

SPACE FOR ROUGH WORK

Roll No. :

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ENGLISH

SI No. :

150837

NMMS - NOVEMBER, 2018

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 HB Pencil. 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.

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 27 Pages for 180 Questions + 03 Pages of Rough Work + 02 Title Pages i.e. Total 32 Pages

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 HB Pencil.

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. 380, 188, 92, ?, 20, 8, 2
(1) 80 (2) 60 (3) 44 (4) 72
2. 3, 7, 6, 5, 9, 3, 12, 1, 15, ?
(1) 18 (2) 13 (3) -1 (4) 3
3. 23, 21, 24, 19, 26, ?
(1) 29 (2) 28 (3) 17 (4) 15
4. 5, 12, 23, 50, 141, ?
(1) 415 (2) 430 (3) 439 (4) 488
5. 4, 11, 19, 41, ?, 161
(1) 62 (2) 108 (3) 79 (4) 90
6. 9, 5, 6, 10, 5, 23, ?
(1) 50 (2) 65 (3) 70 (4) 60
7. 1, 20, 58, 134, 286, ?
(1) 600 (2) 590 (3) 580 (4) 570
8. 68, 117, 61, 124, 54, ?
(1) 141 (2) 121 (3) 151 (4) 131
9. 10, 5, 5, 10, 40, ?
(1) 350 (2) 320 (3) 360 (4) 370

10. 8, 7, 12, ?, 128, 635
 (1) 42 (2) 24 (3) 33 (4) 26

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. $56 = 7 + 2 - 16$
 (1) $+, \times, +$ (2) $-, +, \times$ (3) $+, \times, =$ (4) $+, -, -$
12. $34 \times 2 = 17 + 34$
 (1) $-, \times, +$ (2) $+, +, +$ (3) $-, +, \times$ (4) $+, +, =$
13. $10 \times 5 = 2 + 4$
 (1) $+, +, =$ (2) $-, +, +$ (3) $\times, -, =$ (4) $-, \times, -$
14. $210 + 15 = 15 - 15$
 (1) $+, -, \times$ (2) $+, =, +$ (3) $-, \times, \times$ (4) $=, \times, -$
15. $900 = 30 + 2 \times 15$
 (1) $\times, =, +$ (2) $+, =, \times$ (3) $+, +, \times$ (4) $=, \times, \times$
16. $729 = 9 + 9 \times 9$
 (1) $+, +, +$ (2) $=, \times, +$ (3) $=, +, \times$ (4) $=, \times, \times$
17. $15 + 10 = 2 \times 3$
 (1) $\times, +, +$ (2) $\times, +, -$ (3) $=, +, +$ (4) $-, +, +$
18. $64 + 48 = 4 + 4$
 (1) $=, +, \times$ (2) $=, -, \times$ (3) $+, +, +$ (4) $\times, +, +$
19. $30 = 2 + 9 + 12$
 (1) $=, +, \times$ (2) $=, \times, +$ (3) $+, \times, -$ (4) $+, \times, +$
20. $196 + 13 + 13 = 27$
 (1) $=, +, \times$ (2) $=, +, \times$ (3) $+, +, +$ (4) $=, \times, +$

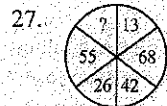
Directions: Questions (21 to 30):

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) 5 (2) 6 (3) 8 (4) 9
22.
 (1) 8 (2) 14 (3) 10 (4) 6
23.
 (1) 20 (2) 25 (3) 26 (4) 75
24.

27	22	50
13	12	26
9	2	?

 (1) 12 (2) 39 (3) 18 (4) 24
25.
 (1) 25 (2) 47 (3) 37 (4) 41
26.
 (1) 70 (2) 68 (3) 56 (4) 92



- (1) 41 (2) 37 (3) 29 (4) 25

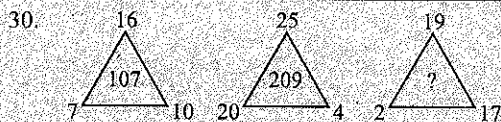


- (1) 72 (2) 68 (3) 82 (4) 96

29.

