

**NATIONAL MEANS CUM MERIT SCHOLARSHIP SCHEME  
EXAMINATION 2025  
KEY FOR MAT**

<b>SL. NO.</b>	<b>KEY</b>	<b>SL. NO.</b>	<b>KEY</b>
1	4	46	4
2	3	47	1
3	1	48	1
4	2	49	2
5	2	50	4
6	1	51	3
7	4	52	3
8	3	53	3
9	1	54	4
10	3	55	3
11	4	56	2
12	2	57	1
13	2	58	4
14	4	59	1
15	2	60	2
16	3	61	3
17	2	62	4
18	4	63	1
19	2	64	1
20	3	65	3
21	1	66	2
22	2	67	4
23	4	68	4
24	3	69	4
25	2	70	1
26	2	71	3
27	4	72	3
28	3	73	2
29	4	74	1
30	1	75	1
31	1	76	4
32	2	77	3
33	4	78	1
34	2	79	1
35	4	80	2
36	3	81	4
37	4	82	2
38	1	83	1
39	3	84	3
40	3	85	4
41	4	86	1
42	2	87	4
43	1	88	1
44	4	89	3
45	3	90	2

**NATIONAL MEANS CUM MERIT SCHOLARSHIP SCHEME EXAMINATION 2025  
KEY FOR SAT**

SL. NO.	KEY	SL. NO.	KEY	SL. NO.	KEY
1	1	36	2	71	2
2	3	37	4	72	1
3	4	38	3	73	4
4	1	39	3	74	4
5	1	40	2	75	4
6	2	41	3	76	3
7	1	42	2	77	4
8	4	43	4	78	2
9	1	44	4	79	4
10	1	45	1	80	1
11	3	46	4	81	1
12	2	47	4	82	3
13	2	48	4	83	1
14	4	49	1	84	4
15	1	50	2	85	2
16	3	51	2	86	1
17	3	52	1	87	2
18	1	53	2	88	1
19	3	54	2	89	2
20	2	55	4	90	4
21	3	56	4		
22	4	57	2		
23	4	58	3		
24	3	59	4		
25	2	60	2		
26	2	61	3		
27	1	62	2		
28	2	63	3		
29	3	64	1		
30	3	65	3		
31	3	66	1		
32	1	67	4		
33	1	68	2		
34	1	69	1		
35	4	70	1		



8011

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2025**

**PART – I  
MENTAL ABILITY TEST**

**Centre Code No.**

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**Register No.**

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**INSTRUCTIONS**

1. Answer all the questions. All questions carry one mark each
2. Since all questions are compulsory, do not try to read through the Whole question paper before beginning to answer.
3. Begin with the first question and keep on trying one question after another till you finish all the question.
4. If you do not know the answer to any question, do not spend much time on it but pass on to the next one. If time permits, you can come back to the questions which you have left in the first instance and try them again.
5. Since the time allotted to this question paper is very limited, you should make the best use of it by not spending too much time on any one question.
6. Separate sheets have been provided for rough work in the Question Booklet itself.
7. The answers should be marked on a separate answer sheet provided in the Examination Hall.
8. The answer sheet has two parts corresponding to Part – I and Part –II of the Test.
9. Answer to each question is to be indicated by shading the number of the correct choice in the answer sheet with black ballpoint pen from amongst the ones given for the corresponding question in the test booklet.

**PART I**  
**MENTAL ABILITY TEST – MARCH 2025**

**8011**

**Duration: 90 minutes**

**Max Marks: 90**

**(Qns. 1 to 5)**

**Directions:** In each question, the numbers / letters are arranged in a sequence based on a certain principle. Select the answer from the four alternatives given under each sequence to complete the series.

1. 0, 1, 1, 2, 4, 7, 13, 24, 44, \_\_\_\_.  
(1) 64                      (2) 68                      (3) 75                      (4) 81
2. 12, 32, 72, 152, \_\_\_\_\_, 632  
(1) 254                      (2) 270                      (3) 312                      (4) 354
3. 4, 6, 8, 15, 16, 24, 32, 33, 64, \_\_\_\_ .  
(1) 42                      (2) 48                      (3) 55                      (4) 64
4. B, E, J, Q, ?.  
(1) X                      (2) Y                      (3) Z                      (4) V
5. A, C, F, J, O ?  
(1) T                      (2) U                      (3) V                      (4) W

**(Qns. 6 to 10)**

**Directions:** Choose the most suitable answer from the given four alternatives.

6. If  $6x^4 - 19y^4 = 4639$ , then the value of  $x$  is  
(1) 5                      (2) 6                      (3) 7                      (4) 9
7. If vowels are left out, which letter would be the 13<sup>th</sup> consonant?  
(1) M                      (2) N                      (3) P                      (4) Q
8. Rakesh is eighth in a queue from either end. How many people are there in the queue?  
(1) 13                      (2) 14                      (3) 15                      (4) 16
9. The unit digit in  $(364)^{102} + (364)^{103}$  is  
(1) 0                      (2) 2                      (3) 4                      (4) 6
10. The sum of first 6 odd positioned letters in complete listing of all 26 alphabets in ascending order is  
(1) 16                      (2) 25                      (3) 36                      (4) 48

**(Qns. 11 - 12)**

**Directions:** In the following questions three out of the four alternatives are same in a certain way and so form a group. Find the odd one that does not belong to the group.

11. Which one of the following words will come at second place in the Dictionary?  
 (1) Acidity                      (2) Acupuncture                      (3) Accident                      (4) Accumulate
12. Which one of the following words will Come at fourth place in the Dictionary?  
 (1) Raise                      (2) Rain                      (3) Rapport                      (4) Rapid

**(Qns. 13 - 17)**

**Directions:** Each letter of the alphabet from Z to A has been given a value from 1 to 26 serially. Solve the questions on the basis of value of words.

