1021

GOVERNMENT OF PUDUCHERRY
DIRECTORATE OF SCHOOL EDUCATION

QUESTION BOOKLET

NOVEMBER 2019

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

PART II
SCHOLASTIC APTITUDE TEST – NOVEMBER 2019

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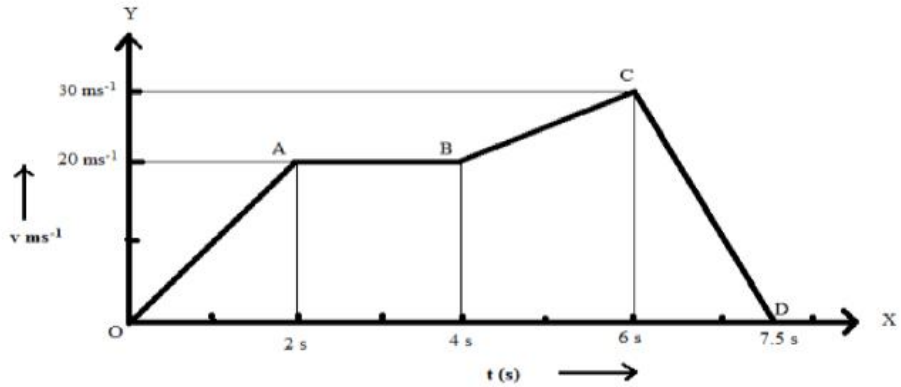
Duration: 2 Hours **Max Marks: 100**

SCIENCE

1. The least count (LC) of a Vernier Caliper is 0.01 cm and that of screw gauge is 0.01 cm. Which one is more precise?

   1) Screw Gauge 2) Vernier Caliper 3) Both are not precise 4) Both are equally precise

2. The velocity - time graph of an object moving along a straight line is as shown in the figure. The distance covered by the object between t= 0 to 4 s is _____



   1) 80m 2) 60 m 3) 40 m 4) 20 m

3. A person of 60 N weights descends in a lift with acceleration $2ms^{-2}$. The cable of lift Suddenly breaks down. The weight of the person inside the lift is

   1) 58N 2) 0N 3) 30 N 4) 62N

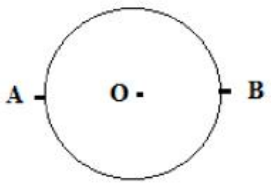
4. A boat having a length 3 m and breadth 2 m is floating on a lake. If the boat sinks by 1 cm When a man gets on it then the mass of the man is

   1) 120 kg 2) 60 kg 3) 72 kg 4) 80kg

5. The work done to move a unit positive charge from a wire at 100V to another wire at 100V is

   1) 0J 2) 25 J 3) 50J 4)200J

6. A wire of resistance 8 R is bent in the form of a circle as shown in the figure. What is the Effective resistance between the ends of the diameter AB?



   1) 2 R 2) 4 R 3) 8 R 4) 16 R

7. The magnetic lines of force inside a magnet is from

   1) North to South 2) South to North 3) East to West 4) West to East

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8. The mirror which produces the magnifications of m> -1, m < -1 and m > +1 is ____

   1) Convex mirror 2) concave mirror 3) plane mirror 4) spherical mirrors

9. If the top half of a convex lens is covered with black paper, then

   1) The bottom half of image will disappear 2) The top half of the image will disappear

   3) The magnification will be reduced to half 4) The intensity will be reduced to half

10. The temperature at which Celsius and Fahrenheit scale thermometers read the same value is

    1) 40^{o} 2) -40^{o} 3) 45^{o} 4) 50^{o}

11. A boy in a hill station calls his mum but she could not guess from where her ward calls due to reverberation. This is because of the distance between the boy and the hill is less than

    1) 34 m 2) 27 m 3) 17 m 4) 5 m

12. The shooting star is a _____

    1) An asteroid 2) a star 3) a piece of celestial rock entering earth's atmosphere 4) a comet

