



8021

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2020-21**

**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. Time permitting, 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. When you switch off the TV in your house after watching for some time, you can notice that hairs in your hands are getting attracted towards the screen. This is due to -----.  
1) Magnetic force      2) Electrostatic force      3) Gravitational force      4) Electric force
2. The electric appliances of our house are all connected in a ----- circuit.  
1) Parallel      2) Series      3) Parallel or Series      4) Parallel and Series
3. Match the following  
(i) Gold      (a) Na  
(ii) Silver      (b) Hg  
(iii) Sodium      (c) Ag  
(iv) Mercury      (d) Au  
1) i-c    ii-a    iii-b    iv-d      2) i-b    ii-c    iii-a    iv-d  
3) i-d    ii-c    iii-a    iv-b      4) i-d    ii-c    iii-b    iv-a
4. Which chemical is used for sterilization of drinking water?  
1) Calcium carbonate    2) Calcium Oxide    3) Calcium Oxychloride    4) Calcium Hydroxide
5. In water hydrogen and oxygen are combined in the ratio of ----- by mass  
1) 8:1      2) 1:8      3) 2:1      4) 1:2
6. The metal with highest melting point is \_\_\_\_\_.  
1) Copper      2) Gold      3) Platinum      4) Tungsten
7. The type of magnet used in the Loudspeaker of a Radio is  
1) Natural magnet      2) Electro magnet      3) Artificial magnet    4) Bar magnet
8. Electric bell converts electrical energy into \_\_\_\_\_.  
1) Mechanical energy      2) light energy      3) heat energy      4) chemical energy
9. When mercury, water and kerosene are poured in a container which one will be at the bottom layer?  
1) Water      2) Kerosene      3) Mercury      4) Air
10. The SI unit of Force is  
1) Newton      2) Pascal      3) Kelvin      4) kilogram
11. The heat of the Sun reaches Earth by  
1) Convection      2) conduction      3) radiation      4) evaporation
12. When a ball is thrown up vertically, its velocity  
1) Increases      2) decreases      3) remains unchanged    4) zero
13. Excavators (JCB) work on the principle of  
1) Pascal's law      2) Newton's law      3) Boyle's law      4) Charles' law
14. The electric fuse works on the principle of \_\_\_\_\_ effect of current.  
1) magnetic      2) heating      3) chemical      4) mechanical

15. The most abundant element in human body is  
 1) Phosphorous      2) Hydrogen      3) Oxygen      4) Calcium
16. 1 nm is equal to \_\_\_\_\_.  
 1)  $10^{-10}$  m      2)  $10^{-9}$  m      3)  $10^{-12}$  m      4)  $10^9$  m
17. Which is known as the 'King of chemicals'?  
 1) Sodium chloride    2) Sodium hydroxide    3) Sulphuric acid    4) Lactic acid
18. The acid present in Grapes is  
 1) Oxalic acid      2) Lactic acid      3) Citric acid      4) Tartaric acid
19. The symbol of mercury is  
 1) Hg      2) Mo      3) Au      4) Ag
20. The Intermolecular force is maximum in  
 1) Plasma      2) Liquid      3) Solid      4) Gas
21. Raju while drinking orange juice had a doubt whether it contains acid or base. So, he tested with a litmus paper which turned from blue to red. So, it contains  
 1) Acid      2) Base      3) Salt      4) Neutral
22. Kala prepared idly batter. After a few hours, she found bubbles on it. This is due to the action of \_\_\_\_\_.  
 1) Bacteria      2) yeast      3) algae      4) protozoa
23. The plant which has thick flat green stem and does the function of photosynthesis is  
 1) Sunflower      2) Opuntia      3) Water Lilly      4) Neem
24. Which one of the following shows vegetative propagation by the formation of buds in the margin of leaves?  
 1) 1) Rose      2) Ginger      3) Yeast      4) Bryophyllum
25. An unicellular fungus which undergoes anaerobic respiration to produce alcohol in the making of wine and beer is \_\_\_\_\_.  
 1) Chlorella      2) Agaricus      3) Mucor      4) Yeast
26. Which one of the following gets irritated when foreign particles such as dust or pollens into it?  
 1) Spiracle      2) Gills      3) Nasal cavity      4) Vacuole
27. Paddy  $\rightarrow$  mouse  $\rightarrow$  snake  $\rightarrow$  eagle  
 In the above food chain the flow of energy \_\_\_\_\_.  
 1) increases      2) decreases      3) remains same      4) increases and then decreases
28. The end product of anaerobic respiration in plants are  
 1) Ethyl alcohol + Carbon-di-oxide + energy      2) Starch + Carbon-di-oxide + Oxygen  
 3) Water + Carbon-di-oxide+ energy      4) Glucose + water + energy
29. Which one of the following process will release more energy?  
 1) Aerobic respiration    2) Fermentation    3) Diffusion      4) Squatneous
30. Earthworm respire through  
 1) Lungs      2) skin      3) gills      4) spiracles
31. World Environment day is celebrated on  
 1) June 5      2) July 5      3) October 5      4) November 5

32. The master gland which controls all other endocrine glands is \_\_\_\_\_.
- 1) Thyroid                      2) Pituitary                      3) Adrenal                      4) Thymus
33. Euglena, a protozoan forms a border line between plants and animals. This is because of its \_\_\_\_\_ nature.
- 1) Saprophytic                      2) Parasitic                      3) Symbiotic                      4) Myxotrophic
34. Gastric juice contains
- 1) Pepsin, Lipase, rennin                      2) Trypsin, lipase, rennin  
3) Trypsin, pepsin, rennin                      4) Pepsin, trypsin, lipase
35. Which of the following plays a dual role in the production of hormone and enzyme?
- 1) Liver                      2) Salivary gland                      3) Ovary                      4) Pancreas

### SOCIAL SCIENCE

36. The most famous king of Vijayanagar Empire was
- 1) Harikara                      2) Bukkar                      3) Krishna Deva Rayar                      4) Balakrishnan
37. The largest oil shore field of India is in
- 1) Mumbai                      2) Assam                      3) Kerala                      4) Tamilnadu
38. Babar the ruler of Kabul was invited by \_\_\_\_\_ to india
- 1) Bhaglal lodi                      2) Ibrahim lodi                      3) Daulat khan                      4) Bairam khan
39. The first Turkish ruler to introduce Arabic coin age was
- 1) Iltumish                      2) Amir Kusru                      3) Amir Hasan                      4) Albaruni
40. The poet known as 'the Parrot of India' was
- 1) Albaruni                      2) Kaiqubad                      3) Amir Khusru                      4) Iltumish
41. In the first battle of Tarain Mohamad of Ghori was defeated by
- 1) Sabukdigin                      2) Ghiyasuddin                      3) Prithiviraj                      4) Balban
42. Mohamed-bin-kasim was sent to conquer
- 1) Sind                      2) Delhi                      3) Malava                      4) Agra
43. Andal composed
- 1) Devaram                      2) Thirupavai                      3) Ramayanam                      4) Thiruvaasagam
44. Narasimavarman I assumed the title
- 1) Vathabi kondan                      2) Jayankondan                      3) Kadaramkondan                      4) Kangaikondan
45. The Rashtrakuta power became invincible during the time of
- 1) Danti durga                      2) Govinda                      3) Dhuruva                      4) Balan.
46. The capital of the Paramara was
- 1) Delhi                      2) Malwa                      3) Dhara                      4) Ajmer
47. The Vijayanagar Empire was founded in the year
- 1) 1337 A.D.                      2) 1336 A.D.                      3) 1338 A.D.                      4) 1339 A.D.
48. Pygmies belongs to
- 1) Africa                      2) Australia                      3) America                      4) Japan

49. "Wealth of Nations" was written by  
 1) Paul Samuelson      2) Adam Smith      3) Rickrodow      4) Lionel Robinson
50. The reward paid to the capital is  
 1) Rent      2) wages      3) Profit      4) Interest
51. Economics is a \_\_\_\_\_ Science  
 1) Social      2) Political      3) Moral      4) Maths
52. The portion of Income not spent is  
 1) Distribution      2) Savings      3) Consumption      4) Exchange
53. Vasco-da-gama was a  
 1) Portuguese sailor      2) Indian sailor      3) French sailor      4) Spanish sailor
54. The English East India company was started in  
 1) 1600 AD      2) 1640 AD      3) 1650 AD      4) 1610 AD
55. Humayan means \_\_\_\_\_  
 1) Fortunate      2) un fortunate      3) laugher      4) crier
56. Guru Nanak was the founder of  
 1) Sikhism      2) Veera syvam      3) Vainavam      4) Buddhism
57. Bakkthi Iyakam spread during the \_\_\_\_\_ period  
 1) Medieval      2) Ancient      3) Modern      4) Present
58. The Indian Constitution has \_\_\_\_\_ parts  
 1) 22      2) 23      3) 24      4) 25
59. The Right to Education Act was passed on  
 1) 15 Aug 1947      2) 1 Apr 2010      3) 26 Jan 1950      4) 20 Mar 2010
60. The Headquarters of UNO  
 1) Washington      2) The Hague      3) Newyork      4) Paris
61. Tsu means  
 1) Sea      2) Harbour      3) Waves      4) Storm
62. Thar Desert is located in  
 1) Rajasathan      2) Tamilnadu      3) Gujarat      4) Bihar
63. Uppermost layer of the Earth is  
 1) Crust      2) Epicenter      3) Core      4) Sial
64. Mt. Kilimanjaro is located in  
 1) Africa      2) Asia      3) North America      4) South America
65. World's largest beach  
 1) Europe      2) America      3) India      4) china

66. Agriculture land  
 1) Plateaus                      2) Plains                      3) Mountain                      4) Forest
67. Which is not a plantation crop?  
 1) Paddy                      2) Tea                      3) Coffee                      4) Vegetable
68. The Holy book of Hindus is  
 1) Bhagavat Gita                      2) Kuran                      3) Bible                      4) Thirukural
69. Social Structure of India is based on  
 1) Religion                      2) Language                      3) Caste                      4) Colour
70. Our National Anthem was composed by  
 1) Bharathiar                      2) Rabindranath Tagore                      3) Bharathidasan                      4) Thiruvalluvar

### MATHEMATICS

71. Six equilateral triangle each with side 3 cm are adjoined in such a way that one vertex of each comes together the resulting figure is \_\_\_\_\_  
 1) Equilateral triangle                      2) Pentagon                      3) Regular hexagon                      4) Heptagon
72.  $\sqrt[3]{0.00216}$  is \_\_\_\_\_  
 1) 0.6                      2) 0.06                      3) 0.006                      4) 0.16
73.  $[(-1) \times (-1) \times (-1) \times \dots \dots \dots 25 \text{ times}] + [1 \times 1 \times 1 \times \dots \dots \dots 30 \text{ times}]$  is \_\_\_\_\_  
 1) -1                      2) 0                      3) 1                      4) 2
74. If  $2^x=16$  then  $2^{x+3}$  is \_\_\_\_\_  
 1) 19                      2) 32                      3) 48                      4) 128
75. What is 50% of a number whose 200 % is 20?  
 1) 5                      2) 10                      3) 15                      4) 20
76. Mean of first six prime number is \_\_\_\_\_  
 1) 4.83                      2) 6.83                      3) 5.83                      4) 7.83
77. What percent of 1 day is 36minutes \_\_\_\_\_  
 1) 25%                      2) 2.5%                      3) 3.6%                      4) 0.25%
78. The ratio of men to women in an office is 3:2. If there are 21 men, then the number of women is \_\_\_\_\_.  
 1) 14                      2) 21                      3) 28                      4) 35
79. The next number of the sequence is 25, 30, 27, 32, 29, 34, 31, \_\_\_\_\_.  
 1) 33                      2) 36                      3) 39                      4) 42

80. A long wire of length 40 cm is bent in the form of rectangle with one side 8 cm then area of the rectangle is \_\_\_\_\_

- 1)  $40\text{cm}^2$                       2)  $24\text{cm}^2$                       3)  $20\text{cm}^2$                       4)  $96\text{cm}^2$

81. An angle and its supplement are in the ratio 1:5 then the greater angle is \_\_\_\_\_

- 1)  $75^\circ$                       2)  $90^\circ$                       3)  $150^\circ$                       4)  $180^\circ$

82. The cost of one ton orange is ₹20000. Find the cost of 30 kg

- 1) ₹60000                      2) ₹6000                      3) ₹600                      4) ₹600000

83. Find the product of  $(-3x^3y^4)(-10x^2y^2z)(5x^5yz^3)$

- 1)  $-150x^{10}y^6z^4$                       2)  $150x^{10}y^6z^4$                       3)  $150x^{10}y^7z^4$                       4)  $-150x^{10}y^4z^7$

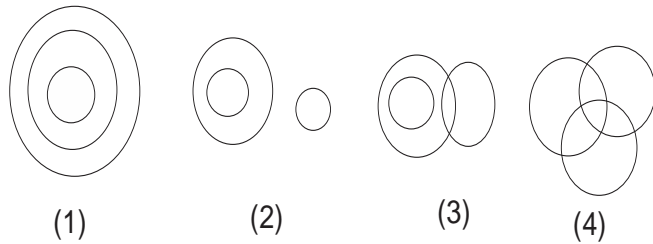
84. The value of  $\frac{2^{2001} + 2^{1999}}{2^{2000} - 2^{1998}} =$

- 1) 2                      2)  $2^{1000} + 1$                       3)  $\frac{10}{3}$                       4) 10

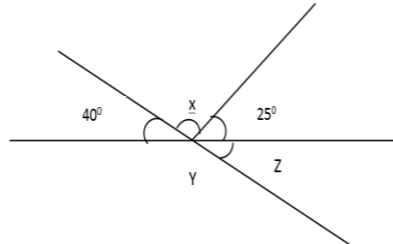
85.  $8^{4/3} \times 2^{-1} =$

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

86. Which one of the following diagrams best illustrates the three classes rhombus, quadrilateral and polygons?



87. Find the values of the angles x, y, z in the following.



- 1)  $115^\circ, 140^\circ, 40^\circ$                       2)  $40^\circ, 115^\circ, 140^\circ$                       3)  $140^\circ, 115^\circ, 40^\circ$                       4)  $25^\circ, 40^\circ, 140^\circ$

88. The area of two circles are in the ratio 25: 36 then the ratio of their circumference is \_\_\_\_\_

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

89.  $(-1)^{100} + (-1)^{99} + 1 = \underline{\hspace{2cm}}$

1) -1

2) 0

3) 1

4) 100

90. 12.5% of 192 = 50% of ?