42	(21)	22
78	(?)	84
162	(18)	99

- (1) 12 (2) 13 (3) 60 (4) 50



- (1) 68 (2) 93 (3) 175 (4) 217

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. $99999 + 9999 + 999 + 99 = ?$
 (1) 11096 (2) 111096 (3) 111196 (4) 110096
32. $778 + 64 - 214 - 128 + 174 = ?$
 (1) 705 (2) 613 (3) 694 (4) 674
33. $13.141 + 31.417 - 27.118 = ?$
 (1) 16.441 (2) 17.543 (3) 17.490 (4) 17.440
34. $\frac{x}{\sqrt{128}} = \frac{\sqrt{162}}{x}, x = ?$
 (1) 12 (2) 144 (3) 14 (4) 196
35. $7^3 + 32 = 54$
 (1) 318 (2) 12 (3) 14 (4) 16

36. $\sqrt{5^4} \times 14 - 6 \times 7 + 4^x = 18^2, x = ?$
 (1) 1 (2) 3 (3) 4 (4) 2
37. $496 \div 0.6 \times 0.5 = ?$ (approximately)
 (1) 413 (2) 595 (3) 148 (4) 653
38. $151.011 - 419.999 + 649.991 = ?$
 (1) 381.003 (2) 420.03 (3) 358.3 (4) 410.3
39. $\frac{9^2 + 8^2}{25} = ?$
 (1) 2.8 (2) 4.8 (3) 5.8 (4) 6
40. $0.009 \times 0.002 = ?$
 (1) 0.18 (2) 0.00018 (3) 0.0018 (4) 0.000018

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 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. Burn : Ointment :: Grief : ?
 (1) Sorrow (2) Adversity (3) Consolation (4) Pity
42. Pen : Stationery :: Chair : ?
 (1) Wood (2) Rest (3) Room (4) Furniture
43. Dam : Water :: Godown : ?
 (1) Sweets (2) Crab (3) Grain (4) Grass
44. Crime : Court :: Disease : ?
 (1) Lawyer (2) Punishment (3) Hospital (4) Doctor
45. Millionaire : Wealth :: Genius : ?
 (1) Capability (2) Smartness (3) Intelligence (4) Awareness
46. Page : Book :: Brick : ?
 (1) Heap (2) Building (3) Clay (4) Mason
47. Driving : Bus :: Flying : ?
 (1) Air (2) Kite (3) Bird (4) Aeroplane

48. Bullet : Rifle :: Arrow : ?

- (1) Archer (2) Bow (3) Target (4) Cord

49. House : Mason :: Furniture : ?

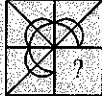
- (1) Wood (2) Chair (3) Table (4) Carpenter

50. Needle : Thread :: Pen : ?

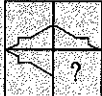
- (1) Write (2) Ink (3) Cap (4) Paper

Directions: Questions (51 to 60):

In these questions a figure (X) is given with three parts and fourth with a ? 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)

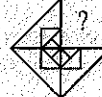
(1) 1 (2) 2 (3) 3 (4) 4

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

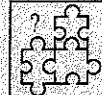
(1) 1 (2) 2 (3) 3 (4) 4

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

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

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

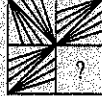
(1) 1 (2) 2 (3) 3 (4) 4

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)

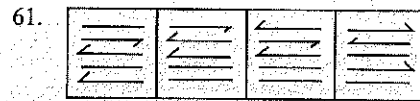
(1) 1 (2) 2 (3) 3 (4) 4

NMMS(E)

A

Directions: Questions (61 to 70):

In each of the following questions, there are 4 figures. Three of them are similar in a certain way but one is not like the other three. Find out, which one of the figures different from other.



