1011

सत्यमेव जयते

GOVERNMENT OF PUDUCHERRY
DIRECTORATE OF SCHOOL EDUCATION

QUESTION BOOKLET

DECEMBER 2020

PART – I
MENTAL ABILITY TEST

Centre Code No. | | | | Register No. | | | | |

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 amongst the ones given in the answer sheet for the corresponding question in the test booklet with black ballpoint pen only.

PART I
MENTAL ABILITY TEST – DECEMBER 2020

1011

Duration: 2 hours **Max Marks:100**

1. Complete the series: 13, 24, 46, 90, 178,.....
(1) 354 (2) 266 (3) 364 (4) 344

DIRECTION (Qs 2-3): The missing letters are given in proper sequence as one of the four alternatives given under question. Find out the correct alternative.

2. A .....BBC.....AAB.....CCA.....BBCC.....
(1) BACB (2) ABBA (3) CABA (4) ACBA

3. 1, 1, 3, 6, 5, 11, 7, ?
(1) 16 (2) 18 (3) 20 (4) 22

DIRECTIONS (Qs. 4-5) : In each of the following questions, a group of letters is given which are numbered 1, 2, 3, 4, 5 and 6. Below are given four alternatives containing combinations of these numbers. Select that combination of numbers so that letters arranged accordingly form a meaningful word.

4. I N L A S G
1 2 3 4 5 6
(1) 6, 1, 3, 5, 4, 2 (2) 5, 1, 6, 2, 4, 3 (3) 3, 4, 6, 1, 2, 5 (4) 2, 4, 3, 6, 1, 5

5. T L P N A E
1 2 3 4 5 6
(1) 3, 2, 5, 4, 6, 1 (2) 3, 2, 5, 4, 1, 6 (3) 4, 5, 3, 6, 2, 1 (4) 4, 6, 1, 3, 5, 2

DIRECTIONS (Qs. 6-7): Arrange the given words in the sequence in which they occur in the dictionary and then choose the correct sequence.

6. 1. Page 2. Pagan 3. Palisade 4. Pageant 5. Palate
(1) 1, 4, 2, 3, 5 (2) 2, 4, 1, 3, 5 (3) 2, 1, 4, 5, 3 (4) 1, 4, 2, 5, 3

7. 1. Wrinkle 2. Wriggle 3. Writhe 4. Wretch 5. Wrath
(1) 4, 5, 1, 2, 3 (2) 5, 4, 2, 1, 3 (3) 4, 2, 5, 1, 3 (4) 5, 2, 1, 3, 4

DIRECTIONS (Qs.8): Find which one word cannot be made from the letters of the given word

8. CREDENTIAL
(1) DENTAL (2) CREATE (3) TRAIN (4) CREAM

9. Choose the word which is least like the other words in the group.
(1) Biscuits (2) Chocolate (3) Cake (4) Bread

DIRECTIONS (Qs. 10-11): In each of the following questions, four words have been given, out of which three are alike in some manner and one is different. Choose the odd one out.

10. (1) Venus (2) Saturn (3) Earth (4) Mercury

11. (1) Metre (2) Furlong (3) Acre (4) Mile

DIRECTIONS (Qs. 12-13): In each of the following number series one term is wrong. The wrong term is given as one of the four alternatives. Find the wrong term in each case.

12. 0, 2, 6, 12, 18, 30, 42
(1) 12 (2) 18 (3) 30 (4) 42

13. 7, 17, 31, 49, 67, 97, 127
(1) 31 (2) 49 (3) 67 (4) 97

14. What number should replace the question mark? 4322: 48; 4172: 56; 7615:?
(1) 110 (2) 210 (3) 140 (4) 180

DIRECTIONS (Qs. 15-16): Select the lettered pair that has the same relationship as the given pair of words.

15. Knife : Chopper : : ? : ?
(1) Walking : Fitness (2) Swim : Float (3) Scissors : Cloth (4) Quilt : Blanket

16. Food : Hungry :: ? : ?
(1) Thought : Politics (2) Water : River (3) Rest : Weary (4) Wine : Intoxication

17. In a certain code, ELEPHANT is written as TNPEAHLE, the CROCODILE will be written as ?
(1) RCCOOIDEL (2) ELCOOIDRC (3) ELCIOODRC (4) ELCOIODRC

18. In a certain code, 3456 is coded as ROPE, 15526 is coded as APPLE. Then how is 54613 coded as?
(1) POEAR (2) PROEA (3) PEORA (4) RPOEA

19. DELHI is coded as WVOSR, choose the right code for the ORNRG
(1) LIMIT (2) PEARL (3) BEARS (4) LAPEL

20. If in a certain code, 'COVET is written as 'FRYHW', which word should be written as 'SHDUO'?
(1) QUAKE (2) REPAY (3) VKGXR (4) REARL

21. Manish ranked sixteenth from the top and twenty-ninth from the bottom among those who has passed an examination. Six boys did not participate in the examination and five failed in it. How many boys were there in the class?
(1) 40 (2) 44 (3) 50 (4) 55

22. Roshan ranked 11th from the top and thirty one from the bottom in a class. How many students are there in the class?
(1) 42 (2) 43 (3) 41 (4) 40

23. If the day before yesterday was Thursday, when will be Sunday?
(1) Today (2) Two days after today (3) Tomorrow (4) Day after tomorrow

24. Gogul is fourteenth from the right end in a row of 40 boys. What is his position from the left end?
(1) 24th (2) 25th (3) 26th (4) 27th

25. Anil introduces Rohit as the son of the only brother of his father's wife. How is Rohit related to Anil?
(1) Cousin (2) Son (3) Uncle (4) Son-in-law

26. Pointing out to a lady, a girl said "she is the daughter-in law of the grandmother of my father's only son." How is the lady related to the girl?
(1) Sister-in-law (2) Mother (3) Aunt (4) Mother-in-law

27. A and B are brothers. C and D are sisters A's son is D's brother. How is B related to C
(1) Father (2) Brother (3) Grandfather (4) Uncle

28. If L stands for+, M stands for–, N stands for x, P stands for ÷, then 14 N 10 L 42 P 2 M 8=?
(1) 153 (2) 216 (3) 248 (4) 251

DIRECTIONS (Qs. 29-30): In each of the following questions which one of the four interchanges in signs and numbers would make the given equation correct?