1) 48

2) 96

3) 24

4) 192

\*\*\*\*\*



**FOR ROUGH WORK ONLY**



8011

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2020-21**

**PART – I  
MENTAL ABILITY TEST**

**Centre Code No.**

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**Register No.**

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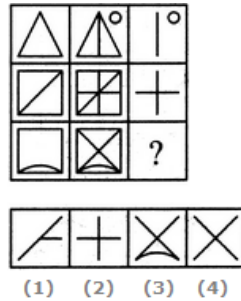
**INSTRUCTIONS**

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**Questions (1 to 10)**

In each of the following questions, find out which of the answer figures (1), (2), (3) and (4) completes the figure matrix? Select a suitable figure from the four alternatives that would complete the figure matrix.

1.



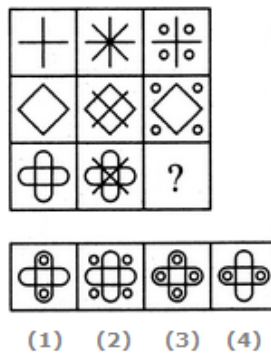
1) 1

2) 2

3) 3

4) 4

2.



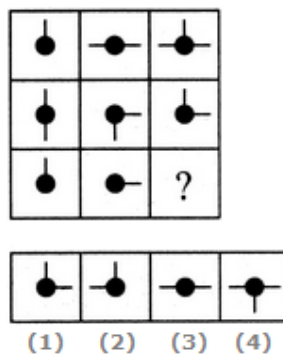
1) 1

2) 2

3) 3

4) 4

3.



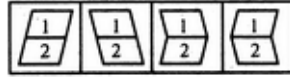
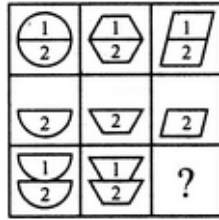
1) 1

2) 2

3) 3

4) 4

4.



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

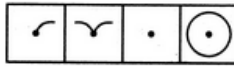
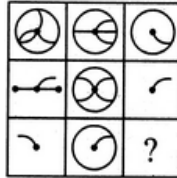
1) 1

2) 2

3) 3

4) 4

5.



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

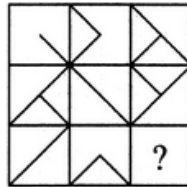
1) 1

2) 2

3) 3

4) 4

6.



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

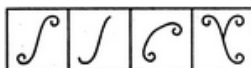
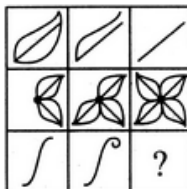
1) 1

2) 2

3) 3

4) 4

7.



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

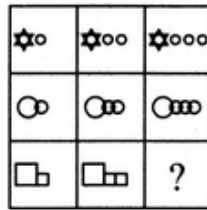
1) 1

2) 2

3) 3

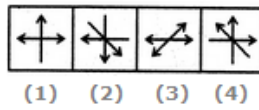
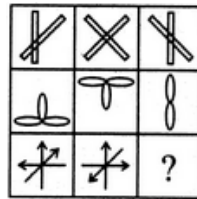
4) 4

8.



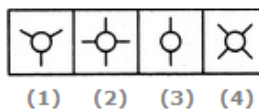
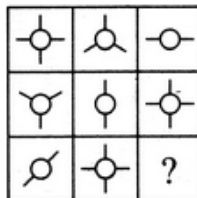
- 1) 1                                      2) 2                                      3) 3                                      4) 4

9.



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

10.



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

**Questions (11 to 20)**

**Directions:** In each series, Look at this series, What number should come next?  
In other words, do the numbers increase or decrease, and by how much

11. 2, 1, 1/2, 1/4, ?

- 1) 1/3                                      2) 1/8                                      3) 2/8                                      4) 1/16

12. 7, 10, 8, 11, 9, 12, ?

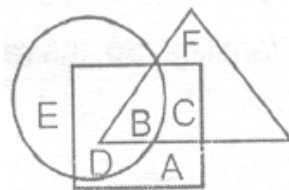
- 1) 7    2) 10                                      3) 12                                      4) 13



28. (1) Lion-Deer (2) Cat-Mouse (3) Hawk-Pigeon (4) Pig-Piglet  
 1) 1 2) 2 3) 3 4) 4
29. (1) Work-Leisure (2) Day-Night (3) Expedite-Procrastinate (4) Frequently-Always  
 1) 1 2) 2 3) 3 4) 4
30. (1) April (2) May (3) July (4) September  
 1) 1 2) 2 3) 3 4) 4

**Questions (Q.31 to 35)**

**Directions:** In the following diagram three classes of population are represented by three figures. The triangle represents the school teachers, the square represents the married persons and the circle represents the persons living in joint families.

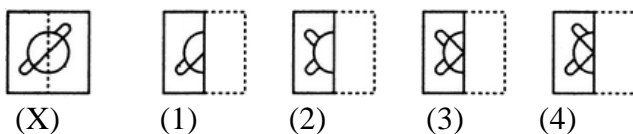


31. Married persons living in joint families but not working as school teachers are represented by  
 1) C 2) F 3) D 4) A
32. Persons who live in joint families, who are unmarried and who do not work as school teachers are represented by  
 1) C 2) B 3) E 4) D
33. Married teachers living in joint families are represented by  
 1) C 2) B 3) D 4) A
34. School teachers who are married but do not live in joint families are represented by  
 1) C 2) F 3) A 4) D
35. School teachers who are neither married nor do live in joint families are represented by  
 1) F 2) C 3) B 4) A

**Questions (36 - 40)**

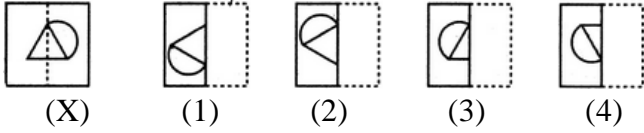
**Directions:** In each of the following problems, a square transparent sheet (X) with a pattern is given. Figure out from amongst the four alternatives as to how the patter would appear when the transparent sheet is folded at the dotted line.

36.



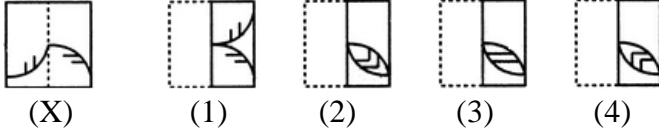
- 1) 1 2) 2 3) 3 4) 4

37.



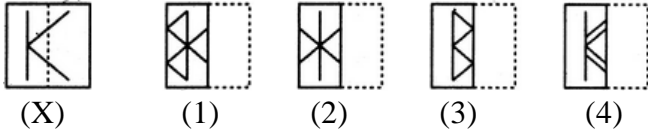
- 1) 1    2) 2    3) 3    4) 4

38.



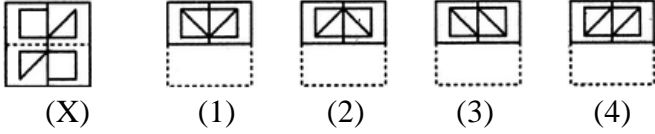
- 1) 1    2) 2    3) 3    4) 4

39.



- 1) 1    2) 2    3) 3    4) 4

40.



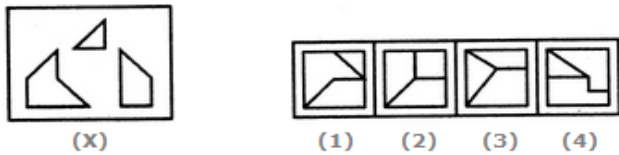
- 1) 1    2) 2    3) 3    4) 4

**Questions (41 - 45)**

**Directions to Solve:** In each of the following questions you are given a combination of alphabets and/or numbers followed by four alternatives (1), (2), (3) and (4). Choose the alternative which is closely resembles the mirror image of the given combination.

In the following questions find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).

41.



- 1) 1    2) 2    3) 3    4) 4



42.



(x)

1) 1



(1)

(2)

(3)

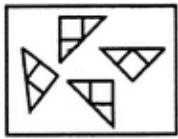
(4)

2) 2

3) 3

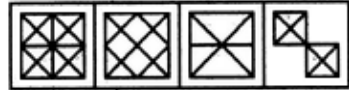
4) 4

43.



(x)

1) 1



(1)

(2)

(3)

(4)

2) 2

3) 3

4) 4

44.



(x)

1) 1



(1)

(2)

(3)

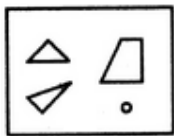
(4)

2) 2

3) 3

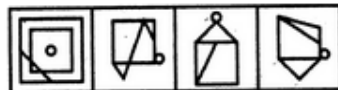
4) 4

45.



(x)

1) 1



(1)

(2)

(3)

(4)

2) 2

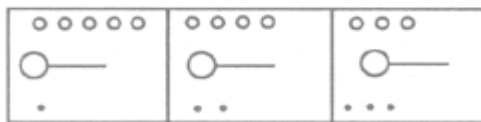
3) 3

4) 4

**Questions (46 - 48)**

**Direction:** In the following questions the item in the diagrams either increase or decrease in number. Choose the alternative which completes the series from the given alternatives.

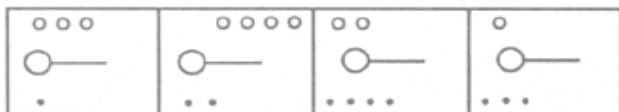
46.



(1)

(2)

(3)



(1)

(2)

(3)

(4)

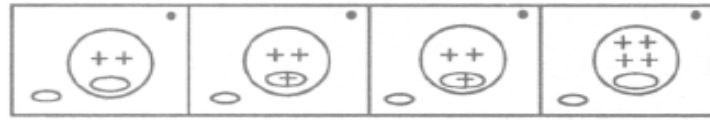
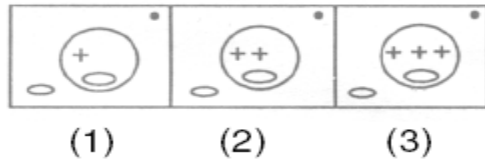
1) 1

2) 2

3) 3

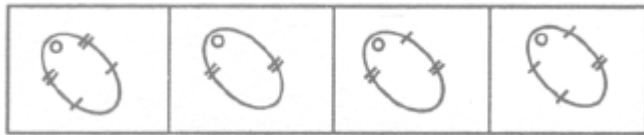
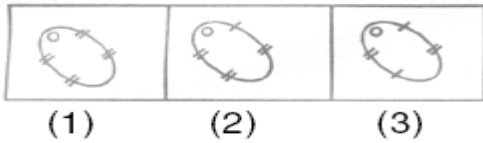
4) 4

47.



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

48.

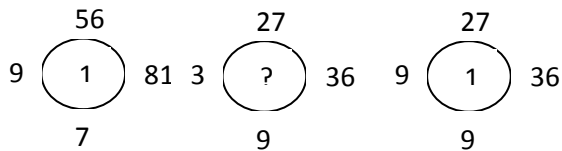


- (1) 1                      (1) 2                      (2) 3                      (3) 4
- 1) 1                      2) 2                      3) 3                      4) 4

**Questions (49 –52):**

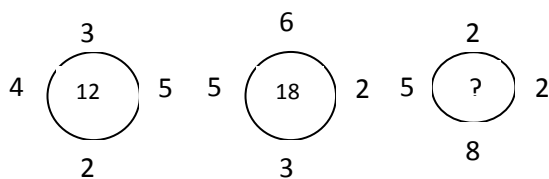
**Directions:** In each question there are circles. Certain numbers are given inside/outside the circles according to a particular rule. In each question one of the circle has a (?) mark in sideit. Choose the correct answer to fill in the space marked (?) from the given alternatives.

49.



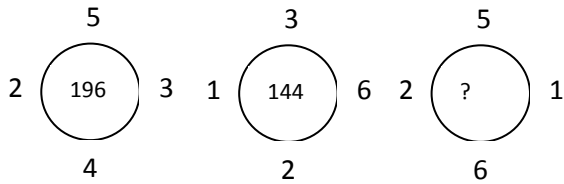
- 1) 9                      2) 10                      3) 11                      4) 12

50.



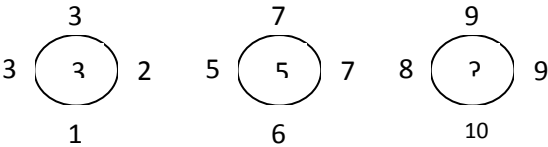
- 1) 12                      2) 14                      3) 16                      4) 20

51.