13. Find the unmatched pair

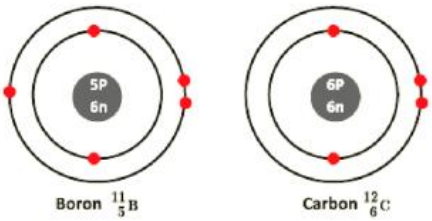
    1) Fertilizer - Phosphorus

    2) Computer Industry - Silicon

    3) Toothpaste - Fluoride

    4) LPG - Butane and Methane

14. The below figure represents



    1) Isotopes 2) Isobars 3) Isotones 4) Isomers

15. The mass percentage ratio of Carbon and Hydrogen in Methane is

    1) 1: 4 2) 4: 1 3) 1: 3 4)3: 1

16. Match the following

    i) 69g of Na - a) 0.25 moles

    ii) 11.2 litres of O_2 - b) 3 moles

    iii) 12.046×10^{23} atoms of Fe - c) 0.5 moles

    iv) 1.5×10^{23} molecules of H_2O - d) 2 moles

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

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

17. The element Arsenic has the properties of

    1) Metals 2) Non-metals 3) Metals and Non-metals 4) neither metal nor non-metal

18. During extraction of iron roasted ore, coke and limestone are mixed and smelted in the ratio

    1) 4: 2: 1 2) 1: 2: 4 3) 8: 4: 1 4) 1: 4: 8

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19. Find the odd one out based on the composition of metals

1) Brass 2) Bronze 3) Duralumin 4) Magnalium

20. The oxidation number of Chromium in $K_2Cr_2O_7$ is

1) + 6 2) - 6 3) + 2 4) - 2

21. Match the following

Colour of flame		Inference
i) Brick red	-	a) Zn^{2+}
ii) Golden yellow	-	b) K^+
iii) Pink violet	-	c) Na^+
iv) Green fleshes	-	d) Ca^{2+}

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

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

22. Among the following resin codes which plastics are unsafe?

1) 1 and 2 2) 2 and 3 3) 3 and 4 4) 3 and 6

23. The groups responsible for the colour of an organic compound is called _____

1) Isotope 2) Auxochrome 3) Chromogen 4) Chromophore

24. Pick out the odd one out depending on nature of the substance .

1) Silica gel 2) Quick lime 3) Con. H_2SO_4 4) NaOH

25. Biochemical substance derived from leech saliva used as the medicine for_____

1) Hyper tension 2) Diabetics 3) Jaundice 4) Goitre

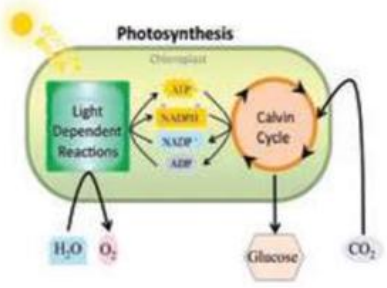
26. Matching

A.	B
a) neurogenic.	i) vertebrate.
b) myogenic.	ii) contraction
c) Systole.	iii) relaxation
d) diastole.	iv) annelids

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

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

27.



From the above diagram fill the boxes

1) H_2O, glucose 2) O_2, H_2O 3) H_2O, sucrose 4) Fructose, CO_2

28. Which Ray is used to induce desirable mutations in crop plants

1) Beta rays. 2) Ultraviolet rays 3) Gamma rays 4) Alpha rays

29. _____is the instrument which records the electrical impulses of brain

1) Electroencephalogram. 2) Electrogram

3) Electroepicephalogram 4) Electro echogram

30. Thyroid gland requires ____of iodine every day for the production of thyroxine.

1)120 µg 2)150 µg 3)200 µg 4)125 µg

31. Matching.

A.	B
a) Parenchyma tissue.	i) protection
b) Chlorenchyma tissue.	ii) support
c) Collenchyma tissue.	iii) photosynthesis
d) Sclerenchyma tissue.	iv) food storage

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

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

32. Which act as aging clock in every cell

1) Centromere 2) Telomere 3) Metamere 4) Anamere

33. Archeopteryx is the oldest known_____.

1) Fossil bird 2) Fossil reptile 3) Fossil animal 4) Fossil snake

34. _____ Promote the elongation of stems.

1) Auxins 2) Coleoptiles 3) Cytokinin 4) Zookinin

35. Storage function is done by

1) Parenchyma 2) Collenchyma 3) Schlerenchyma 4) Schlerids.