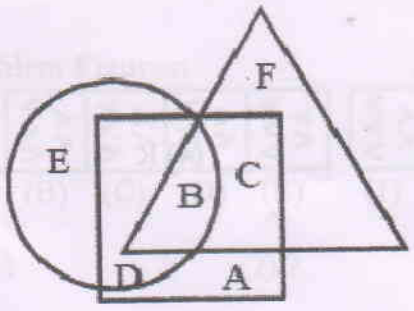
29. $6 \times 4 + 2 = 16$
(1) + and ×, 2 and 4 (2) + and ×, 2 and 6 (3) + and ×, 4 and 6 (4) None of these

30. $4 \times 6 - 2 = 14$
(1) × to ÷, 2 and 4 (2) – to ÷, 2 and 6 (3) – to + ,2 and 6 (4) × to +, 4 and 6

31. If all the directions are rotated, i.e., if North is changed to West and East to North and so on, then what will come in place of North-West ?
(1) South-West (2) North-East (3) North-West (4) South-East

32. If a person is walking towards North, what direction should he follow so that he is walking towards West?
(1) right, right, left (2) left, left, right (3) left, right, right (4) left, left, left

DIRECTIONS (Qs. 33-37): 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.



33. Married persons living in joint families but not working as teachers are represented by
(1) C (2) F (3) D (4) A

34. Persons who live in joint families, are unmarried and who do not work as teachers are represented by
(1) C (2) B (3) E (4) D

35. Married teachers living in joint families are represented by
(1) C (2) B (3) D (4) A

36. School teachers who are married but do not live in joint families are represented by
(1) C (2) F (3) A (4) D

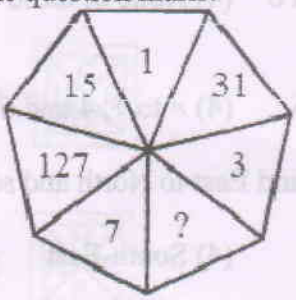
37. School teachers who are neither married nor do live in joint families are represented by
(1) F (2) C (3) B (4) A

38. What day of the week was 20th June 1837?
(1) Monday (2) Tuesday (3) Wednesday (4) Thursday

39. Between 2 O'clock to 10 O'clock, how many times the hands of a clock are at right angle?
(1) 14 (2) 12 (3) 16 (4) 15

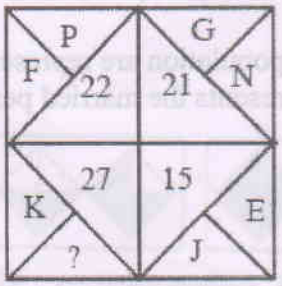
40. The year next to 1988 having the same calendar as that of 1988 is –
(1) 1990 (2) 1992 (3) 1993 (4) 1995

41. **DIRECTIONS (Qs. 41-43):** In each of the following questions, what number should replace the question mark?



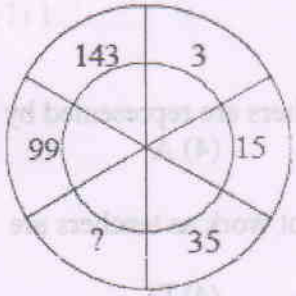
(1) 64 (2) 63 (3) 72 (4) 78

42.



(1) M (2) P (3) N (4) R

43.



(1) 63 (2) 56 (3) 60 (4) 6

DIRECTIONS (Qs. 44-48): Each of the following questions consists of five figures marked A, B, C, D and E called the Problem Figures followed by five other figures marked 1, 2, 3, 4 and 5 called the Answer Figures. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

44.

Problem Figures:



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

Answer Figures:



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

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

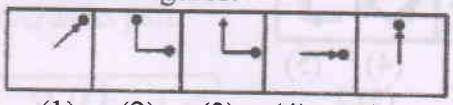
45.

Problem Figures:



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

Answer Figures:

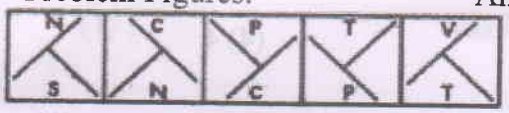


(1) (2) (3) (4) (5)

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

46.

Problem Figures:



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

Answer Figures:



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

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

47.

Problem Figures:



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

Answer Figures:

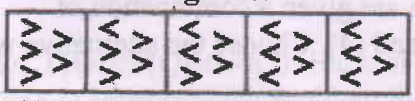


(1) (2) (3) (4) (5)

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

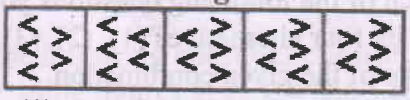
48.

Problem Figures:



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

Answer Figures:



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

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

DIRECTIONS (Qs. 49-53): In each problem, out of the five figures marked (1), (2), (3), (4) and (5), four are similar in a certain manner. However, one figure is not like the other four. Choose the figure which is different from the rest.

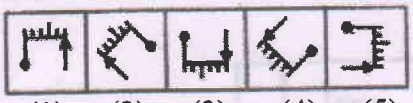
49.



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

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

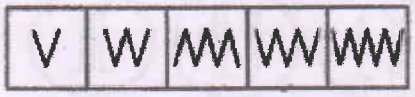
50.



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

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

51.



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

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

52.



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

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

53.



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

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

DIRECTIONS (Qs. 54-56): 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.

54.

247596

(1) 695742 (2) 695742

(3) 695742 (4) 695742

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

55.

JUDGEMENT

(1) TNEMEGDUJ (2) TNEMEGDUL

(3) TNEMEGDUL (4) LUDGEMENT

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

56.

BRISK

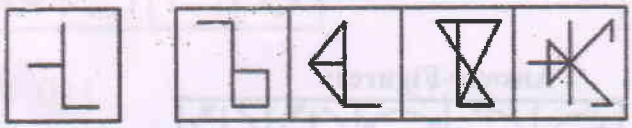
(1) KSIRB (2) KSIRB

(3) KSIRB (4) KSIRB

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

DIRECTIONS (Qs. 57-59): In each of the following questions, you are given a figure (X) followed by four alternative figures (1), (2). (3) and (4) such that figure (X) is embedded in one of them. Trace out the alternative figure which contains fig. (X) as its part.

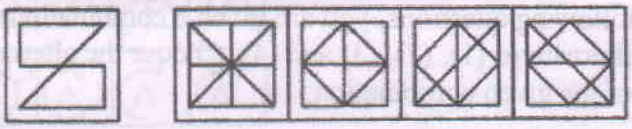
57.



