



8011

**GOVERNMENT OF PUDUCHERRY
DIRECTORATE OF SCHOOL EDUCATION**

QUESTION BOOKLET

MARCH 2024

**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 2024

8011

Duration: 90 minutes

Max Marks: 90

(Qns. 1 to 5)

Directions: Choose the correct answer from the given options.

1. Find out the two signs to be interchanged for making following equation correct
 $5 + 3 \times 8 - 12 / 4 = 3$.
(1) + and - (2) - and / (3) + and \times (4) + and /

2. If \times stands for 'addition', \div stands for 'subtraction', + stands for 'multiplication' and - stands for 'division', then $20 \times 8 \div 8 - 4 + 2 = ?$
(1) 80 (2) 25 (3) 24 (4) 5

3. If Q means 'add to', J means 'multiply by', T means 'subtract from' and K means 'divide by' then $30 K 2 Q 3 J 6 T 5 = ?$
(1) 18 (2) 28 (3) 31 (4) 103

4. In a cricket match, five batsmen P, Q, R, S and T scored an average of 36 runs. S Scored 5 more than T; T scored 8 fewer than P; Q scored as many as S and T combined; and Q and R scored 107 between them. How many runs did T score ?
(1) 20 (2) 29 (3) 28 (4) 24

5. The following equation is incorrect. Which two signs should be interchanged to correct the equation?
 $10 \times 4 + 5 - 30 \div 6 = 31$
(1) \times and - (2) \div and - (3) + and \div (4) - and +

(Qns. 6 to 10)

Directions: Choose the correct answer from the given options

6. S L U A Y J V E I O N Q G Z B D R H
What will come in place of question (?) mark in the following series :
L A U J Y I E G ?
(1) ZH (2) IB (3) NR (4) QH

7. Find the missing alphabet in the given sequence ?
A, Z, Y, B, C, ?, W, D
(1) E (2) Z (3) X (4) F

8. Given Sequence : N O P Q Y B Z A R S H I J K L M T U V G F E W X D C
What will come in place of (?) the following series.
NDP , QWB , ZFR , ?

(1) SVI (2) AFS (3) IVS (4) SFA

9. How many independent words can 'HEARTLESS' be divided into without changing the order of the letters and using each letter only once ?

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

10. Three of the following four are alike in a certain way and so form group. Which is the one that does not belong to the group?

1. LBT 2. IJF 3. PID 4. BMS

(1) LBT (2) IJF (3) PID (4) BMS

(Qns. 11 to 15)

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. Find the odd one out

(1) Flower : Petal (2) Circle : Arc (3) Cover : Page (4) Chair : Leg

12. Choose out the odd one

(1) Lion (2) Bear (3) Cheetah (4) Leopard

13. Choose the number which is different from others in the group?

(1) 64 (2) 216 (3) 27 (4) 144

14. Choose the pair in which the words are differently related?

(1) Jewellery : Gold (2) Table : Wood (3) Shirt : Fabric (4) Iron : Axe

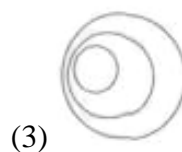
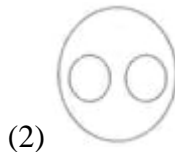
15. Three of the following four are alike in a certain way and hence form a group. Which is the one that does not belong to that group?

(1) 75 (2) 85 (3) 95 (4) 115

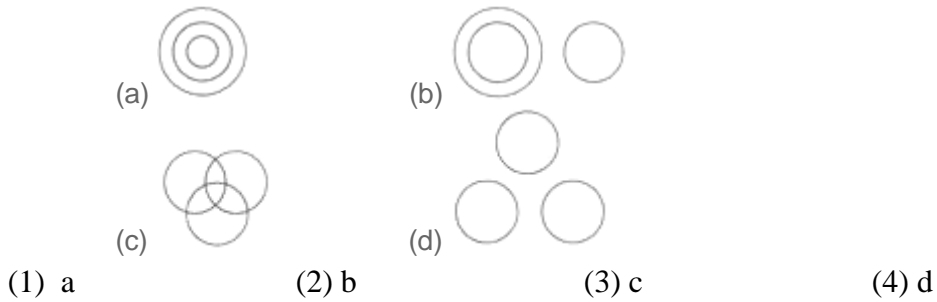
(Qns. 16 to 20)

Directions: Choose the correct answer from the given options.

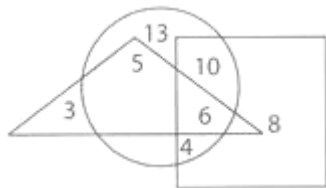
16. Which of the following diagrams indicates the best relation between Dogs, Pets, Cats



17. Which of the following figures represents the relation between ‘Gases’, ‘Liquids’ and ‘Solids’?



18. In the following diagram, the square represents women, triangle represents corporate managers and circle represents MBAs. Which numbered part represents MBA corporate managers who are women?



