Roll No. : | | | | | | | | | | | |

NMMS(E)

ENGLISH

A

Sl No. :

NMMS - NOVEMBER, 2019

MENTAL ABILITY AND SCHOLASTIC APTITUDE TEST

Time : **Part - I : 90 Minutes** — *Max. Marks* : **90**

Time : **Part - II : 90 Minutes** — *Max. Marks* : **90**

Instructions to the Candidates

Read the following instructions carefully before you answer the questions. Answers are to be SHADED on a SEPARATE given OMR Answer Sheet with a **Black Ball Point Pen**. Read the **Instructions printed on the OMR Sheet carefully before answering the questions.**

1. Please write your Centre Code No. and Roll No. very clearly (only one digit in one block) on the OMR Sheet as given in your admission card. Please see that no block is left unfilled and even Zeros appearing in the Centre Code No. are correctly transferred to the appropriate blocks on the OMR Sheet as shown in the example given in the OMR Sheet. For all subsequent purposes, your Centre Code No. and Roll No. shall remain the same as given on the Admission Card.
2. The Test is in TWO Parts. **Part-I consists of 90 questions and Part-II also consists of 90 questions.**
3. All questions in Part-I and Part-II carry **one** mark each.
4. **Since all questions are compulsory**, do not try to read through the whole question paper before beginning to answer it.
5. Begin with the first question and keep trying one question after another till you finish both the Parts.

Contd...

6. If you do not know the answer to any question, do not spend much time on it and pass on to next one. If time permits, you can come back to the questions which you have left out in the first instance and try them again.

7. Since the time allotted to the two parts of this question paper is very limited, you should make the best use of it by not spending too much time on any question.

8. A blank page is provided for rough work at the end of each part.

9. **Remember, you have to shade answers on a separate OMR sheet provided.**

10. **Answer to each question is to be indicated by SHADING the circle having the number of the correct alternative in the OMR Sheet from among the ones given for the corresponding question in the booklet.**

11. Now turn to the next page and start answering the questions.

12. After the examination, you should hand over the OMR Sheet to the Invigilator of the room.

13. **The candidate need not return this Question Paper Booklet and can take it after the completion of the examination. No candidate should leave the examination hall before the end of the examination.**

This Booklet consists of 31 Pages for 180 Questions + 03 Pages of Rough Work + 02 Title Pages i.e. Total 36 Pages

NMMS(E)

A

Part - I : MENTAL ABILITY TEST

Time : 90 Minutes **Max. Marks : 90**

Note : SHADE the correct alternatives in the OMR Answer Sheet provided from amongst the ones given against the corresponding questions in the Question Paper Booklet. For shading the circles, use a **Black Ball Point Pen**.

Directions: Questions (1 to 10):

In the number series given below, one number is missing. Each series is followed by four alternatives (1), (2), (3), (4). One of them is the right answer. Indicate it as per the instructions.

1. 28, 33, 31, 36, ___?___, 39
   (1) 32 (2) 34 (3) 38 (4) 40

2. 125, 80, 45, 20, ___?___
   (1) 5 (2) 8 (3) 10 (4) 12

3. 325, 259, 204, 160, 127, 105, ___?___
   (1) 94 (2) 96 (3) 98 (4) 100

4. 240, ___?___, 120, 40, 10, 2
   (1) 180 (2) 240 (3) 420 (4) 480

5. 2, 7, 27, 107, 427, ___?___
   (1) 1262 (2) 1707 (3) 4027 (4) 4207

6. 45, 54, 47, ___?___, 49, 56, 51, 57, 53
   (1) 48 (2) 50 (3) 55 (4) None

7. 66, 36, 18, ___?___
   (1) 3 (2) 6 (3) 8 (4) 9

8. 20, 20, 19, 16, 17, 13, 14, 11, ___?___, ___?___
   (1) 10, 10 (2) 10, 11 (3) 13, 14 (4) 13, 16

9. 1, 9, 25, 49, 81, ___?___
   (1) 100 (2) 112 (3) 121 (4) 125

V-116

10. 6, 13, 28, 59, ___?___

(1) 111 (2) 113 (3) 114 (4) 122

Directions: Questions (11 to 20):

In these questions, there are equations that have become wrong due to incorrect order of signs. From the four alternatives given below, find out the correct order of signs. So that the equations become correct.

11. $95 \times 24 = 4 - 1$

(1) $-, +, =$ (2) $=, \times, -$ (3) $+, =, -$ (4) $\div, +, -$

12. $8 \div 9 = 9 - 81$

(1) $-, \times, +$ (2) $+, -, \div$ (3) $=, +, -$ (4) $\times, +, =$

13. $40 + 15 = 3 \times 5$

(1) $-, +, \div$ (2) $\div, +, -$ (3) $=, \times, -$ (4) $\times, +, -$

14. $728 = 8 + 13 - 7$

(1) $\div, =, \times$ (2) $\times, \div, -$ (3) $-, +, \div$ (4) $+, =, -$

15. $16 = 5 - 7 + 3$

(1) $-, +, =$ (2) $+, -, \div$ (3) $+, =, \times$ (4) $\div, -, +$

16. $12 - 8 + 6 \div 576$

(1) $\times, \times, =$ (2) $=, \times, +$ (3) $+, +, =$ (4) $-, +, \div$

17. $101 + 14 + 7 \div 3$

(1) $-, \times, =$ (2) $=, -, +$ (3) $=, +, -$ (4) $=, \times, +$

18. $304 + 4 - 76 \div 4$

(1) $-, \div, +$ (2) $\div, =, \times$ (3) $=, +, -$ (4) $-, +, \div$

19. $54 - 5 + 27 \div 10$

(1) $=, +, -$ (2) $-, \div, +$ (3) $\times, =, \times$ (4) $\div, +, \times$

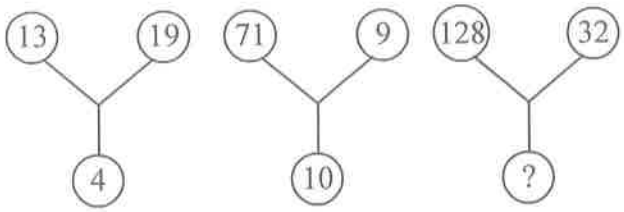
20. $30 \div 3 + 9 - 3$

(1) $=, +, -$ (2) $-, \div, +$ (3) $+, -, \times$ (4) $-, =, \times$

Directions: Questions (21 to 30):

In each of the following questions, a set of figures carrying certain characters is given. Assuming that the characters in each set follow a similar pattern, find the missing character in each case.

