

## ARYAN CLASSES

### NTSE 2015 2<sup>nd</sup> stage Paper

#### MENTAL ABILITY TEST

1. If RESPOND is coded as EMPOTDS and SENSE is coded as FRODT, then CLARIFY will be coded as

- (1) EDTOJME                      (2) ZEJSBMD                      (3) ZEJQBKD                      (4) ZDKSBKD

2. Madhu walks 15 metres towards north, then she turns left at 90° and walk 30 metres, then turns right at 90° and walks 25 metres. How far, she is from the starting point and in which direction ?

- (1) 55 mt., north-east                      (2) 50 mt., north-east  
(3) 60 mt., north                      (4) 50 mt., west

3. Five friends A, B, C, D and E are standing in a row facing south but not necessarily in the same order. Only B is between A and E, C is immediate right to E and, D is immediate left to A. On the basis of above information, which of the following statements is definitely true ?

- (1) B is the left of A                      (2) B is to the right of E  
(3) A is second to the left of C                      (4) D is third to the left of E

Directions (Q.4 to Q.8) : A, B, C, E, F, G and H are seven employees in an organisation working in the departments of Administration, Accounts and Operations. There are at least two employees in each department. There are three females, one in each department. Each of seven employees earns different amount. The only bearded employee F works in Administration and his only other colleague G earns the maximum. C, the least earner works in Accounts. B and E are brothers and do not work in the same department. A, husband of H, works in Accounts and earns more than each of F, B and E. The wife in the couple earns more than the husband.

Departments		Income
A	Accounts	More than F,B,E
B	Accounts / Operation	
C	Accounts	Minimum

E	Accounts / Operation	
F	Administration	Maximum
G	Administration	
H		Wife of A

Income :  $G > H > A > F, B, E > C$

4. Which of the following is a group of females?

- (1) GCE      (2) GEH      (3) GCH      (4) GHB

5. In which department do three people work ?

- (1) Operations      (2) Accounts  
(3) Operations or Accounts      (4) Data inadequate

6. What will be the position of A from the top when they are arranged in descending order of their income ?

- (1) Second      (2) Third      (3) Fourth      (4) Fifth

7. In which of the following departments does B work ?

- (1) Operations      (2) Accounts      (3) Administration      (4) Data inadequate

8. Which of the following statements is definitely true ?

- (1) B earns less than F and H      (2) F earns more than B and E  
(3) B earns more than E and C      (4) B earns less than A and H

Directions (Q.9 to Q.11) : Given an input, a machine generates pass codes for the six batches each day as follows:

Input: these icons were taken out from the sea.

Pass Codes

Batch I : from sea the out taken were icons these

Batch II : from icons these were taken out the sea

Batch III : from icons out sea the taken were these

Batch IV : from icons out sea these were taken the

The pattern followed is as under :

In the first step, the word which comes first in the dictionary is placed at the first place and the remaining words are written in a reverse order. In the second step, the word which comes second in the dictionary is placed at the second place and all words except the first and the second are written in a reverse order. The process continues in the same manner to give the pass codes for the subsequent batches.

9. What will be the pass code for the Batch V on a day, if the input is “four of the following five form a group” ?

- (1) a five following form four group the of
- (2) a five following form group the of four
- (3) a five following form four the of group
- (4) a five following form four group of the

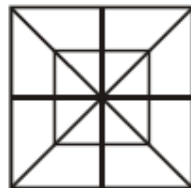
10. If the pass code for the Batch IV on a day was ‘back go here people who settle want to’, what was the pass code for the Batch V on that day?

- (1) back go here people settle who want to
- (2) back go here people to want settle who
- (3) back go here people settle to want who
- (4) cannot be determined

11. The pass code for the Batch I on a day was ‘he so used to sell the surplus items’. What was input on that day ?

- (1) items surplus the sell to used so he
- (2) he items surplus the sell to used so
- (3) so used to sell the surplus items he
- (4) cannot be determined

12. What is the total number of triangles and total numbers of squares in the given figure ?



- (1) 28 triangles, 10 squares
- (2) 28 triangles, 8 squares
- (3) 32 triangles, 10 squares
- (4) 32 triangles, 8 squares

13. A cube whose two adjacent faces are coloured is cut into 64 identical small cubes. How many of those small cubes are not coloured at all ?