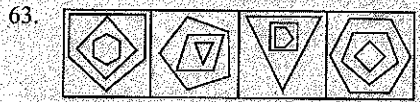
(1) (2) (3) (4)

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



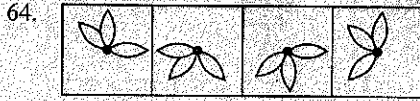
(1) (2) (3) (4)

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



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

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



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

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



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

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



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

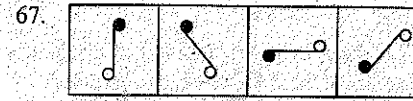
(1) 1 (2) 2 (3) 3 (4) 4

10 - A

V-101

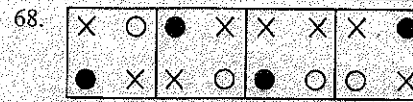
NMMS(E)

A



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

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



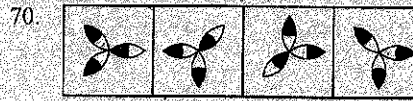
(1) (2) (3) (4)

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



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

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

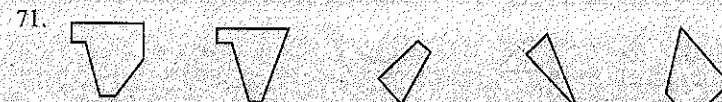


(1) (2) (3) (4)

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

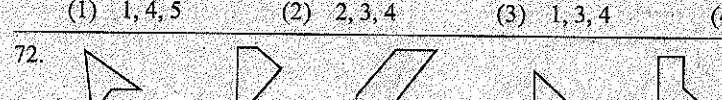
Directions: Questions (71 to 80):

Select from the given 5 alternatives when filled into each other would form a complete square.



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

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



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

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

11 - A

V-101

73.     
- (1) 1, 3, 4 (2) 1, 2, 4 (3) 2, 3, 4 (4) 3, 4, 5

74.     
- (1) 1, 2, 3 (2) 2, 3, 5 (3) 2, 4, 5 (4) 1, 4, 5

75.     
- (1) 1, 4, 5 (2) 2, 3, 4 (3) 2, 4, 5 (4) 1, 3, 5

76.     
- (1) 1, 2, 3 (2) 1, 2, 5 (3) 2, 3, 4 (4) 2, 4, 5

77.     
- (1) 1, 2, 4 (2) 2, 3, 4 (3) 3, 4, 5 (4) 2, 3, 5

78.     
- (1) 1, 2, 3 (2) 1, 2, 4 (3) 1, 2, 5 (4) 2, 3, 5

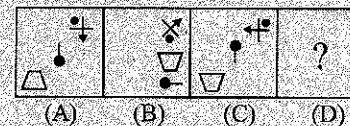
79.     
- (1) 1, 2, 5 (2) 1, 2, 3 (3) 2, 3, 5 (4) 2, 3, 4

80.     
- (1) 1, 2, 3 (2) 1, 3, 4 (3) 1, 3, 5 (4) 1, 4, 5

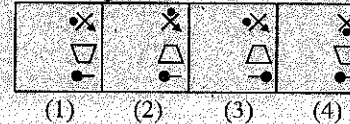
Directions: Questions (81 to 90):

In each of the following questions, the second figure in the first unit of the problem figure bears a certain relationship to the first figure. Similarly one the answer figure bears the same relationship to the first figure of second unit of problem figures you have to therefore locate the figure, which would fit the question mark.

