

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

Test Booklet Series

TEST BOOKLET

T. B. Code : ASG – 2/18

B

RECRUITMENT OF A. S. O.

(A) TEST OF REASONING & MENTAL ABILITY

(B) MATHEMATICS

Sl. No.

421450

Time Allowed : 1½ Hours

Maximum Marks : 100

: INSTRUCTIONS TO CANDIDATES :

- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET OF THE SAME SERIES ISSUED TO YOU.
- ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C OR D**, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
- You have to enter your **Roll No.** on the Test Booklet in the Box provided alongside. **DO NOT** write anything else on the Test Booklet.
- YOU ARE REQUIRED TO FILL UP & DARKEN ROLL NO., TEST BOOKLET / QUESTION BOOKLET SERIES IN THE ANSWER SHEET AS WELL AS FILL UP TEST BOOKLET / QUESTION BOOKLET SERIES AND SERIAL NO. AND ANSWER SHEET SERIAL NO. IN THE ATTENDANCE SHEET CAREFULLY. WRONGLY FILLED UP ANSWER SHEETS ARE LIABLE FOR REJECTION AT THE RISK OF THE CANDIDATE.**
- This Test Booklet contains **100** items (questions) i.e. **Sl. No. 1 to 50** items (questions) for **Test of Reasoning & Mental Ability** & **Sl. No. 51 to 100** items (questions) for **Mathematics**. Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
- You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided by using **BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
- All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet.
 - There will be negative markings for wrong responses (answers). **25(twenty five) percentage** of marks allotted to a particular item (question) will be deducted as negative marking for every response (answer).
 - If candidates give more than one response (answer), it will be treated as a wrong response (answer) even if one of the given responses (answers) happens to be correct and there will be same penalty as above to that item (question).
- Before you proceed to mark (darken) in the Answer Sheet the responses (answers) to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions sent to you with your **Admission Certificate**.
- After you have completed filling in all your responses (answers) on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the **Answer Sheet** issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
- Sheets for rough work are appended in the Test Booklet at the end.

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SEAL

TEST OF REASONING & MENTAL ABILITY

1. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D ?

- (A) Grandfather
- (B) Grandmother
- (C) Daughter

✓ (D) Granddaughter

2. A woman introduces a man as the son of the brother of her mother. How is the man, related to the woman ?

- (A) Nephew
- (B) Son

✓ (C) Cousin

(D) Uncle to Grandson

4. 3, 5, 5, 19, 7, 41, 9, ?

✓ (A) 71

(B) 61

(C) 79

(D) 69

5. 1, 2, 3, 10, ?, 9802

✓ (A) 99

(B) 199

(C) 299

(D) 999

6. Two bus tickets from city A to B and three tickets from city A to C cost Rs. 77 but three tickets from city A to B and two tickets from city A to C cost Rs. 73. What are the fares for cities B and C from A ?

(A) Rs. 4, Rs. 23

✓ (B) Rs. 13, Rs. 17

(C) Rs. 15, Rs. 14

(D) Rs. 17, Rs. 13

Direction (Q. Nos. 3-5) : Find the missing number in the following series of questions :

3. 4, 18, ?, 100, 180, 294, 448

(A) 48

(B) 50

(C) 58

(D) 60

7. In a certain code language, '134' means 'good and tasty'; '478' means 'see good pictures' and '729' means 'picture and faint'.
Which of the following digits stands for 'see' ?
(A) 9
(B) 2
(C) 1
✓ (D) 8
8. 583 is related to 293, in the same way as 488 is related to :
(A) 291
✓ (B) 378 ✓
(C) 487
(D) 581
9. Sam ranked 9th from the top and 38th from the bottom in a class. How many students are there in the class ?
(A) 45
(B) 47
✓ (C) 46
(D) 48
10. If FRIEND is coded as HUMJTK, how is CANDLE written in that code ?
✓ (A) EDRIRL ✓
✓ (B) DCQHQB
(C) ESJFME
X (D) DEQJQM
11. In a certain code language COMPUTER is written as RFUVQNPC. How will MEDICINE be written in that code language ?
X (A) MFEDJJOE
(B) EOJDEJFM ✓
X (C) MFEJDJOE
✓ (D) EOJDJEFM ✓
12. If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH ?
214673
(A) 246173
✓ (B) 214673
(C) 214763
(D) 216473