21.

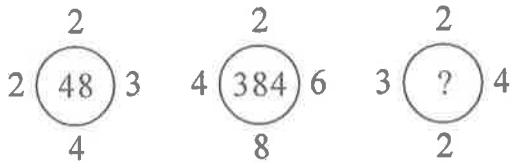


(1) 10 (2) 15 (3) 20 (4) 25

22.

(1) 13 (2) 15 (3) 17 (4) 19

23.



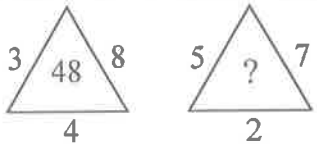
(1) 42 (2) 44 (3) 46 (4) 48

24.

42	44	38
23	55	28
37	?	39

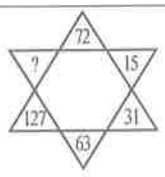
(1) 22 (2) 33 (3) 66 (4) 77

25.



(1) 27 (2) 35 (3) 54 (4) 64

26.



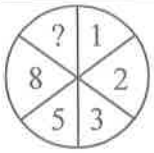
(1) 190 (2) 221 (3) 236 (4) 255

27.

	?	
3	39	9
	27	

(1) 33 (2) 81 (3) 243 (4) 42

28.



(1) 10 (2) 12 (3) 13 (4) 15

29.

84	
14	12

81	
18	9

88	
?	11

(1) 16 (2) 21 (3) 61 (4) 81

30.

51	11	61
64	30	32
35	?	43

(1) 25 (2) 27 (3) 18 (4) 20

Directions: Questions (31 to 40):

The following questions are based on simple arithmetic calculations. There are four alternatives given under each question. After identifying the right answer, indicate it as per instructions.

31. $47638 + 635 - 4125 = ?$

(1) 44418 (2) 41448 (3) 44158 (4) 44148

32. $89765 + 3 - 645 - 1243 + 63 = ?$

(1) 89743 (2) 87943 (3) 87843 (4) 87743

33. If $\frac{x}{\sqrt{28}} = \frac{\sqrt{343}}{x}$ then $x = ?$

(1) 98 (2) 49 (3) 14 (4) 24

34. $152.435 - 420.5 + 987.52 = ?$

(1) 709.455 (2) 708.455 (3) 719.455 (4) 718.455

35. $\frac{43^2 - 34^2}{43 - 34} =$

(1) 67 (2) 87 (3) 77 (4) 107

36. $0.007 \times 0.00009 = ?$
(1) 0.0063 (2) 0.000063 (3) 0.00000063 (4) 0.0000063

37. $\sqrt{225} \times 5 + 6 \times 7 - 2^3 = ?$
(1) 119 (2) 109 (3) 99 (4) 129

38. $5.12 \div (0.4 \times 0.8) = ?$
(1) 6.4 (2) 164 (3) 16 (4) 128

39. $\frac{5^2 + 12^2}{13} = ?$
(1) 13 (2) 1 (3) 169 (4) 17

40. $3^? + 1 = 244, ? =$
(1) 5 (2) 4 (3) 3 (4) 2

Directions: Questions (41 to 50):
In each of the following questions, there are a certain relationship between two given words on one side of : : and one word is given on the another side of : : while another word is to be found from the given 4 alternatives, having the same relation with this word as the words of the given pair. Choose the correct alternatives.

41. Cricket : Runs : : Foot ball : ?
(1) Points (2) Goals (3) Penalty (4) Left front

42. Slate : Slate Pencil : : Book : ?
(1) Pen (2) Rubber (3) Scale (4) Stationary

43. Bone : Skelton : : Blood : ?
(1) Eye (2) Ear (3) Vein (4) Skin

44. Hospital : Doctor : : School : ?
(1) Lesson (2) Teacher (3) Black Board (4) Book

45. Lock : Key : : Chair : ?
(1) Cup (2) Glass (3) Plate (4) Table

46. Circle : Circumference : : Square : ?
(1) Perimeter (2) Area (3) Side (4) Length

47. Video : Cassette : : Computer : ?
(1) Real (2) Recording (3) Files (4) Floppy

48. Thermometer : Temperature : : Hygrometer : ?

(1) Pressure (2) Humidity (3) Density (4) Relative Density

49. Bus : Driver : : Aeroplane : ?

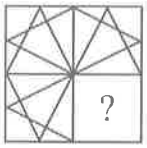
(1) Pilot (2) Wheeler (3) Watcher (4) None

50. Jaggery : Sweet : : Chilli : ?

(1) Sour (2) Salt (3) Hot (4) Bitter

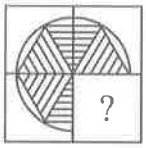
Directions: Questions (51 to 60):

In these questions a figure (X) is given with three parts and fourth with "?" mark. Find the fourth part from the adjacent figures to complete the figure.

51. 

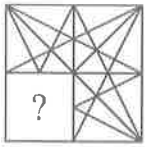
(X)  (1)  (2)  (3)  (4)

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

52. 

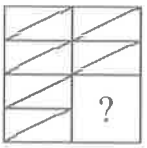
(X)  (1)  (2)  (3)  (4)

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

53. 

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

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

54. 

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

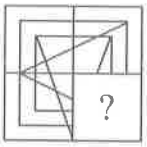
(1) 1 (2) 2 (3) 3 (4) 4

55. 




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

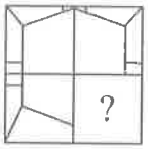
(1) 1 (2) 2 (3) 3 (4) 4

56. 




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

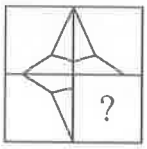
(1) 1 (2) 2 (3) 3 (4) 4

57. 