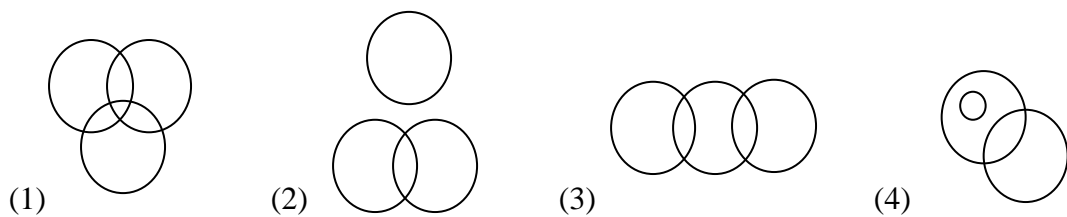
- (1) 4 (2) 5 (3) 6 (4) 10

19. Which of the following sets is best represented in the given diagram?.



- (1) Animals, Insects, Cockroaches
- (2) Animals, Males, Females and Hermaphrodites
- (3) States, Districts, Union Territories
- (4) Country, States, Districts

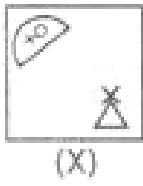
20. Some of the cricket players are tennis players, some tennis players are hockey players, no cricket player is a hockey player. Which of the following diagrams correctly represents the above statements?



(Qns. 21 to 25)

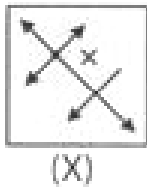
Direction: In each of the following questions, choose the correct mirror image of the given figure (X) from amongst the four options

21.



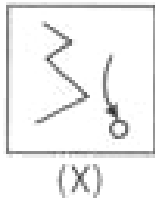
- (1) (2) (3) (4)

22.



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

23.



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

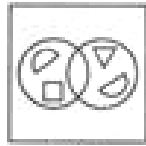
24.



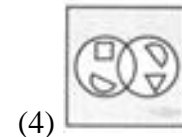
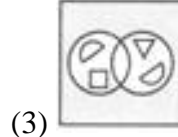
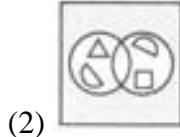
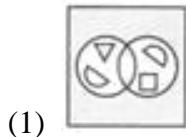
- (1) (2) (3) (4)

25.

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(X)



(Qns. 26 to 30)

Directions: In the following questions, there is a question mark (?) in a blank space. Under each question one of the four alternatives given satisfies the relationships between the two terms to the left or to the right of the sign :: given in the question. Find the correct answer for each question.

26. 21 : 3 :: 574 : ?

(1) 23

(2) 82

(3) 91

(4) 113

27. 8 : 64 :: 25 : ?

(1) 125

(2) 137

(3) 521

(4) 625

28. 42 : 20 :: 64 : ?

(1) 33

(2) 32

(3) 31

(4) 34

29. 14 : 9 :: 26 : ?

(1) 31

(2) 12

(3) 15

(4) 21

30. 156 : 13 :: 132 : ?

(1) 8

(2) 9

(3) 10

(4) 12

(Qns. 31 to 35)

Directions: Read the following information carefully and answer the question given below:

A family consists of six members namely **A, B, C, D, E, and F**. **B** is the Brother-in-law of **C**'s mother. **C** is the Sister of **F**. **D** is the father of **A** and **F** is the grandson of **D**. There are two female members in the family.

31. Who is the mother of F?

(1) B

(2) E

(3) A


(4) Cannot be determined

32. Which of the following pair represents the female members in the family?
 (1) CE (2) BC (3) CD (4) Cannot be determined
33. The members of the family belong to how many generations?
 (1) Four (2) Three (3) Two (4) Cannot be determined
34. D has two sons, One is A and other is ?
 (1) E (2) C (3) B (4) F
35. Who is the uncle of F?
 (1) B (2) A (3) D (4) C

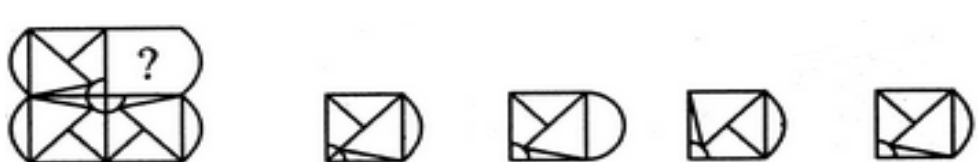
(Qns. 36 to 38)

Directions:


In each of the following questions, select a figure from amongst the four alternatives, which when placed in the blank space of figure (X) would complete the pattern

36. 
 (X) (1) (2) (3) (4)

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

37. 
 (X) (1) (2) (3) (4)

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

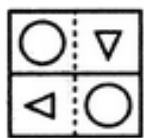
38. 
 (X) (1) (2) (3) (4)

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

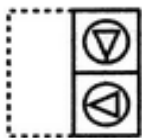
(Qns. 39 - 40)

Directions: Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.

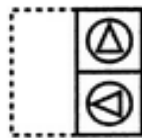
39.



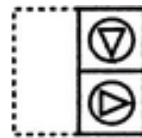
(X)



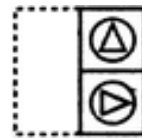
(1)



(2)



(3)



(4)

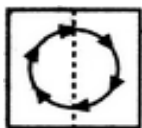
(1) 1

(2) 2

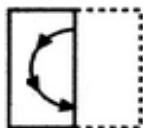
(3) 3

(4) 4

40.



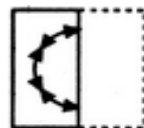
(X)



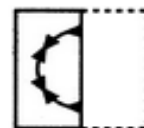
(1)



(2)



(3)



(4)

(1) 1

(2) 2

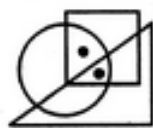
(3) 3

(4) 4

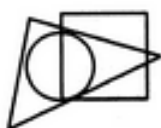
(Qns. 41 – 42)

Directions: Select the figure which satisfies the same conditions of placement of the dots as in Figure-X.

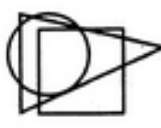
41.