13. Which word has the maximum value at most?  
 (1) Mouth                      (2) Table                      (3) Tanker                      (4) Thank
14. Select the Correct Statement?  
 (1) ROOT +Y is STEM.                      (2) STEM - Dis LEAF.  
 (3) LEAF +Tis FRUIT                      (4) FRUIT -Q is STEM
15. Which words have the equivalent Value?  
 (1) FEAR : ACID      (2) BASE : THANK      (3) WATER : SEAT      (4) SOUR: SALT
16. Which equation is Correct?  
 (1) S+J=A                      (2) U+J=D                      (3) V+J=E                      (4) Y+J=l
17. If ROOT = 40, LEAF = 84, then FRUIT = ?.  
 (1) 54                      (2) 61                      (3) 64                      (4) 67

**(Qns. 18 - 19)**

**Directions:** Which term will come in the place of question mark?

18. 

EDOPRS	SRODE	EDRS	?
--------	-------	------	---
- (1) EDR                      (2) SRD                      (3) DRS                      (4) SRE
19. A1A, D4E, G7I, ? , M13U  
 (1) J 10 O                      (2) J 10 Q                      (3) P 10 Q                      (4) G 10 P
20. A die is thrown 24 times. How many times do you expect the number '4' to come up?  
 (1) 6 times                      (2) 24 times                      (3) 4 times                      (4) 12 times

(Qns. 21 to 25)

**Directions:** Choose the correct answer from the given options.

21. Assertion (A): James Watt invented the steam engine.

Reason (R): It was invented to pump out the water from the flooded mines.

- (1) Both A and R are true and R is the correct explanation of A.
- (2) Both A and R are true, but R is not the correct explanation of A.
- (3) A is true, but R is false.
- (4) A is false, but R is true.

22. Statement 1: A is bigger than B but shorter than C

Statement 2: D is smaller than C and bigger than A

Statement 3: B is greater than D

If statement 1 and statement 2 are true, statement 3 will be -

- (1) True                      (2) False                      (3) Uncertain                      (4) None of the above

23. What is Geeta's rank in the class?

I. There are 30 students in the class.

II. There are 10 students who scored less than Geeta.

- (1) Statement I alone is sufficient, but statement II alone is not sufficient
- (2) Statement II alone is sufficient, but statement I alone is not sufficient
- (3) Neither I nor II is sufficient
- (4) Both I and II are needed

24. If you are a fitness walker, you don't need to go to a health gym. You also don't need any fitness equipment for workout. All you need is a pair of comfortable athletic shoes.

This paragraph supports which of the following statements;

- (1) Fitness walking is better than weight lifting.
- (2) Walking outdoors provides more health benefits than walking indoors.
- (3) Fitness walking is an effective and convenient form of exercise.
- (4) Poorly designed shoes can cause foot injuries.

25. **Statements:**

- I) All heroes are villains.
- II) All villains are zeros.
- III) Some heroes are jokers.

**Conclusion:**

- i) Some Jokers are heroes
- ii) Some villains are jokers
- iii) Some zeros are villains

- (1) Only I, II follow.                      (2) All I, II, III follows.  
 (3) Only I, III follows.                      (4) Only I, II follows.

**(Qns. 26 - 35)**

**Directions:** Choose the correct answer from the given options.

26. If PINK is coded as 1691411, then RED will be coded as -  
 (1) 1853                      (2) 1854                      (3) 1954                      (4) 1963
27. In a certain code, NAGPUR is coded as OBHQVS, then BENGALURU will be coded as  
 (1) DGPICMVSV      (2) CROHBMVTV      (3) DGPICNWTV      (4) CFOHBMVSV
28. If GOLD is coded as HOME and COME is coded as DONE then SONS can be coded as -----  
 (1) TTOT                      (2) TOOS                      (3) TOOT                      (4) TONT
29. If SALVAR is coded 123456 and SAINT is coded as 12789, then SALIVA will be coded as  
 (1) 127342                      (2) 127324                      (3) 123724                      (4) 123742
30. If ZEBRA is coded as 1-22-25-9-26, WOLF is coded as 4-12-15-21, then RABBIT is coded as -----  
 (1) 9-26-25-25-18-7      (2) 18-1-2-2-9-21      (3) 18-1-2-25-18-7      (4) 9-26-2-2-18-7
31. In a certain code RAIN is written as 8\$% 6 and MORE is written as 7#8@. How is REMAIN written in that code?  
 (1) 8@7\$%6                      (2) 7@#\$%6                      (3) #@&\$%6                      (4) #@7\$%6
32. How many such digits are there in the number 57692483, which after rearranging the digits of the number in descending order from left to right will remain at the same position as before the rearrangement?  
 (1) None                      (2) One                      (3) Two                      (4) Three
33. Five friends were travelling by train between stations A and B. Each one gets down at a different station one after the other. Nitin gets down before Lata and Shikha but not before Sunil. Anil is not the last to get down. Who got down first from the train?  
 (1) Sunil                      (2) Nitin                      (3) Shikha                      (4) Cannot be determined

34. If it is possible to make only one meaningful word from the first, the fifth, the seventh, the eighth and the eleventh letters of the word DEPARTMENTAL, first letter of the word is your answer.

- (1) A                                      (2) D                                      (3) R                                      (4) None of these

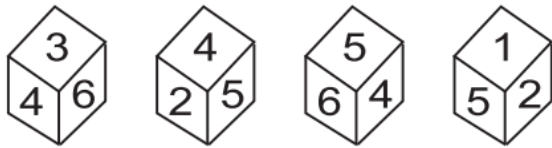
35. If a means “walk”, B means “stand”, y means “run” and 6 means “sit”, how many times does the following sequence of commands require sitting?