- 1) 270                      2) 196                      3) 256                      4) 320

52.



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

**Questions (53 – 55)**

**Direction:** Find out the correct alternative of the question based on the Dice figures.

53.



The number opposite side the face having the no. 5 will be

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

54.



The number opposite the face having the no. 2 will be

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

55.



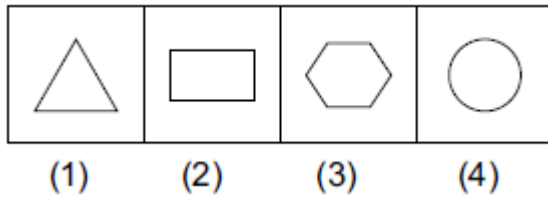
The number opposite the face having the no. 2 will be

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

**Questions (56-60):**

**Direction:** In these problems, there is a group of four figures marked serially 1 to 4. Out of these four figures three are similar in some way and one is different. Find the one which is different.

56.



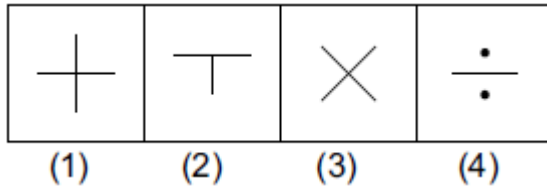
1) 1

2) 2

3) 3

4) 4

57.



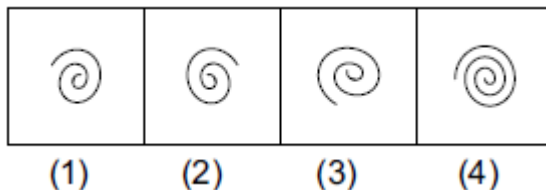
1) 1

2) 2

3) 3

4) 4

58.



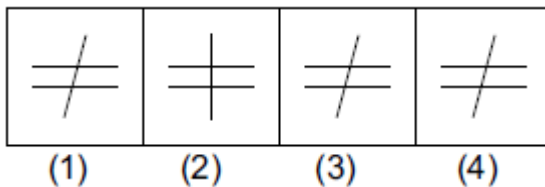
1) 1

2) 2

3) 3

4) 4

59.



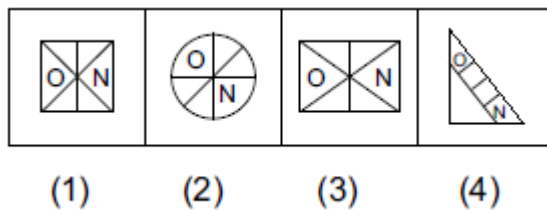
1) 1

2) 2

3) 3

4) 4

60.



1) 1

2) 2

3) 3

4) 4

**(Questions 61 to 70)**

**Directions:** The given questions are based on letter series. In each question some letters are missing. The missing letters are given in the proper sequence in the choices given under each Question. Find the correct sequential alternative in respect of each questions.

**61) a - b d d - ca acb - d b c -**

1) b d c a

2) c b d a

3) b c a b

4) c a b d

- 62) **a - b b - c c c - a - b**  
 1) b a a d                      2) a a b d                      3) a b d a                      4) c b d a
- 63) **x y - - x y y - x y - x**  
 1) x y y y                      2) x y x x                      3) y x x y                      4) x y y x
- 64) **- - r s m - o - p q - s**  
 1) p q n p r                      2) q p m n r                      3) p q n m s                      4) q p n s m
- 65) **NSM - OQP - QOR - SN**  
 1) RQM                      2) RPM                      3) PQO                      4) PRO
- 66) **p - r q - s r - p - - q**  
 1) s p s r q                      2) s p q s r                      3) q r p s r                      4) q r p q r
- 67) **ab - babc - ab - b - bcb - b**  
 1) a b c c a                      2) c c b a b                      3) c b c a a                      4) c b b a c
- 68) **e e - g - e - f g g - e f - g**  
 1) f g e g e                      2) f g e e g                      3) g e e g f                      4) g e e f g
- 69) **a b - c b c c - - a a b - b b c**  
 1) b a c a                      2) a a b a                      3) c a c b                      4) b b c b
- 70) **Z L X J V H T F - -**  
 1) R, E                      2) S, E                      3) R, D                      4) S, D

(Questions: 71 to 75)

**Directions:** In the questions given there is a question mark (?) in a blank space. Under each question one of the four alternatives given satisfies the relationship 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.

- 71) **BEJ : DIP :: KNR : ?**  
 1) MQW                      2) NQV                      3) MRX                      4) LPU
- 72) **DGM : QTZ :: BIL : ?**  
 1) YRO                      2) OYV                      3) OVY                      4) ORY
- 73) **2CD : 5FG :: ? : 11LM**  
 1) 7IJ                      2) 8JK                      3) 7HI                      4) 8IJ
- 74) **YBVE : ? :: UFRI : SHPK**  
 1) CXHR                      2) XCRH                      3) DWGT                      4) WDTG

75) **B H N T : A G M S :: E K Q W : ?**

1) E J P V

2) D P V J

3) D J P V

4) F J P V

(Questions 76 to 80)

**Directions:** In the questions given a word is written according to some code. In each question a word is given and how this can be written in the same code is indicated by four choices. Select the correct answer.

76) If **LION** can be written as **Q M R P**, then **DEER** should be written as :

1) I I H T

2) H I I T

3) T H H I

4) I T T H

77) If **SCIENCE** can be written as **T A J C O A F** then **PHYSICS** should be written as :

1) U F Z Q T A J

2) O F Z Q A T

3) Q F Z Q J A T

4) O F Z Q A J

78) If **SCIENCE** can be written as **19 3 9 5 14 3 5**, then **HISTORY** can be written as:

1) 7 8 15 16 12 19 24

2) 8 9 19 20 15 18 25

3) 6 7 17 18 14 20 23

4) 5 6 14 15 19 21 26

79) If **DELHI** is coded as **CCIDD**, Then **BOMBAY** can be coded as.

1) A J M T V T

2) A M J X V S

3) M J X V S U

4) W X Y Z A X

80) If **PLAYER** can be written as **ROEDKY** then **HOCKEY** should be written as :

1) K P R G F D

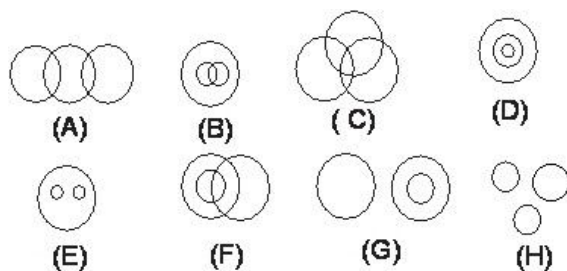
2) J R G P K F

3) I P J K F G

4) K J F G P F

(Questions: 81 to 90)

**Directions:** The Question given are based on the diagrams given below. Each circle represents one item irrespective of the size. Match the figure with items in the questions on the basis of their relationship. Identify the correct answer.



81) **Arthropods, Insects, Bedbug**

1) A

2) C

3) D

4) E

82) **Vegetables, Beans, Apple**

1) E

2) F

3) G

4) H

83) **Teachers, Fathers, Mothers**

1) C

2) D

3) E

4) F

- 84) **Players, Cricket, Tennis**  
1) A                      2) B                      3) C                      4) E
- 85) **Actors, Dancers, Singers**  
1) A                      2) B                      3) C                      4) E
- 86) **Yellow, Roses, Dresses**  
1) A                      2) B                      3) E                      4) F
- 87) **Planets, Earth, Stars**  
1) B                      2) C                      3) E                      4) G
- 88) **Crocodile, Lion, Eagle**  
1) E                      2) F                      3) G                      4) H
- 89) **Doctors, Surgeons, women**  
1) A                      2) C                      3) E                      4) F
- 90) **Women, Mothers, Musicians**  
1) E                      2) F                      3) G                      4) H

Rough Work only





8021

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2021-22**

**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. Time permitting, 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 instrument used to find the quantity of current flowing through the circuit is -----.  
1) Voltmeter                      2) Ammeter                      3) Galvanometer                      4) Speedometer
2. ----- is the unit for measuring the speed of aeroplanes and ships.  
1) Mile                      2) Kilometer                      3) Knot                      4) m/s
3. An athlete takes 20sec to complete a 100m sprint event. Find her speed  
1) 5 m/s                      2) 8 m/s                      3) 4 m/s                      4) 10 m/s
4. Optical fibre is a device that works on the principle of -----  
1) Refraction                      2) Dispersion                      3) Total internal reflection                      4) Scattering of light
5. The danger lights in vehicles are red in colour because  
1) It has highest wavelength                      2) It is able to travel longest distance in air  
3) It is scattered the least by air molecules                      4) All of the above.
6. ISRO, the space agency of Government of India has its headquarters in-----  
1) New Delhi                      2) Kanpur                      3) Bangaluru                      4) Mumbai
7. What kind of musical instrument is flute?  
1) Reed instrument    2) Stringed instrument    3) Percussion instrument    4) Wind instrument
8. Which of the following a simple circuit must have?  
1) Energy source, battery, load                      2) Energy source, wire, load  
3) Energy source, wire, switch                      4) Battery, wire, switch
9. If the focal length of a spherical mirror is 8cm, what is its radius of curvature?  
1) 10cm                      2) 4cm                      3) 12cm                      4) 16cm
10. Which of the following equals the Avogadro number?  
1)  $6.023 \times 10^{-23}$                       2)  $6.023 \times 10^{23}$                       3)  $6.023 \times 10^{20}$                       4)  $6.023 \times 10^{-20}$
11. The----- rays from the sun break ozone molecules  
1) Ultraviolet                      2) Infra red                      3) Gamma                      4) Alpha
12. Phenolic compounds present in fruits become a brown pigment known as-----  
1) Alanine                      2) Phenylalanine                      3) Melanine                      4) Albumin

- 13. Valency of anion in  $H_3PO_4$  is -----  
1) 3                      2) 4                      3) 1                      4) 7
- 14. Milk of magnesia is -----  
1)  $Mg(OH)_2$               2)  $MgSO_4$               3)  $MgCO_3$               4)  $MgCl_2$
- 15. ----- is a food preservative.  
1) Sulphuric acid      2) Benzoic acid              3) Lactic acid              4) Nitric acid
- 16. -----, carbon-di-oxide become dry ice.  
1)  $-15^\circ C$                       2)  $-17^\circ C$                       3)  $-57^\circ C$                       4)  $-75^\circ C$
- 17. The process in which a solid is converted directly into gas is called -----  
1) Sublimation              2) Condensation              3) Evaporation              4) Melting
- 18. ----- is the formula of methane  
1)  $C_2H_6$                       2)  $CH_4$                       3)  $CO_2$                       4)  $MgCO_3$
- 19. The hardest natural substance on the earth is -----  
1) Gold                      2) Iron                      3) Diamond                      4) Aluminium
- 20. ----- is a biodegradable and bioactive thermoplastic  
1) Polythene              2) PVC                      3) Thermocol              4) Poly Lactic acid
- 21. Which is called the amphibians of the plant kingdom?  
1) Pteridophytes              2) Bryophytes                      3) Gymnosperms              4) Angiosperms
- 22. Vanda is a ----- plant  
1) Epiphytic plant      2) Parasitic plant              3) Insectivorous plant      4) Xerophytic plant
- 23. A group of flowers arranged together is called -----  
1) Unisexual flower      2) Complete flower              3) Incomplete flower      4) Inflorescence
- 24. Avicennia tree has -----type of roots  
1) Prop roots              2) Storage roots              3) Breathing roots              4) Stilt roots
- 25. The female reproductive organ of a flower  
1) Gynoecium              2) Sepal                      3) Petal                      4) Androecium

26. Match the following

(i) Fungus - (a) Naked seed plant

(ii) Bryophytes - (b) Rhizoid

(iii) Pteridophyte - (c) Haptophyte

(iv) Gymnosperm - (d) Prothallus

1) (i)-(d) (ii)-(a) (iii)-(c) (iv)-(b)

2) (i)-(c) (ii)-(b) (iii)-(d) (iv)-(a)

3) (i)-(a) (ii)-(b) (iii)-(c) (iv)-(d)

4) (i)-(b) (ii)-(c) (iii)-(d) (iv)-(a)