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

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

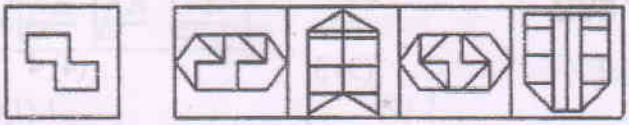
58.



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

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

59.



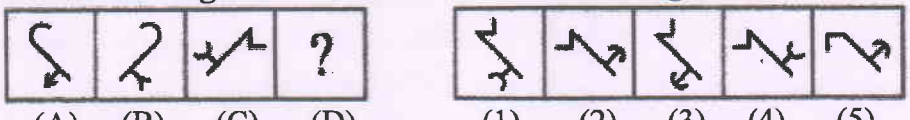
(X) (1) (2) (3) (4)

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

DIRECTIONS (Qs.60-63): Each of the following questions consists of two sets of figures. Figures A, B, C and D constitute the Problem Set while figures 1, 2, 3, 4 and 5 constitute the Answer Set. There is a definite relationship between figures A and B establish a similar relationship between figures C and D by selecting a suitable figure from the Answer Set that would replace the question mark (?) in fig. (D).

60.

Problem Figures: **Answer Figures:**

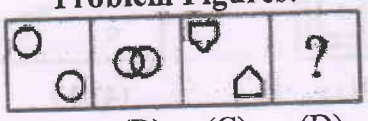


(A) (B) (C) (D) (1) (2) (3) (4) (5)

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

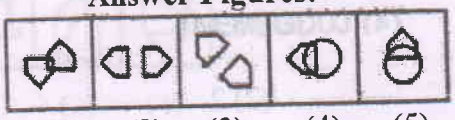
61.

Problem Figures:



(A) (B) (C) (D)

Answer Figures:

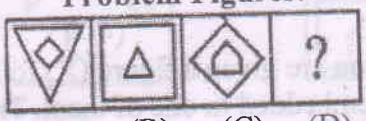


(1) (2) (3) (4) (5)

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

62.

Problem Figures:



(A) (B) (C) (D)

Answer Figures:

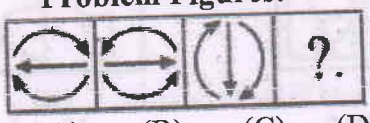


(1) (2) (3) (4) (5)

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

63.

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



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

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

DIRECTIONS (Qs. 64-65): 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 water-image of the given combination.

64.

NUCLEAR

(1) ЯAEJCUN (2) NUCJEAR

(3) NUCJƎAR (4) NUCJ EAR

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

65.

FAMILY

(1) ꟻAMIJ⅄ (2) ƎAMIJ⅄

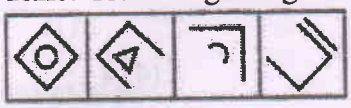
(3) ƎAMIꟻ⅄ (4) ƎAMIꟻ⅄

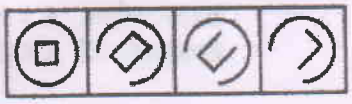
(1) 1 (2) 2 (3) 3 (4) 4

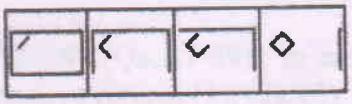
DIRECTIONS (Qs. 66-67): In each of the following questions, choose the set of figures which follows the given rule.

66.

Rule: Closed figures gradually become open and open figures gradually become closed.

(1) 

(2) 

(3) 

(4) 

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

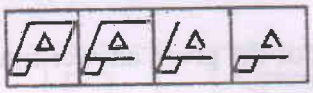
67.

Rule: Closed figures become more and more open and open figures become more and more closed.

(1) 

(2) 

(3) 

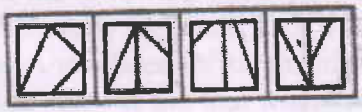
(4) 

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

68. **DIRECTIONS (Qs. 68-72):** In each of the following questions, Find out which of the figures (1), (2), (3) and (4) can be formed from the pieces given in figure (X).



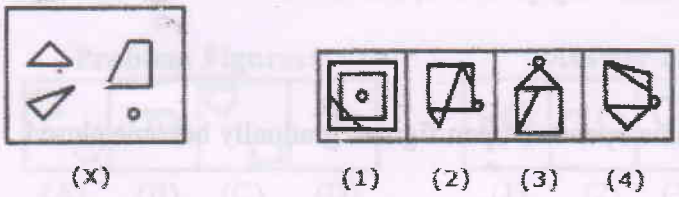
(X)



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

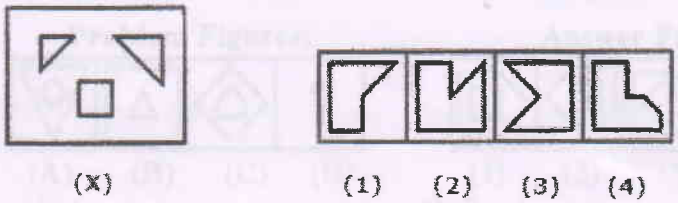
(1) 1 (2) 2 (3) 3 (4) 4

69.



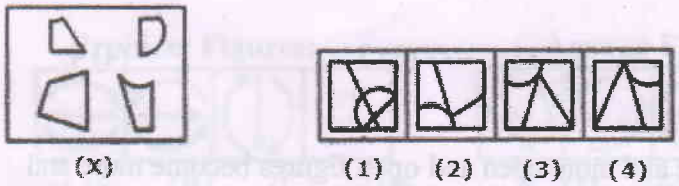
(1) 1 (2) 2 (3) 3 (4) 4

70.



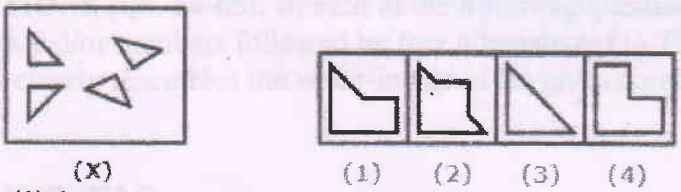
(1) 1 (2) 2 (3) 3 (4) 4

71.