- (1) 24
- (2) 32
- (3) 36
- (4) 48

14. If  $54/32 = 4$ ,  $36/42 = 3$ ,  $92/22 = 7$  then what is  $28/33 = ?$   
(1) 5      (2) 6      (3) 4      (4) 9

15. In a certain code language, 'po ki top ma' means 'Usha is playing cards'; 'Kop ja ki ma' means 'Asha is playing tennis'; 'ki top sop ho' means 'they are playing football'; and 'po sur kop' means 'cards and tennis'. Which word in this language means 'Asha' ?  
(1) ja      (2) ma      (3) kop      (4) top

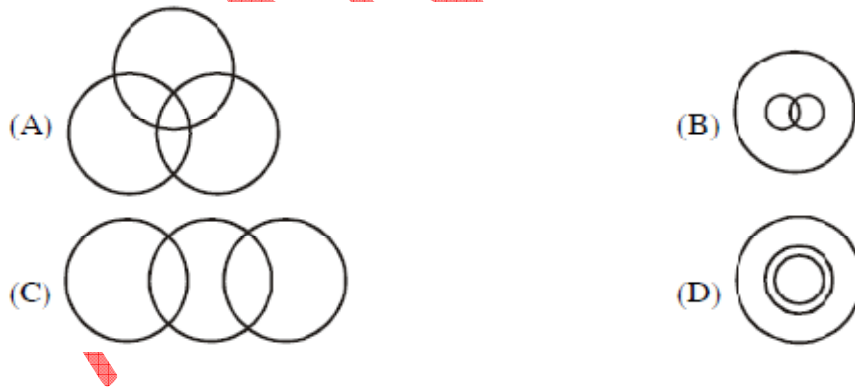
16. A ship navigating in the Indian Ocean is hit by a sea storm and drifts as follows:  
40 km North  
  
28 km north-west  
  
36 km west  
  
52 km south and 29 km south east.

The ship had finally drifted in direction from its original position.

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

17. Four diagrams marked A, B, C and D are given below. The one that best illustrates the relationship among three given classes :

Women,      Teachers,      Doctors

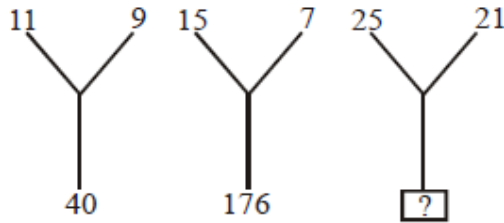


(1) A      (2) B      (3) C      (4) D

18. Identify the missing number in the following sequence  
2, 17, 52, \_\_\_\_\_, 206

(1) 73      (2) 85      (3) 113      (4) 184

19. Select the missing number



- (1) 184      (2) 210      (3) 241      (4) 425

20. Select the missing number in the following sequence

3, 6, 24, 30, 63, 72, ?, ?, 195, 210

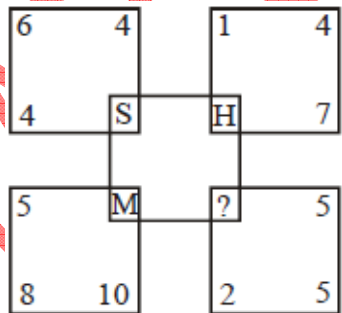
- (1) 117, 123      (2) 120, 132      (3) 123, 135      (4) 135, 144

21. Find the number that does not belong to the group :

111, 331, 482, 551, 263, 383, 362, 284

- (1) 263      (2) 331      (3) 383      (4) 551

22. Which letter replaces the question mark?



- (1) L      (2) N      (3) P      (4) R

23. Certain blank spaces are left in the following sequence. Which is the group of letters given below, will complete the sequence ?

c\_bba\_cab\_ac\_ab\_ac

- (1) acbcb      (2) bcacb      (3) babec      (4) abebe

24. A boat starts with the speed of 1 km per hour. After every 1 km, the speed of boat becomes twice. How much will be the average speed of the boat at the end of journey of 2.5 km?

- (1)  $\frac{2.5}{1.5125}$       (2)  $\frac{2.5}{1.75}$       (3)  $\frac{2.5}{1.625}$       (4)  $\frac{2.5}{1.50}$

25. Using the total number of alphabets in your solution as a parameter, find the number that represents G is.

A - 0, B - 0, C - 2, D - 2, E, - 1, F - 2 G - ?

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

26. Rs. 1000 is given to A, B and C in some ratio. A is wrongly given double and C is wrongly given half, which is Rs. 500 and Rs. 250 respectively. How much is given to B?

- (1) 500      (2) 250      (3) 750      (4) None of above

27. Given that the total cost of 5 erasers, 7 sharpeners and 9 pencils is Rs. 100 and the total cost of 2 erasers 6 sharpeners and 10 pencils is Rs. 80. What is the total cost (in Rs.) of one eraser one sharpener and one pencil ?