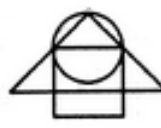
(X)



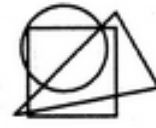
(1)



(2)



(3)



(4)

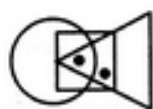
(1) 1

(2) 2

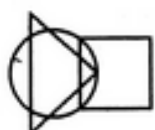
(3) 3

(4) 4

42.



(X)



(1)



(2)



(3)



(4)

(1) 1

(2) 2

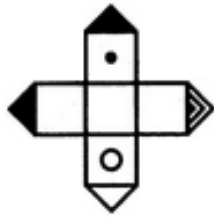
(3) 3

(4) 4

(Qns. 43 - 44)

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

43.



(X)



(1)



(2)



(3)



(4)

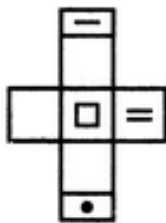
(1) 1

(2) 2

(3) 3

(4) 4

44.



(X)



(1)



(2)



(3)



(4)

(1) 1

(2) 2

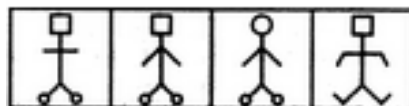
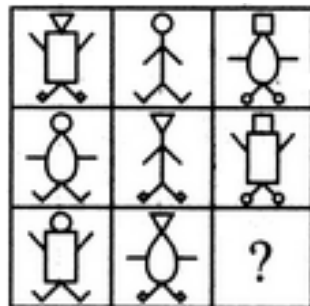
(3) 3

(4) 4

(Qns. 45 - 46)

Directions: Select a suitable figure from the four alternatives that would complete the figure matrix.

45.



(1)

(2)

(3)

(4)

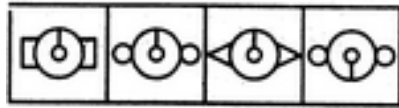
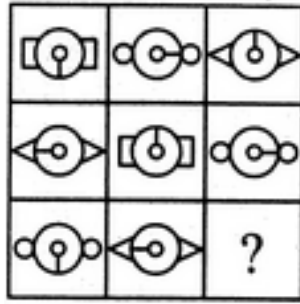
(1) 1

(2) 2

(3) 3

(4) 4

46.



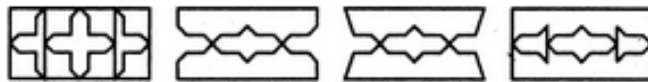
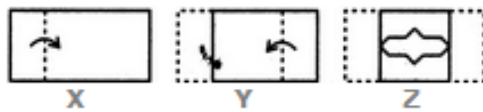
(1) (2) (3) (4)

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

(Qns. 47 to 48)

Directions: Choose a figure which would most closely resemble the unfolded form.

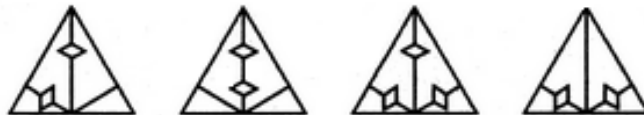
47.



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

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

48.



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

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

(Qns. 49 to 50)

Directions: Select the alternative which represents three out of the five alternative figures which when fitted into each other would form a complete square.

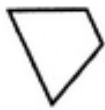
49.



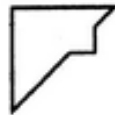
(1) (2) (3) (4) (5)

(1) 123 (2) 345 (3) 245 (4) 234

50.



(1)



(2)



(3)



(4)



(5)

(1) 123

(2) 234

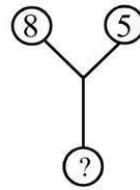
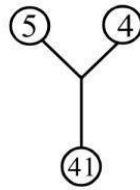
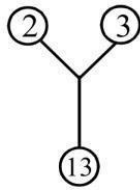
(3) 134

(4) 345

(Qns. 51 to 54)

Directions: In the following questions given below which one number can be placed at the sign of interrogation?

51.



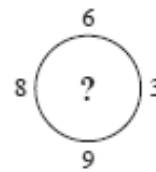
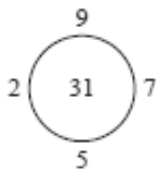
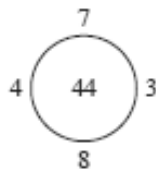
(1) 169

(2) 64

(3) 89

(4) 25

52.



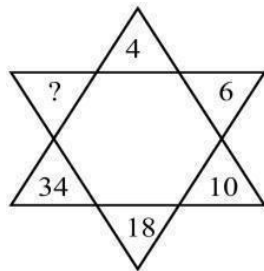
(1) 18

(2) 24

(3) 30

(4) 48

53.



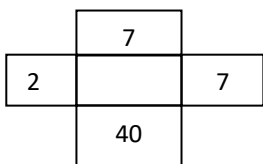
(1) 60

(2) 62

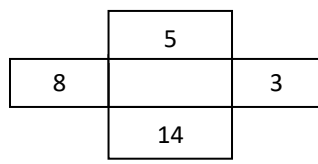
(3) 64

(4) 66

54.

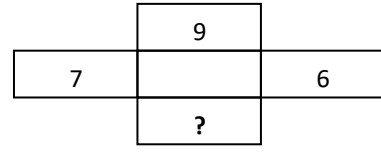


(1) 68



(2) 72

(3) 82

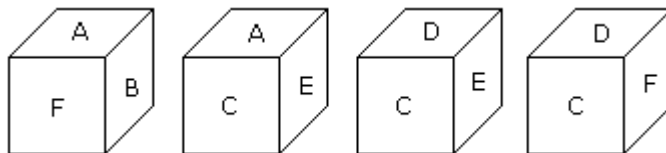


(4) 96

(Qns. 55 to 63)

Directions: Choose the correct answer from the given options.