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

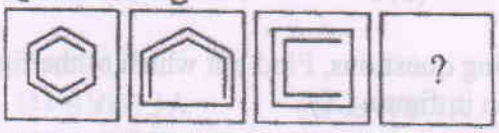
72.



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

73. **DIRECTIONS (Qs. 73-78):** In each of the following questions, out of the given answer figures, which is the correct one to replace the question mark?

Question Figures

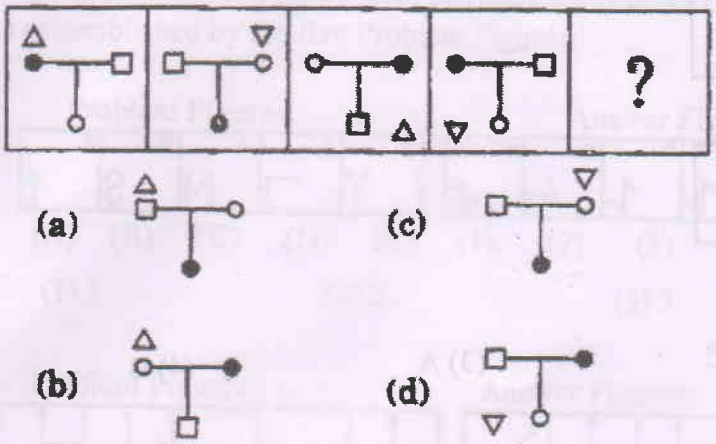


Answer Figures



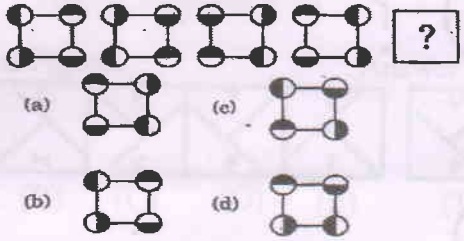
(1) A (2) C (3) B (4) D

74.



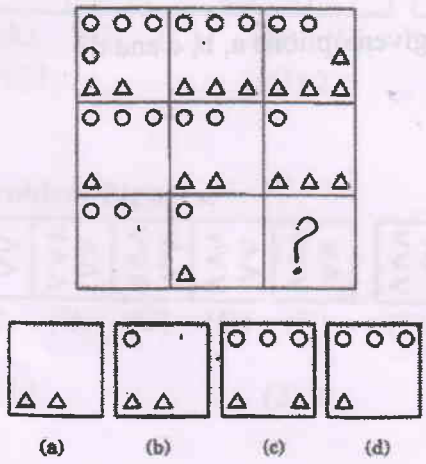
(1) b (2) a (3) c (4) d

75.



(1) a (2) d (3) b (4) c

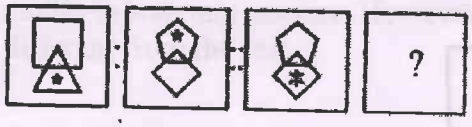
76.



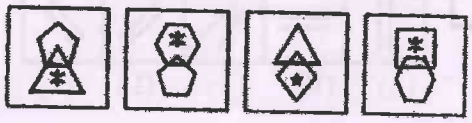
(1) d (2) c (3) b (4) a

77.

Question Figure



Answer Figures



(A) (B) (C) (D)

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

78.

Problem figures :



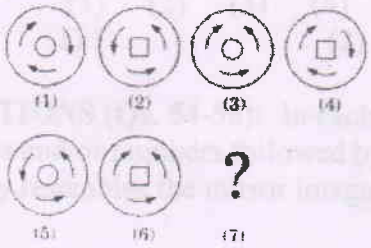
Answer figures :



(a) (b) (c) (d)

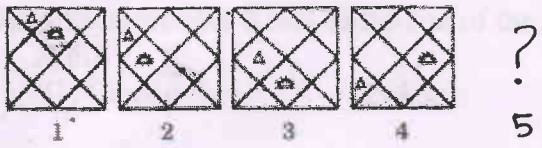
(1) b (2) d (3) c (4) a

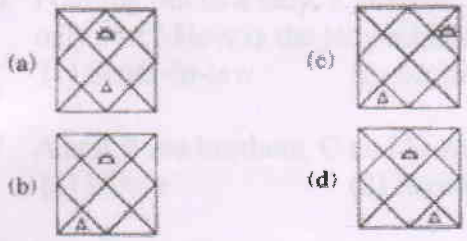
79. What will be the seventh image in the sequence out of the given options a, b, c and d?



(1) c (2) b (3) d (4) a

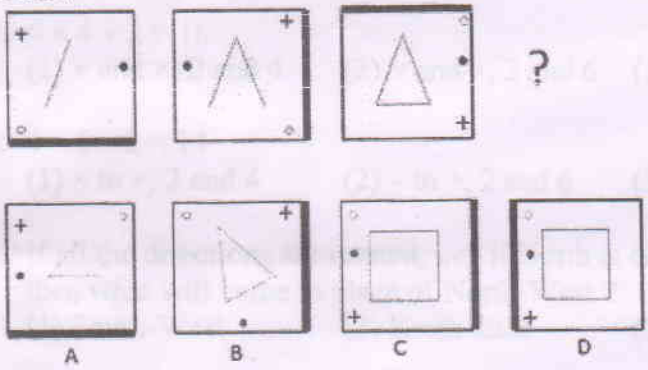
80. What will be fifth in the sequence?





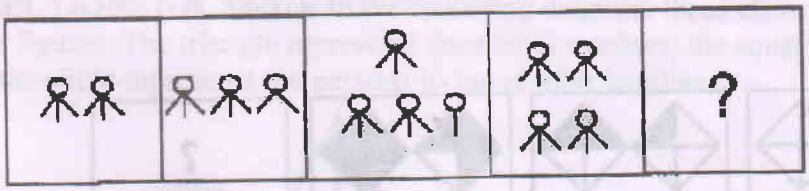
(1) a (2) c (3) b (4) d

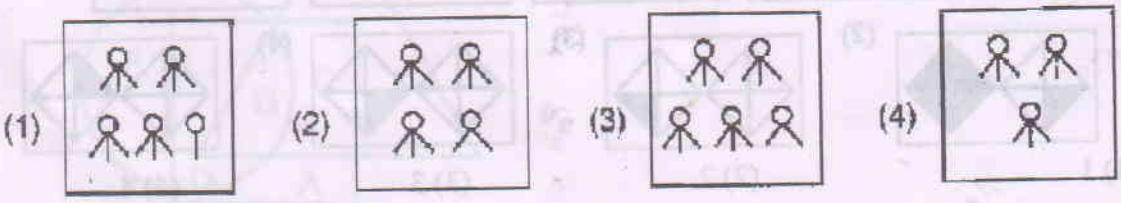
81. **DIRECTIONS (Qs. 81-89):** In each of the following questions, what will replace the question mark?