$\alpha \beta \gamma \delta \beta \gamma \alpha \delta \delta \gamma \beta \beta \alpha \alpha \beta \delta \gamma \alpha \delta \gamma \alpha \delta \alpha \gamma$

- (1) 4                                      (2) 3                                      (3) 5                                      (4) 6

**(Qns. 36 - 37)**

**Direction:** In each of the following questions, different positions of a dice are given. Answer the questions that follow.



36. Which number is opposite to 5?

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

37. Which number is opposite to 2?

- (1) 3                                      (2) 4                                      (3) 5                                      (4) 6

**(Qns. 38 - 40)**

**Direction:** Three different positions of a dice are given. Observe the positions Answer the questions that follow.



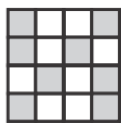
38. Find the number of dots on the face opposite to the face with one dot?

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

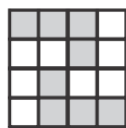
39. Find the number of dots on the face opposite to the face with six dots?

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

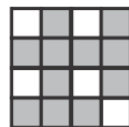
40. Which of the following figures has a line of symmetry?



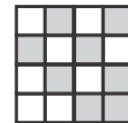
(A)  
(1) A



(B)  
(2) B



(C)  
(3) C



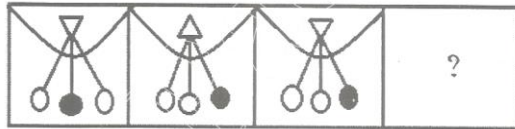
(D)  
(4) D



(Qns. 41 - 45)

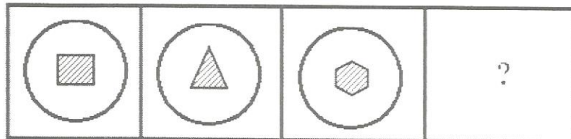
Directions: identify the figure based on the continuation of the previous figures.

41.



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

42.



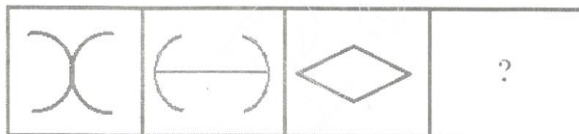
- (1) (2) (3) (4)

43.



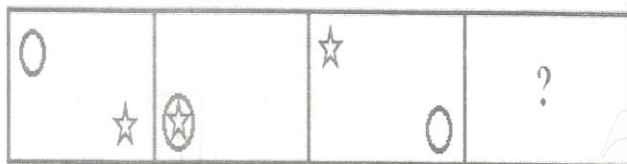
- (1) (2) (3) (4)

44.



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

45.

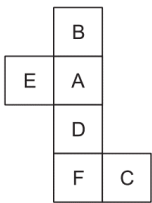


- (1) (2) (3) (4)

(Qns. 46 -51)

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

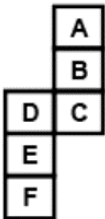
46.



(X)

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

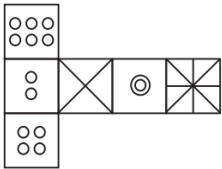
47.



(X)

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

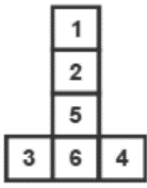
48.



(X)

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

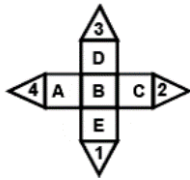
49.



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

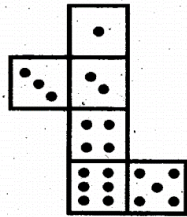
50.

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

51. How many dots lie opposite the face having five dots, when the given figure is folded to form a Cube?

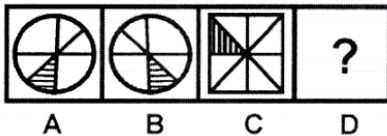


- (1) 1 (2) 2 (3) 3 (4) 6

(Qns. 52 - 53)

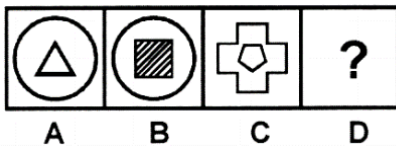
**Directions:** Figure A, B, C and D constitute the problem set while figure 1, 2, 3 and 4 constitute the answer set. There is a definite relationship between figures A and B. Establish a similar relationship between figure C and D by choosing a suitable figure (D) from the answer set

52. Which of the following figures complete the second pair in the same way as the first pair?



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

53. Which of the following figures complete the second pair in the same way as the first pair?



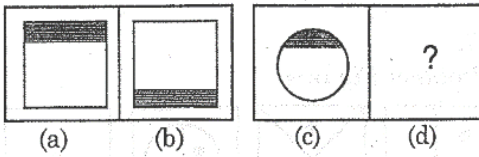
- (1) (2) (3) (4)

(Qns. 54 - 58)

**Directions:** Each of the following questions consist of problem figures followed by answer figures. Select a figure from amongst the answer figures which will continue the same series or pattern as established by the problem figures.

54.

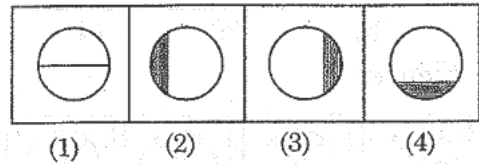
**PROBLEM FIGURE**



(1) 1

(2) 2

**ANSWER FIGURE**

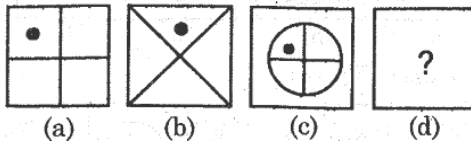


(3) 3

(4) 4

55.