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

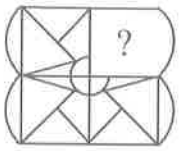
(1) 1 (2) 2 (3) 3 (4) 4

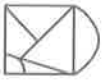
58. 




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

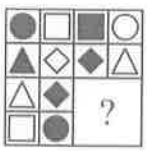
(1) 1 (2) 2 (3) 3 (4) 4

59. 

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

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

60. 

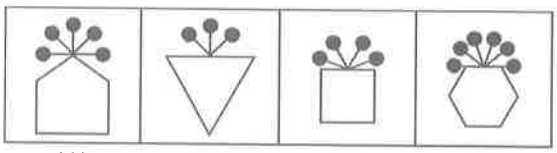



(X) (1) (2) (3) (4)

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

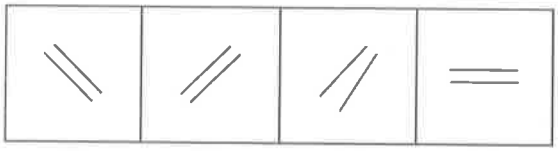
Directions: Questions (61 to 70):

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

61. 

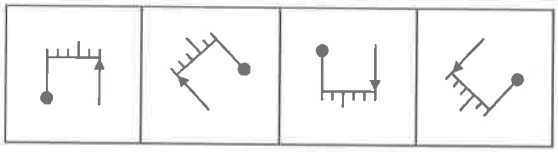
(1) (2) (3) (4)

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

62. 

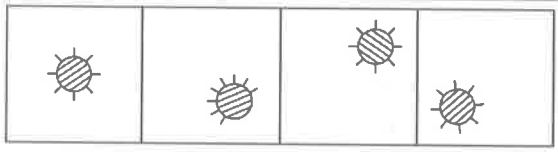
(1) (2) (3) (4)

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

63. 

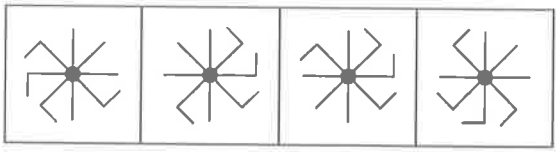
(1) (2) (3) (4)

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

64. 

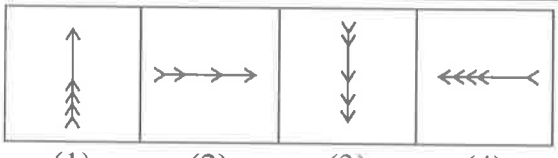
(1) (2) (3) (4)

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

65. 

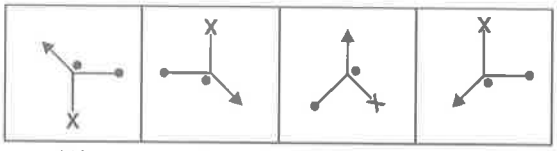
(1) (2) (3) (4)

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

66. 

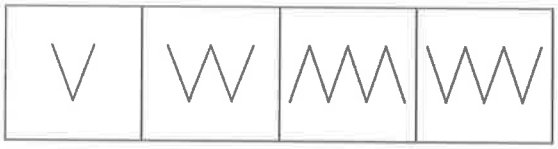
(1) (2) (3) (4)

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

67. 

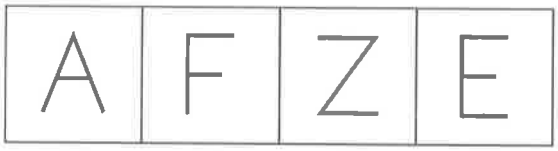
(1) (2) (3) (4)

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

68. 

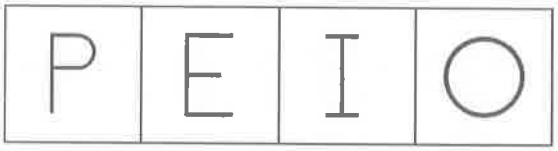
(1) (2) (3) (4)

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

69. 

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

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

70. 

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

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

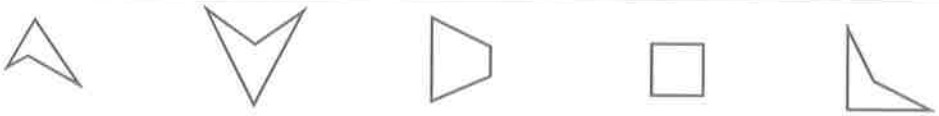
Directions: Questions (71 to 80):

In the given five alternative (1), (2), (3), (4), (5) figures, which three can make a square. Find.

71. 

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

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

72. 

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

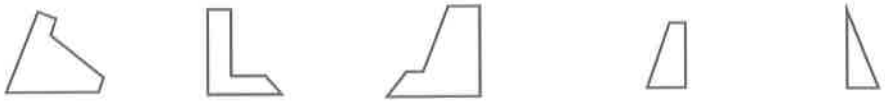
(1) 1, 2, 4 (2) 3, 4, 5 (3) 1, 2, 3 (4) 1, 3, 5

73.

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

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

74.



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

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

75.

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

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

76.

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

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

77.

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

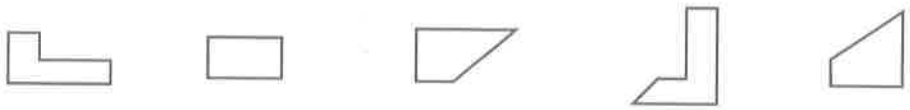
(1) 1, 2, 3 (2) 2, 3, 4 (3) 3, 4, 5 (4) 2, 4, 5

78.

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

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

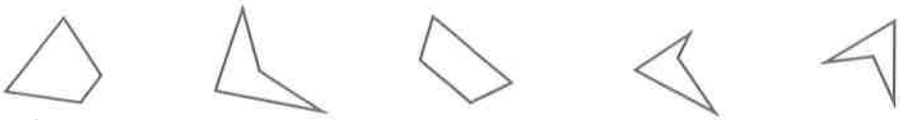
79.



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

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

80.