55. Ravi drives 12 km towards west. He turns south and drives 3 km. He again turns east and drives 8 km. How far is he from his starting point?
- (1) 3 km (2) 5 km (3) 7 km (4) 11 km
56. A person is driving towards West. What sequence of direction should he follow so that he is driving towards South?
- (1) left, right, right (2) right, right, left (3) left, left, left (4) right, right, right
57. A clock is so placed that at 12 noon, its minute hand points towards north-east. In which direction does its hour hand point at 1.30 pm?
- (1) East (2) West (3) North (4) South
58. How many times in a day, are the hands of a clock in straight line but opposite in direction?
- (1) 20 (2) 22 (3) 26 (4) 28
59. In a class, seven students are standing in a row. Q is standing left to R but right to P. O is standing right to N and left to P. Similarly, S is standing right to R and left to T. Find out who is standing in the middle ?
- (1) O (2) P (3) Q (4) R
60. There are deer and peacocks in a zoo. By counting heads they are 80. And the number of their legs is 200. How many peacocks are there?
- (1) 60 (2) 50 (3) 40 (4) 30
61. If South-East becomes North, North-East becomes West and so on. What will West become?
- (1) North-West (2) North-East (3) South-East (4) South-West
62. Your mother is 4 years younger than your father and your father is 6 times older than you. If you are 6 years old, what is your mother's age?
- (1) 28 years (2) 32 years (3) 34 years (4) 36 years
63. From the positions of a cube shown below, which letter will be on the face opposite to face with 'A'?

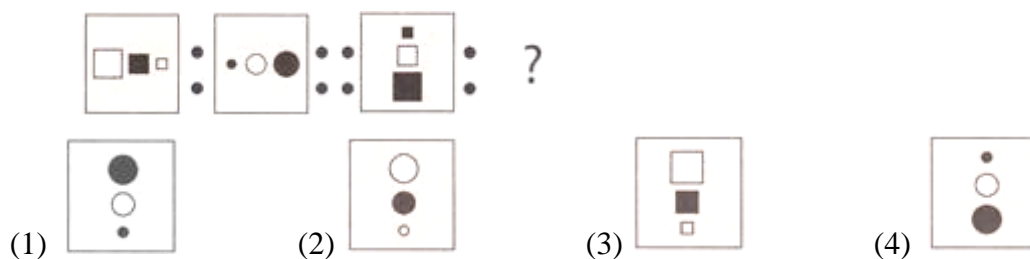


- (1) D (2) B (3) C (4) F

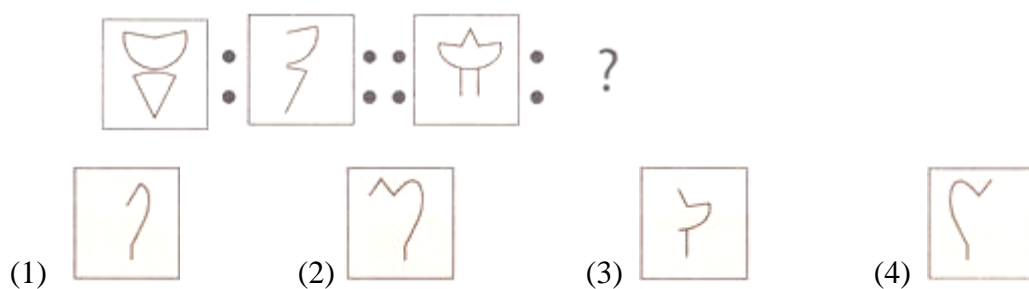
(Qns. 64 to 68)

Directions: Choose the correct answer from the given options

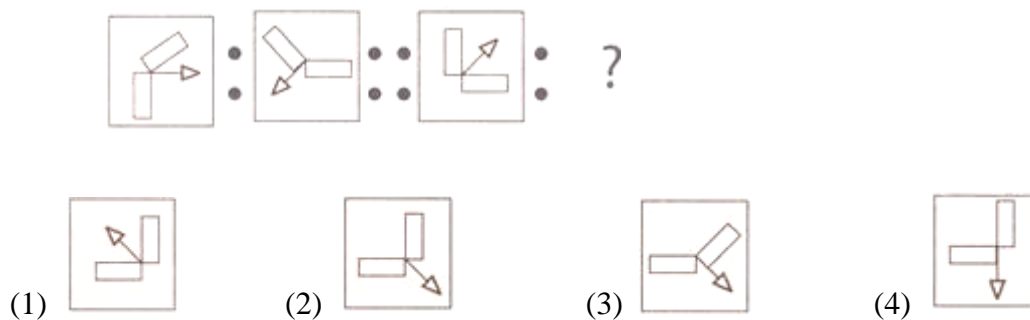
64. Which of the following figures complete the second pair in the same way as the first pair?