81. Problem Figures

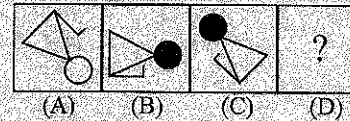


Answer Figures

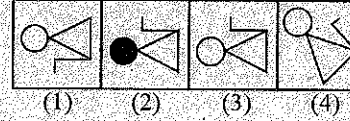


- (1) 1 (2) 2 (3) 3 (4) 4

82. Problem Figures



Answer Figures



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

83. Problem Figures



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

Answer Figures



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

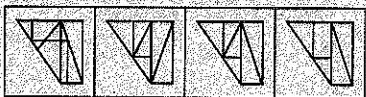
(1) 1 (2) 2 (3) 3 (4) 4

84. Problem Figures



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

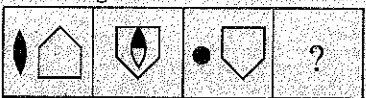
Answer Figures



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

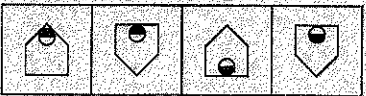
(1) 1 (2) 2 (3) 3 (4) 4

85. Problem Figures



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

Answer Figures



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

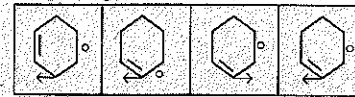
(1) 1 (2) 2 (3) 3 (4) 4

86. Problem Figures



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

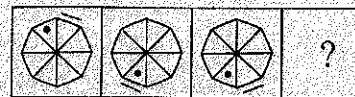
Answer Figures



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

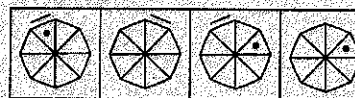
(1) 1 (2) 2 (3) 3 (4) 4

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)

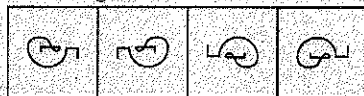
(1) 1 (2) 2 (3) 3 (4) 4

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

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Part - II : SCHOLASTIC APTITUDE TEST

Time : 90 Minutes

Max. Marks : 90

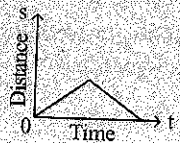
Note :

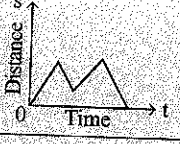
- i) Subject, Question No. and Marks allotted:

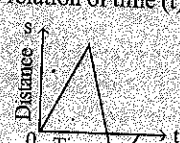
Sl. No.	Subject	Question No.	Marks
1.	Physics	91 to 102	12
2.	Chemistry	103 to 113	11
3.	Biology	114 to 125	12
4.	Mathematics	126 to 145	20
5.	History	146 to 155	10
6.	Geography	156 to 165	10
7.	Political Science	166 to 175	10
8.	Economics	176 to 180	05

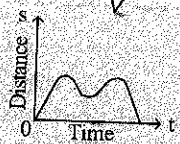
- ii) **SHADE** the circle having the correct alternatives in the OMR Answer Sheet provided, from amongst the ones given against the corresponding questions in the Question Paper Booklet. For shading the circles, use a **HB Pencil**.

PHYSICS

91. $68^{\circ}\text{F} = \quad^{\circ}\text{C}$
 (1) 36 (2) 0 (3) 20 (4) 68
92. $x \begin{array}{|c|c|} \hline \text{N} & \text{S} \\ \hline \end{array} y \quad K \begin{array}{|c|c|} \hline \text{S} & \text{N} \\ \hline \end{array} L$
 A B
 A, B are two bar magnets as shown in the figure. Let (x, y); (K, L) are the edges of the poles respectively. Then which of the following is true?
 (1) y and K attract each other (2) y and L repel each other
 (3) x and K attract each other (4) x and L attract each other
93. θ is the angle between the two plane mirrors attached as shown in the figure. If the system forms 3 images then the value of θ is _____
 (1) 120° (2) 96°
 (3) 40° (4) 180°
94. In a house everyday they are using six, 100W bulbs for 3 hours, five 60W bulbs for 6 hours, five 40W bulbs for 2 hours. In the month of August and September let they used in the same way. What is the difference in units consumed by them in these two months?
 (1) 120 (2) 4000 (3) 124 (4) 4
95. Which of the following graph doesn't indicate the relation of time (t) and distance(s)
- (1) 

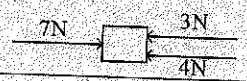
(3) 

(2) 

(4) 
96. Which of the following system gives 7N as resultant force?
- (1) 

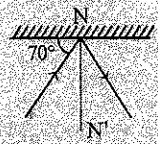
(3) 

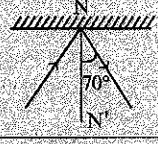
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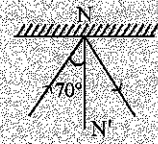
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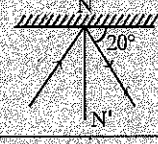
97. An object moving in a circular path and covered $3/4$ th distance on the perimeter of the path to reach from A and B. If 'r' is radius of the circular path, then the ratio between distance travelled and displacement by the object between A and B is
- (1) $2\sqrt{2}\pi : 3$