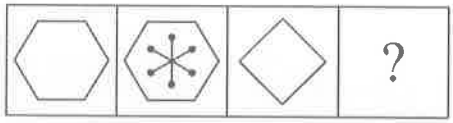
(1) (2) (3) (4) (5)

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

Directions: Questions (81 to 90):

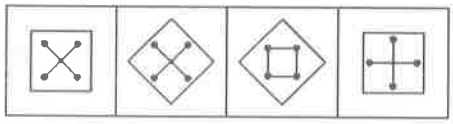
Each of the following questions consist of two sets of figures. Figure A, B, C and D constitute the Problem set while figures 1, 2, 3 and 4 constitute the Answer Set. There is a definite relationship between Figures A and B. Establish a similar relationship between figures C and D by selecting a suitable figure from the Answer Set that would replace the question mark (?) in figure. (D).

81. Problem Figures:



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

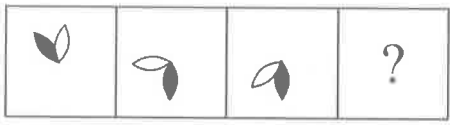
Answer Figures:



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

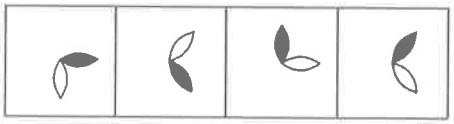
(1) 1 (2) 2 (3) 3 (4) 4

82. Problem Figures:



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

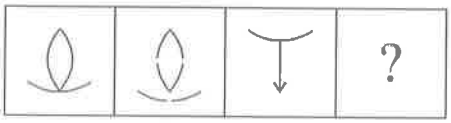
Answer Figures:



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

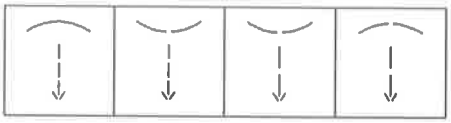
(1) 1 (2) 2 (3) 3 (4) 4

83. Problem Figures:



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

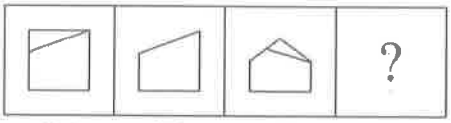
Answer Figures:



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

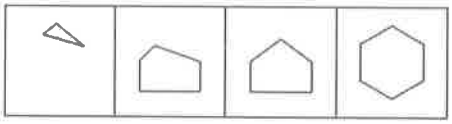
(1) 1 (2) 2 (3) 3 (4) 4

84. Problem Figures:



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

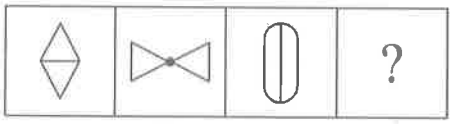
Answer Figures:



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

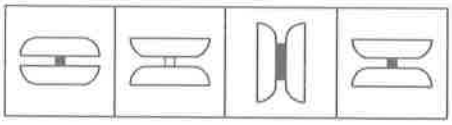
(1) 1 (2) 2 (3) 3 (4) 4

85. Problem Figures:



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

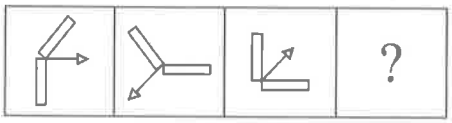
Answer Figures:



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

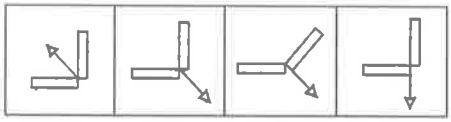
(1) 1 (2) 2 (3) 3 (4) 4

86. Problem Figures:



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

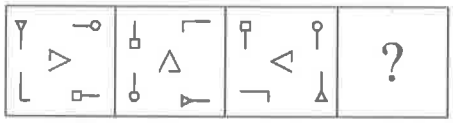
Answer Figures:



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

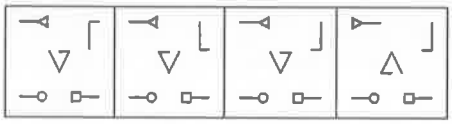
(1) 1 (2) 2 (3) 3 (4) 4

87. Problem Figures:



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

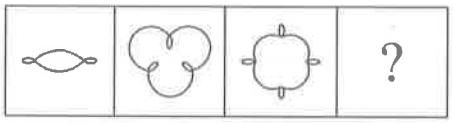
Answer Figures:



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

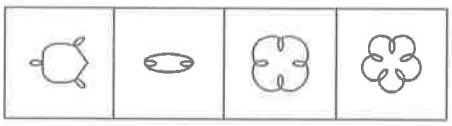
(1) 1 (2) 2 (3) 3 (4) 4

88. Problem Figures:



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

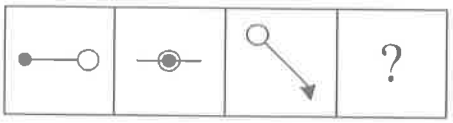
Answer Figures:



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

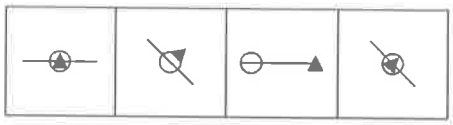
(1) 1 (2) 2 (3) 3 (4) 4

89. Problem Figures:



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

Answer Figures:



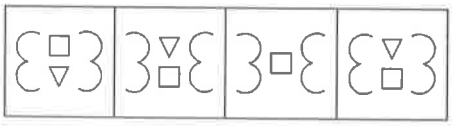
(1) (2) (3) (4)

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

90. Problem Figures:

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

Answer Figures:



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

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

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

NMMS(E)

A

Part - II : SCHOLASTIC APTITUDE TEST

Time : 90 Minutes **Max. Marks : 90**

Note :

i) Subject, Question No. and Marks allotted:

Sl. No.	Subject	Question No.	Marks
1.	Physics	91 to 102	12
2.	Chemistry	103 to 113	11
3.	Biology	114 to 125	12
4.	Mathematics	126 to 145	20
5.	History	146 to 155	10
6.	Geography	156 to 165	10
7.	Political Science	166 to 175	10
8.	Economics	176 to 180	05

ii) **SHADE** the circle having the correct alternatives in the OMR Answer Sheet provided, from amongst the ones given against the corresponding questions in the Question Paper Booklet. For shading the circles, use a **Black Ball Point Pen**.