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

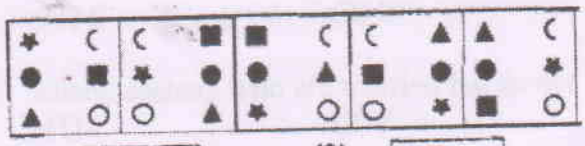
82.





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

83.



(1)



(2)



(3)



(4)



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

84.



(1)



(2)



(3)



(4)

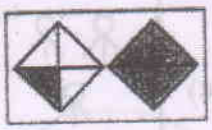


(1) 2 (2) 4 (3) 1 (4) 3

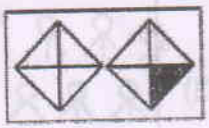
85.



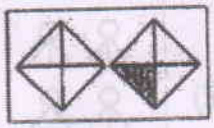
(1)



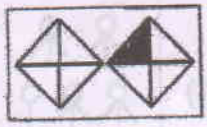
(2)



(3)

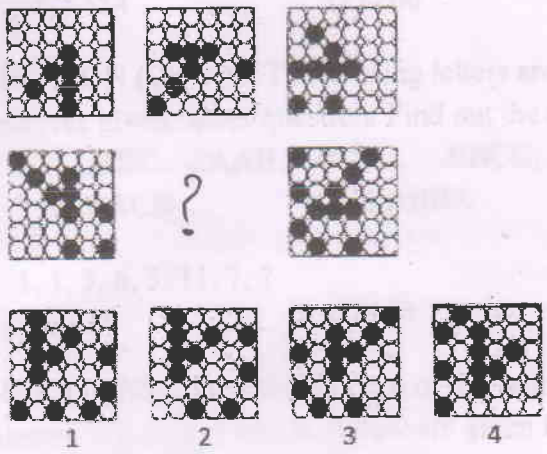


(4)



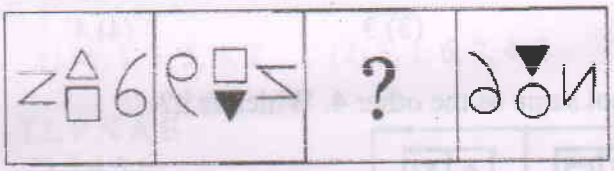
(1) 1 (2) 2 (3) 3 (4) 4

86.



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

87.

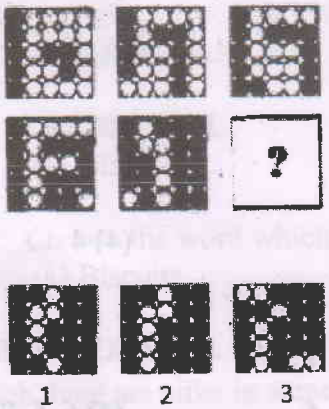


Options :



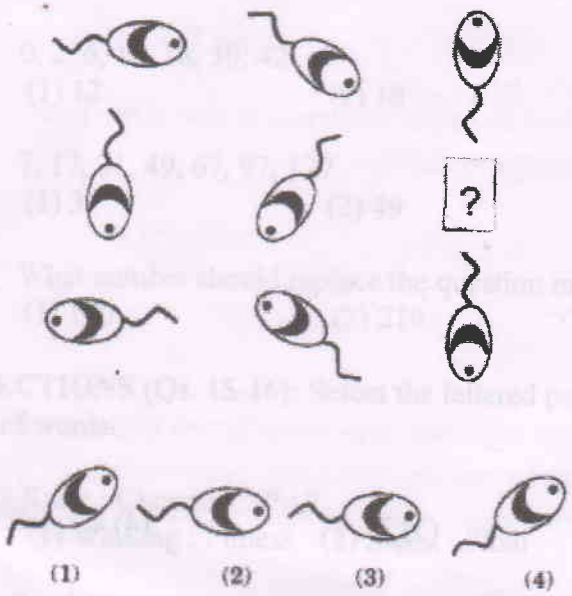
(1) 2 (2) 1 (3) 3 (4) 4

88.



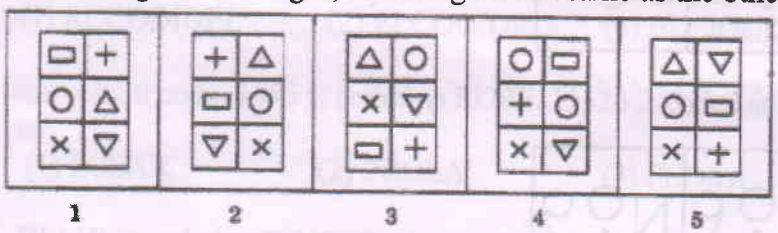
(1) 1 (2) 2 (3) 3 (4) 4

89.



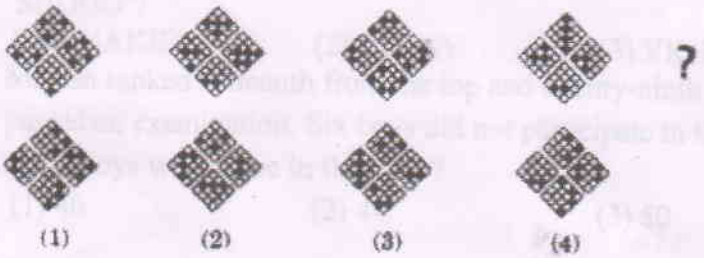
(1) 1 (2) 2 (3) 3 (4) 4

90. Out of the given 5 images, one image is not same as the other 4. Which is it?



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

91. What will be next in the sequence?



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

92. If X>Y, Y<Z and X>Z which one of the following is true of X, Y, Z?

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

93. In a chess board how many squares can be found?

(1)64 (2) 124 (3) 346 (4) 204

94. The unit digit in the sum $(264)^{102} + (264)^{103}$

(1) 0 (2) 4 (3) 6 (4) 8

95. A and B can do a piece of work in 45 and 40 days respectively. They began the work together. But A leaves after some days and B finished the remaining work in 23 days. After how many days did A leave?