(2) $3\sqrt{2} : 2\pi$
- (3) $3\sqrt{2}\pi : 2\sqrt{2}$

(4) $3\pi : 2\sqrt{2}$
98. A light ray reflected at plane surface and angle of reflection is 70° , which of the following do not represent the same? (NN' is normal to the plane surface)
- (1) 

(3) 

(2) 

(4) 
99. When a glass rod is rubbed with a silk cloth then charges deposited on them respectively as follows:
- (1) Positive charge on silk, negative charge on glass rod
 - (2) Negative charge on silk, positive charge on glass rod
 - (3) Positive charge on both
 - (4) Negative charge on both
100. The reason for hot air moves to upward direction because it:
- (1) Occupies larger place, density increases
 - (2) Occupies smaller place, density increases
 - (3) Occupies larger place, density reduce
 - (4) Occupies smaller place, density reduce
101. The intensity of the sound 1000 times more powerful than that total silence is _____
- (1) 1000 dB

(2) 3 dB

(3) 60 dB

(4) 30 dB
102. Which of the following is called as "rain gauge"?
- (1) Udo meter

(2) Pluviometer

(3) Ombrometer

(4) All the above

CHEMISTRY

103. In the process of electroplating the result is _____

- a) Concentration of electrolyte unchange
- b) Mass of the anode decreases
- c) Mass of the cathode decreases
- d) Concentration of electrolyte decreases

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

104. Which of the following acid is not hazardous to drink

- (1) Concentrated Nitric-Acid (2) Carbonic Acid
- (3) Concentrated Sulphuric Acid (4) Hydrochloric Acid

105. When Magnesium burns in the presence of Oxygen, it forms Magnesium Oxide in the form of powder ash; when it dissolved in water, a New substance is formed. What is the nature of this substance?

- (1) Acidic (2) Basic (3) Neutral (4) Can't confirm

106. Match the following:

Set A

- i) Burning of camphor
- ii) Heating of sugar solution upto formation of a solid
- iii) Evaporation of camphor placed on a open tray
- iv) Depositing of one metal on another metal

Set B

- a) Physical change
- b) Galvanisation
- c) Crystallisation
- d) Chemical change

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

107. When copper utensils are exposed to air, we find greenish coat on them, due to reaction of copper with _____

- (1) oxygen only (2) oxygen and moisture
- (3) oxygen, carbondioxide and moisture (4) oxygen, hydrogen and moisture

108. Which of the following is Fire extinguisher?

- (1) Oxalic Acid (2) Copper Sulphate
- (3) Ammonium Hydroxide (4) Aluminium Hydroxide

109. Highly melliabile metal among the given metals

- (1) Iron (2) Zinc (3) Gold (4) Copper

110. Match the following:

Set I

- i) Rapid combustion
- ii) Spontaneous combustion
- iii) Explosion
- iv) Combustion

Set II

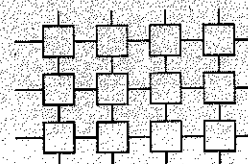
- a) Burning of crackers
- b) Burning of wood
- c) Burning of camphor
- d) Burning of white phosphorous

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

111. Choose the incorrect statement

- (1) PET and HDPE are commonly recycled
- (2) PS (code 6), used for making coffee cups, egg boxes etc
- (3) Sanitary diapers and bandages are made of Nylon
- (4) Firemen wear dress is made of melamine fabric

112.



(Cross-linked arrangement of monomers)

The arrangement of monomers in the above figure indicates _____ polymer

- (1) Nylon (2) PET (3) HDPE (4) Bakelite

113. Example for Non-Toxic and renewable fuel is _____

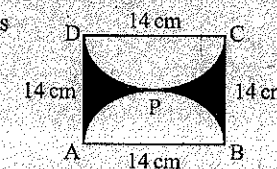
- (1) Bio-Diesel (2) CNG (3) Gasoline (4) LPG