- (1) 10      (2) 15      (3) 20      (4) Data not sufficient

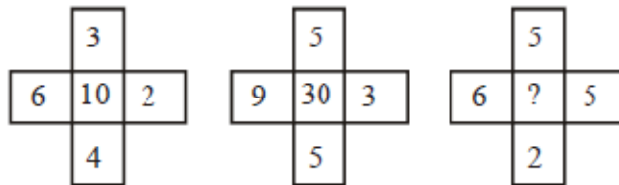
28. Renu went to the market between 7 am and 8 am. The angle between the hour-hand and the minute hand was 90°. She returned home between 7 am and 8 am. Then also the angle between the minute hand and hour-hand was 90°. At what time (nearest to second) did Renu leave and return home ?

- (1) 7 h 18 m 35 s and 7 h 51 m 24 s      (2) 7 h 19 m 24 s and 7 h 52 m 14 s  
 (3) 7 h 20 m 42 s and 7 h 53 m 11 s      (4) 7 h 21 m 49 s and 7 h 54 m 33 s

29. Stimulant : Activity :: ?

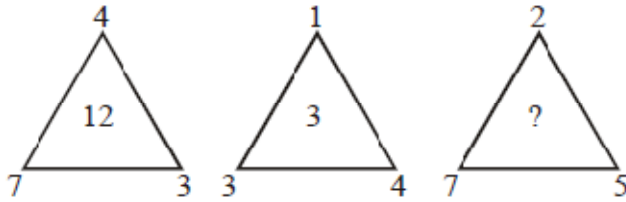
- (1) Symptom : Disease      (2) Food : Hunger  
 (3) Fertilizer : Growth      (4) Diagnosis : Treatment

30. Choose the missing number from among the four alternatives :



- (1) 15      (2) 20      (3) 25      (4) 40

31. From among the four alternatives given below, which number replaces the question mark ?



- (1) 9      (2) 10      (3) 18      (4) 23

32. From among the four alternatives given below, which letter replaces in the given figure the question mark ?

3	P	8
9	G	11
2	U	4
3	W	1
7	?	18

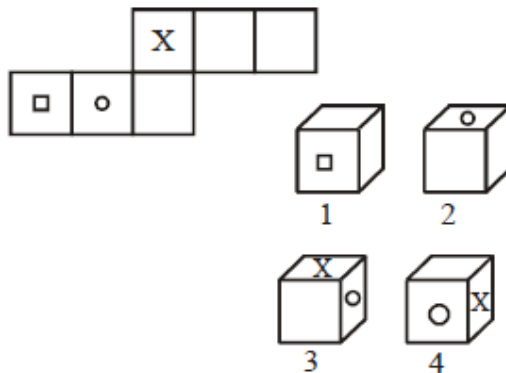
- (1) A      (2) B      (3) S      (4) Y

33. Choose the correct mirror-image most closely resembles the word source, from the four given alternatives.

source

- (1) 2001159      (2) 9911002      (3) 9110002      (4) e c r u o s

34. In the problem figure a unfolded cuboids is given. Choose from the four given alternatives the box that will be formed when problem figure is folded.

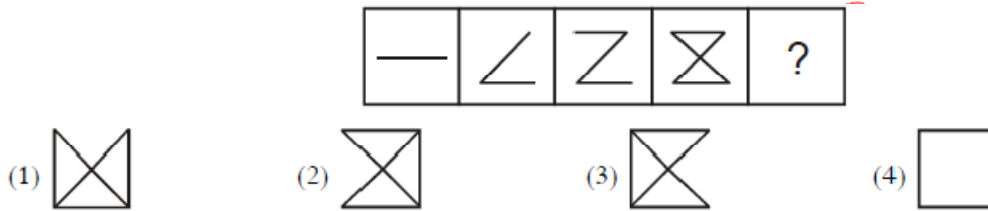


- (1) 1 only      (2) 1 and 2 only      (3) 1, 2 and 3 only      (4) 2 and 3 only

35. A work can be completed by 40 workers in 40 days. If 5 workers leave every 10 days, in how many days work will be completed ?

- (1) 55.66      (2) 56.44      (3) 56.66      (4) 54.66

36. From among the four alternatives given below, which figure replaces the question mark '?'.



37. Six persons A, B, C, D, E and F are sitting in two rows, three persons are sitting in each row

E is not at end of any row

D is second to the left of F

C, the neighbour of E, is sitting diagonally opposite to D

B is the neighbour of F

Who are sitting in each column ?

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

38. The sum of the incomes of A and B is more than that of C and D taken together. The sum of incomes of A and C is the same as that of B and D taken together. Moreover, A earns half as much as the sum of the incomes of B and D. Whose income is the highest ?

- (1) A      (2) B      (3) C      (4) D

39. A letter number series is given with one or more terms missing as shown below. Choose the alternative next in the sequence.

A4X, D9U, G16R, .....