**PROBLEM FIGURE**

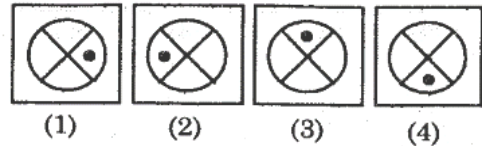


(1) 1

(2) 2

(3) 3

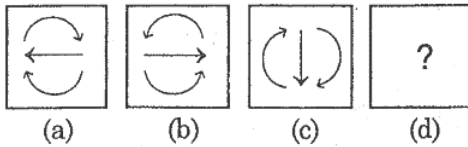
**ANSWER FIGURE**



(4) 4

56.

**PROBLEM FIGURE**

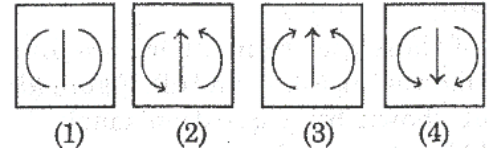


(1) 1

(2) 2

(3) 3

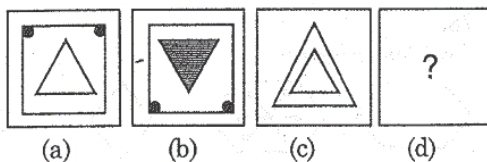
**ANSWER FIGURE**



(4) 4

57.

**PROBLEM FIGURE**

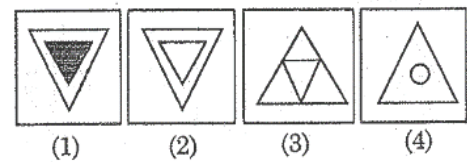


(1) 1

(2) 2

(3) 3

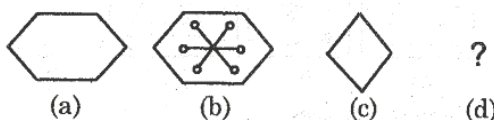
**ANSWER FIGURE**



(4) 4

58.

**PROBLEM FIGURE**

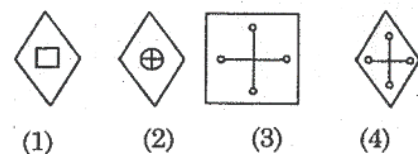


(1) 1

(2) 2

(3) 3

**ANSWER FIGURE**

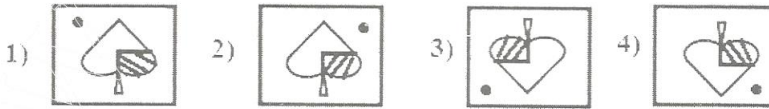


(4) 4

(Qns. 59-63)

**Directions:** In each of the following, choose the correct mirror image amongst the four alternatives.

59.



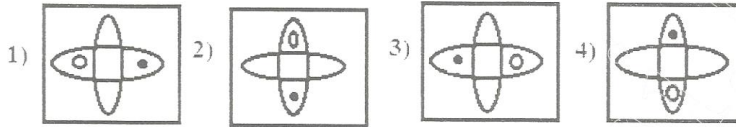
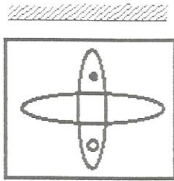
(1) 1

(2) 2

(3) 3

(4) 4

60.



(1) 1

(2) 2

(3) 3

(4) 4

61.



(1) 1

(2) 2

(3) 3

(4) 4

62.



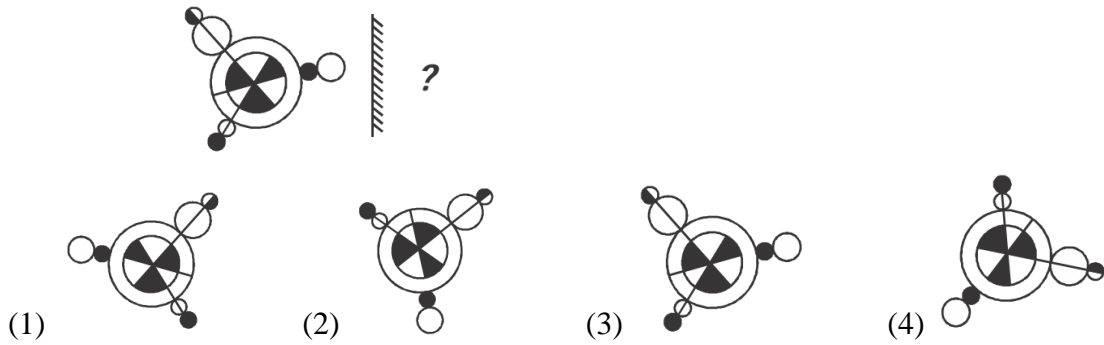
(1) 1

(2) 2

(3) 3

(4) 4

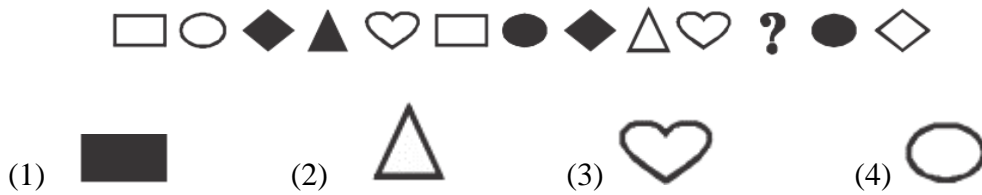
63. Find the mirror image of the given figure.