PHYSICS

91. X : Velocity of a Bus is 72 km/hr
Y : Velocity of a Car is 45 m/sec
Z : A Van travelled 60 km in 40 minutes
If X is the velocity of Bus, Y is velocity of Car, Z is velocity of Van.
(1) $X < Y < Z$ (2) $X > Y < Z$ (3) $X > Y > Z$ (4) $X < Y > Z$

---

92. Match the following.

i)	Motion of blades of a ceiling fan	a)	Oscillatory motion
ii)	Motion of an arrow from a bow	b)	Rotatory motion
iii)	Motion of the earth around the sun	c)	Translatory motion
iv)	Motion of the needle in the clothes stitching machine	d)	Translatory and rotatory motion

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

---

93. Assertion (A) : Electric bulbs in our houses are connected in parallel.
Reason (R) : Bulbs glow brighter when they are connected in parallel.
(1) Both (A) and (R) are correct (2) Both (A) and (R) are incorrect
(3) (A) is correct, (R) is incorrect (4) (A) is incorrect, (R) is correct

---

94. Match the following.

i)	Humidity	a)	Rain gauge
ii)	Rainfall	b)	Six maximum, minimum thermometer
iii)	Wind speed	c)	Hydrometer
iv)	Temperature	d)	Anemometer

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

---

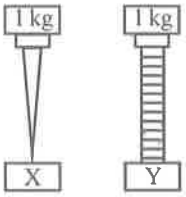
95. X, Y are the objects having same size and made with same material. A nail of 1 kg on X and a screw of 1 kg on Y are placed on which object the pressure is more

(1) on X

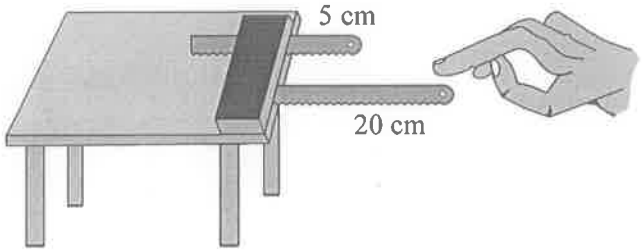
(2) on Y

(3) equal pressure on X and Y

(4) data is insufficient



96.



Vibrations of hack-saw blades

X is the pitch of the sound produced by the hack-saw blade of 20 cm. in

Y is the pitch of the sound produced by the hack-saw blade of 5 cm in.

(1) X > Y

(2) X < Y

(3) X = Y

(4) Pitch does not depend upon the length of the hack-saw blades.

97. Which of the following is incorrect in the case of friction _____

(1) Frictional force is dependent of the area of contact

(2) Friction is proportional to the normal force

(3) Friction opposes the relative motion between two surfaces in contact

(4) Friction depends upon the surfaces which are in contact

98. If the incident ray incident perpendicularly to the plane, then the angle of reflection.

(1) 90°

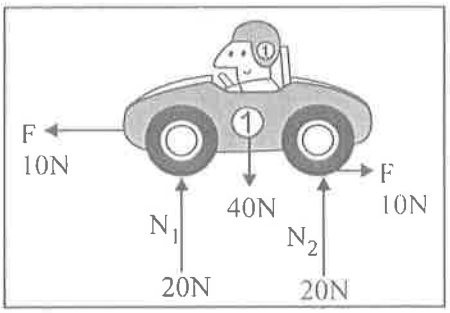
(2) 180°

(3) 0°

(4) 45°

99.

Left side



Right side

Motion of the car in which direction

(1) towards right (2) towards left

(3) upwards (4) car won't move

100. Mirrors which form only virtual images _____

(1) plane mirror, convex mirror

(2) concave mirror, plane mirror

(3) convex mirror, concave mirror

(4) only concave mirror

101. The liquid used in six maximum, minimum thermometer is _____

(a) Water

(b) Mercury

(c) Alcohol

(d) Air

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

102. –5°C ice is heated upto it become vapour

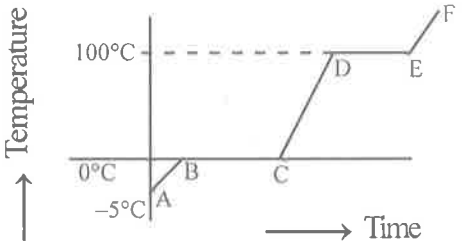
If the observations are plotted in the given below graph. Which parts of the graph represents the process of melting and boiling respectively.

(1) AB, BC

(2) BC, DE

(3) CD, DE

(4) None of the above



CHEMISTRY

103. For acidity problem doctors prescribe antacid drugs which contain

a) Magnesium hydroxide b) Sodium acetate

c) Vinegar d) Aluminium hydroxide

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

104. Among the following which can not be recycled

(1) PET (2) HDPE (3) PS (4) LDPE

105. Match the following.

i)	Removing of grease, oil stains	a)	Aluminium hydroxide
ii)	Fire extinguisher	b)	Oxalic acid
iii)	Removal of ink stains	c)	Ammonium hydroxide
iv)	Cool drinks	d)	Carbonic acid

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

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

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

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

106.

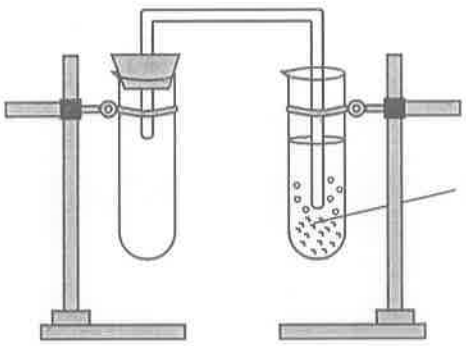
	Methyl orange	Phenolphthalein	Turmeric solution
Lemon Juice	red	colourless	Z
Detergent soap water	yellow	Y	Red
Distilled water	X	colourless	yellow

The colours X, Y, Z are

(1) red, colourless, red (2) yellow, colourless, pink

(3) yellow, pink, yellow (4) red, pink, red

107.