36. Which one of the following is not a monosaccharide?

1) Glucose 2) Sucrose 3) Fructose 4) Galactose

37. Which element is rich in bananas?

1) Calcium 2) Sodium 3) Potassium 4) Iodine

38. Which of the following is a double antigen?

1) MMR 2) DT 3) TAB 4) BCG

39. Which organisation supports conservation of Nature?

1) UNO 2) UNESCO 3) IUCN 4) WHO

40. Which is the hydrophyte that lacks roots?

1) Hydrilla 2) Vallisneria 3) Eichhornia 4) Wolfia

41. Naval battle of 1916 in North Sea is called_____

1) Battle of First Balkan 2) Battle of Second Balkan

3) Battle of Jutland 4) Battle of Verdun

42. Due to which treaty, Russia withdrew from the First World War?

1) Treaty of Versailles 2) Treaty of Bucharest

3) Treaty of London 4) Treaty of Brest-Litovsk

43. Mandela was imprisoned for _____ years

1)29 2) 28 3) 27 4) 26

44. Who wrote the pamphlet, "French Colonialism on Trial"?

1) Hochi Minh 2) Mao Tsetung 3) Herzog 4) Smuts

45. Which party played a major role in the formation of Weimar Republic?

1) Nazi party 2) Fascist party 3) Social Democratic party 4) Unionist party

46. The city at the back of Volga was_____

1) Berlin 2) Munich 3) Stalingrad 4) Danzig

47. North and South Vietnam united in _____

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

48. First President of Palestine was _____

1) Nasser 2) Saddam Hussain 3) Hafez-Al-Assad 4) Yasser Arafat

49. As a counter to the NATO, Soviet Union made_____

1) NATO PACT 2) WARSAW PACT 3) CENTO PACT 4) SEATO PACT

50. "SATI" was abolished in_____

1)1827 2) 1829 3) 1826 4) 1828

51. _____ River is known as the Sorrow of Bihar

1) Narmada 2) Godavari 3) Kosi 4) Damodar

52. The Pamir Knot is popularly known as the _____

1) Roof of the world 2) Roof of India 3) Abode of Snow 4) Eastern Himalayas

53. The Indian Board for Wild Life was constituted in _____

1) 1950 2) 1962 3) 1953 4) 1952

54. Seshachalam Hills Biosphere Reserve is located in _____

1) Odisha 2) Andhra Pradesh 3) Tamilnadu 4) Kerala

55. The largest dam in the world is _____

1) Mettur dam 2) Kosi dam 3) Hirakud dam 4) Bhakra-Nangal dam

56. The city which is called as the Manchester of South India is _____

1) Chennai 2) Salem 3) Madurai 4) Coimbatore

57. Tata Iron and Steel industry is located in _____

1) Odisha 2) Jharkhand 3) Tamilnadu 4) Chhattisgarh

58. The first nuclear power was commissioned in _____

1) Gujarat 2) Rajasthan 3) Maharashtra 4) Tamilnadu

59. The word "citizen" is derived from _____ language.

1) Greek 2) English 3) Latin 4) Spanish

60. Under which article state emergency can be proclaimed?

1) Article 352 2) Article 356 3) Article 360 4) Article 368

61. At present the Supreme Court of India consists of _____judges including the Chief Justice.

1)30 2) 25 3) 28 4) 32

62. India is_____ fastest growing nation in the world

1) Fourth 2) Fifth 3) Sixth 4) Seventh

63. The headquarters of WTO is located at _____

1) Geneva 2) New York 3) London 4) Paris

64. Indian government introduced _____ in 1991

1) Globalization 2) World Trade Organization

3) New Economic Policy 4) All of these

65. The period called _____ marks the beginning of agriculture and animal domestication

1) Paleolithic 2) Mesolithic 3) Neolithic 4) Megalithic

66. Which sailor was the first to cross the equator?

1) Henry, the navigato 2) Lopo Gonzalves

3)Bartholomew Diaz 4)Christopher Columbus

67. The region of terror ended with the fall of_____

1) Danton 2) Herbert 3) Napoleon. 4) Robespierre

68. Who invented the sewing machine?

1) Elias Howe 2) Eli Whitney 3) Samuel Crompton 4)Humphry Davy

69. An example of sleeping volcano is_____

1) Mounaloa, Hawaii 2) Mount St. Helen's US.