(Qns. 64 - 70)

*Directions: Choose the correct answer from the given options*

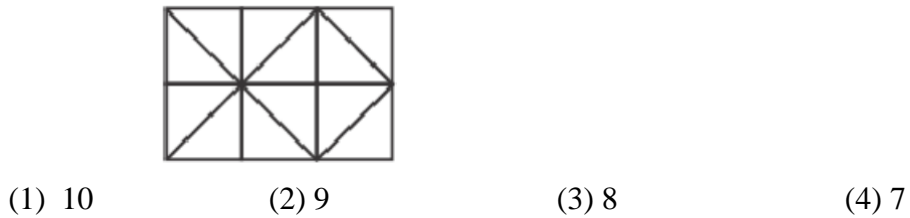
64. What is the missing figure in the given series?



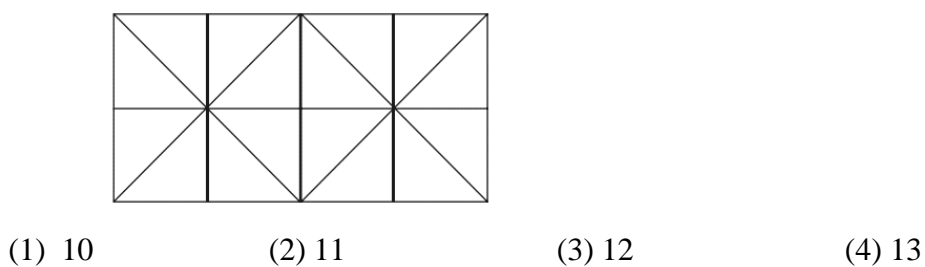
65. Count the number of cubes in the given figure.



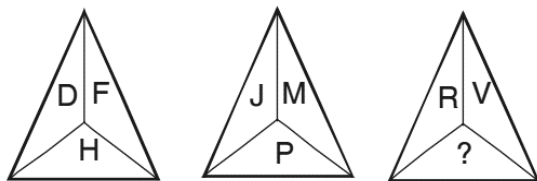
66. How many squares in the given figure?



67. How many squares in the given figure?



68. Which letter should be in place of the question mark?



- (1) T                      (2) U                      (3) V                      (4) Z

69. If day after tomorrow is Friday, what day was three days before yesterday?

- (1) Sunday              (2) Friday              (3) Thursday              (4) Saturday

70. Which letter replaces the question mark?

$$R = 81 \qquad Y = 52$$

$$X = 42 \qquad ? = 91$$

- (1) S                      (2) Q                      (3) O                      (4) L

**(Qns.: 71 - 76)**

**Directions:** All the faces of wooden cube with 8 cm length are painted in the same colour. This cube has been cut into small cubes with a 2 cm length. Answer the following questions.

71. How many small cubes are to be cut out?

- (1) 4                      (2) 8                      (3) 64                      (4) 32

72. How many times that cube is cut out?

- (1) Four times              (2) Eight times              (3) Nine times              (4) Twelve times

73. How many small cubes will be there whose only one face is colored?

- (1) 12                      (2) 24                      (3) 8                      (4) 32

74. How many small cubes will be there whose no face is coloured?

- (1) 8                      (2) 12                      (3) 32                      (4) 16

75. How many small cubes will be there whose two faces are coloured?

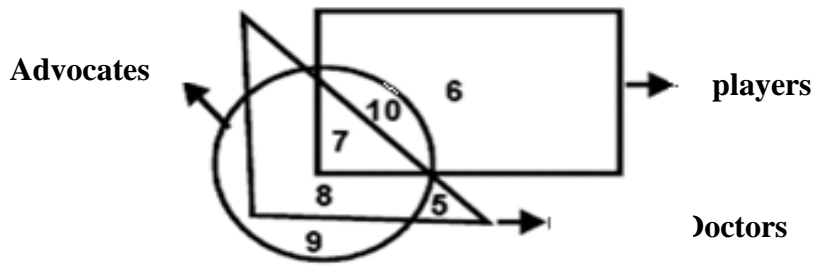
- (1) 24                      (2) 8                      (3) 12                      (4) 32

76. How many small cubes will be there whose three faces are coloured?

- (1) 12                      (2) 16                      (3) 24                      (4) 8

(Qns.: 77- 81)

**Directions:** In the following Questions, answers are based on the diagram given below, where the circle represents advocates the triangle represents doctors the rectangle represents players.



77. Which number represents players who are neither advocates *nor* doctors?  
 (1) 10                      (2) 8                      (3) 6                      (4) 5
78. Which number represents advocates who are also players *and* doctors?  
 (1) 7                      (2) 10                      (3) 5                      (4) 9
79. Which number represents advocates who are players but *not* doctors?  
 (1) 10                      (2) 7                      (3) 8                      (4) 9
80. Which number represents doctors who are advocates but *not* players?  
 (1) 7                      (2) 8                      (3) 9                      (4) 5
81. Which number represents doctors who are neither players *nor* advocates?  
 (1) 6                      (2) 9                      (3) 8                      (4) 5

(Qns. 82 - 85)

**Directions:** Choose the correct answer from the given options

82. A clock shows time as 4.45 p.m. What is the time shown by the mirror image of the clock?  
 (1) 6.45                      (2) 8.15                      (3) 7.45                      (4) 7.15
83. When the 45 students of a class were asked to stand in a line in the playground Aiswarya was 20<sup>th</sup> from the left in the line and Vaishnavi was 32<sup>nd</sup> from the right of the line. Then how many students are standing between Aiswarya and Vaishnavi?  
 (1) 5                      (2) 2                      (3) 4                      (4) 3
84. In a month of 31 days third Monday falls on 15th. What will be the last day of the month?  
 (1) Fifth Friday                      (2) Fourth Friday                      (3) Fifth Wednesday                      (4) Fourth Saturday
85. A man travelled westwards 4 Kms, turned left and travelled 4 Kms turned right and travelled 8 Kms. He then travelled North 4 Kms. How far was the man from the starting point now?  
 (1) 4 Kms                      (2) 6 Kms                      (3) 8 Kms                      (4) 12 Kms



(Qns. 86 to 90)

**Directions:** In the following questions, find the missing number, if a certain rule is followed either row-wise or column-wise.