BIOLOGY

114. Name the cell that transfers messages
(1) Bone cell (2) Nerve cell (3) Muscle cell (4) Blood cell
115. The last level in the food chain is made up of
(1) Decomposers (2) Consumers
(3) Producers (4) None of the above
116. Global grain is _____
(1) Wheat (2) Oats (3) Pulses (4) Rice
117. Root nodules of leguminosae family plants contains an organism called
(1) Plasmodium (2) Penicillium (3) Rhizobium (4) Clostridium
118. The human sperm gets energy for its motility from
(1) Head (2) Mitochondria (3) Neck (4) Tail
119. Match the item in Part - I with Part - II
- | | |
|----------------|------------------------|
| Part - I | Part - II |
| a) Vinegar | i) Calcium hydroxide |
| b) Baking Soda | ii) Sodium chloride |
| c) Lime water | iii) Acetic acid |
| d) Common Salt | iv) Sodium bicarbonate |
- (1) a - iv b - iii c - ii d - i
(2) a - iii b - iv c - i d - ii
(3) a - ii b - iii c - iv d - i
(4) a - ii b - i c - iv d - iii
120. Instrument used to measure wind speed and direction.
(1) Thermometer (2) Rain Gauge (3) Anemometer (4) Periscope
121. Which of the below is a male hormone?
(1) Estrogen (2) Progesteron (3) Adrenaline (4) Testosterone
122. Who invented antibiotic tetracycline?
(1) Dr. Jonas Salk (2) Dr. Yellapragada Subba Rao
(3) Dr. Alexander Flemming (4) Dr. Edward Jenner
123. Prof. J. K. Kurian is popularly known as
(1) Father of Green revolution (2) Father of White revolution
(3) Father of Blue revolution (4) Father of Biology
124. Disease caused by Protozoan
(1) AIDS (2) Elephantiasis (3) Malaria (4) Typhoid
125. Normal temperature of the human body
(1) 98.4° F (2) 96.4° F (3) 95.4° F (4) 94.8° F

MATHEMATICS

126. If $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{9}{2}\right)^{1-2m}$ then $m =$
(1) 2 (2) 1 (3) -1 (4) 0
127. Three numbers are in the ratio 1:2:3. The sum of their cubes is 98784. Then the numbers are
(1) 12, 24, 36 (2) 14, 28, 42
(3) 16, 32, 48 (4) 13, 26, 39
128. A boy has 3 boxes of different fruits. Box 'A' weights $2\frac{1}{2}$ kg more than box 'B' and box 'C' weights $10\frac{1}{4}$ kg more than box B. The total weight of the boxes is $48\frac{3}{4}$ kg. Then the weight of box 'A' is
(1) 12 kg (2) $22\frac{1}{4}$ kg
(3) $34\frac{1}{4}$ kg (4) $14\frac{1}{2}$ kg
129. If $A = x\%$ of y and $B = y\%$ of x then which of the following is true?
(1) $A < B$ (2) $A > B$
(3) $A = B$ (4) If $x < y$ then $A > B$
130. From the adjacent figure area of shaded region is
(1) 42 cm^2
(2) 196 cm^2
(3) 154 cm^2
(4) 350 cm^2



131. Two natural numbers are such that their product, sum and difference are in the ratio 24:7:1. The product of the two numbers, is
(1) 48 (2) 24
(3) 12 (4) 16
132. The population of a town 2 years ago was 62500. Due to migration to cities, it decreases every year at the rate of 4% per annum. The present population is
(1) 60,600 (2) 12,500
(3) 10,000 (4) 57,600

133. Ramu was given an increment of 10% on his salary. His new salary is ₹ 3575. The salary of Ramu before increment is

- (1) ₹ 3217.50 (2) ₹ 3250
(3) ₹ 3932.50 (4) ₹ 3500

134. If $\frac{1}{x+1} + \frac{1}{x+2} = \frac{2}{x+10}$ then $x =$

- (1) $-\frac{26}{17}$ (2) 1 (3) $\frac{17}{26}$ (4) $\frac{26}{17}$

135. If the mean of a, b, c is M and $ab+bc+ca=0$. Then mean of a^2, b^2, c^2 is

- (1) $4M^2$ (2) $5M^2$
(3) $3M^2$ (4) M^2

136. A right angled triangle has all its sides are intersects and its area is 30 sq.cm. then the perimeter of the triangle in cms. is