(1) 6 days (2) 8 days (3) 9 days (4) 12 days

96. A car travels 25 kmph faster than a bus and takes 10 hour less for a journey of 500kms. What is the speed of the car?

(1) 55 kmph (2) 50 kmph (3) 60 kmph (4) 70 kmph

97. A current of a stream runs at the rate of 4km an hour. A boat goes 6 km up the stream and back to the starting point in 2 hours. The speed of the boat in still water is

(1) 6 km/h (2) 7.5 km/h (3) 8 km/h (4) 6.8 km/h

98. A reduction of 21% in the price of what enables a person to buy 10.5kg more for ₹.100. What is the reduced price per Kg?

(1) 2 (2) 2.25 (3) 2.30 (4) 2.50

99. A man buys 5 horses and 10 cows for ₹.1600. He sells horses at a profit of 15% and cow at a loss of 10%. If his overall profit is ₹.90. What are the cost prices of a horse and a cow?

(1) ₹.100 and ₹.50 (2) ₹.180 and ₹.80 (3) ₹.180 and ₹.100 (4) ₹.200 and ₹.60

100. A sum of money amounts to ₹.850 in 3 years and ₹. 925 in 4 Years the sum is

(1) ₹.600 (2) ₹.575 (3) ₹.625 (4) ₹.650

1021

सत्यमेव जयते

GOVERNMENT OF PUDUCHERRY
DIRECTORATE OF SCHOOL EDUCATION

QUESTION BOOKLET

DECEMBER 2020

PART – II
SCHOLASTIC APTITUDE TEST

Centre Code No. | | | | **Register No.** | | | | |

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 amongst the ones given in the answer sheet for the corresponding question in the test booklet with black ballpoint pen only.

PART II

SCHOLASTIC APTITUDE TEST – DECEMBER 2020

1021

Duration: 2 Hours **Max Marks: 100**

SCIENCE

1. The weight of a man in earth is 784 N. If the moon's gravity is 1.63 ms^{-2}, then the mass of the man at moon is --------

   1) 481 Kg 2) 130 Kg 3) 80 Kg 4) 49 Kg

2. An athlete runs in a circular track of radius 600m. If he reaches diagonally opposite side in one minute, then what is his average velocity?

   1) 20 m/s 2) 0 m/s 3) 31.4 m/s 4) 51.4 m/s

3. Clouds float in atmosphere because of their low --------

   1) density 2) pressure 3) velocity 4) mass

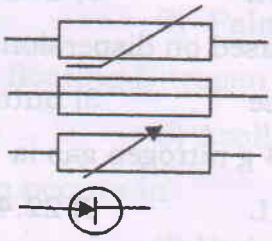
4. Match the following devices with symbols

   a) Semiconductor diode i)

   b) Rheostat ii)

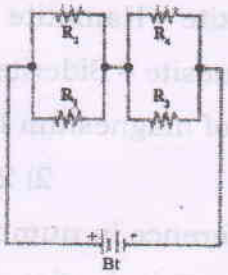
   c) Fuse iii)

   d) Thermistor iv)

   1) a-iv,b-i,c-ii,d-iii 2) a-iii,b-i,c-iv,d-ii 3) a-iv,b-iii,c-ii,d-i 4) a-ii,b-iii,c-iv,d-i

5. The net effective resistance of a circuit is 5Ω when

   1) $R_1 = R_2 = 5\Omega$, $R_3 = R_4 = 10\Omega$

   2) 2) $R_1 = R_3 = 5\Omega$, $R_2 = R_4 = 10\Omega$

   3) $R_1 = R_2 = R_3 = R_4 = 5\ \Omega$

   4) 4) $R_1 = R_2 = R_3 = R_4 = 10\ \Omega$

6. The unit of magnetic flux density is --------

   1) weber 2) weber/metre 3) weber/$metre^2$ 4) weber. $meter^2$

7. At noon, the sun appears white because

   1) all the colours of the white light are scattered away.

   2) light is least scattered

   3) blue colour is scattered the most

   4) red colour is scattered the most

8. A concave mirror gives an image three times as large as its object placed at a distance of 20 cm from it. For the image to be real, the focal length should be

   1) 10 cm 2) 15 cm 3) 20 cm 4) 30 cm

9. The specific heat capacities of various form of water can be arranged as
   1) water > steam > ice 2) water > ice > steam
   3) Ice > water > steam 4) steam > water > ice

10. Doppler effect cannot be applied when
   a) S (source) and L (listener) both are at rest
   b) S is at rest and L moves towards him
   c) S and L are moving in mutually perpendicular direction
   d) S and L move towards each other
   1) a and b 2) a and c 3) a and d 4) b and d

11. Dosimeter is used to measure
   1) Exposure to radiation 2) Speed of fission reaction
   3) Rate of fusion reaction 4) Half life period

12. The planet which appears as greenish star is
   1) Jupiter 2) Saturn 3) Uranus 4) Neptune

13. Pick out the odd one out based on dispersion medium
   1) Curd 2) cheese 3) butter 4) jelly

14. The volume occupied by 14 g nitrogen gas is
   1) 5.6 L 2) 11.2 L 3) 22.4 L 4) 44.8 L

15. Pick out the odd pair
   1) Bauxite – Hamatite 2) Cuprite – Cryolite
   3) Magnesite – Siderite 4) Galena – Zinc blende

16. Acidity of magnesium hydroxide and basicity of phosphoric acid are respectively
   1) 2, 2 2) 2, 3 3) 3, 2 4) 1,3

17. The difference in number of water molecules in Gypsum and Plaster of Paris is
   1) $\frac{5}{2}$ 2) 2 3) $\frac{3}{2}$ 4) $\frac{1}{2}$

18. When milk turns into curd, its pH value
   1) Increases 2) decreases 3) remains same 4) cannot be calculated

19. $C_{(s)} + O_{2(g)} \longrightarrow CO_{2(g)}$ + Heat. This reaction is
   a) Combustion reaction b) Combination reaction
   c) Exothermic reaction d) irreversible reaction e) Oxidation reaction
   1) a and b 2) a, c and e 3) a,b,c and e 4) a,b,c,d and e