27. Water conducting tissue is tracheid and the food conducting tissue is sieve cell seen in -----

1) Gymnosperms

2) Angiosperms

3) Bryophytes

4) Pteridophytes

28. The act of chewing and tasting the food is called -----

1) Digestion

2) Absorption

3) Mastication

4) Secretion

29. The cell organelle which is called the power house of the cell is -----

1) Chloroplast

2) Lysosome

3) Mitochondria

4) Golgi apparatus

30. The disease cholera is caused by -----bacterium.

1) Rhizobium

2) Salmonella typhi

3) Mycobacterium tuberculae

4) Vibrio cholera

31. The cultivation and production of silk is known as -----

1) Horticulture

2) Agriculture

3) Sericulture

4) Floriculture

32. The ----- is the control centre of the cell. It is the largest organelle.

1) Golgi body

2) Nucleus

3) Cytoplasm

4) Endoplasmic Reticulum

33. Approximate number of cells in the human body is -----

1)  $3.7 \times 10^{13}$

2)  $3.7 \times 10^{11}$

3)  $3.7 \times 10^{14}$

4)  $3.7 \times 10^8$

34. Earth's surface is covered by -----% of water.

1) 80%

2) 70%

3) 60%

4) 50%

35. Cervical region (Neck) consists of -----vertebrae.

1) 7

2) 8

3) 5

4) 6

**SOCIAL SCIENCE**

36. The author of Silappathikaram was \_\_\_\_\_  
 1. Ilango Adigal      2. Sekkizhar      3. Nackeerer      4. Kalidasar
37. The Monolithic Iron Pillar of Chandragupta is at \_\_\_\_\_  
 1. Mehrauli      2. Bhitari      3. Gadhua      4. Mathura
38. One of the UNESCO World Heritage site  
 1. Trivandrum      2. Mamallapuram      3. Kanchipuram      4. Chidambaram
39. Khajuraho Temple is in \_\_\_\_\_  
 1. Madhya Pradesh      2. Mount Abu      3. Mandu      4. Rajasthan
40. The first Battle of Panipat was fought in the year \_\_\_\_\_  
 1. 1516      2. 1526      3. 1536      4. 1546
41. Mansabdari System was introduced by  
 1. Babar      2. Akbar      3. Shersha      4. Jahangir
42. Velu Nachiyar was the queen of \_\_\_\_\_  
 1. Nagalapuram      2. Sivagiri      3. Sivangangai      4. Virupachi
43. Who is considered as their first Guru by the Sikhs  
 1. Lehna      2. Guru Amir Singh      3. Guru Nanak      4. Guru Govind Singh
44. Who built the shore temple Mahabalipuram  
 1. Narasimhavaram II      2. Nandivarman      3. Mahendravarman      4. Rajasimha
45. Sittanavasal cave is located in -----  
 1. Pudukottai      2. Tirunelveli      3. Ramanathapuram      4. Tiruchirapalli
46. -----country is called "Sugar bowl of the world"  
 1. America      2. India      3. Cuba      4. Canada
47. The science of map making is called \_\_\_\_\_  
 1. Geography      2. Cartography      3. Physiography      4. Physical Geography
48. Barren Island is situated in \_\_\_\_\_  
 1. Indian Ocean      2. Pacific Ocean      3. Andaman (Bay of Bengal)      4. Atlantic Ocean

49. The radius of the Earth is \_\_\_\_\_ km.  
 1.5000 k.m      2.6000 k.m.      3.6371 k.m.      4.7000 k.m.
50. The Mushroom rocks are formed by  
 1.Wind      2.Water      3.Waves      4.Sunlight
51. Which of the following planets can float on water  
 1. Jupiter      2.Saturn      3.Uranus      4.Neptune
52. India is the largest producer of  
 1.Gold      2.Mica      3.Coal      4.Petroleum
53. World soil day is observed on  
 1.15<sup>th</sup> August      2.12<sup>th</sup> January      3.15<sup>th</sup> October      4.5<sup>th</sup> December
54. ----- is the tiny droplets of water hanging in the air  
 1.Fog      2.Mist      3.Cloud      4.Dew
55. Water that is good enough to drink is called  
 1. Ground water      2.Surface water      3.Potable water      4.Artesian water
56. Child help line number is -----  
 1. 1908      2. 1098      3. 1809      4. 1998
57. Right to vote -----  
 1.Gender equality      2.Civil equality      3.Political equality      4.Social equality
58. The year when women in India first voted in the general election.  
 1. 1947      2. 1857      3. 1982      4. 1952
59. The first women President of United Nation General Assembly  
 1.Vijaya Lakshmi Pandit      2.Annie Besant  
 3.Arundhati Roy      4.Bachendri Pal
60. In which year the consumer protection act established  
 1. 1955      2. 1986      3. 1966      4. 1980
61. In which year the Bureau of Indian Standards Act established  
 1. 1986      2. 1966      3. 2009      4. 1955
62. The government of India observes road safety week awareness during \_\_\_\_\_ every year  
 1. January      2.December      3.April      4.May

63. The first country to allow women to vote  
 1.Greece                      2.India                      3.New Zealand                      4.America
64. Adam Smith's Economics is based on  
 1.Production                      2.Income                      3.Consumption                      4.Wealth
65. Production refers to  
 1.Destruction of utility    2.Creation of utility    3.Exchange value                      4.Non of these
66. The concept "Division of Labour" was introduced by  
 1.Alfred Marshal    2.Adam Smith                      3.Lional Robins                      4.Paul Samuelson
67. Among the following, who are responsible for Black Money?  
 1.Smugglers                      2.Tax evaders                      3.Hoaders                      4.All the above
68. Income Tax is a \_\_\_\_\_  
 1.Direct Tax                      2.Indirect Tax                      3. (1) and (2)                      4.None of these
69. Online Banking is otherwise called as  
 1.E-Banking                      2.Internet Banking                      3.Urban Banking                      4.Industrial Banking
70. ----- is money, which exists in banking computer systems and is available for transactions through electronic system.  
 1.Paper Money                      2.White Money                      3.Electronic Money                      4.Cheque

### MATHEMATICS

71. A rectangular lawn is 30m by 20m. It has two roads each 2m wide running in the middle of it as shown in the figure. Then the area of roads is  
 1)  $96m^2$                       2)  $100m^2$                       3)  $600m^2$                       4)  $504m^2$
72. The mean of 5 numbers is 27. If one more number is included then the mean is 25. The included number is  
 1) 15                      2) 57                      3) 52                      4) 17
73. The ratio between diagonals of two squares is 2:1 then the ratio between their areas will be  
 1) 2:1                      2) 4:1                      3) 3:1                      4) 6:1

74. A sector of radius 42 cm has an area of 924cm. Find its perimeter  
 1) 4.4cm                      2) 44cm                      3) 64cm                      4) 128cm
75. The average of first 8 prime numbers is  
 1) 4.83                      2) 7.37                      3) 5.83                      4) 6.83
76. The angles of a triangle are in the ratio 1:1:2. Its sides will be in the ratio  
 1) 1:1:  $\sqrt{2}$                       2) 1:  $\sqrt{3}$ :  $\sqrt{2}$                       3) 1:1:  $\sqrt{3}$                       4) 1:2:  $\sqrt{3}$
77. Anu bought a bicycle for ₹5000. He sold for ₹600 less offer two years. Find the profit or loss Percentage  
 1) Profit=6%                      2) Profit=12%                      3) Loss=6%                      4) Loss=12%
78. Which is the Smallest Ramanujam Number?  
 1) 4104                      2) 13832                      3) 1729                      4) 1728
79. By how much is  $\frac{9}{10}$  km less than 1 km  
 1) 0.1 km                      2) 0.9 km                      3) 0.01 km                      4) 0.09 km
80. If P= -15 and Q=5. Find  $\frac{P-Q}{P+Q}$   
 1) -2                      2) 2                      3) 3                      4) -3
81. In an election, candidate 'X' secured 48% of votes. What fraction will represent his votes?  
 1)  $\frac{48}{50}$                       2)  $\frac{24}{100}$                       3)  $\frac{12}{25}$                       4)  $\frac{24}{50}$
82. The unit digit of 124 x 36 x 980 is  
 1) 4                      2) 2                      3) 6                      4) 0
83. The common factors of the algebraic expressions  $ax^2y$ ,  $bxy^2$  and  $cxyz$  is  
 1)  $x^2y$                       2)  $xy^2$                       3)  $xyz$                       4)  $xy$
84. The perimeter of parallelogram whose two adjacent sides are  $m+n$  and  $3m-7n$  is  
 1)  $8m+16n$                       2)  $4m-6n$                       3)  $8m-16n$                       4)  $8m-12n$
85. Which of the rational number lies between  $\frac{3}{4}$  and  $\frac{4}{5}$   
 1)  $\frac{29}{40}$                       2)  $\frac{31}{40}$                       3)  $\frac{33}{40}$                       4)  $\frac{27}{40}$



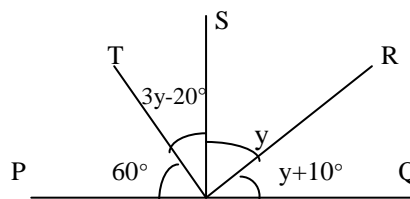
86. The value of  $\frac{\sqrt[3]{729} - \sqrt{81}}{\sqrt[3]{1000} - \sqrt{64}}$   
1) 0                                  2) 1                                  3) 2                                  4) Not defined.

87. If the area of a rhombus is  $50 \text{ m}^2$  then the product of their diagonal is  
1) 25                                  2) 50                                  3) 100                                  4) 200

88. The point of intersection of X- axis and Y- axis is  
1) Abscissa                          2) ordinate                          3) origin                              4) none of these.

89. The order of rotational symmetry of a hexagon is  
1) 5                                      2) 4                                      3) 6                                      4) 7

90. Find the value of 'Y'



1)  $130^\circ$                                   2)  $26^\circ$                                   3)  $52^\circ$                                   4)  $65^\circ$

\*\*\*\*\*

**FOR ROUGH WORK ONLY**



8011

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2021-22**

**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. Time permitting, 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 2021-22**

**8011**

**Duration: 90 minutes**

**Max Marks: 90**

**Questions (1 to 5)**

In each series, look at this series what number should come next? In other words, do the numbers increase or decrease and by how much?

1. 5, 11, 17, ?, 31, 41

- 1) 12                                      2) 13                                      3) 14                                      4) 15

2. 1, 1, 8, ?, 27, 9, 64

- 1) 4    2) 6    3) 9    4) 16

3. -1, 0, ?, 8, 15, 24

- 1) 1    2) 2    3) 3    4) 4

4. 125, 80, 45, 20, ?

- 1) 5    2) 8    3) 10    4) 12

5. 589654237, 89654237, 8965423, 965423, ?

- 1) 58965                                      2) 65423                                      3) 89654                                      4) 96542

**Questions (6 to 10)**

**Directions:** The given questions are based on letter series. In each question some letters are missing. The missing letters are given in the proper sequence in the choices given under each Question. Find the correct sequential alternative in respect of each questions.

6. - - aba - -ba - ab

- 1) abbba                                      2) abbab                                      3) baabb                                      4) bbaba

7. - tu -rt - s - - usrtu

- 1) rtusru                                      2) rsutrr                                      3) rsurtr                                      4) rsurts

8. cccbb - - aa - cc -bbbaa - c

- 1) acbc    2) baca    3) baba    4) acba

9. - b - de - ghi -

- 1) acfj    2) jfca    3) afcj    4) cjfa

10. - - k - t - txk - t - txkk

- 1) kxtkxt                                      2) txkxkx                                      3) xxtkxk                                      4) kttkxk

**Questions (11 to 20)**

**Directions:** In the questions given there is a question mark (?) in a blank space. Under each question one of the four alternatives given satisfies the relationship 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.

11. CAT : DDY :: BIG : ?

- 1) CLL                      2) CLM                      3) CML                      4) CEP

12. PALE: LEAP :: POSH : ?

- 1) HSOP                      2) POHS                      3) SHOP                      4) OPSH

13. MUMBAI : LTLAZH :: DELHI : ?

- 1) CDKGG                      2) IHLED                      3)CDKGGH                      4) BCKGH

14. ? : TVXZ :: FHJL : NPRT

- 1) LNRP                      2) LMOQ                      3) LNPR                      4) NMPR

15. AEFJ : KOPT :: ? : QUVZ

- 1) GLKP                      2) GKLP                      3) HKLP                      4) HKOL

**(Questions 16 to 20)**

**Directions:** In the questions given a word is written according to some code. In each question a word is given and how this can be written in the same code is indicated by four choices. Select the correct answer.

16. If MILD can be written as HEIB, then GATE should be written as:

- 1) BQWC                      2) BWQC                      3) BQCW                      4) BCWQ

17. If COLD can be written as ALHY then IRON should be written as:

- 1) GUKI                      2) GUSI                      3) GOKI                      4) GKOI

18. If TRADE can be written as UQBCF, then PLATE can be written as:

- 1) QKBSF                      2) QKBUF                      3) QMZUD                      4) QMBUF

19. If MATHS is coded as 13 1 20 8 19, Then ENGLISH can be coded as.

- 1) 8 19 9 12 7 14 5                      2) 7 14 12 9 19 5 8  
3) 5 14 7 12 9 19 8                      4) 19 9 12 14 5 7 8

20. If KORT can be written as PJWO then FINE should be written as:

- 1) KCSM                      2) KDSM                      3) JSMR                      4) JCRN

**Questions (21 to 25)**

In each of the following questions, choose that set of numbers from the four alternative sets that is similar to the given set.

21. Given set (2,14,16)  
 1) (2,7,8)                      2) (2,9,16)                      3) (3,21,24)                      4) (4,16,18)
22. Given set (8,3,2)  
 1) (10,6,5)                      2) (63,8,3)                      3) (95,24,5)                      4) (168,15,4)
23. Given set (81,77,69)  
 1) (56,52,44)                      2) (64,61,53)                      3) (75,71,60)                      4) (92,8,79)
24. Given set (1,8,27)  
 1) (5,12,32)                      2) (32,39,59)                      3) (60,79,86)                      4) (64,125,216)
25. Given set (14, 23, 32)  
 1) (15,23,31)                      2) (14,19,24)                      3) (13,21,29)                      4) (12,21,30)

**(Questions: 26 to 30)**

**Directions:** The Question given is based on the diagrams given below. Each circle represents one item irrespective of the size. Match the figure with items in the questions on the basis of their relationship. Identify the correct answer.

