$
 $(7 \times 5) - (6 \times 2 + 2) = 35 - 14 = 21$
 $(5 \times 8) - (4 \times 2 + 2) = 40 - 10 = 30$
38. By observing the difference
Between
(A) 2 5 10
(B) 17 26 37
(C) 50 61 82
39. $3 \times 3 = 9$
 $2 \times 2 = 4$
 $1 \times 1 = 1$
There are 14 squares
In the figure
40. By observation there are 12 triangles in the figure
41. By observation
42. By observation
43. By observation
44. By observation
45. By observation
46. By observation
47. By observation
48. By observation
49. By observation
5 is opposite to 1
3 is opposite to 2
and 4 is opposite to 6
50. By observation one cube on each corner Total = 8