- (1) K25P      (2) J25P      (3) J25O      (4) J25C

40. Study the following information and answer the question given below it:



Rohit, Kunal, Ashish and, Ramesh are students of a school. Three of them stay far from the school and one near it. Two studies in class IV, one in class V and one in class VI. They study Hindi, Mathematics, Social Sciences and Science. One is good at all four subjects while another is weak in all of these. Rohit stay far from the school and is good at mathematics only while Kunal is weak in mathematics only and stay close to the school. Neither of these two nor Ashish studies in class VI. One who is good at all the subjects study in class V. Name the boy who is good at all the subjects.

- (1) Rohit      (2) Ramesh      (3) Kunal      (4) Ashish

41. Half of the villagers of a certain village have their own houses. One - fifth of the villagers cultivate paddy. One - third of villagers are literate. Four - fifth of the villagers are below twenty five. Then, which one of the following is certainly true?

- (1) At least 10 percent villagers who have their own houses are literate.  
(2) At least 25 percent of the villagers who have their own houses cultivate paddy.  
(3) At least 50 percent of the villagers who cultivate paddy are below twenty five.  
(4) At least 13.33 percent literate must be below twenty five.

42. A tank is filled by three pipes with each pipe having uniform flow. The first two pipes operating simultaneously fill the tank in the same time during in which the tank is filled by the third pipe alone. The second pipe fills the tank 5 hours faster than the first pipe and 4 hours slower than the third pipe. The time required by the first pipe to fill the tank is:

- (1) 6 hours      (2) 10 hours      (3) 15 hours      (4) 30 hours

43. If FEED is coded as 47 and TREE is coded as 91, then MEET will be coded as :

- (1) 110      (2) 114      (3) 118      (4) 122

44. One watch is 1 minute slow at 1 pm on Tuesday and 2 minutes fast at 1 am on Friday. When did it show that correct time ?

- (1) 5.00 am on Wednesday      (2) 9.00 am on Wednesday  
(3) 5.00 pm on Wednesday      (4) 9.00 pm on Wednesday

Directions (Q.45 to Q.47) : A coding language is used to write English words in coded form given below.

TENNIS	% # \$ @ \$ &
TRUE	@ + # *
PRIME	* = ? # %

SPINE	# \$ % ? &
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The codes do not appear in the same order of the letters in English words. Decode the language and based on these codes identify the code for English word given in each question from the alternatives provided.

Letter	T	E	S	N	I	P	R	U	M
Coding	@	#	&	\$	%	?	*	+	=

45. MINT

- (1) % = & \*      (2) = # ? %      (3) @ % = \$      (4) \* @ ? +

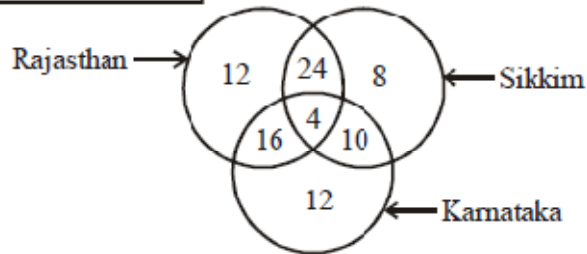
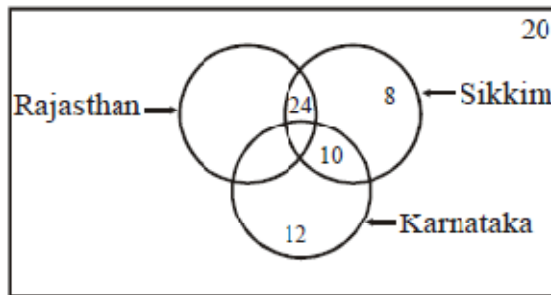
46. RINSE

- (1) = ? + \* @      (2) % \* \$ # &      (3) \* \$ # @ +      (4) \$ & # = ?

47. INTEREST

- (1) = ? \* + % & = \*      (2) ? # = ? + # \* \$  
 (3) + \$ @ + \$ = \* %      (4) @ # \* # @ \$ % &

Directions (Q.48 to Q.50) : There are three circles in the following diagram. A total number of 100 persons were surveyed and the number in the diagram indicates the number of tourists who visited different states. 46 tourists visited Sikkim and 42 tourists visited Karnataka.



48. How many tourists have visited at least two states ?

- (1) 46      (2) 50      (3) 54      (4) 58

49. How many tourists have visited only two states?

- (1) 46      (2) 50      (3) 54      (4) 96

50. If BREAKTHROUGH is coded as EAOUHRBRGHKT, then DISTRIBUTION will be coded as

- (1) STTIBUDIONRI            (2) TISTBUONDIRI  
(3) STTIBUONRIDI        (4) RISTTIBUDION

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