26. Police, Teacher, School  
 1) A                                      2) B                                      3) C                                      4) D
27. Dog, Fish, Bird  
 1) A                                      2) B                                      3) C                                      4) D
28. Library, Almirah, Book  
 1) A                                      2) B                                      3) C                                      4) D
29. Family, Brother, Sister  
 1) A                                      2) B                                      3) C                                      4) D
30. Square, Rectangle, Polygon  
 1) A                                      2) B                                      3) C                                      4) D

**Questions (31-35)**

**Directions:** The following questions consists of two words each that have a certain relationship to each other, followed by four lettered pairs of word. Select the lettered pair that has the same relationship as the original pair of words

31. Darkness: Lamp  
 1) Fatigue: Exercise                      2) Thirst: Water                      3) Medicine: Illness                      4) Study: Classroom
32. Chimney: Smoke  
 1) Tea: Kettle                                      2) Clay: Ceramic                      3) House: Roof                      4) Gun: Bullet

33. Sphere: Ball

- 1) Circle: Disc                      2) Cube: Dice                      3) Line: Rope                      4) Triangle: Co

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34. Chalk: Blackboard

- 1) Type: Paint                      2) Table: Chair                      3) Ink: paper                      4) Door: Handle

35. Paper: Ream

- 1) Eggs: Dozen                      2) Books: Pile                      3) Twigs: Bush                      4) Food: Packet

**Questions (Q.36 to 40)**

**Directions: In the following question are represented by BLOOD Relation.**

36. 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?

- 1) Grandfather                      2) Grandmother                      3) Daughter                      4) Grand daughter

37. A girl introduced a boy as the son of the daughter of the father of her uncle. The boy is girls ----

- 1) Brother                      2) Son                      3) Uncle                      4) Son- in- law

38. 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 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?

- 1) A                      2) B                      3) C                      4) E

39. Brothers and sisters I have none. Looking at a portrait of a man, harsh said, "His mother is the wife of my father's son. Brothers and sisters I have none." At whose portrait was harsh looking?

- 1) His son                      2) His cousin                      3) His uncle                      4) His nephew

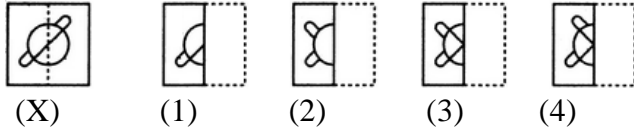
40. Rita told Mani, "The girl I met yesterday at the beach was the youngest daughter of the brother-in-law of my friend's mother." How is the girl related to Rita's friend?

- 1) Cousin                      2) Daughter                      3) Niece                      4) Friend

**Questions (36 - 40)**

**Directions:** In each of the following problems, a square transparent sheet (X) with a pattern is given. Figure out from amongst the four alternatives as to how the patter would appear when the transparent sheet is folded at the dotted line.

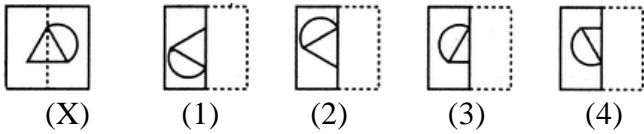
36.



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

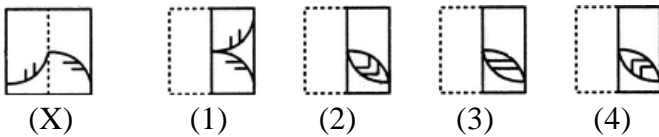
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37.



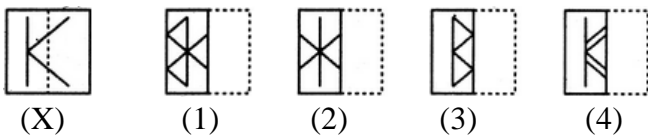
- 1) 1                                      2) 2                                      3) 3                                      4) 4

38.



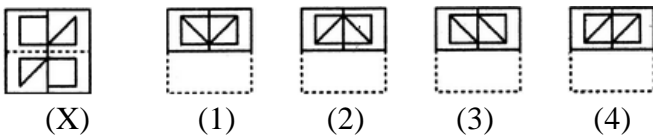
- 1) 1                                      2) 2                                      3) 3                                      4) 4

39.



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

40.



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

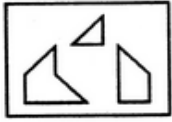


**Questions (41 - 45)**

**Directions to Solve:** In each of the following questions you are given a combination of alphabets and/or numbers followed by four alternatives (1), (2), (3) and (4). Choose the alternative which is closely resembles the mirror image of the given combination.

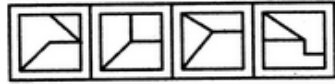
In the following questions find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).

41.



(X)

1) 1



(1)

(2)

(3)

(4)

2) 2

3) 3

4) 4

42.



(X)

1) 1



(1)

(2)

(3)

(4)

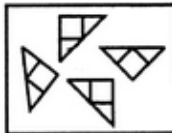
2) 2

3) 3

4) 4

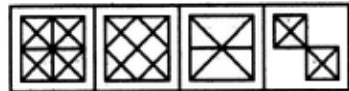
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43.



(X)

1) 1



(1)

(2)

(3)

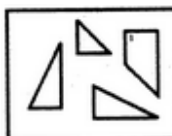
(4)

2) 2

3) 3

4) 4

44.



(X)

1) 1



(1)

(2)

(3)

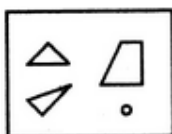
(4)

2) 2

3) 3

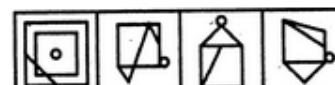
4) 4

45.



(X)

1) 1



(1)

(2)

(3)

(4)

2) 2

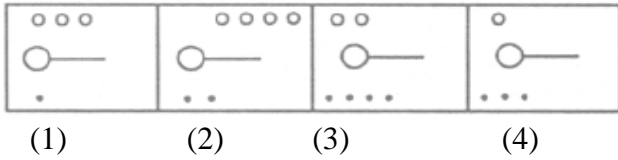
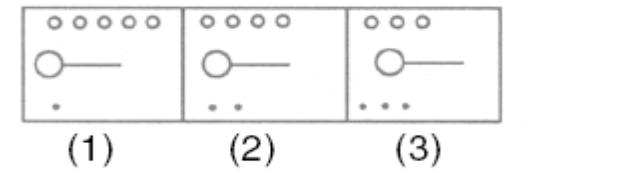
3) 3

4) 4

**Questions (46 - 48)**

**Direction:** In the following questions the item in the diagrams either increase or decrease in number. Choose the alternative which completes the series from the given alternatives.

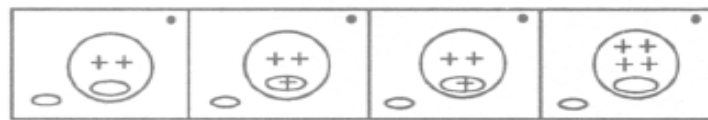
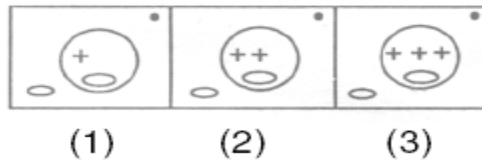
46.



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

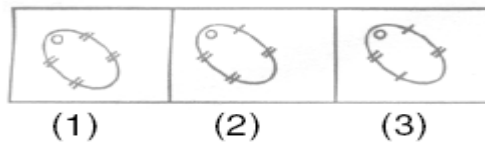
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47.



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

48.



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

**Questions (49 -52):**

**Directions:** In each question there are circles. Certain numbers are given inside/outside the circles according to a particular rule. In each question one of the circle has a (?) mark in sideit. Choose the correct answer to fill in the space marked (?) from the given alternatives.

49.  $\begin{matrix} 56 \\ 9 \text{ (1) } 81 \\ 7 \end{matrix}$   $\begin{matrix} 27 \\ 3 \text{ (?) } 36 \\ 9 \end{matrix}$   $\begin{matrix} 27 \\ 9 \text{ (1) } 36 \\ 9 \end{matrix}$

- 1) 9                      2) 10                      3) 11                      4) 12

50.  $\begin{matrix} 3 \\ 4 \text{ (12) } 5 \\ 2 \end{matrix}$   $\begin{matrix} 6 \\ 5 \text{ (18) } 2 \\ 3 \end{matrix}$   $\begin{matrix} 2 \\ 5 \text{ (?) } 2 \\ 8 \end{matrix}$

- 1) 12                      2) 14                      3) 16                      4) 20

51.  $\begin{matrix} 5 \\ 2 \text{ (196) } 3 \\ 4 \end{matrix}$   $\begin{matrix} 3 \\ 1 \text{ (144) } 6 \\ 2 \end{matrix}$   $\begin{matrix} 5 \\ 2 \text{ (?) } 1 \\ 6 \end{matrix}$

- 1) 270                      2) 196                      3) 256                      4) 320

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52.  $\begin{matrix} 3 \\ 3 \text{ (3) } 2 \\ 1 \end{matrix}$   $\begin{matrix} 7 \\ 5 \text{ (5) } 7 \\ 6 \end{matrix}$   $\begin{matrix} 9 \\ 8 \text{ (?) } 9 \\ 10 \end{matrix}$

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

**Questions (53 – 55)**

**Direction:** Find out the correct alternative of the question based on the Dice figures.

53.



The number opposite side the face having the no. 5 will be

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

54.



The number opposite the face having the no. 2 will be

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

55.



The number opposite the face having the no. 2 will be

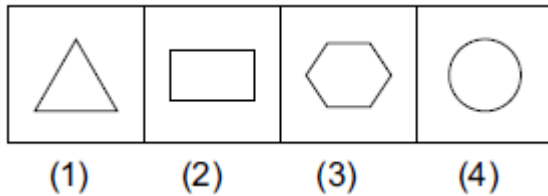
- 1) 1                      2) 4                      3) 3                      4) 5

**Questions (56-60):**

**Direction: In these problems, there is a group of four figures marked serially 1 to 4. Out of these four figures three are similar in some way and one is different. Find the one which is different.**

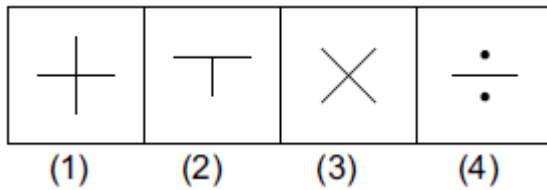
56.

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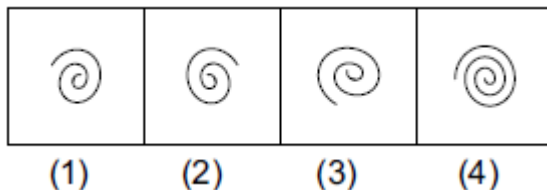
- 1) 1                      2) 2                      3) 3                      4) 4

57.



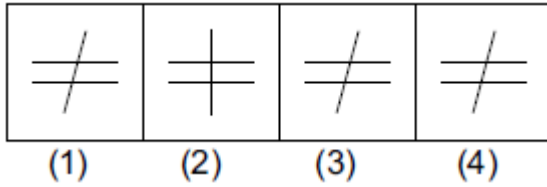
- 1) 1                      2) 2                      3) 3                      4) 4

58.



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

59.



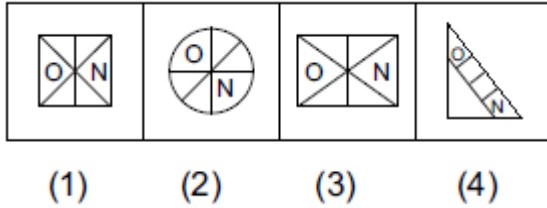
1) 1

2) 2

3) 3

4) 4

60.



1) 1

2) 2

3) 3

4) 4

(Questions 61 to 70)

**Directions:** The given questions are based on letter series. In each question some letters are missing. The missing letters are given in the proper sequence in the choices given under each Question. Find the correct sequential alternative in respect of each questions.

61) a - b d d - ca acb - d b c -

1) b d c a

2) c b d a

3) b c a b

4) c a b d

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62) a - b b - c c c - a - b

1) b a a d

2) a a b d

3) a b d a

4) c b d a

63) x y - - x y y - x y - x

1) x y y y

2) x y x x

3) y x x y

4) x y y x

64) - - r s m - o - p q - s

1) p q n p r

2) q p m n r

3) p q n m s

4) q p n s m

65) N S M - O Q P - Q O R - S N

1) R Q M

2) R P M

3) P Q O

4) P R O

66) p - r q - s r - p - - q

1) s p s r q

2) s p q s r

3) q r p s r

4) q r p q r

67) ab - babc - ab - b - bcb - b

1) a b c c a

2) c c b a b

3) c b c a a

4) c b b a c

68) e e - g - e - f g g - e f - g

1) f g e g e

2) f g e e g

3) g e e g f

4) g e e f g

69) a b - c b c c - - a a b - b b c

1) b a c a

2) a a b a

3) c a c b

4) b b c b

70) **Z L X J V H T F - -**

1) R, E

2) S, E

3) R, D

4) S, D

(Questions: 71 to 75)

**Directions:** In the questions given there is a question mark (?) in a blank space. Under each question one of the four alternatives given satisfies the relationship 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.