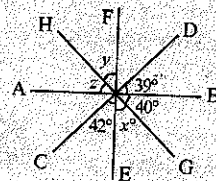
- (1) 30 (2) 42 (3) 64 (4) 45

137. The value of $\frac{2^n + 2^{n-1}}{2^{n+1} - 2^n}$ is

- (1) $\frac{2^{n-1}}{2^{n+1}}$ (2) $\frac{3}{2}$
(3) $\frac{2}{3}$ (4) 2^n

138. From the figure $\angle x + \angle y =$

- (1) 116°
(2) 120°
(3) 99°
(4) 118°



139. A certain amount of marbles are given to three students P, Q and R in the ratio 3:4:5. If P and Q receive a total of 315 marbles then the marbles received by R

- (1) 225 (2) 79
(3) 105 (4) 300

140. Product of $\left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right) \dots \dots \dots \left(1 - \frac{1}{p}\right) =$

- (1) 1 (2) $1 - \frac{2}{p}$
(3) $\frac{p-1}{p}$ (4) $\frac{1}{p}$

141. The least number which when divided by 16, 18, 21 leaves remainders 3, 5 and 8 is

- (1) 1008 (2) 995 (3) 1021 (4) 990

142. The mean of 5 numbers is 27. If one more number is included then the mean is 25. The included number is

- (1) 15 (2) 57 (3) 52 (4) 17

143. If $(4x+5) : (3x+11) = 13:17$ then $x =$

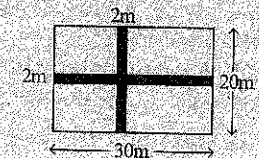
- (1) -2 (2) 122 (3) 2 (4) 1

144. Sonu's father is thrice as old as Sonu. After 12 years he will be just twice his daughter. Then the Sonu's present age is (years)

- (1) 10 (2) 12 (3) 15 (4) 11

145. A rectangular lawn is 30 m by 20 m. It has two roads each 2m wide running in the middle of it as shown in the figure. Then the area of roads is

- (1) 96 m^2
(2) 100 m^2
(3) 600 m^2
(4) 504 m^2



HISTORY

146. Who discovered the sea route to India in 1498?
 (1) Columbus (2) Vasco da Gama (3) Magellan (4) Marco polo
147. A temple for goddess nishumbhasudini was built by:
 (1) Vijayalaya (2) Aditya (3) Rajendra I (4) Rajaraja I
148. "..... you have a broad and beautiful street full of fine houses.... and these houses belong to merchants, and there you find all sorts of rubies and diamonds... and clothes of every sort on the earth... in the evening you have a fair where they sell horses, fruits, vegetables, wood etc" - Whose description was this about Vijayanagara City?
 (1) Nuniz (2) Paes (3) Abdul Razzak (4) Nicolo Conti
149. Which of the following was the division of share in profits between James Watt and Boulton?
 (1) $\frac{1}{2}$ to watt and $\frac{1}{2}$ to Boulton (2) $\frac{2}{3}$ to watt and $\frac{1}{3}$ to Boulton
 (3) $\frac{2}{3}$ to Boulton and $\frac{1}{3}$ to watt (4) $\frac{3}{4}$ to Boulton and $\frac{1}{4}$ to watt
150. Who among the following was not one of the 'Astadiggajas'?
 (1) Ramaraja Bhushana (2) Ayyalaraju Ramabadrudu
 (3) Pingali Surana (4) Pavuluri Mallana
151. The last Mughal Emperor was:
 (1) Aurangzeb (2) Jahandar Shah Zafar
 (3) Muhammad Shah Zafar (4) Bahadur Shah Zafar
152. 'Zabt' was not possible in these provinces:
 (1) Gujarat only (2) Bengal only
 (3) Both Gujarat and Bengal (4) None of these
153. Under which settlement was every piece of land given a survey number and legal ownership of that was fixed?
 (1) Ryotwari settlement (2) Permanent settlement
 (3) Both of these settlements (4) None of these
154. The First World War broke out in:
 (1) 1914 (2) 1916 (3) 1918 (4) 1920
155. In which session of the Congress was it declared that the objective of the Congress was to achieve Swarajya by all legitimate and peaceful means?
 (1) Bombay (2) Amritsar (3) Lahore (4) Nagpur