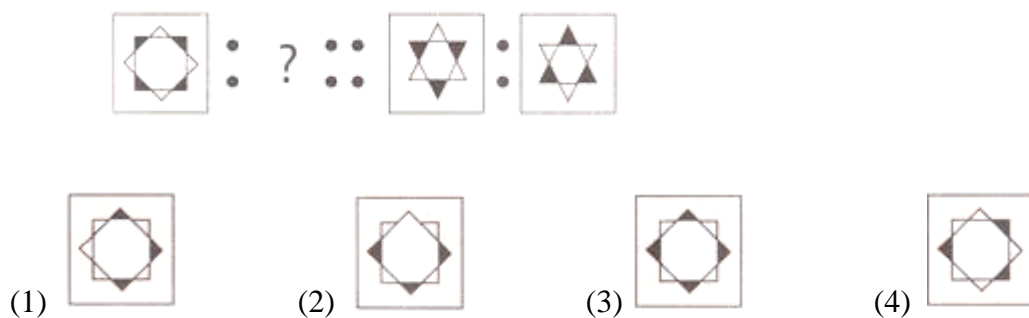
65. Which of the following figures complete the second pair in the same way as the first pair?



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



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



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



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

(Qns. 69 to 73)

Directions: Choose the correct answer from the given options.

69. In a code, CORNER is written as GSVRIV. How can CENTRAL be written in that code ?

- (1) DFOUSBM (2) GIRXVEP (3) GNFJKER (4) None of these

70. If BOMBAY is coded as GLRYFY then MADRAS will be coded as?

- (1) RIXOIP (2) RXIOXP (3) RXIOGQ (4) RXIOFP

71. In certain code PUNCTUAL is written as 16598623 in the same way code ACTUPULN will be written as ?

- (1) 29861653 (2) 29861635 (3) 28916135 (4) 29851536

72. In a certain code language STUDENT is written as TUTDNES. How will SOURCES be written in that code language?

- (1) SOURSEC (2) SRUOCES (3) SOURCES (4) SUORECS

73. If in a certain language FASHION is coded as FOIHSAN, how is PROBLEM coded in that code?

- (1) RPBOELM (2) RPOBELM (3) PELBORM (4) PRBOELM

(Qns. 74 to 78)

Directions: Choose the correct answer from the given options.

74. Which would be meaningful order of the following:

1. Index 2. Contents. 3. Title 4. Chapter 5. Introduction

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

75. Arrange the words given below in a meaningful sequence.

1. Presentation 2. Recommendation 3. Arrival 4. Discussion 5. Introduction

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

76. Arrange the words given below in a meaningful sequence.

1. Poverty 2. Population 3. Death 4. Unemployment 5. Disease

(1) 1,2,3,4,5 (2) 3,4,2,5,1 (3) 2,3,4,5,1 (4) 2,4,1,5,3

77. Arrange the following in a logical order

1. Shoulder 2. Wrist 3. Elbow 4. Palm 5. Finger

(1) 5,4,2,3,1 (2) 2,4,5,3,1 (3) 3,1,4,2,5 (4) 4,3,5,2,1

78. Choose the correct order

1) is 2) at 3) TV 4) film 5) midnight 6) a 7) on 8) great 9) There

(1) 9, 1, 6, 8, 4, 7, 3, 5, 3 (2) 9, 1, 6, 8, 4, 7, 3, 2, 5
(3) 9, 1, 6, 8, 7, 4, 3, 2, 5 (4) 9, 6, 1, 8, 4, 7, 3, 2, 5

(Qns. 79 to 83)

Directions: Choose the correct answer from the given options.

79. A and B are two brothers. C is sister of B. D is sister of E. E is son of A. Who is D's uncle?

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

80. Introducing a man, a woman said, "He is the only son of my mother's mother." How is the woman related to the man ?

(1) Mother (2) Aunt (3) Sister (4) Niece

81. Introducing a man, Neeraj said, "His wife is the only daughter of my wife." How is Neeraj related to that man?

(1) Father (2) Grandfather (3) Father-in-law (4) Son

82. P is the brother of D. X is the sister of P. A is the brother of F. F is the daughter of D. M is the father of X. Who is the uncle of A ?

(1) F (2) M (3) P (4) X

83. Introducing a man, a woman said. "His wife is the only daughter of my father." How is that man related to the woman?

(1) Brother (2) Husband (3) Father-in-law (4) Maternal Uncle

(Qns. 84 - 86)

Directions: Which of the following groups of letters will complete the given series?

84. ab _ _ _ b _ bbaaa _

(1) babba (2) abaab (3) abbab (4) baaab

85. c _ bbb _ _ abbbb _ abbb _

(1) ccaa (2) acca (3) caac (4) caaa

86. $\alpha\beta_ \alpha\alpha_ \beta\beta\beta_ \alpha\alpha\alpha\alpha_ \beta\beta$

(1) $\alpha\beta\beta\alpha$

(2) $\beta\alpha\beta\alpha$

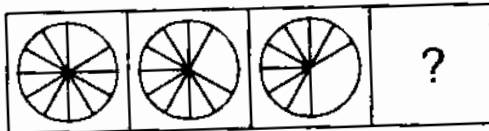
(3) $\alpha\alpha\alpha\beta$

(4) $\alpha\beta\alpha\beta$

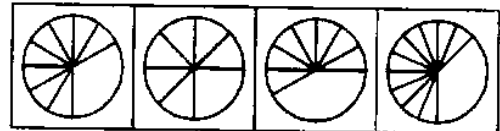
(Qns. 87 - 90)

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.