71) **B E J : D I P :: K N R : ?**

1) M Q W

2) N Q V

3) M R X

4) L P U

72) **D G M : Q T Z :: B I L : ?**

1) Y R O

2) O Y V

3) O V Y

4) O R Y

73) **2 C D : 5 F G :: ? : 11 L M**

1) 7 I J

2) 8 J K

3) 7 H I

4) 8 I J

74) **Y B V E : ? :: U F R I : S H P K**

1) C X H R

2) X C R H

3) D W G T

4) W D T G

75) **B H N T : A G M S :: E K Q W : ?**

1) E J P V

2) D P V J

3) D J P V

4) F J P V

8011

(Questions 76 to 80)

**Directions:** In the questions given a word is written according to some code. In each question a word is given and how this can be written in the same code is indicated by four choices. Select the correct answer.

76) If **LION** can be written as **Q M R P**, then **DEER** should be written as :

1) I I H T

2) H I I T

3) T H H I

4) I T T H

77) If **SCIENCE** can be written as **T A J C O A F** then **PHYSICS** should be written as :

1) U F Z Q T A J

2) O F Z Q A T

3) Q F Z Q J A T

4) O F Z Q A J

78) If **SCIENCE** can be written as **19 3 9 5 14 3 5**, then **HISTORY** can be written as:

1) 7 8 15 16 12 19 24

2) 8 9 19 20 15 18 25

3) 6 7 17 18 14 20 23

4) 5 6 14 15 19 21 26

79) If **DELHI** is coded as **CCIDD**, Then **BOMBAY** can be coded as.

1) A J M T V T

2) A M J X V S

3) M J X V S U

4) W X Y Z A X

80) If **PLAYER** can be written as **ROEDKY** then **HOCKEY** should be written as :

1) K P R G F D

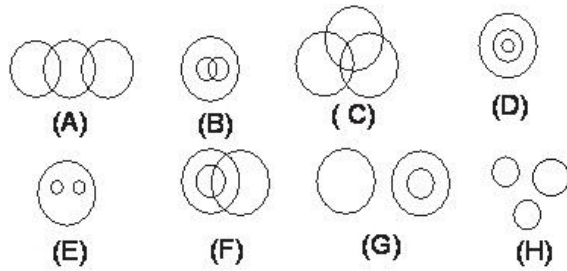
2) J R G P K F

3) I P J K F G

4) K J F G P F

**(Questions: 81 to 90)**

**Directions:** The Question given are based on the diagrams given below. Each circle represents one item irrespective of the size. Match the figure with items in the questions on the basis of their relationship. Identify the correct answer.



- 81) **Arthropods, Insects, Bedbug**  
 1) A                      2) C                      3) D                      4) E
- 82) **Vegetables, Beans, Apple**  
 1) E                      2) F                      3) G                      4) H
- 83) **Teachers, Fathers, Mothers**  
 1) C                      2) D                      3) E                      4) F
- 84) **Players, Cricket, Tennis**  
 1) A                      2) B                      3) C                      4) E
- 85) **Actors, Dancers, Singers**  
 1) A                      2) B                      3) C                      4) E
- 86) **Yellow, Roses, Dresses**  
 1) A                      2) B                      3) E                      4) F
- 87) **Planets, Earth, Stars**  
 1) B                      2) C                      3) E                      4) G
- 88) **Crocodile, Lion, Eagle**  
 1) E                      2) F                      3) G                      4) H
- 89) **Doctors, Surgeons, women**  
 1) A                      2) C                      3) E                      4) F
- 90) **Women, Mothers, Musicians**  
 1) E                      2) F                      3) G                      4) H

**8011**

Rough Work only





8011

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2022-23**

**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 2022-23**

**8011**

**Duration: 90 minutes**

**Max Marks: 90**

**(Question: 1 to 10)**

**Directions:** In Questions given the numbers in the figures are related. Identify the relationship that exists among the numbers in the figure from the given choices under each.

1)

3	4	9
2	5	2
6	7	?
36	140	18

(1) 1

(2) 7

(3) 11

(4) 18

2)

5	8	4	12
---	---	---	----

8	12	3	12
---	----	---	----

9	24	4	?
---	----	---	---


(1) 12


(2) 16


(3) 18

(4) 20

3)

6	8	2	
---	---	---	---

7	9	3	
---	---	---	---

8	10	5	
---	----	---	---

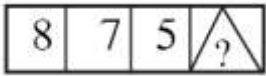
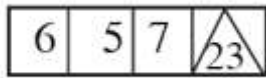
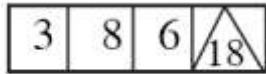
(1) 20

(2) 16

(3) 12

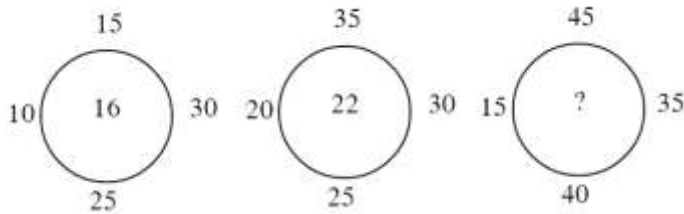
(4) 10

4)



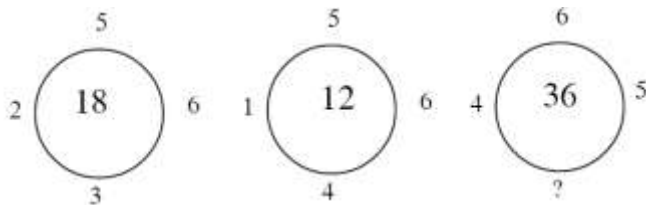
- (1) 40                      (2) 47                      (3) 51                      (4) 61

5)



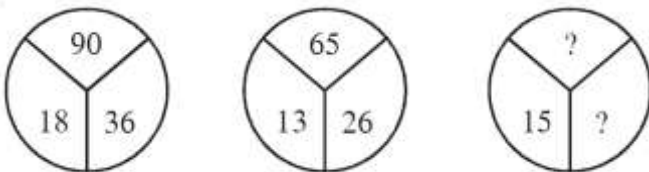
- (1) 24                      (2) 27                      (3) 29                      (4) 33

6)



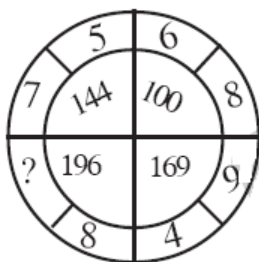
- (1) 9                      (2) 6                      (3) 3                      (4) 2

7)



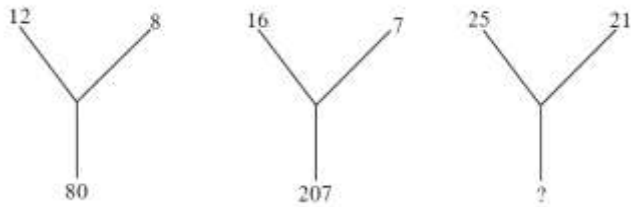
- (1) 60, 85                      (2) 45, 65                      (3) 30, 75                      (4) 15, 75

8)



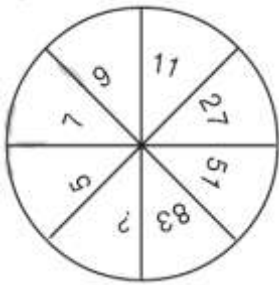
- (1) 4                      (2) 6                      (3) 8                      (4) 12

9)



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

10)

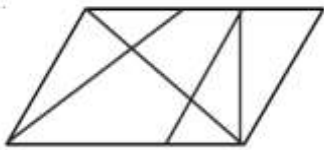


- (1) 123                      (2) 145                      (3) 171                      (4) 198

**(Questions 11 to 15)**

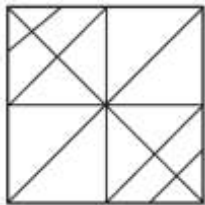
**Directions:** In Question given, identify the number of geometrical figures in the given diagrams and find the correct answer for each question and indicate.

11) How many triangles are there in the given figure?



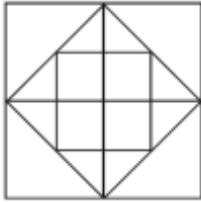
- (1) 12                      (2) 10                      (3) 8                      (4) 6

12) How many triangles are there in the given figure?



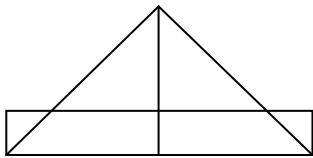
- (1) 24                      (2) 26                      (3) 28                      (4) 30

13) How many squares are there in the given figure?



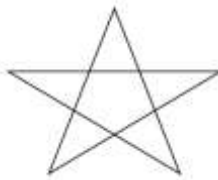
- (1) 6                      (2) 8                      (3) 10                      (4) 12

14) How many triangles are there in the given figure?



- (1) 6                      (2) 8                      (3) 10                      (4) 12

15) How many triangles are there in the given figure?



- (1) 5                      (2) 6                      (3) 8                      (4) 10

### Questions (16 to 20)

Look at the following series and identify what number should come next? In other words, do the numbers increase or decrease and by how much?

16. 7, 13, 21, ?, 43, 57

- (1) 27                      (2) 29                      (3) 31                      (4) 35

17. 3, 6, 12, 21, 33, 48, ?

- (1) 57                      (2) 63                      (3) 66                      (4) 69

18. 18, 23, 31, 42, 56, ?

- (1) 98                      (2) 87                      (3) 78                      (4) 73

19. 7, 18, 40, 73, 117, ?

- (1) 215                      (2) 205                      (3) 201                      (4) 172

20. 11, 13, 17, 19, ?, 25

- (1) 21                      (2) 23                      (3) 27                      (4) 29

**(Questions: 21 to 25)**

**Directions:** In the following questions, a series of numbers have been given of which one number is wrong. Find the wrong number in each Question from amongst the four alternatives given and indicate.

21) 3, 7, 13, 27, 55, 107

- (1) 13                      (2) 27                      (3) 55                      (4) 107

22) 5, 6, 21, 18, 45, 38, 78

- (1) 21                      (2) 45                      (3) 38                      (4) 78

23) 480, 480, 240, 80, 20, 10

- (1) 10                      (2) 20                      (3) 240                      (4) 480

24) 2, 4, 7, 14, 17, 34, 37, 64

- (1) 64                      (2) 17                      (3) 14                      (4) 4

25) 2, 2, 3, 4, 4, 6, 5, 7

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

**(Questions 26 to 30)**

**Directions:** In the following questions, pairs of numbers are given. Among them three pairs follow a rule between themselves, whereas one does not. Identify the odd one to find the answer.

26) (1) 11, 23                      (2) 31, 43                      (3) 51, 63                      (4) 71, 83

27) (1) 5, 12                      (2) 8, 18                      (3) 10, 25                      (4) 12, 26

28) (1) 4, 32                      (2) 6, 108                      (3) 8, 128                      (4) 10, 200

29) (1) 56, 7                      (2) 81, 9                      (3) 48, 6                      (4) 32, 4

30) (1) 441, 12                      (2) 256, 13                      (3) 484, 16                      (4) 289, 19

**(Questions 31 to 35)**

**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.

31) 7 : 196 :: 8 : ?

- (1) 224                      (2) 256                      (3) 272                      (4) 324

32) 20 : 11 :: 102 : ?

- (1) 48                      (2) 51                      (3) 52                      (4) 55

33) 20 : 16 :: 30 : ?

- (1) 49                      (2) 36                      (3) 25                      (4) 16

34) 12 : 35 :: 16 : ?

- (1) 63                      (2) 55                      (3) 47                      (4) 32

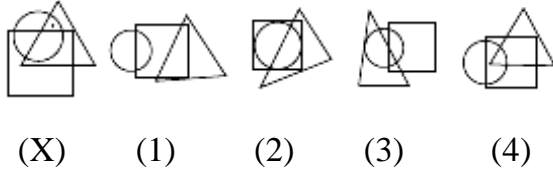
35)  $7/48 : 9/80 :: ? : 100/9999$

- (1)  $10/999$                       (2)  $100/999$                       (3)  $10/99$                       (4)  $100/99$

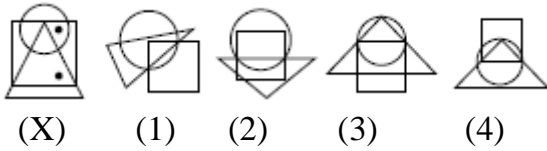
**Directions: (Q. 36 to 39)**

In each of the following questions, among all the alternatives marked (1), (2), (3) and (4), select the one which satisfies the same condition of placement of the dot(s) as in Fig.(X)

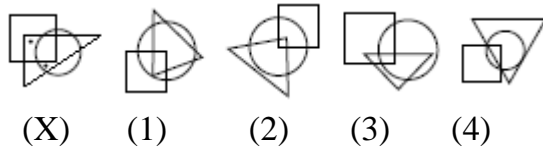
36)



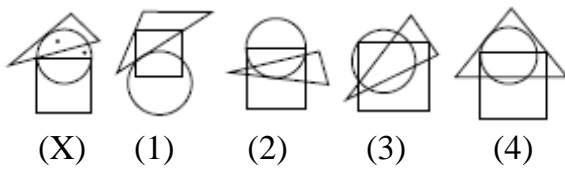
37)



38)

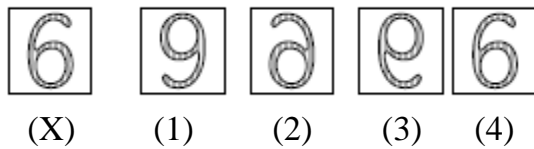


39)

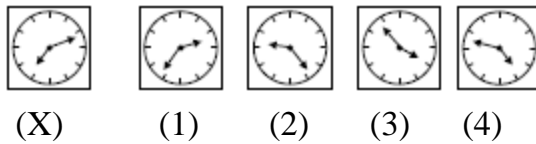


**Directions: (Q. 40 to 42)** In each of these questions, choose the correct mirror image of the figure (X) from four alternatives given along with it.