86.

44	25	36
64	49	81
100	??	??

- (1) 169 & 81      (2) 67 & 121      (3) 64 & 115      (4) 70 & 110

87.

11	7	36
18	14	64
17	9	?

- (1) 81      (2) 85      (3) 98      (4) 104

88.

1	9	?
2	12	14
3	117	105

- (1) 7      (2) 8      (3) 9      (4) 11

89.

44	14	48
12	51	30
56	??	78

- (1) 48      (2) 58      (3) 65      (4) 72

90.

48	28	38
28	35	23
39	?	37

- (1) 7      (2) 14      (3) 21      (4) 42



**8021**

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2025**

**PART – II  
SCHOLASTIC APTITUDE TEST**

**Centre Code No.**

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**Register No.**

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**INSTRUCTIONS**

1. Answer all the questions. All questions carry one mark each.
2. Since all questions are compulsory, do not try to read through the whole question paper before beginning to answer.
3. Begin with the first question and keep on trying one question after another till you finish all the question.
4. If you do not know the answer to any question, do not spend much time on it but pass on to the next one. If time permits, you can come back to the questions which you have left in the first instance and try them again.
5. Since the time allotted to this question paper is very limited, you should make the best use of it by not spending too much time on any one question.
6. Separate sheets have been provided for rough work in the Question Booklet itself.
7. The answers should be marked on a separate answer sheet provided in the Examination Hall.
8. The answer sheet has two parts corresponding to Part – I and Part –II of the Test.
9. Answer to each question is to be indicated by shading the number of the correct choice in the answer sheet with black ballpoint pen from amongst the ones given for the corresponding question in the test booklet.

**SCIENCE**

1. Which statement is / are true?
  - a) The ball bearings used in bicycle is an example for Rolling Friction.
  - b) In science, the gases and liquids are named as fluids.
  - c) Vehicles have treaded tyres to reduce friction.
  - d) Sliding friction is slightly larger than the Static friction

(1) a) and b) are correct      (2) a) and d) are correct  
 (3) a), b) and c) are correct      (4) c) and d) are correct
  
2. If a coin is placed between two plane mirrors making  $60^\circ$  angle with each other, then how many images of coins are formed?
 

(1) 3                      (2) 4                      (3) 5                      (4) 6
  
3. The person who represented India on Braille problems in UNESCO is
 

(1) Ravindra Jain    (2) Diwakar              (3) Helen A. Keller      (4) Lal Advani
  
4. The motion of seconds hand in a clock is
 

(1) Oscillatory      (2) non-uniform          (3) uniform              (4) rectilinear
  
5. Match the following;
 

i) Hans Christian Oersted	-p) Coloured Disc appearing white
ii) Newtons’s Disc	-q) Liberation of oxygen and hydrogen by electrodes
iii) Benjamin Franklin	-r) Magnets’ deflection by current
iv) William Nicholson	- s) lighting phenonomena

(1) i)-r), ii)-p), iii)-s), iv)-q)                      (2) i)-q), ii)-p), iii)-s), iv)-r)  
 (3) i)-s), ii)-p), iii)-r), iv)-q)                      (4) i)-q), ii)-p), iii)-r), iv)-s)
  
6. Chromium plating is done in
 

(1) Iron bridges (2) Kitchen gas burners (3) Gold ornaments (4) Food parcel foil
  
7. The Pitch of the sound is determined by its
 

(1) frequency      (2) speed      (3) amplitude      (4) loudness

8. Two objects repels each other. This repulsion could be due to  
 (1) Frictional force only (2) Electrostatic force only  
 (3) Magnetic force only (4) Either an Electrostatic force or a Magnetic force
9. Consider the terms given below  
 (i) Tsunami (ii) Landslide (iii) Floods (iv) Lightning  
 Earthquakes can cause  
 (1) (i), (ii) and (iii) (2) (ii) and (iv) (3) (ii), (iii) and (iv) (4) (iii) and (iv)
10. The conversion of dead vegetation into coal is  
 (1) Carbonisation (2) Calcification (3) Condensation (4) Canonisation
11. Desert plants have spine-like leaves to reduce loss of water by  
 (1) transportation (2) transposition (3) transpiration (4) transmission
12. \_\_\_\_\_ lives in the roots of plants like gram, peas, moong  
 (1) Agrobacterium (2) Rhizobium (3) streptomyces (4) Bacillus subtilis
13. Match Column I and Column II and select the correct matching:
- | Column I                           | Column II                          |
|------------------------------------|------------------------------------|
| i) Edward Jenner                   | - p) Pencillin                     |
| ii) Louis Pasteur                  | - q) Anthrax                       |
| iii) Alexander Fleming             | - r) Fermentation                  |
| iv) Robert Koch                    | - s) Vaccine                       |
| (1) i)-q), ii)-p), iii)-r), iv)-s) | (2) i)-s), ii)-r), iii)-p), iv)-q) |
| (3) i)-p), ii)-q), iii)-s), iv)-r) | (4) i)-q), ii)-r), iii)-p), iv)-s) |
14. Which among the following is not an endocrine gland  
 (1) Pancreas (2) Pituitary (3) Thyroid (4) Liver
15. The organism with tracheal system is  
 (1) ant (2) Book lice (3) Mealy bug (4) scale insect
16. Which among the following is not a fungi  
 (1) Aspergillus (2) Bread mould (3) Spirogyra (4) Penicillium

17. Which among the following reproduce by asexual reproduction

- (1) frog            (2) starfish            (3) Fern            (4) Rose

18. Asian lions are found only in

- (1) India            (2) America            (3) China            (4) Singapore

19. Match the following

i. Charge            - P. Seismic Zone

ii. Lightning        - Q. Electroscope

iii. Earthquake     - R. Richter Scale

iv. Seismograph    - S. Thunder Storm.