NC-2B/20 ^{18 9 5} FRIEND

8 H 7 M 7 T K

³⁽³⁾
C A N D L E
5

214673

(Turn over)

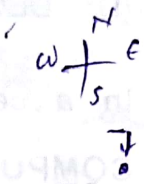
38
47

13. One morning after sunrise, Suresh was standing facing a pole. The shadow of the pole fell exactly to his right. To which direction was he facing ?

- (A) East

(B) West

✓(C) South

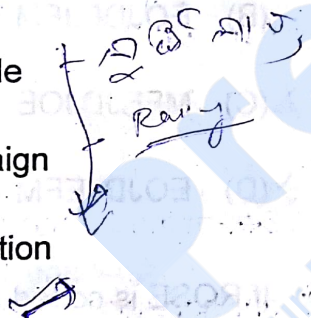
(D) Data is inadequate
- 

14. Find the odd one out :

- ✓(A) Crusade

✓(B) Campaign

✓(C) Expedition

✓(D) Cruise
- 

15. If in the word 'DISTURBANCE', the first letter is interchanged with the last letter, the second letter is interchanged with the tenth letter and so on, which letter would come after the letter T in the newly formed word ?

- ✓(A) S

NC - 2B/20

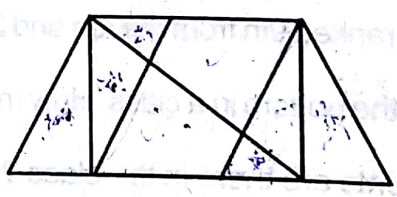
DISTURBANCE
E

- (B) I
- (C) T
- (D) N

16. A tailor had a number of shirt pieces to cut from a roll of fabric. He cut each roll of equal length into 10 pieces. He cut at the rate of 45 cuts a minute. How many rolls would be cut in 24 minutes ?

- (A) 32 rolls
- (B) 54 rolls
- (C) 108 rolls
- (D) 120 rolls

17. Find the number of triangles in the given figure :

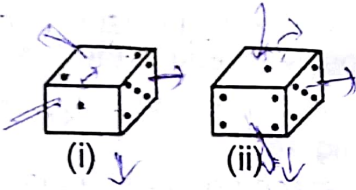


- (A) 8
- (B) 10
- (C) 12
- (D) 14

1-8
2-6+1
3-1+1+1+1
4-1+1

Contd.

18. Observe the dots on a dice (one to six dots) in the following figures. How many dots are contained on the face opposite to that containing four dots ?

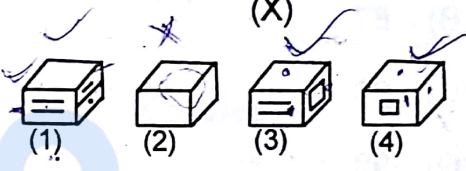
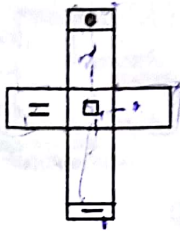


- (A) 2
- (B) 3
- (C) 6
- (D) Cannot be determined

19. A picture is copied onto a sheet of paper 8.5 inches by 10 inches. A 1.5 inch margin is left all around. What area in square inches does the picture cover ?

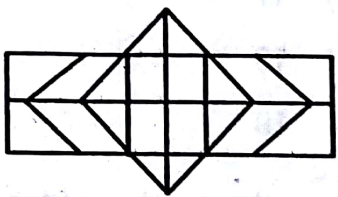
- (A) 76
- (B) 35
- (C) 49
- (D) 38.5

20. Choose the box that is similar to the box formed from the given sheet of paper (X) :



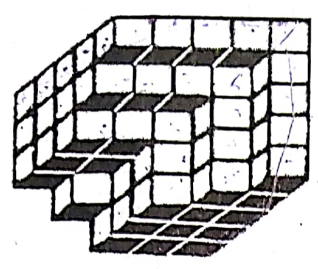
- (A) 1, 2 & 3
- (B) 1, 3 & 4
- (C) 2 & 3
- (D) 2, 3 & 4