87. **PROBLEM FIGURE**



ANSWER FIGURE



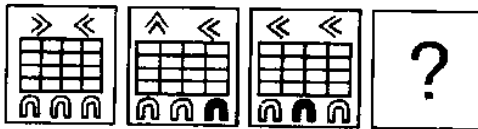
(1) 1

(2) 2

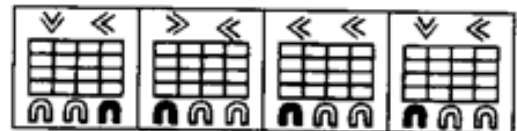
(3) 3

(4) 4

88. **PROBLEM FIGURE**



ANSWER FIGURE



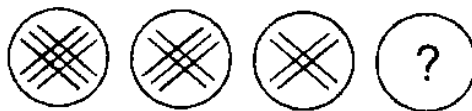
(1) 1

(2) 2

(3) 3

(4) 4

89. **PROBLEM FIGURE**



ANSWER FIGURE



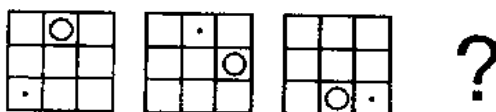
(1) 1

(2) 2

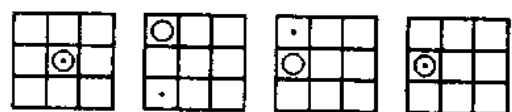
(3) 3

(4) 4

90. **PROBLEM FIGURE**



ANSWER FIGURE



(1) 1

(2) 2

(3) 3

(4) 4

Rough Work only

NATIONAL MEANS CUM MERIT SCHOLARSHIP EXAMINATION 2024

KEY FOR MAT

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



8021

**GOVERNMENT OF PUDUCHERRY
DIRECTORATE OF SCHOOL EDUCATION**

QUESTION BOOKLET

MARCH 2024

**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. The bacteria present in the root nodules of leguminous plants is -----.
(1) Asatobacter (2) Rhizhobium (3) Lactobacillus (4) Viprio.
2. Petroleum used for road surfacing is -----.
(1) Bitumen (2) Coke (3) LPG (4) Ethane.
3. Unit of calorific value is -----.
(1) KJ/Kg (2) K/J (3) JKg (4) K/Kg.
4. The ultra sound equipments work at frequency higher than -----
(1) 20 Hz (2) 200Hz (3) 2000Hz (4) 20000Hz.
5. The water in which tadpole grows needs sufficient----- to become adult.
(1) Sodium (2) Iodine (3) Magnesium (4) Potassium.
6. The minimum distance one can read with a normal eye is -----
(1) 25 inch (2) 25 m (3) 25 cm (4) 25 mm
7. The crops which are sown in the rainy season are called Kharif crops. Select the correct pair of Kharif crop.
(1) Paddy and Wheat (2) Cotton and Wheat
(3) Groundnut and Mustard (4) Paddy and Groundnut
8. In order to take precautionary steps to control dengue, we must take measures to stop the breeding of:
(1) Aedes mosquito (2) Fleas
(3) Anopheles mosquito (4) Culex mosquito
9. Sound propagates maximum in
(1) Solid (2) gas (3) liquid (4) all
10. Identify the correctly matched pair from the following:
(1) Endemic species – Elephant (2) Endangered animal – The giant squirrel
(3) Threatened wild animal –Black buck (4) Extinct animal –Rhinoceros

11. Match the organisms in column A with their action in Column B

Column – A	Column – B
i. Bacteria	a. Baking of bread
ii. Yeast	b. Setting of curd
iii. Rhizobium	c. Causing cholera
iv. Lactobacillus	d. Fixing nitrogen
(1) (i) – (b), (ii) – (c), (iii) – (d), (iv) – (a)	(2) (i) – (a), (ii) – (b), (iii) – (c), (iv) – (d)
(3) (i) – (c), (ii) – (a), (iii) – (d), (iv) – (b)	(4) (i) – (d), (ii) – (b), (iii) – (c), (iv) – (a)

12. Read the following statements and select the correct one.

- i. Coal, petroleum and natural gas are Exhaustible Natural Resources.
- ii. Coal and petroleum are fossil fuels.
- iii. Coke is used in the manufacture of steel.
- iv. CNG is used for power generation.

(1) i and ii (2) i, ii, iii and iv (3) i, ii and iii (4) i and iv

13. Match Column I and Column II and select the correct matching:

Column I	Column II
(1) Satpura	(i) National park
(2) Deforestation	(ii) Planting trees
(3) Drought	(iii) Increase in rainfall
(4) Desertification	(iv) Deserts are converted into fertile land

14. Consider the list of terms given below:

I. seismic zone II. Fault zone III. mantle IV. inner core

The boundaries of the earth's plate are known as

(1) I & II (2) I & III (3) III & IV (4) II, III & IV

15. The substance that does not burn with flame is -----
 (1) LPG (2) Camphor (3) Dry grass (4) Charcoal
16. How do earthworms benefit farmers in crop production?
 (1) By causing soil compaction (2) By reducing soil aeration
 (3) By loosening the soil for proper aeration (4) By increasing soil erosion
17. Reproduction by budding takes place in
 (1) Hydra (2) paramecium (3) amoeba (4) bacteria
18. A water tank has four taps fixed at points A, B, C, D as shown in Figure. The water will flow out at the same pressure from taps at



- (1) B and C (2) C and D (3) A and B (4) A and C
19. An electroscope is a device which is used to find if an object is
 (1) Charged (2) free of cracks (3) magnetic (4) hot
20. The Pachmarhi biosphere Reserve consists one national park named ____
 (1) Bari (2) Satpura (3) Anand (4) Dudhwa
21. Which of the following trees was used to produce matchsticks?
 (1) Mango (2) Deodar (3) Banyan (4) Pine
22. Seed drill is used to
 (1) Sow the seeds (2) remove the weeds
 (3) Remove the pest (4) mix manure in the soil.
23. A common preservative used in Jam and pickles
 (1) Sodium benzoate (2) Nitric acid
 (3) Sodium chloride (4) Copper sulphate.