3) Mt.Fuji, Japan. 4) Paricutin, Mexico

70. Which is the highest waterfall in the world?

1) Nayagra. 2) Jog. 3) Angel. 4) Victoria

71. Which one of the following is a second order landform?

1) Asia 2) Deccan Plateau 3) Kulu Valley 4) Marina Beach

72. The diameter of a raindrop is more than_____mm

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

73. During sunset Cirrus clouds look colourful like_____

1) Mare's Tails. 2) Sheep clouds. 3) Cauliflower. 4) Woolpack clouds

74. National Institute of Oceanography was established in_____

1) 1964 2) 1965 3) 1966 4)1967

75. NOTA was first introduced in General Elections held in the year

1)2012 2) 2013 3) 2014 4) 2015

76. As on 2017 the numbers of recognized National parties are _____

1)10 2) 7 3) 12 4) 8

77. Who is called "Father of Local Government"?

1) Lord Canning 2) Lord Rippon 3) Lord Curzon 4) Lord Dalhousie

78. Leading solar power producing state in India is _____

1) Kerala 2) Tamilnadu 3) West Bengal 4) Andhra Pradesh

79. Credit card was invented by_____

1) Edwin 2) John Biggins 3) Gilbert 4) David

80. The National Remote Sensing Centre (NRSC) is located at_____

1) Bengaluru. 2) Chennai. 3) Delhi 4) Hyderabad

MATHEMATICS

81. If N is the sum of first 13,986 prime numbers, then N is always divisible by

1)4 2)6 3) Odd number 4)8

82. Find the value of a in the following $\frac{3-\sqrt{5}}{3+2\sqrt{5}} = a\sqrt{5} - \frac{19}{11}$

1) $\frac{-9}{11}$ 2) $\frac{9}{11}$ 3) $\frac{19}{11}$ 4) $\frac{-11}{9}$

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83. If $(\sqrt{3})^5 \times 9^2 = 3^n \times 3\sqrt{3}$ Then the value of n is

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

84. The value of $\log_2 (\log_5 625)$ is

1) 2 2)5 3)10 4)15

85. Value of x satisfying $\sqrt{x+3} + \sqrt{x-2} = 5$ is

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

86. A two digit number is obtained by either multiplying sum of the digits by 8 and adding 1 or multiplying the difference of the digits by 13 and adding 2. The number is

1) 31 2)41 3)51 4)61

87. The sum of 11 terms of an A.P. whose middle term is 30 is

1) 320 2)330 3)340 4)350

88. If $A=\begin{bmatrix} 7 & 2 \\ -3 & 9 \end{bmatrix}$ $B=\begin{bmatrix} p & 2 \\ -3 & 5 \end{bmatrix}$ and AB=BA then find the value of p

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

89. If the points A(3,5) and B(1,4) lie on the graph of the line $ax + by = 7$ Then the sum of the value of 'a' and 'b' is

1) 1 2)0 3)-1 4)2

90. The points A(-4,-1), B(-2, -4), C(4,0) and D(2,3) are the vertices of a

1) Parallelogram 2) Rectangle 3) Rhombus 4) Square

91. $\tan 15^0 = 2 - \sqrt{3}$ then the value of $\cot^2 75^0$ is

1) $7 + \sqrt{3}$ 2)$7 - 2\sqrt{3}$ 3)$7 - 4\sqrt{3}$ 4)$7 + 4\sqrt{3}$

92. If the supplement of an angle is three times its complement, the angle is

1) 40^0 2)35^0 3)50^0 4)45^0

93. The length of the side of a square whose diagonal is 16cm is

1) $8\sqrt{2}$ cm 2)$2\sqrt{8}$ cm 3)$4\sqrt{2}$ cm 4)$2\sqrt{2}$ cm

94. Two circles of radii 20cm and 37cm intersect in A and B. If O_1 and O_2 are their centres and AB=24cm then the distance between O_1 and O_2 is

1) 44cm 2)51cm 3)40.5cm 4)45cm

95. The sides of a triangular plot area in the ratio of 3:5:7 and its perimeter is 300 m. Its area is

1)$1500\sqrt{2}$ cm^2 2)$1500\sqrt{3}$ cm^2 3)$1425\sqrt{2}$ cm^2 4)1500 cm^2

96. In parallelogram PQRS, PQ=10cm. The altitudes corresponding to the sides PQ and SP are 6cm and 8cm respectively. Then SP is

1) 2.5 cm 2)5 cm 3)7.5 cm 4)10 cm

97. The line joining the centre of a circle to the midpoint of a chord is always
    1) Parallel to chord 2) Perpendicular to chord
    3) Equal to chord 4) Tangent to the chord

98. A conical tent has a floor area of 154 sq.m. Its height is 24m how much canvas is required for that tent?
    1) 700 sq.m. 2)550 sq.m. 3)500 sq.m 4)450 sq.m.

99. In a frequency distribution the mid value of a class is 10 and the width of the class is 6. The lower limit of the class is
    1) 6 2)7 3)8 4)12

100. In a class 30% of the students offered English 20% offered Hindi and 10% offered both. If a Student is selected at random, what is the probability that he has offered English or Hindi?
    1) $\frac{2}{5}$ 2) $\frac{3}{4}$ 3) $\frac{3}{5}$ 4) $\frac{3}{11}$