Due to release of _____ gas lime water turned milky white. The milky white substance contains _____

(1) oxygen, calcium oxide (2) Hydrogen, calcium carbonate

(3) Carbon dioxide, calcium carbonate (4) Oxygen, calcium carbonate

108. P : Thermoplastics soften when heated.
Q : Thermosetting plastics which moulded once can't be softened by heating.
(1) P is correct, Q is incorrect (2) P and Q are incorrect
(3) P is incorrect, Q is correct (4) P and Q are correct

109. Arrange the metals copper, iron, Zinc in descending order according to their reactivity
(1) Zinc, Iron, Copper (2) Iron, Zinc, Copper
(3) Copper, Zinc, Iron (4) Zinc, Copper, Iron

110. Identify the wrong statement.
(1) The mixture of aluminium and copper is used in the preparation of coins.
(2) The mixture of gold and copper is used in the preparation of Jewellery.
(3) The mixture of iron and carbon is used in the preparation of steel
(4) The mixture of aluminium and carbon is used in the preparation of statues.

111. By sprinkling small quantities of _____ in water will prevent browning of vegetables after cutting.
a) Vinegar b) Lemon Juice
c) Ascorbic acid d) Nitric acid
(1) a, b, c (2) b, c, d (3) a, c, d (4) a, b, d

112. Match the following.

i)		a)	Wash
ii)		b)	Bleach
iii)		c)	Iron
iv)		d)	Do not bleach

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

113. Choose the correct statements among the following.
a) The gas we use in kitchen is in the form of liquid in the cylinder. When it comes out from the cylinder, it becomes a gas. This is a chemical change.
b) The burning of gas come from the cylinder is a chemical change.
c) Bacteria digest animal waste and produce biogas. This is a physical change.
d) The biogas burnt as a fuel is a chemical change.
(1) a, b, d (2) a, b, c (3) b, c, d (4) a, c, d

BIOLOGY

114. During the confirmation of presence of food components, dark violet coloured substance is formed when it is treated with copper sulphate solution. This determines the presence of this compound
(1) Fats (2) Carbohydrates (3) Proteins (4) Vitamins

115. Which of the following bases is used as a fire extinguisher?
(1) Alluminium hydroxide (2) Ammonium hydroxide
(3) Calcium hydroxide (4) Potassium hydroxide

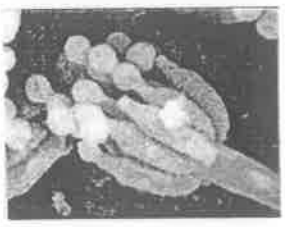
116. Match the following.

i)	Tie and Dye	a)	Emotions
ii)	Bacillus thuringiensis	b)	Scabies
iii)	Jan swammerdam	c)	Jamadani
iv)	Adrinalin	d)	Observation and description of micro organisms
v)	Micro Arthropoda	e)	Bio pesticide

(1) i - d ii - e iii - b iv - a v - c
(2) i - c ii - e iii - d iv - a v - b
(3) i - c ii - d iii - e iv - a v - b
(4) i - d ii - c iii - a iv - e v - b

117. Amount of solar energy utilised for purposes of Global heat, evaporation of water on the earth
(1) 35% (2) 8% (3) 80-85% (4) 50%

118. Which of the following statements is incorrect?
(1) Red Fox, Lion are the endangered species in India.
(2) The Deccan wingless grasshopper is seen only in the Rabi season.
(3) Menstrual cycle in woman stops at the age of 45-50.
(4) Louis Pasteur discovered the controlling measures for microbial diseases caused to the Silk moth.

119. 

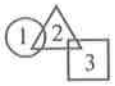
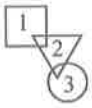
The given organism in the above picture is a type of
(1) Bacterium (2) Protozoa (3) Fungus (4) Algae

120. If Zygote denotes '◯'

Seed denotes '△'

New plants denotes '□'

Identify the sequential order of formation.

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

121. Which of the following plant produces new plant from the epiphyllous buds (Leaf buds).

(1) Lilly (2) Dahlia (3) Strawberry (4) Bignonia

122. Match the following.

i)	Gilebi	a)	Fungus
ii)	Purification of drainage water	b)	Loom
iii)	Harness	c)	Haustoria
iv)	Parasitic plant	d)	Yeast
v)	Cercospora	e)	Bar screen

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

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

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

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

123. Identify the correct statements from the following.

a) Gaseous exchange in plants occurs only through stomata.

b) Insectivorous plants grow only in Nitrogen deficient soils.

(1) a is true
b is also true

(2) a is false
b is true

(3) a is true
b is false

(4) a is false
b is also false

124. Pat is

(1) a type of silk available in Northern India

(2) a type of silk available in Western India

(3) a type of silk available in Eastern India

(4) a type of silk available in Southern India

125. This cell organelle can be recognised by using Methylene blue solution.

(1) Nucleolus (2) Cell wall (3) Nucleus (4) Cytoplasm

MATHEMATICS

126. If $x=(-1)^1+(-1)^2+\ldots+(-1)^{2019}$ and

$y=(-1)^1-(-1)^2+\ldots+(-1)^{2019}$ then $x-y$ is

(1) 2019 (2) 2018 (3) 0 (4) 1014

127. If $\frac{a}{b}=\frac{x}{y}=\frac{p}{q}$ then $\frac{6a+9x+2p}{6b+9y+2q}=$

(1) $\frac{a}{b}$ (2) $\frac{x}{y}$ (3) $\frac{p}{q}$ (4) All of these

128. If $7^{a^b}=2401$ where a and b are positive integers and $a\neq 1$, then which of the following is (are) correct?

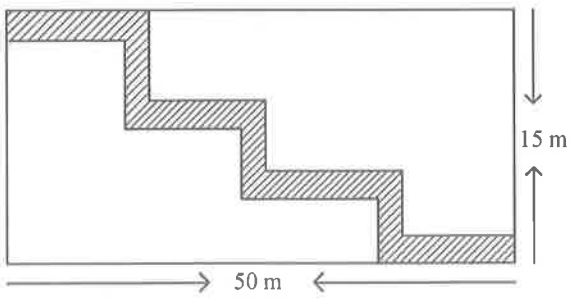
I) $a=b$

II) $a>b$

III) $a<b$

(1) Either I or III (2) Either II or III (3) Either I or II (4) I only

129. Find the total cost of levelling the shaded path of uniform width 2 m laid in the rectangular field shown below, if the rate per m^2 is ₹ 100