24. Burning of charcoal in a closed room will produce
- (1) Carbon di oxide (2) nitrogen di oxide
(3) Carbon monoxide (4) all of these
25. Project tiger was launched on
- (1) 1st April 1973 (2) 23rd May 1973
(3) 21st September 1973 (4) 25th December 1973
26. A ball rolling on the ground slows down and finally stops. This is because of
- (1) Force (2) less force applied (3) friction (4) none of the above.
27. An object is vibrating at 50 Hz. What is its Time Period?
- (1) 0.02s (2) 2s (3) 0.25s (4) 20s
28. Electro plating is based on a
- (1) Heating effect of electricity (2) chemical effect of electricity
(3) Physical effect of electricity (4) magnetic effect of electricity.
29. There are 11 letters in the word EXAMINATION. How many letters of this word are not changed when the word is seen in a plane mirror?
- (1) 11 (2) 5 (3) 8 (4) 9
30. The process of separation of grain from the chaff after harvesting is known as
- (1) Tilling (2) threshing (3) spraying (4) weeding
31. A toy car released with the same initial speed will travel farthest on
- (1) Muddy surface (2) polished marble surface
(3) Cemented surface (4) brick surface
32. What will be the speed of the object when it is at rest?
- (1) Infinity (2) Very slow (3) Very fast (4) Zero
33. Which of the following is called the master gland in the human body?
- (1) Thyroid (2) Adrenal (3) Pancreas (4) Pituitary
34. India's first oil well was struck at Makum in -----
- (1) Gujarat (2) Bombay (3) Telegana (4) Assam

35. Select the correct sequence

- (1) Zygote → Fertilisation → Embryo → Foetus
 (2) Fertilisation → Zygote → Embryo → Foetus
 (3) Embryo → Foetus → Zygote → Fertilisation
 (4) Foetus → Zygote → Embryo → Fertilisation

SOCIAL SCIENCE

36. A madrasa was set up in Calcutta in 1781 to promote the study of _____.

- (1) Urdu (2) Arabic (3) Ancient history of India (4) Muslim religion

37. The capital of British India before Delhi was _____

- (1) Madras (2) Bombay (3) Orissa (4) Calcutta

38. The first cotton mill in India was established in

- (1) Gujarat (2) Bombay
 (3) Madras (4) West Bengal

39. Who raised the slogan, "Freedom is my birthright and I shall have it!"

- (1) Bipin Chandra Pal (2) Bal Gangadhar Tilak
 (3) Lala Lajpat Rai (4) Chitta Ranjan Das

40. Tipu Sultan commonly referred to as

- (1) The tiger of Mysore (2) The lion of Mysore
 (3) The guardian of Mysore (4) The iron man of Mysore

41. The international demand of indigo was affected by the discovery of

- (1) synthetic dyes (2) woad
 (3) blue colour (4) none of these

42. A tribal group of Jharkhand

- (1) Bhil (2) Gaddi (3) Naga (4) Santhal

43. Which of the following is the decision taken by British to reform the Indian Society?
(1) law against the practice of sati
(2) they encouraged the remarriage of widow
(3) English education was actively promoted
(4) all of the above
44. "A History of British India" was written by
(1) Nicholas Louis (2) Clive Loyd (3) James Mill (4) James herry
45. Tribals cook food with the help of ____ seeds.
(1) palash (2) mahua (3) mango (4) avocado
46. _____ had argued that English education had enslaved Indians
(1) Mahatma Gandhi (2) Raja Rammohan Roy
(3) Sardar Patel (4) Rasbehari Bose
47. _____ was formed by Subhash Chandra Bose.
(1) Indian National Army (2) Army Regiment
(3) Judicial Movement (4) Swarajya Party
48. Due to what feature is ocean water unfit for human consumption?
(1) Poisonous (2) salinity
(3) water temperature (4) none of these
49. Which one of the following is not a characteristic of minerals?
(1) They are created by natural processes.
(2) They have a definite chemical composition.
(3) They are inexhaustible.
(4) Their distribution is uneven.
50. Silicon Valley is located in _____ .
(1) Bangalore (2) California
(3) Ahmedabad (4) Mumbai
51. Which one of the following is not in a favor of the conservation of nature?
(1) Switch off the bulb when not in use (2) Close tap immediately after using
(3) Disposal polypacks after shopping (4) Use cotton bags

52. Which are three main factors that cause population change?
 (1) Births, deaths and marriage
 (2) Births, deaths and migration
 (3) Births, deaths and life expectance
 (4) Births, deaths and income of the family
53. Golden fibre refers to
 (1) Tea (2) cotton (3) jute (4) paddy
54. Fertile plains and river valleys are _____ populated
 (1) Less (2) moderate (3) densely (4) sparsely
55. The practice of Sati was banned in the year
 (1)1800 (2) 1821 (3) 1827 (4) 1829
56. As the exposed rock break off and start decaying due to temperature change, this process is called
 (1) Deforestation (2) Landslide (3) Soil erosion (4) Weathering
57. The life supporting system is known as
 (1) Earth (2) biosphere (3) ecosystem (4) Vegetation
58. Which one of the following is a principle of Sustainable Development?
 (1) Balance between use and conservation of resources
 (2) Cut the trees
 (3) Use vehicles that cause pollution
 (4) Allow industries to carry on illegal mining
59. Which of these is a non-metallic mineral?
 (1) Iron ore (2) Bauxite
 (3) Limestone (4) Manganese ore
60. How many High Courts are there in India?
 (1) 22 (2) 25 (3) 28 (4) 30
61. The human trafficking and forced labour are prohibited under _____.
 (1)Right against Exploitation (2) Right to Property
 (3) Culture and Educational Rights (4) Right to freedom of Religion