21. Determine the number of rectangles and hexagons in the following figure :



- (A) 30, 5
- (B) 32, 3
- (C) 28, 5
- (D) 30, 3

✓ 22. Count the number of cubes in the given figure :



- (A) 80
- (B) 87
- ✓ (C) 89
- (D) 90

Handwritten calculations for Q22:
45
16
12
29
6
11
25
20
16
12
9
6
11

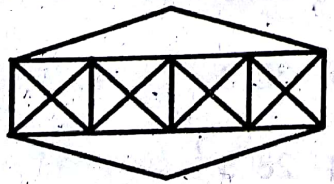
23. Find the minimum number of straight lines required to make the given figure :



- (A) 16
- ✓ (B) 17
- (C) 18
- (D) 19

Handwritten calculations for Q23:
4
6
7
12

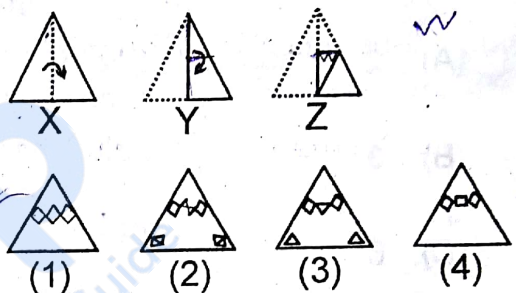
24. Count the number of triangles and squares in the given figure :



- (A) 36 Triangles, 7 Squares

- (B) 38 Triangles, 9 Squares
- ✓ (C) 40 Triangles, 7 Squares
- (D) 42 Triangles, 9 Squares

25. Choose a figure which would most closely resemble the unfolded form of figure (Z) :



- ✓ (A) 1
- (B) 2
- (C) 3
- (D) 4

26. A dice is numbered from 1 to 6 in different ways. If 1 is opposite to 5 and 2 is opposite to 3, then :

- ✗ (A) 4 is adjacent to 3 and 6
- ✓ (B) 2 is adjacent to 4 and 6
- (C) 4 is adjacent to 5 and 8
- (D) 6 is adjacent to 3 and 4

27. A cube is painted blue on two adjacent surfaces and black on the surfaces opposite to blue surfaces and green on the remaining faces. Now the cube is cut into 216 smaller cubes of equal size :
- (A) 56
(B) 48
(C) 32
✓(D) 64
28. How many pairs of letters are there in the word "CASTRAPHONE" which have as many letters between them in the word as in the alphabet ?
- (A) 3
(B) 4
(C) 5
✓(D) 6
29. How many meaningful English words can be formed with the letters ESRO using each letter only once in each word ?
- (A) None
(B) One
(C) Two
✓(D) Three
30. 34 is related to 12, in the same way as 59 is related to :
- ✓(A) 45
(B) 38
(C) 26
(D) 14
31. What is the number of triangles that can be formed whose vertices are the vertices of an octagon but have only one side common with that of octagon ?
- (A) 64
✓(B) 32 ✓
(C) 24
(D) 16
- Direction (Q. Nos. 32-35) :** You are given a combination of alphabets and/or numbers followed by four alternatives (1), (2), (3) and (4). Choose the alternative which closely resembles the mirror image of the given combination.
32. TARAIN1014A
- (1) ~~AT101NIARAL~~
(2) ~~AT01NIARAT~~
(3) ~~AT01TARAIN~~
✓(4) AT101NIARAT
- ✓(A) 1
(B) 2
(C) 3
✓(D) 4
33. 1965INDOPAK
- (1) ~~1965INDOPAK~~
(2) ~~29910DNIPAK~~
(3) ~~1995INDOPAK~~
✓(4) 1965INDOPAK
- (A) 1
(B) 2
(C) 3
✓(D) 4 ✓