20. TFM is the term to be considered to assess the quality of ----
   1) Cool drinks 2) Soap 3) Perfumes 4) Cough Syrup

21. Which of the following is used as anesthetic and pain killer?
   1) Alcohols 2) Aldehydes 3) Ethers 4) Esters

22. Congo red is an example of _____ dye

1) Acid dye 2) Basic dye 3) Vat dye 4) Direct dye

23. Hydrogen peroxide poured on a wound decomposes into water and oxygen. The oxygen bubbles over the wound prevent the formation of

1) Hydrogen 2) Hydrogen peroxide 3) Carbonic acid 4) Water

24. --------- is used for the effective functioning of heart

1) Fe^{59} 2) P^{32} 3) I^{131} 4) Na^{24}

25. In aquatic plants, aerenchyma will be present in

1) Parenchyma 2) Collenchyma 3) Solerenchyma 4) All the three

26. By using artificial photosynthesis, C.N.R Rao produced ----- fuel

1) Hydrogen 2) Nitrogen 3) Helium 4) Neon

27. During winter we may notice water droplets on the leaves of grass, this process of removing excess of water is called

1) Guttation 2) Imbibitions 3) Palmolysis 4) Osmosis

28. Which of the following is called a floating Nitrogen factory?

1) Rhizobium 2) Mycorrhizae 3) Azolla 4) Azospirillum

29. Regeneration type of reproduction occurs in

1) Spirogyra 2) Yeast 3) Hydra 4) Amoeba

30. Match the following

a) Nitrogen fixation - i) Pseudomonas

b) Ammonification - ii) Nitrobactor

c) Nitrification - iii) Fungi

d) Denitrification - iv) Azotobactor

1) a-ii, b-iv, c-i , d- iii 2) a-i, b- iii, c-iv, d- ii

3) a-iii, b- ii, c- iv, d- i 4) a – iv, b – iii, c- ii, d- i

31. Bolting can be achieved by using the plant harmonic

1) Auxins 2) Cytokinins 3) Gibberellins 4) Ethylene

32. The only invertebrate that is capable of emotion, empathy, cognitive function, self awareness, personality and even relationships with humans is

1) Garden Snail 2) Octopus 3) Cockroach 4) Crab

33. ------- present in the saliva of leech does not allow the blood to coagulate

1) Hirudin 2) Papilae 3) Diverticula 4) Clitellum

34. When the sun rays falls on the skin -------- is converted into Vitamin D

1) Dehydro Cholesterol 2) Fats 3) Minerals 4) Proteins

35. The largest human cell is

1) Nerve cell 2) Sperm 3) ovum 4) 1 and 3

36. Match the following functions with parts of the brain

a) Relay centre - i) Cerebellum

b) Thermoregulatory center - ii) Pons

c) Maintains body balance - iii) Thalamus

d) Respiration & sleep cycle - iv) Hypothalamus

1) a-ii, b-i, c-iv, d- iii 2) a-iii, b-iv, c-i, d – ii

3) a- iii, b – ii, c- i, d- iv 4) a- iv, b – iii, c – ii, d- i

37. Excess hunger due to loss of glucose in urine is called

1) Polyuria 2) Polyphagia 3) Polydipsia 4) Hyperglycemia

38. Which is not a part of white blood cell

1) Neutrophils 2) Eosinophils 3) Erythrocytes 4) Lymphocytes

39. World health day is on

1) 16th October 2) 7th April 3) 7th June 4) 21st March

40. Chronic damage to brain and respiratory system is caused due to the hazardous heavy metal _____present in e-wastes

1) Lead 2) Chromium 3) Cadmium 4) Mercury

SOCIAL SCIENCE

41. The Nile river originates in _____ lake

1) Victoria 2) Elizabeth 3) Nepolean 4) Alaxandria

42. The statue of Gomateswara at Shravanabelgola in Karnataka is known as ----------

1)Mahavira 2) Buddha 3) Bahubali 4) Kadaram Kondan

43. The height above which there is a permanent snow cover in the higher altitude or latitude is called

1) Altitude line 2) Latitude line 3) Snowline 4) Longitude line

44. We celebrate National Voters Day on _____ in India

1)25th January 2) 25th February 3) 25thMarch 4) 25th April

45. Who was the founder of Widow Remarriage Association?

1) M.G. Ranade 2) Devendranath Tagore 3) Jyotiba Phule 4) Ayyankali

46. The first Hydro-electric power station in India was established at _____ in 1897
1) Kalpakkam 2) Kudankulam 3) Trombay 4) Darjeeling

47. The Term "Globalisation" was introduced by _____
1) Pro.Roosevelt 2) Pro.Keynes 3) Pro.Theodre Levitt 4) Pro.Thodarmal

48. Tidel forest are also known as
1) Alphine forest 2) Mountain forest 3) Mangrove forest 4) Tropical dry forest

49. The north-south extent of India is
1) 2,500 Km 2) 2,933 Km 3) 3,214 Km 4) 2,814 Km

50. GATT's first round was held in
1) Tokyo 2) Uruguay 3) Torquay 4) Geneva

51. Inscription that mentions the Cheras
1) Pugalur 2) Girnar 3) Pulimankombai 4) Madurai

52. The other name for Greeks was
1) Hellenists 2) Hellenes 3) Phoenicians 4) Spartans

53. Many million years ago, India was part of the super continent ----------
1) Gondwana 2) Laurasia 3) Panthalasa 4) Pangea

54. Tamil Book, "Tambiran Vanakkam" was published from ----------
1) Chennai 2) Mumbai 3) Goa 4) Delhi

55. Formulation of 60 minutes an hour: 24 hours a day
1) Egyptian 2) Mesopotamian 3) Chinese 4) Harappan

56. Who accurately calculated the diameter of earth?
1) Euclid 2) Eratosthenes 3) Hipparchus 4) Ptolemy

57. An example of Dead volcano
1) Mt. Helens 2) Mt.Fuji 3) Mt.Kilimanjarao 4) Mt.Everest

58. Which tree found in Tropical Forest Biomes
1) Ebony 2) Lemon grass 3) Palms 4) Lichens

59. The father of Local Self government in India
1) Mahatma Gandhi 2) Periyar 3) Lord Ripon 4) Lord Curyon

60. Which Economist introduced "Human Development Index"
1) Amartya Sen 2) Mahbub Ul Haq
3) Raghuram Rajan 4) C.Rangarajan