(1) i – R, ii – P, iii – S, iv – Q            (2) i – S, ii – Q, iii – R, iv – P

(3) i – Q, ii – S, iii – P, iv – R            (4) i – S, ii – R, iii – P, iv – Q

20. 'X' is a good conductor of electricity. Which of the following could be 'X'?

- (1) Solid sodium chloride    (2) Vinegar    (3) Distilled water    (4) Liquid oxygen.

21. The blood pressure in humans is greater at the feet than at the brain because

- (1) of gravitational force    (2) weight of the human is concentrated at the feet.  
(3) of height of blood column    (4) concentration of the blood is more at the feet.

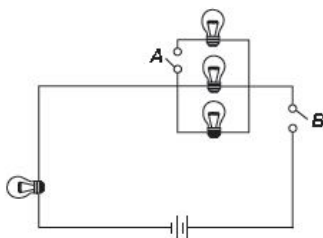
22. Which of the following practices does NOT improve the fertility of soil?

- (1) keeping the land fallow            (2) practicing crop rotation  
(3) practicing multiple cropping            (4) practicing monocropping.

23. A cube of side 0.2 m and weighing 100 N rests on the floor. What is the pressure exerted by the cube on the floor?

- (1)  $10 \text{ N m}^{-2}$             (2)  $100 \text{ N m}^{-2}$             (3)  $500 \text{ N m}^{-2}$             (4)  $2500 \text{ N m}^{-2}$ .

24. Study the given circuit diagram

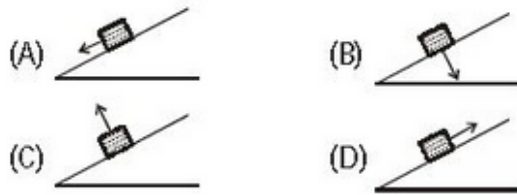


How many bulbs will light up when switches A and B are closed in different situations?

	Only switch A is closed	Only switch B is closed
(1)	4	2
(2)	4	3
(3)	0	3
(4)	0	2

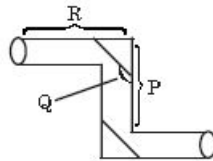
25. The killing of animals illegally is referred to as  
(1) Assassinating (2) Poaching (3) Killing (4) Hunting
26. The oldest oil refinery in India is located at  
(1) Mathura (2) Digboi (3) Haldia (4) Kochi
27. The calorific value of a fuel is expressed in a unit called \_\_\_\_\_  
(1) Kilojoule per kilogram (2) Kilogram per Kilojoule  
(3) Joule per Kilogram (4) Kilojoule per gram
28. The purpose of applying lubricants to the moving parts of a machine is to  
(1) Increase Friction (2) Decrease Friction (3) Clean the parts (4) Cool the parts
29. Imagine you're conducting an experiment where you bring a charged object close to another object. You observe that the second object moves without any direct contact. Which type of force are you likely observing in this scenario?  
(1) Pressure (2) Muscular force (3) Electrostatic force (4) Gravitational force
30. IUCN stands for  
(1) Indian Union for the Conservation of Nature and Natural resources.  
(2) International Union for the Conservancy of Natural resources  
(3) International Union for the Conservation of Nature and Natural resources.  
(4) Indian Union for the Chemical Nomenclature.
31. Transformation of larva into an adult is called \_\_\_\_\_  
(1) Cloning (2) Fertilisation (3) Metamorphosis (4) Embedding
32. The defect due to which a person is not able to see the distant objects clearly  
\_\_\_\_\_ (1) Myopia (2) Hypermetropia (3) Cornea (4) Cataract

33. Which figure shows the correct direction of frictional force when a wooden block is moving up on an inclined plane?



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

34. A figure of a periscope is shown below. Which labelled parts should be adjusted to view an object placed higher?



- (1) P                      (2) Q                      (3) R                      (4) All of these.

35. A boy feels difficult to pull the two similar rubber suckers apart as shown below. This is because



- (1) The air pressure is pressing on the suckers with negligible force.  
(2) The air trapped inside the suckers is exerting a large pressure.  
(3) There is no air inside the suckers.  
(4) The air pressure is pressing on the suckers with a great force.

**SOCIAL SCIENCE**

36. Lithosphere is made up of

- (1) Soil and minerals                      (2) Rocks and minerals and Soil  
(3) Minerals, soil and water              (4) Water and rocks

37. Silica and magnesium are the constituents of

- (1) Rock                      (2) Inner Core                      (3) Outer Core                      (4) Mantle





47. Who were subordinate to the Pallava kings of Kanchipuram  
(1) Pala (2) Rashtrakutas (3) Chera (4) Cholas
48. Akbar became an emperor at the age of \_\_\_\_ years.  
(1) 15 (2) 17 (3) 20 (4) 13
49. Mundas and Santals lived in the region of  
(1) Orissa and Bengal (2) Bihar and Orissa  
(3) Bengal and Assam (4) Bihar and Uttar Pradesh
50. Which state was called Rajputana by the British  
(1) Madhya Pradesh (2) Rajasthan (3) Punjab (4) Gujarat
51. Lilatilakam, was composed in  
(1) Manipuralam (2) Manipravalam  
(3) Manipurvalam (4) Manipravolam
52. What defines the introduction to our constitution?  
(1) Preamble (2) Sovereignty (3) Constitution (4) None of these
53. Which is the highest law making body in our country?  
(1) Rajya Sabha (2) Lok Sabha (3) Court (4) None of these
54. How many members are there in the Rajya sabha?  
(1) 240 elected members (2) 233 elected members  
(3) 230 elected members (4) None of these
55. Which is the Article of Constitution that states that untouchability has been abolished?  
(1) Article 16 (2) Article 18 (3) Article 28 (4) Article 17
56. The law against child labour was implemented in  
(1) 2001 (2) 2003 (3) 2005 (4) 2006
57. Name the term that can be given to the various layers in the soil after it is cut out like a slice of cake.  
(1) Top Soil (2) Soil Horizon (3) Sub Soil (4) Soil Mixture