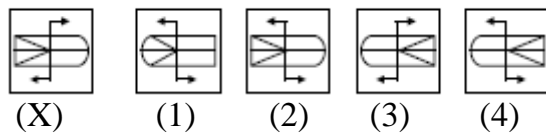
40)



41)



42)



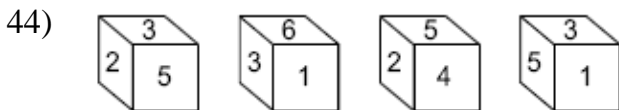
**Directions: (Q. 43 to 45)**

In these questions, different positions of a dice are given. Answer the question followed by figures?



Which number is opposite to 4?

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



Which number is opposite to 3?

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



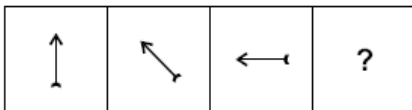
Which number is opposite to 2?

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

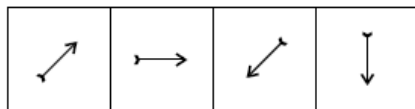
**Directions: (Q. 46 to 50)**

Select a suitable answer figure that would replace the question mark?

46) Problem Figures

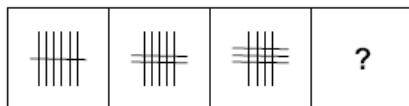


Answer Figures

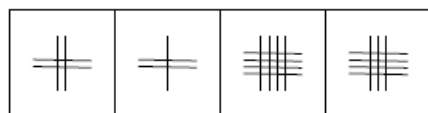


- (1)                      (2)                      (3)                      (4)

47) Problem Figures



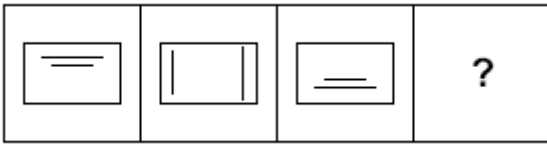
Answer Figures



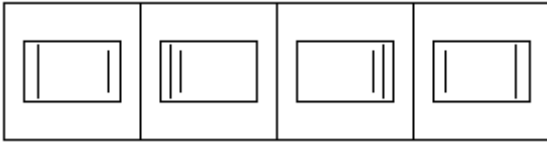
- (1)                      (2)                      (3)                      (4)



48) Problem Figures

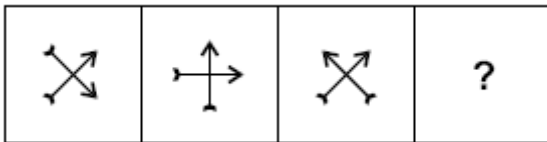


Answer Figures

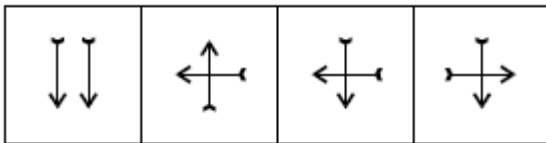


(1) (2) (3) (4)

49) Problem Figures



Answer Figures

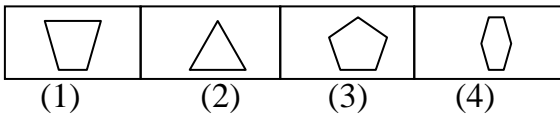


(1) (2) (3) (4)

50) Problem Figures



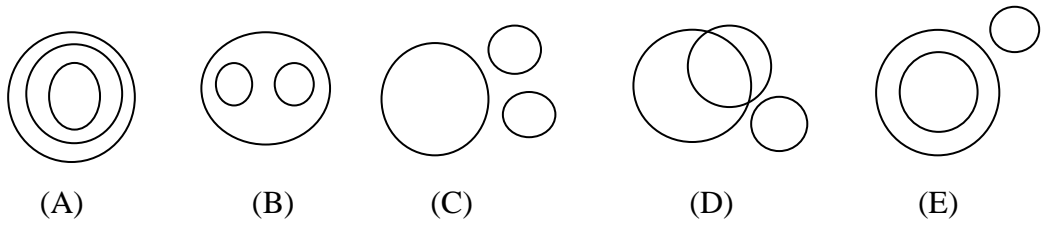
Answer Figures



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

**(Questions: 51 to 60)**

**Directions:** The Question given are based on the diagrams given below. Each circle represents one item irrespective of the size. Match the figure with items in the questions on the basis of their relationship. Identify the correct answer.



- |     |                                 |       |       |       |       |
|-----|---------------------------------|-------|-------|-------|-------|
| 51) | Vegetables, Potato, Cabbage     | (1) A | (2) B | (3) C | (4) D |
| 52) | Table, Chair, Furniture         | (1) A | (2) B | (3) C | (4) E |
| 53) | Week, Day, Year                 | (1) A | (2) B | (3) C | (4) D |
| 54) | Judge, Thief, Criminal          | 1) B  | 2) C  | (3) D | (4) E |
| 55) | Husband, Wife, Family           | (1) A | (2) B | (3) C | (4) D |
| 56) | Square, Rectangle, Polygon      | (1) A | (2) B | (3) C | (4) D |
| 57) | Bus, Car, Vehicle               | (1) A | (2) B | (3) C | (4) D |
| 58) | Anxiety, Intelligence, Strength | (1) B | (2) C | (3) D | (4) E |
| 59) | House, Bedroom, Bathroom        | (1) B | (2) C | (3) D | (4) E |
| 60) | Mustard, Barley, Potato         | (1) A | (2) B | (3) C | (4) D |

**(Questions: 61 to 65)**

Directions: In each of the following questions, a word has been given, followed by four other words, one of which cannot be formed by using the letters of the given word. Find out that word

61. CONSTRUCTION

- (1) SUCTION            (2) COINS            (3) CAUTION            (4) NOTION

62. INTELLIGENCE

- (1) TILLAGE            (2) INCITE            (3) GENTLE            (4) NEGLECT

63. TRANSFORM

- (1) TRAIN            (2) FORT            (3) ROAM            (4) RANSOM

64. DEPARTMENT

- (1) ENTER            (2) PERMIT            (3) TEMPER            (4) RENTER

65. NECESSARY

- (1) RACE            (2) EASY            (3) NICE            (4) ESSAY

**(Questions: 66 to 70)**

Directions: In each of the following questions, four words have been given, out of which three are alike in some manner and the fourth one is different. Choose the odd one out.

66. Wood, Cork, Stone, paper

- (1) Wood            (2) Cork            (3) stone            (4) Paper

67. Larva, Pupa, Caterpillar, Nymph

- (1) Larva            (2) Pupa            (3) Caterpillar            (4) Nymph

68. Necklace, Ornament, Bangle, Ring

- (1) Necklace            (2) Ornament            (3) Bangle            (4) Ring

69. Rectangle, square, cube, triangle

- (1) Rectangle            (2) Square            (3) Cube            (4) Triangle

70. Correction, Improvement, Betterment, Elevation

- (1) Correction            (2) Improvement            (3) Betterment            (4) Elevation

(Questions: 71 to 75)

**Directions:** In each of the following questions, the real alphabets in a word are replaced by certain numbers according to a specific rule to form its code. Choose the most appropriate answer from the given alternatives.

71. In a certain pattern, HARD is coded as 1357 and SOFT is coded as 2468, what will 21448 stand for?  
 (1) SHAFT                      (2) SHOOT                      (3) RAFTS                      (4) ROOTS
72. In a certain language CHARCOAL is coded as 45164913 and MORALE is coded as 296137. How REAL is coded in that language?  
 (1) 8519                      (2) 6713                      (3) 6513                      (4) 6719
73. If MILITARY can be written as 12324567, then how is TIMLI written in that code?  
 (1) 23142                      (2) 42157                      (3) 34516                      (4) 42132
74. If POUR is written as 4156, SWARE is written as 78269, CLEAR is written as 3@926. Then what is the code for PEARL?  
 (1) 429@6                      (2) 4962@                      (3) 4692@                      (4) 4926@
75. In a certain code NASA is written as \$#@# and ISRO is written as ¥@^%. How is SARAN written in that code?  
 (1) @#@#\$#                      (2) %¥\$\$@                      (3) @#^#\$                      (4) %#\$¥@
76. If the first day of the year (other than the leap year) was Friday, then which was the last day of that year?  
 (1) Saturday                      (2) Thursday                      (3) Friday                      (4) Wednesday
77. If A is to the south of B and C is to the east of B, in what direction is A with respect to C?  
 (1) North-East                      (2) North-West                      (3) South-East                      (4) South-West
78. Reaching the place of meeting 20 minutes before 8:50hrs Sumit found himself thirty minutes earlier than the man who came 40 minutes late. What was the scheduled time of the meeting?  
 (1) 8.00                      (2) 8.05                      (3) 8.10                      (4) 8.20
79. Pointing towards a boy, Veena said, "He is the son of only son of my grandfather". How is that boy related to Veena?  
 (1) Uncle                      (2) Brother                      (3) Cousin                      (4) None of these.

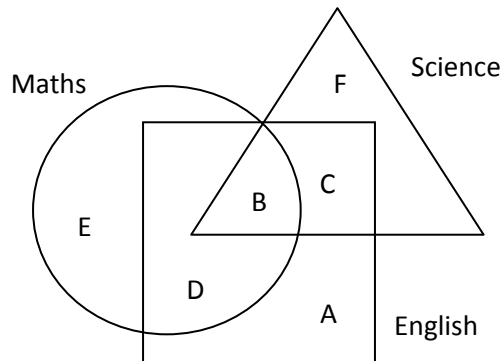
**(Questions: 80 to 85)**

Directions (Questions 80 to 85): Read the following information to answer the given questions.

- (i) A, B, C, D, E, F and G are playing cards sitting around a circular table.
- (ii) D is not neighbour of C or E.
- (iii) A is neighbour of B and C.
- (iv) G, who is second to the left of D, is the Neighbour of E and F.

80. Which of the following is correct?  
 (1) B is between A and D (2) D is between F and G  
 (3) E is to the immediate right of G (4) F is to the immediate left of G
81. Which of the following has the pair with the second person sitting to the immediate right of the first person?  
 (1) BD (2) GF (3) EC (4) AE
82. Which of the following will be D's position after E and D interchange their positions?  
 (1) Neighbour of G and C (2) To the immediate left of C  
 (3) To the immediate right of F (4) Neighbour of C and A
83. What is the position of C?  
 (1) Second to the left of B (2) Third to the right of F  
 (3) To the immediate left of A. (4) None of these.
84. Which of the following has the second person sitting between the first and third person?  
 (1) DAB (2) GCE (3) BCA (4) GFD
85. Which of the following is wrong?  
 (1) A is to the immediate right of B (2) B is to the immediate left of D  
 (3) F is between G and D (4) E is between G and C

**(Questions: 86 to 90)**



In the above picture circle represent students liking Mathematics, Triangle represents Students liking Science, Square represent students like English. Now answer the following questions?