62. High courts were first established in the three presidency cities in 1862, they are
(1) Calcutta Bombay and Delhi (2) Calcutta Bombay and Madras
(3) Calcutta Bangalore and Bombay (4) Calcutta Madras and Delhi
63. A person who does not get adequate nutrition or food is known as
(1) Malnourished (2) nourished (3) well nourished (4) none of these
64. Tea is a
(1) Food crop (2) Fibre crop (3) Cash crop (4) Beverage crop
65. The Supreme Court of India is located at
(1) New Delhi (2) Mumbai (3) Chandigarh (4) Chennai
66. Article 21 of the Constitution Guarantees-
(1) Right to Speech (2) Right to life
(3) Right to freedom (4) None of the above
67. Separation of religion from the State is referred to as _____.
(1) Monarchy (2) Democracy (3) Secularism (4) Republic
68. _____ has been abolished according to Article 17
(1)Poverty (2) Education (3) Crime (4) Untouchability
69. The Constitution of India came into force on
(1) 26th January 1930 (2) 15th August 1947
(3) 26th November 1949 (4) 26th January 1950
70. The Chairman of Rajya Sabha is
(1) President (2) Vice President (3) Prime Minister (4) Governor

MATHEMATICS

71. The least number that must be added to 1500, so as to get a perfect square, is
(1) 11 (2) 21 (3) 20 (4) 10

72. Avinash bought an electric iron for Rs. 900 and sold it at a gain of 10%. He sold another electric iron at 5% loss which was bought for Rs 1200. On the transaction, he has a _____.

- (1) Profit of Rs.75 (2) loss of Rs.75 (3) Profit of Rs.30 (4) loss of Rs.30

73. A truck needs 54 L of diesel for covering a distance of 297 km. The diesel required by the truck to cover a distance of 550 km, is _____.

- (1) 100 L (2) 50 L (3) 29.16 L (4) 25 L

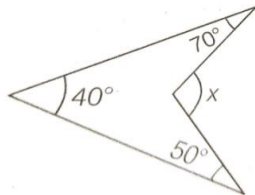
74. Ragul has following three containers:

1. Cylindrical container A, having radius r and height h ,
2. Cylindrical container B, having radius $2r$ and height $\frac{1}{2}h$ and
3. Cuboidal container C, having dimensions $r \times r \times h$.

The arrangement of the containers in the increasing order of their volumes is

- (1) 1,2,3 (2) 2, 1, 3 (3) 3, 1, 2 (4) cannot be arranged

75. In the given figure, the value of x is _____.



- (1) 60° (2) 80° (3) 160° (4) 180°

76. The value of x in $5x - 2(2x - 7) = 2(3x - 1) - 4$ is _____

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

77. A _____ is both 'equiangular' and 'equilateral'.

- (1) Triangle (2) rectangle (3) regular polygon (4) None of these

78. When a die is thrown, the outcomes of an event of getting not a prime number _____.

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

79. The smallest number by which 9408 must be divided to get the quotient as perfect square is _____.

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

80. The smallest Hardy-Ramanujan number is _____.
 (1) 13832 (2) 1729 (3) 4104 (4) 1792
81. A scooter was bought at ₹42000, its value depreciated at the rate of 8% per annum, so its value after one year is _____.
 (1) ₹38000 (2) ₹38640 (3) ₹39000 (4) 39640
82. The scale of map is given as 1:30000000. Two cities are 4 cm apart on the map. So the actual distance between them is _____.
 (1) 120 km (2) 1200km (3) 12000km (4) 15000km
83. If 15 workers can build a wall in 48 hours, how many workers will be required to do the same work in 30 hours?
 (1) 24 workers (2) 20 workers (3) 25 workers (4) 22 workers
84. Find the number of sides of regular polygon whose each exterior angle has a measure of 45°
 (1)8 (2) 9 (3) 10 (4) 11
85. Find the Pythagorean triplet in which one is 12
 (1) 35, 36 (2) 35,37 (3) 36,37 (4) 36,38
86. The best example for direct variation graph is _____
 (1) Number of workers and Time taken (2) Time and Distance
 (3) Time and Speed (4) All the above
87. Priya's present age is thrice of Shilpa. If Shilpa's age 3 years ago was x. Then, Priya's present age is _____.
 (1) $3(x - 3)$ (2) $3x + 3$ (3) $3x - 9$ (4) $3(x + 3)$
88. $ax^2 + bx + c = (3x - 2)(x + 1)$, is an identity, then, $a - b + c =$
 (1)0 (2) 2 (3) 3 (4) -2
89. If $5^{\sqrt{x}} + 12^{\sqrt{x}} = 13^{\sqrt{x}}$, then x equals to
 (1) 2 (2) 4 (3) 9 (4) 16
90. The mean score of 8 players in a basketball game was 14.5 points. If the highest individual score is removed, the mean score of the remaining 7 players becomes 12 points. What was the highest score?
 (1) 20 (2) 24 (3) 32 (4) 36

FOR ROUGH WORK ONLY

8021

NATIONAL MEANS CUM MERIT SCHOLARSHIP EXAMINATION 2024

KEY FOR SAT

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