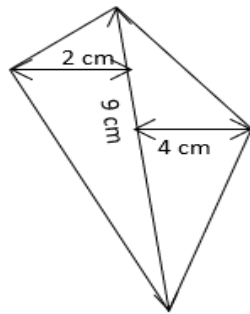
67. \_\_\_\_\_ was the Chairman of the Drafting Committee.  
 (1) Rajendra Prasad (2) T T Krishnamachari  
 (3) S C Sinha (4) B R Ambedkar
68. The Constitution states that there should be no \_\_\_\_\_ exercise of power.  
 (1) Mediatary (2) arbitrary (3) illegal (4) custom
69. The President appoints \_\_\_\_\_ members of Rajya Sabha.  
 (1) 12 (2) 15 (3) 14 (4) 20
70. The type of soil is determined by  
 (1) landforms (2) soil erosion (3) water sources (4) Globalisation

### MATHEMATICS

71. The sum of rational numbers  $-3/16$  and  $5/12$  is \_\_\_\_\_  
 (1)  $-7/48$  (2)  $11/48$  (3)  $13/48$  (4)  $1/3$
72. \_\_\_\_\_ is the multiplicative identity for rational numbers.  
 (1) 1 (2) 0 (3) -1 (4)  $1/2$
73. Zero has \_\_\_\_\_ reciprocal.  
 (1) 1 (2) 2 (3) 3 (4) No
74. Solve:  $(5/2)x + (3/2) = 6/4$   
 (1)  $x = 1$  (2)  $x = 2$  (3)  $x = 3$  (4)  $x = 0$
75. If  $A = -7$  then the value of  $A^2 - 3A$   
 (1) 28 (2) -28 (3) -70 (4) 70
76. There are 2 Red, 3 Blue and 5 Black balls in a bag. A ball is drawn from the bag without looking in to the bag. What is the probability of getting a blue ball?  
 (1)  $3/5$  (2)  $2/5$  (3)  $3/10$  (4)  $10/3$
77. There are \_\_\_\_\_ non-square numbers between the squares of 5 and 6.  
 (1) 11 (2) 12 (3) 13 (4) 10
78. How many zeros will be there in the cube root of the number 8000000?  
 (1) 6 (2) 2 (3) 1 (4) 3
79. The product of two integers is 4 less than 49. If one of the integers is (- 9) the other integer is  
 (1) 5 (2) 40 (3) -45 (4) -5

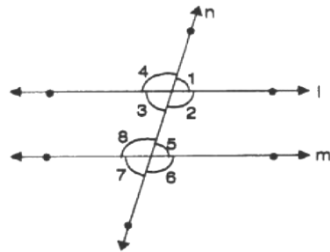
80. Avanti's present age is  $Y$  years and her mother's age is 4 years less than  $3$  times her age, then her mother's present age  
(1)  $(3Y-4)$  years (2)  $(4-3Y)$  years (3)  $(3Y+4)$  years (4)  $(4Y+4)$  years
81. A sum of money at simple interest amounts to ₹ 5500 in 1 year and to ₹ 6600 in 2 years. Find the sum  
(1) ₹ 4400 (2) ₹ 4200 (3) ₹ 4300 (4) ₹ 4100
82. In a cricket match, India has scored 104 runs for 2 wickets by the end of the 20 overs. If they maintain the same run rate without losing any more wickets. What would be their final score at the end of 50 overs?  
(1) 156 for 2 (2) 208 for 2 (3) 260 for 2 (4) 312 for 2
83. Which of the following is / are two-dimensional figure?  
a. Square b. Circle c. Cube d. Cuboid  
(1) a, b only (2) a, b, c only (3) b, c, d only (4) All of them
84. Which of these can be expressed as a power of 5?  
(1)  $2^2+3^2$  (2)  $5+5+5+5+5+5$  (3)  $4 \times 4 \times 4 \times 4 \times 4$  (4)  $(7-2) \times (7-2) \times (7-2)$
85. A rhombus is symmetrical about  
(1) Each of its two lines joining the mid-points of opposite sides.  
(2) Each of its two diagonals  
(3) Both (1) & (2)  
(4) None of these.
86. The marked price of an article is Rs. 60 and it is sold at Rs.45, then the discount rate will be  
(1) 25% (2) 35% (3) 15% (4) None of these
87. Subash covers a distance of 1200 meters in 10 minutes. What is the speed of Subash?  
(1) 1.2 kmph (2) 7.2 kmph (3) 12 kmph (4) 72 kmph
88. The ratio of Ritu's income to her savings is 4:1. The percentage of money saved by her is  
(1) 20% (2) 25% (3) 40% (4) 80%

89. Find the area of the given quadrilateral.



- (1)  $26 \text{ cm}^2$       (2)  $27 \text{ cm}^2$       (3)  $29 \text{ cm}^2$       (4)  $25 \text{ cm}^2$

90. In the following figure, a transversal cuts two parallel lines  $l$  and  $m$  respectively and the angles thus formed are marked. If  $\angle 1$  is an acute angle, then, which of the following statements is false?



- (1)  $\angle 1 + \angle 2 = 180^\circ$     (2)  $\angle 2 + \angle 5 = 180^\circ$     (3)  $\angle 3 + \angle 8 = 180^\circ$     (4)  $\angle 2 + \angle 6 = 180^\circ$

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**FOR ROUGH WORK ONLY**

**8021**