34. MALAYALAM

- (1) MALAYALAM ☒
 - (2) MAJAYAJAM ☒
 - (3) MAAJAYAJAM ☒
 - (4) MAAJAYAGAM ☒
- (A) 1
(B) 2
(C) 3
(D) 4

35. SUPERVISOR

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

36. Find the mirror image when the exact time shown in a clock was 8 : 40 :

- (A) 3 : 20
- (B) 3 : 30
- (C) 8 : 20
- (D) 9 : 20

37. Find the mirror image when the exact time shown in a clock was 6 : 07 :

- (A) 5 : 63
- (B) 6 : 53
- (C) 5 : 53
- (D) 8 : 53

38. In a row of boys, if A who is 10th from the left and B who is 9th from the right interchanges their positions, A becomes 15th from the left. How many boys are there in the row ?

- (A) 23
- (B) 31
- (C) 27
- (D) 28

39. If Z = 52 and ACT = 48, then BAT will be equal to :

- (A) 39
- (B) 41
- (C) 44
- (D) 46

40. If the first and second letters in the word DEPRESSION were interchanged, also the third and the fourth letters, the fifth and the sixth letters and so on, which of the following would be the seventh letter from the right ?

(A) R

(B) O

(C) S

✓ (D) P

41. Arrange the words given below in a meaningful sequence :

(i) Presentation ✓

(ii) Recommendation ✓

✓ (iii) Arrival

(iv) Discussion ✓

(v) Introduction ✓

(A) (v), (iii), (iv), (i), (ii) ✓

→ (B) (iii), (v), (iv), (ii), (i)

✓ (C) (iii), (v), (i), (iv), (ii)

(D) (v), (iii), (i), (ii), (iv) ✓

✓ 42. How many such pairs of digits are there in the number 421579368 each of which has as many digits between them in the number as when they are arranged in ascending order ?

(A) None

(B) One

(C) Two

✓ (D) Three ✓

43. How many 4's are there preceded by 7 but not followed by 3 ? 4 x (3)

5 9 3 2 1 7 4 2 6 9 7 4 6 1 3 2 8 7 4 1

3 8 3 2 5 6 7 4 3 9 5 8 2 0 1 8 7 4 6 3

✓ (A) Four ✓

(B) Three

(C) Six

(D) Five

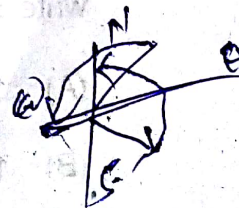
44. If South-East becomes North, North-East becomes West and so on, what will West become ?

(A) North-East

(B) North-West

✓ (C) South-East

(D) South-West



45. Seismography : Earthquake ::

Tachometer : ?

- (A) Landslides
- (B) Strains
- (C) Resistances
- (D) Volcanoes

MT
RP

46. ABCDEFGHIJKLMNOPQR
STUVWXYZ.

Which letter in this alphabet is the eighth letter to the right of the letter and which is tenth letter to the left of the last but one letter of the alphabet ?

- (A) X
- (B) W
- (C) I
- (D) H

M

47. If you write down all the numbers from 1 to 100, then how many times do you

write 3 ?

- (A) 11
- (B) 18
- (C) 20
- (D) 21

Handwritten calculations for question 47 showing the frequency of the digit 3 in numbers from 1 to 100. It includes a list of numbers from 30 to 39, a list of numbers from 1 to 100, and a final count of 20.

48. P is the brother of Q and R. S is R's mother. T is P's father. Which of the following statements cannot be definitely true ?

- (A) T is Q's father
- (B) S is P's mother
- (C) P is S's son
- (D) Q is T's son

Handwritten family tree diagram for question 48 showing relationships between P, Q, R, S, and T.

49. Pointing to a lady, a man said, "The son of her only brother is the brother of my wife." How is the lady related to the man ?

- (A) Mother's sister
- (B) Grandmother
- (C) Mother-in-law
- (D) Sister of father-in-law

Handwritten family tree diagram for question 49 showing relationships between a man, a lady, and their family members.

50. There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and grandfather of F. There are two fathers, three brothers and a mother in the group. Who is the mother ?

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

Handwritten family tree diagram for question 50 showing relationships between A, B, C, D, E, and F.