(1) ₹ 12600 (2) ₹ 16200 (3) ₹ 13000 (4) ₹ 12000

130. Which of the following is a solution of $\frac{2x-5}{3}>\frac{3x+3}{4}$?

(1) $x=-5$ (2) $x=-2$

(3) both (1) and (2) (4) neither (1) nor (2)

131. The mean of a, b and c is same as the mean of b, $2c$ and d then which of the following is correct?

(1) $a=b=c$ (2) $b=c=d$ (3) $b=c$ (4) $a=c+d$

132. If $a=\frac{2x-1}{3}, b=\frac{7-3x}{4}$ and $\frac{a-b}{5}=1$ then $x=$

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

133. The value of $3^{2^{4^{0^{7^{8}}}}} + 8^{3^{2^{0^{4^{7}}}}} =$

(1) 512 (2) 521 (3) 125 (4) 215

134. The following are the steps involved in finding the values of $\left(a^{x+y}\right)^{x-y}\left(a^{y+z}\right)^{y-z}\left(a^{z+x}\right)^{z-x}$

Arrange them in sequential order

a) $a^{(x+y)(x-y)}a^{(y+z)(y-z)}a^{(z+x)(z-x)}$

b) $a^0=1$

c) $a^{x^2-y^2}\cdot a^{y^2-z^2}\cdot a^{z^2-x^2}$

d) $a^{x^2-y^2+y^2-z^2+z^2-x^2}$

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

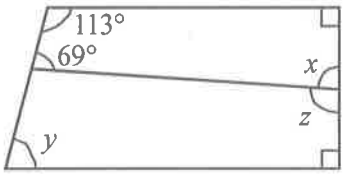
135. The values of x, y and z in the adjacent diagram

(1) $x=88°, y=67°, z=92°$

(2) $x=92°, y=88°, z=67°$

(3) $x=67°, y=92°, z=88°$

(4) $x=88°, y=92°, z=67°$



136. Each side of a triangle is increased by 10 cm. If the ratio of the perimeters of the new triangle and the given triangle is 5:4, the perimeter of the given triangle

(1) 110 cm (2) 120 cm (3) 100 cm (4) 90 cm

137. $\sqrt[3]{\frac{3^6\times4^3\times2^9}{8^6\times2^6}} =$

(1) $1\frac{1}{8}$ (2) $\frac{3}{8}$ (3) $1\frac{1}{3}$ (4) $\frac{3}{4}$

138. $\sqrt{\frac{0.85\times(0.105+0.024-0.008)}{0.022\times0.25\times1.7}}$

(1) $\sqrt{1.1}$ (2) 11 (3) $\sqrt{11}$ (4) $\sqrt{0.11}$

139. The ratio of the present ages of two brothers is 1:2 and 5 years back the ratio was 1:3, what will be the ratio of their ages after 5 years

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

140. A single discount equivalent to two successive discounts of 20% and 5% is

(1) 25% (2) 24% (3) 23% (4) 26%

141. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B, the ratio of A:B is

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

142. If $y+\frac{1}{y}=-2$ then $y^{50}-\frac{1}{y^{50}}=$

(1) 0 (2) -1 (3) 2 (4) 250

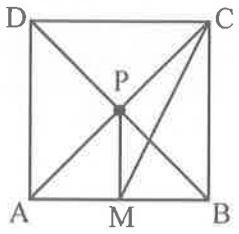
143. In the adjacent figure ABCD is a square of side 8 cm and PM $\perp$ AB, the length of MC =

(1) $5\sqrt{5}$ cm

(2) $6\sqrt{5}$ cm

(3) $4\sqrt{5}$ cm

(4) $7\sqrt{5}$ cm



144. If $\frac{Px}{(b-c)}=\frac{Qy}{(c-a)}=\frac{Rz}{(a-b)}$, then $Pax+Qby+Rcz=$

(1) $P+Q+R$ (2) $x+y+z$ (3) $a+b+c$ (4) 0

145. Statement (A) : $(1024)^{0.4}=16$

Statement (B) : $(16)^{1.25}=32$

(1) Both the statements (A) and (B) are correct

(2) Both the statements (A) and (B) are incorrect

(3) (A) is correct, (B) is incorrect

(4) (A) is incorrect, (B) is correct

HISTORY

146. Which part of an inscription is called 'Prashasti'
(1) invocation part (2) half-a-part
(3) Third part (4) End of the part

147. Kitab-Al-Hind the arabic book was written by
(1) Al-Biruni (2) Paes
(3) Marco Polo (4) Abdul Razzak

148. In 1190 AD a New Kingdom was established in Delhi by
(1) Tughluqs (2) Sultans (3) Mughals (4) Lodhis

149. Sri Krishnadevaraya ruled from
(1) 1336 AD - 1357 AD (2) 1529 AD - 1542 AD
(3) 1585 AD - 1614 AD (4) 1509 AD - 1529 AD

150. The first Mughal emperor was
(1) Babur (2) Akbar (3) Humayun (4) Shahjahan

151. Who constructed the Qutub Minar
(1) Qutbuddin Aibak (2) Babur
(3) Humayun (4) Akbar

152. The battle of Plassey was fought between
(1) Tipu Sultan and the British (2) Muzaffar Jang and the British
(3) Sirajuddaula and the British (4) The Mughal emperor and the British

153. The Second World War was broke out in
(1) 1914 (2) 1924 (3) 1939 (4) 1929

154. Name the following coastal district in given Map.
(1) Guntur
(2) Krishna
(3) Prakasam
(4) Visakhapatnam

155. Match the following.

i) Mansabdar		a) Hereditary chief	
ii) Akbar		b) Revenue assignment	
iii) Jagirdar		c) Sulh-i-Kul	
iv) Zamindar		d) Rank	
(1) i - d	ii - c	iii - b	iv - a
(2) i - a	ii - b	iii - d	iv - c
(3) i - a	ii - d	iii - c	iv - b
(4) i - b	ii - c	iii - d	iv - a

GEOGRAPHY

156. The angle at which the rays fall on the earth's surface is called
(1) insolation (2) solar radiation
(3) earth radiation (4) angle of incidence