86. Which letter represents the students who like English only?  
 (1) A (2) B (3) C (4) D

87. Which letter represents the students who like English and Maths but not Science?  
(1) A                      (2) D                      (3) E                      (4) B
88. Which letter represents the students who like Maths only?  
(1) E                      (2) F                      (3) C                      (4) A
89. Which letter represents the students who like all the three subjects?  
(1) A                      (2) B                      (3) C                      (4) E
90. Which letter represents the students who like Maths and Science but not English?  
(1) E                      (2) F                      (3) B                      (4) None of these

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Rough Work only



8021

**GOVERNMENT OF PUDUCHERRY  
DIRECTORATE OF SCHOOL EDUCATION**

**QUESTION BOOKLET**

**MARCH 2022-23**

**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 Hydraulic lift works on the \_\_\_\_\_ principle  
(1) Conservation of Mass      (2) Pascal's Law      (3) Newton's III Law      (4) Snell's Law
2. If two plane mirrors are inclined to each other at  $120^\circ$  angle, find the number of images formed.  
(1) 2      (2) 3      (3) 4      (4) 1
3. Formation of land breeze and sea breeze is due to  
(1) Sublimation      (2) Deposition      (3) Vapourisation      (4) Convection
4. The S.I unit of Specific Heat Capacity is  
(1)  $\text{J Kg}^{-1}\text{K}^{-1}$       (2)  $\text{JK}^{-1}$       (3)  $\text{JKg}^1\text{K}^1$       (4)  $\text{JKg}^{-1}$
5. The Characteristics of sound that enables us to distinguish between two sounds that have the same pitch and amplitude  
(1) Audibility      (2) Quality      (3) Wavelength      (4) Sonic Boom
6. In automobiles, to prevent Iron from rusting \_\_\_\_\_ is coated on it  
(1) Lead      (2) Copper      (3) Zinc      (4) brass
7. The amplitude of the sound wave decides its \_\_\_\_\_  
(1) Speed      (2) pitch      (3) loudness      (4) frequency
8. Assertion: The Earth's magnetic field is due to iron present in its core.  
Reason: At a high temperature a magnet loses its magnetic property  
(1) Both Assertion and Reason are true      (2) Both Assertion and Reason are false  
(3) Assertion is true and Reason is false      (4) Assertion is false and Reason is true
9. The valency of Carbon in Methane is.  
(1) 4      (2) 3      (3) 2      (4) 1
10. Every litre of sea water contains \_\_\_\_\_ grams of dissolved salts.  
(1) 30      (2) 35      (3) 40      (4) 45
11. Which of the following oxides upon dissolving with rain, causing Acid Rain?  
(1) Silicon dioxide      (2) Sodium dioxide      (3) Sulphur dioxide      (4) Nitrogen dioxide
12. The \_\_\_\_\_ discovered the presence of water molecules in the lunar soil  
(1) Mangalyaan      (2) Chandrayaan-I      (3) Apollo-11      (4) Chandrayaan-2

13. The chemical name for Bleaching powder is  
(1) Calcium Carbonate (2) Calcium oxide  
(3) Calcium hydroxide (4) Calcium oxy chloride
14. The branch of science that deals with chemical reactions involving light is  
(1) Photolysis (2) Thermolysis (3) Photochemistry (4) Seismology
15. Aerated water is made by dissolving \_\_\_\_\_ gas in water under pressure.  
(1) Nitrogen (2) Oxygen (3) Carbondioxide (4) Hydrogen
16. The highest Latent Heat of Fusion of Ice is \_\_\_\_\_  
(1) 540 calories/g (2) 336 calories/g (3) 100 calories/g (4) 80 calories/g
17. Acids react with metals to form their metal salts and release \_\_\_\_\_ gas  
(1) Nitrogen (2) Oxygen (3) Carbondioxide (4) Hydrogen
18. Which part of the rocket system has radars?  
(1) Structural system (2) Payload system (3) Guidance system (4) propulsion system
19. Which of the following bacteria has no flagella?  
(1) Vibrio Cholera (2) Corynebacterium diptherae (3) Pseudomonas (4) E.Coli
20. \_\_\_\_\_ show both living and non living characteristics.  
(1) Virus (2) Bacteria (3) Protozoa (4) Fungi
21. Which algae is used to decompose the human urine in space travel?  
(1) Chlorella Pyranoydosa (2) Laminaria (3) Sargassum (4) Ulva
22. The world's fastest growing sea-weed is \_\_\_\_\_  
(1) Riccia (2) Funaria (3) California-giant kelp (4) Anthroceros
23. \_\_\_\_\_ is used in the treatment of tuberculosis.  
(1) Phyllanthus amarus (2) Solanum trilobatum (3) Aegle marmelos (4) Acalypha indica
24. The first true land plants with xylem and phloem are  
(1) Algae (2) Pteridophytes (3) Fungi (4) Bryophytes
25. The masculinizing hormone is  
(1) Progesterone (2) Androgen (3) Estrogen (4) Oxytocin

26. The Azadiractin is used as a good  
(1) Insect-repellant (2) plant-fertilizer (3) bio-indicator (4) bio-predator
27. a. Deforestation has a negative effect on the environment  
b. Reforestation has a very good effect on the nature  
c. Afforestation is practiced to bring more area under forest  
(1) only a is correct (2) only b is correct  
(3) only a and c are correct (4) all a,b,c are correct
28. Grizzled Squirrel wildlife sanctuary is situated in  
(1) Kanchipuram (2) Virudhunagar (3) Thirunelveli (4) Theni
29. Which of the following is not a Logical Operator?  
(1) AND (2) OR (3) FOR (4) NOT
30. The smallest bone found inside the human ear is  
(1) Femur (2) Humerus (3) Stapes (4) Tibia
31. The fibrous cords of tissue that attach muscle to bone is  
(1) ligaments (2) tendons (3) Cartilage (4) Antagonist muscle
32. \_\_\_\_\_ cells are specialized cells that can be transformed into any kind of cells  
(1) Bone (2) Nerve (3) Heart (4) Stem
33. During inhalation process in human, the diaphragm goes \_\_\_\_\_.  
(1) outward (2) upward (3) downward (4) inward
34. The Red Data Book of India contains  
(1) food habit status of birds in India (2) Conservation status of animals and plants in India  
(3) habitat status of birds in India (4) Endangered species lists in India
35. \_\_\_\_\_ is responsible for maintaining the biological clock of human body  
(1) Eyes (2) Heart (3) Lungs (4) Spleen

**SOCIAL SCIENCE**

36. What method is used to find out the age of the excavated materials?  
 (1) Carbon di oxide method (2) Chemical di oxide method  
 (3) Radio Carbon Dating method (4) none of the above
37. Collection of resources directly from nature is called .....  
 (1) Primary activities (2) Secondary activities  
 (3) Tertiary activities (4) none of the above
38. The lowest unit of administration during the Sangam Age was  
 (1) Mandalam (2) Nadu (3) Ur (4) Pattinam
39. .... was the ambassador of Seleucus Nicator.  
 (1) Ptolemy (2) Kautilya (3) Xerxes (4) Megasthenese
40. The birth place of democracy is \_\_\_\_  
 (1) China (2) America (3) Greece (4) Rome
41. .... was the land gifted to temples.  
 (1) Vellanvagai (2) Shalabhoga (3) Brahmadeya (4) Devadana
42. .... belt is known as the “Ring of Fire”.  
 (1) Circum – Pacific (2) Mid – Atlantic (3) Mid – Continental (4) Antarctic
43. Who was the teacher and guardian of Shivaji?  
 (1) Dadaji Kondadev (2) Kavi Kalash (3) Jijabai (4) Ramdas
44. In which district Courtallam waterfalls is located?  
 (1) Dharmapuri (2) Tirunelveli (3) Namakkal (4) Theni
45. Raksha safe drive is a device useful for  
 (1) Pedestrians (2) motorists (3) car drivers (4) passengers
46. In 1453 Constantinople was captured by .....  
 (1) The French (2) The Turks (3) The Dutch (4) The British
47. Nalanda, the oldest university in India was located in .....  
 (1) Uttar Pradesh (2) Maharashtra (3) Bihar (4) Punjab

48. ----- rocks are useful for construction works.  
 (1) Sedimentary (2) Metamorphic (3) Igneous (4) Basalt
49. To become a well matured soil it takes about ----- years.  
 (1) 300 (2) 30 (3) 3000 (4) 30000
50. There are ----- basic minerals commonly found all over the earth.  
 (1) 22 (2) 32 (3) 12 (4) 42
51. Only -----percentage of rain reaches seas and oceans.  
 (1) 25 (2) 15 (3) 45 (4) 35
52. Mauna loa Volcano is located in -----  
 (1) Andaman Island (2) Lakshadweep Island  
 (3) Hawaii Island (4) Narcondam Island
53. El-Nino means ----- in Spanish.  
 (1) Altitude (2) Temperature (3) The Christ child (4) Lightning
54. The Average air pressure at the sea level is ----- millibars.  
 (1) 1008 (2) 1020 (3) 1033 (4) 1013
55. In India, Tsunami warning Centre has been set up at -----  
 (1) Chennai (2) Mumbai (3) Kolkata (4) Hyderabad
56. -----tide occurs during the Full moon days and New Moon days  
 (1) High (2) Spring (3) Low (4) Neap
57. Generally the average Ocean salinity is ----- gram per kilogram.  
 (1) 45 (2) 35 (3) 55 (4) 25
58. ----- are those which join the places of equal sunshine  
 (1) Isohyet (2) Isotherm (3) Isohel (4) Isobar
59. The Panjia split into ----- major plates.  
 (1) 5 (2) 7 (3) 6 (4) 8
60. The Constitution Day is celebrated on .....  
 (1) 26 January (2) 15 August (3) 26 November (4) 9 December

61. A person moves from his own country to another country is known as .....  
 (1) Immigrant (2) Refugee (3) Emigrant (4) Asylum seeker
62. The age of retirement of the High Court is -----  
 1) 62 2) 64 3) 65 4) 68
63. Dispute between States of India comes to the Supreme Court under  
 (1) Original jurisdiction (2) Appellate jurisdiction  
 (3) Advisory jurisdiction (4) none of these
64. In Rajya Sabha \_\_\_\_\_ members are nominated by the president  
 (1) 12 (2) 2 (3) 24 (4) 5
65. The \_\_\_\_\_ in the constitution provides facilities for the compulsory education for all children  
 (1) Article 39 (2) Article 25 (3) Article 45 (4) Article 24
66. \_\_\_\_\_ is called as the father of economics.  
 (1) Lionel Robbins (2) Adam Smith (3) Raghuram Rajan (4) Rangarajan
67. The budget is prepared and presented based on the \_\_\_\_\_.  
 (1) Service tax (2) national income  
 (3) Income tax (4) per capita income
68. \_\_\_\_\_ refers to any work undertaken for securing an Income or reward.  
 (1) Capital (2) Profit (3) Organization (4) Labour
69. Production means creation of \_\_\_\_\_.  
 (1) Utility (2) Interest (3) Money (4) Service
70. The Indian Rupee symbol designed by a person of ----- State  
 (1) Kerala (2) Tamil Nadu (3) Andhra Pradesh (4) Delhi

MATHEMATICS

71. The cost of a notebook is Rs.  $10ab$ . If Babu has Rs.  $(5a^2b + 20ab^2 + 40ab)$ , then how many Notebooks can he buy?  
 (1)  $\frac{1}{2}a + 2b + 4$       (2)  $\frac{1}{2a} + 4b + 8$       (3)  $2a + 4b + 8$       (4)  $5a + 2b + 6$
72. If 10% of a number  $x$  is 25, find the value of 20% of  $x$   
 (1) 25      (2) 50      (3) 100      (4) 75
73. Which of the following are true?  
 $A = -12 + (-15)$        $B = -16 - (-12)$        $C = -14 - (-12)$   
 (1)  $B > C > A$       (2)  $A + B > C$       (3)  $C > A > B$       (4)  $A < B < C$
74. If  $X: 18:: 5:3$ , find the value of  $X$ .  
 (1) 35      (2) 30      (3) 49      (4) 45
75. The angle between the diagonals of a rhombus is  
 (1)  $120^\circ$       (2)  $180^\circ$       (3)  $90^\circ$       (4)  $100^\circ$
76. The cost of 12 kg of onion is Rs.84 find the cost of 8 kg of onion?  
 (1) 49      (2) 56      (3) 42      (4) 63
77. Factorize:  $16p^4 - 1$   
 (1)  $(4p^2+1)(4p^2+1)$       (2)  $(2p^2+1)(4p^2-1)$       (3)  $(2p^2-1)(4p^2+1)$       (4)  $(4p^2+1)(2p+1)(2p-1)$
78. Between the squares of the consecutive nos. “ $n$ ” and “ $(n+1)$ ” there are \_\_\_\_\_ non square nos.  
 (1)  $n$       (2)  $2n$       (3)  $n+1$       (4)  $n-1$
79. Which of the following polygon is not a regular polygon?  
 (1) Rectangle      (2) Parallelogram      (3) Rhombus      (4) None
80. The \_\_\_\_\_ will be on the vertex containing  $90$  in a right angled triangle.  
 (1) Centroid      (2) Incentre      (3) Circumcentre      (4) orthocentre.
81. The minimum requirement to construct a Quadrilateral are \_\_\_\_\_  
 (1) 5      (2) 4      (3) 6      (4) 3
82. The \_\_\_\_\_ is not the graphical representation of the frequency for ungrouped data.  
 (1) Frequency Polygon      (2) Bar Graph      (3) Picto Gragh      (4) Line Graph

83. Exclusive series is a \_\_\_\_\_ series.  
 (1) Continuous (2) Discontinuous (3) Both (1) and (2) (4) None
84. How many numbers from 1 to 100 are there each of which is not only exactly divisible by 4 but also has 4 as a digit?  
 (1) 7 (2) 10 (3) 20 (4) More than 20
85. If two triangles are similar, then the corresponding angles are respectively \_\_\_\_\_ and their corresponding sides are \_\_\_\_\_.  
 (1) Proportional; equal (2) Equal; Proportional (3) unequal; Proportional (4) Shape; Size
86. The cost of a machine is ₹ 27000/- and it depreciates at  $16\frac{2}{3}\%$  annually. Its value after 2 years will be  
 (1) ₹15750 (2) ₹16750 (3) ₹ 18750 (4) ₹17750
87. If the circumference and area of a circle are numerically equal, then the diameter is equal to\_\_\_\_\_  
 (1)  $\pi/2$  (2)  $2\pi$  (3) 2 (4) 4
88. Find the Value of  $0.01 \times 0.1 - 0.001 \div 10 + 0.01 =$  \_\_\_\_\_  
 (1) 0.0101 (2) 0.109 (3) 0.0109 (4) 0.19
89. The product of LCM and HCF of two numbers is  $5460X^2Y^3$ . If one of the number  $60XY$  then the other number is \_\_\_\_\_  
 (1)  $81XY^2$  (2)  $81X^2Y$  (3)  $91XY^2$  (4)  $91X^2Y$
90. A family went to a hotel and spent ₹ 500 for food and paid extra 5% as GST. Calculate the SGST \_\_\_\_\_  
 (1) ₹25 (2) ₹12.5 (3) ₹17.5 (4) ₹ 8.75

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**FOR ROUGH WORK ONLY**