61. When was the Warsaw Pact dissolved?
1) 1979 2) 1989 3) 1990 4) 1991

62. When was the first Forest Act enacted?
1) 1858 2) 1911 3) 1865 4) 1936

63. In Feudalism, "Villeins or Serfs" are called____.
1) Dukes 2) Counts 3) Earls 4) Slaves

64. Out of 14 highest Peaks in this world, Himalayas holds ____peaks.
1) 6 2) 7 3) 8 4) 9

65. Which is the high quality of coffee, cultivated more in India?
1) Arabica 2) Bohea 3) Robusta 4) Assamica

66. 'Child help line 'number in India ____.
1) 1098 2) 1908 3) 1809 4) 1089

67. 'The Detroit of Asia 'is ____.
1) Tuticorin 2) Coimbatore 3) Chennai 4) Madurai

68. The Earth was formed approximately _____ billions years ago.
1) 10.01 2) 6.01 3) 5.50 4) 4.54

69. Sekkilar'sPeriyapuranam was presented (Arangetram) at the temple in _____
1) Chidambaram 2) Srirangam 3) thiruvarur 4) Vedaranyam

70. 'Stop, Drop and Roll' is a mock drill a vowal for
1) Earthquake 2) Tsunami 3) Fire 4) Riot

71. India shares shortest border with _____
1) Nepal 2) Afghanistan 3) Myanmar 4) Bhutan

72. The Term Non- Alignment was coined by
1) Jawaharlal Nehru 2) B.R Ambedkar
3) Indra Gandhi 4) V.Krishna Menon

73. National Income is also called as_____ product
1) Gross Domestic 2) Net National 3) Net Domestic 4) Gross National

74. Marudhu Brothers were executed in the fort of _____
1) Kayathar 2)Virupachi 3) Vellore 4) Tirupathur

75. Chauri Chaura is in _____.
1) Uttar Pradesh 2) Bihar 3) Odisha 4) West Bengal

76. Project Tiger was launched in the year

1) 1973 2) 1974 3) 1975 4) 1976

77. The largest producer of Manganese Ore in India _____

1) HCL 2) MOIL 3) SAIL 4) CIL

78. Mussolini was killed in -------

1) April 1945 2) May 1945 3) June 1944 4) July 1944

79. Farazi movement was launched by --------

1) Haji Shariatullah 2) Titu Mir 3) Sidhu 4) Kanu

80. National Institute of Oceanography was established on ---------

1) 01.01.1996 2) 01.01.1997 3) 10.10.1998 4) 10.10.1999

MATHEMATICS

81. There are 576 boys and 448 girls in a school that are to be divided into equal sections of either boys or girls alone. The total number of sections thus formed are

1) 22 2) 16 3) 36 4) 21

82. The number of multiples lying between n and n^2 which are divisible by n is

1) n + 1 2) n 3) n – 1 4) n – 2

83. A chess board contains 64 equal squares and the area of each square is 6.25 cm^2, A border around the board is 2cm wide. The length of the side of chess board is

1) 8 cm 2) 12 cm 3) 24 cm 4) 36 cm

84. In a family of 3 children, the probability of having atleast one boy is

1) $\frac{7}{8}$ 2) $\frac{1}{8}$ 3) $\frac{5}{8}$ 4) $\frac{3}{4}$

85. Simplify [(A ∪ B)' ∩ (A ∩ B)']' and [(A∪B)' ∪ (A∩B)']'

1) A∪B and A∪B 2) A∪B and A∩B 3) A∩B and A∪B 4) A∩B and A∩B

86. If the zeros of the quadratic polynomial $X^2 + (a+1) X+b$ are 2 and -3 then

1) a= -7, b=-1 2) a=5,b=-1 3)a=2,b=-6 4) a=0,b=-6

87. If $16\cot x = 12$, then $\frac{\sin x - \cos x}{\sin x + \cos x}$ =?

1) $\frac{1}{7}$ 2) $\frac{3}{7}$ 3) $\frac{2}{7}$ 4) 0

88. If one root of the equation $4x^2-2x+(\lambda-4) = 0$ be the reciprocal of the other, then λ =

1) 8 2) -8 3) 4 4) -4

89. The value of mode and mean are 18 and 27 respectively. The value of median ------

1) 20.3 2) 49.5 3) 24 4) 40.5

90. The CSA of an oblique frustum of a cylinder when it is cut by a plane not parallel to the base is----------

1) $2\pi r h_1 h_2$ sq .units 2) $2\pi r (h_1-h_2)$ sq. units

3) $2\pi r (\frac{h_1+h_2}{2})$ sq. units 4) $2\pi r (h_1+h_2)$ sq .units

91. A solid sphere of radius 6 cm is melted into a hollow cylinder of uniform thickness. If the external radius of the base of the cylinder is 5cm and its height is 320mm, then find the twice the thickness of the cylinder---------

1)1 cm 2) 2 cm 3)1 mm 4)2 mm

92. If the range of a function 'f' is not a proper subset of co-domain, then the function is a/an----------

1) one to one 2) onto 3) into 4) none

93. Given $f(x) = (-1)^x$ is a function from N to Z. Then the complement of the range of f is ----------

1) {-1, 1} 2) Z 3) N - {-1, 1} 4) Z - {-1, 1}

94. If a, b, c, l, m, n are in A.P then 3a+7,3b+7,3c+7,3l+7,3m+7,3n+7 form ----------

1) a G.P 2) an A.P 3) a constant sequence 4) neither A.P nor G.P

95. The centroid divides circumcentre and orthocentre internally in the ratio---------- from the orthocentre.

1)1:1 2)2:1 3)1:2 4) None

96. The angle of inclination of any line which does not touch the x – axis is----------

1)180° 2) 90° 3) 0° 4) 30°

97. What is the complement of complement of sure event ----------?

1) Impossible Event 2) Mutually Exclusive Event 3) Sure Event 4) None

98. The abscissa of a point is perpendicular distance of that point from

1) X-axis 2) Y-axis 3) Origin 4) None

99. The value of X for the equation $x^2 + \frac{1}{x^2} = 2 + \frac{3}{2}\left(x - \frac{1}{x}\right)$ is

1) ±1 2) ±2 3) 0 4) None

100. Find the value of $\sqrt{16 + 2\sqrt{63}}$

1) $\sqrt{3} + \sqrt{21}$ 2) $\sqrt{7} + \sqrt{9}$ 3) $\sqrt{3} + \sqrt{7}$ 4) None