157. Conventional symbols are used in the 'Topo sheets' of survey of India. "  " this conventional symbol indicates
(1) hut (2) deserted fort (3) tank (4) Broken ground

158. 'Pine' forests usually found in this region
(1) Equatorial region (2) Himalayas
(3) Coastal Andhra Pradesh (4) Rayalaseema

159. The highest peak in Africa is Mount Kilimanjaro in
(1) Tanzania (2) Egypt (3) Ethiopia (4) Nigeria

160. From North to South which one of the following is the correct sequence of the given rivers
A) Nagavali
B) Vamsadhara
C) Godavari
D) Krishna
(1) A, B, C, D (2) B, A, C, D (3) A, B, D, C (4) B, A, D, C

161. A) It is a shiny mineral B) It is used in electrical industry
C) It comes in thin layers D) It is a non-conductor of electricity
The above statements are related to this mineral
(1) Bauxite (2) Mica (3) Asbestos (4) Feldspar

162. Match the following.

i) June 21		a)	Sun on the Equator
ii) March 21		b)	Sun on the Equator
iii) December 22		c)	Sun on the Tropic of Cancer
iv) September 23		d)	Sun on the Tropic of Capricorn

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

163. Mr. Ravi wants to know the boundary of Andhra Pradesh. Which of the following map does help him?

A) India - Political map

B) India - Physical map

C) India - Contour lines map

(1) (A) only (2) (B) only

(3) (C) only (4) (B) and (C) only

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164. There are two main groups referred to as Eskimos : Inuit and Yupik. 'Inuit' in their language means

A) the people

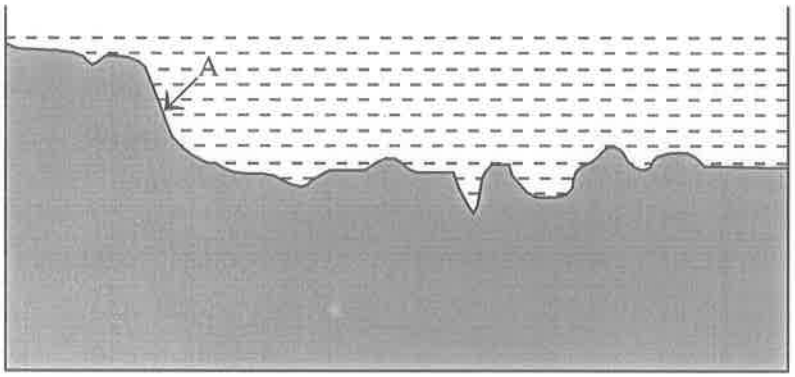
B) the originates

C) Snow shoe-netter

(1) (A) only (2) (B) only

(3) (C) only (4) (A) and (B) only

165.



Relief features of an Ocean

In this picture 'A' refers to

(1) Trench

(2) Deep sea plain

(3) Continental shelf

(4) Continental slope

POLITICAL SCIENCE

166. Government of Andhra Pradesh enacted the Andhra Pradesh water, Land and Trees Protection Act in

(1) 1902 (2) 1985

(3) 1990 (4) 2002

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167. The drafting committee chair person of the Indian Constitution is

(1) Dr. B.R. Ambedkar (2) Dr. Babu Rajendra Prasad

(3) Dr. Zaker Hussen (4) Dr. Farukh Abdullah

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168. Who is the following person is most known for his efforts to educate women and lower castes as well as the masses

(1) Savitribai Phule

(2) Periyar E.V. Rama Swami

(3) Sri Narayana Guru

(4) Jyotirao Govindrao Phule

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169. The most popular folk goddess of Andhra Pradesh is

(1) Pochamma (2) Maisamma

(3) Gangamma (4) Yellamma

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170. The Governor of the State is appointed by

(1) Prime Minister (2) Chief Minister

(3) President (4) Chief Justice of Supreme Court

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171. The first Union Law Minister of Independent India is

(1) Dr. B.R. Ambedkar (2) Smt. Vijaya Lakshmi Pandit

(3) Sardar Vallabhbhai Patel (4) Subhash Chandra Bose

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172. The constitution of India entrusted the responsibility of conducting elections in India to

(1) The Supreme Court

(2) The Election Commission

(3) Central Government

(4) The State Government

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173. Match the following.

i)	Sovereign	a)	Government will not favour any religion
ii)	Republic	b)	People have the supreme right to make decisions
iii)	Fraternity	c)	Head of the State is an elected person
iv)	Secular	d)	People should live like brothers and sisters

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

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

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

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

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174. "In politics we will have equality and in social and economic life we will have inequality. In politics we will be recognising the principle of one man one vote and one vote one value. In our social and economic life, we shall, by reason of our social and economic structure, continue to deny the principle of one man one value. How long shall we continue to live this life of contradictions? How long shall we continue to deny equality in our social and economic life? If we continue to deny it for long, we will do so only by putting our political democracy in peril".

Whose statement was it

(1) Mahatma Gandhiji (2) Dr. B.R. Ambedkar

(3) Jawaharlal Nehru (4) Dr. Babu Rajendra Prasad

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175. In India any law relating to Money and Banking can only be made by

(1) Parliament

(2) Reserve Bank of India

(3) Election Commission of India

(4) World Bank

ECONOMICS

176. In the Mauryan Period "Pana" was the standard currency. It was made of _____
(1) Gold (2) Silver
(3) Bronze (4) Copper

177. Henry Ford started this method of production to produce more cars quickly.
(1) Combined Harvester (2) Assembly line
(3) Barter system (4) Factory system

178. In which position India is the largest producer of medicines in the world.
(1) 1st (2) 2nd (3) 3rd (4) 4th

179. He devised a method of laying road using broken stones.
(1) Boulton (2) George Stephenson
(3) John Loudon Mc Adam (4) James Watt

180. Arrange the following stages of paper-making process in correct order.
A) Cutting
B) Pressing, drying and rolling
C) Chipping
D) Spreading the pulp
E) Making of wood pulp
(1) C, E, D, B, A (2) A, B, C, D, E
(3) C, D, B, E, A (4) A, E, D, B, C

SPACE FOR ROUGH WORK