GEOGRAPHY

156. Out of the following, where does it rain very heavily?
 (1) on the mountains (2) on the plains
 (3) on the plateaus (4) on the oceans
157. Mediterranean sea separates:
 (1) Asia and America (2) Africa and Australia
 (3) Europe and Asia (4) Europe and Africa
158. 'Polder' type of agriculture is practiced predominantly in:
 (1) England (2) Poland (3) Holland (4) Spain
159. Which of the following was an independent country by 1913?
 (1) Liberia (2) Nigeria (3) Egypt (4) Angola
160. If the average annual rainfall is 110 centimeters, then it will be considered as:
 (1) Low rain fall (2) Moderate rain fall
 (3) High rain fall (4) Very high rain fall
161. The day which is called an equinox is:
 (1) March 21 (2) September 22 (3) June 21 (4) December 22
162. In which of the following sets, are the places arranged from south to north with reference to their location?
 (1) Nigeria, France, Arctic Tundra (2) Arctic Tundra, France, Nigeria,
 (3) France, Nigeria, Arctic Tundra (4) Arctic Tundra, Nigeria, France
163. Most of the forests of Andhra Pradesh fall in this category:
 (1) Deciduous forests (2) Thorny forests
 (3) Evergreen forests (4) Mangrove forests
164. The Sun never sets in Tundra region through out:
 (1) February, March and April (2) May, June and July
 (3) August, September and October (4) November, December and January
165. Aluminum is extracted from:
 (1) Bauxite (2) Mica (3) Chrome (4) Barytes

POLITICAL SCIENCE

166. The National Voters Day is celebrated on:
 (1) November 25 (2) December 25 (3) January 25 (4) February 25
167. The President of India appoints the Chief Election Commissioner under the constitutional article:
 (1) 324(2) (2) 324(4) (3) 324(6) (4) 324(8)
168. The sentence "May God protect our people" is written in the preamble of constitution of:
 (1) India (2) America (3) Japan (4) South Africa
169. In India, who among the following is/are elected directly?
 (1) President (2) Members of Lok Sabha
 (3) Vice President (4) Members of Rajya Sabha
170. Uttar Pradesh has 80 Lok Sabha constituencies while Meghalaya has only two Lok Sabha constituencies. The reason for this is:
 (1) Uttar Pradesh is a plain region while Meghalaya is a mountainous region.
 (2) Uttar Pradesh has a larger population while Meghalaya has a smaller population.
 (3) Uttar Pradesh is a developed region while Meghalaya is a backward region.
 (4) There is not any specific reason for this.
171. Which of the following sentences is correct?
 (1) Bail is not a right of the accused
 (2) FIR is filed in the court
 (3) The police is not part of judiciary
 (4) All the civil and criminal cases are taken up by the police
172. A law making it compulsory to give official information was made for the first time in the state of:
 (1) Rajasthan (2) Gujarat (3) Tamilnadu (4) Andhra Pradesh
173. Which of the following states does not have a bicameral legislature?
 (1) Andhra Pradesh (2) Telangana (3) Maharashtra (4) Kerala
174. During national emergency, the term of Legislative Assembly of a state can be extended by:
 (1) 3 months (2) 6 months (3) 9 months (4) 12 months
175. The first headmistress of the country's first school for girls was:
 (1) Savitri Bai Phule (2) Tara Bai Shinde
 (3) Rama Bai Saraswathi (4) Shanta Bai Kamble

ECONOMICS

176. Nidhi has a hundred rupee note with her. She saw a promise on that note which says, "I promise to pay the bearer the sum of hundred rupees". Who signs that promise?
 (1) The Finance Minister of India
 (2) The President of India
 (3) The Governor of Reserve Bank of India
 (4) Chairman's of National Banks
177. Which of the following is the most important contributor to poverty in India?
 (1) Laziness of the people (2) Lack of regular employment
 (3) Mal nutrition (4) Giving importance to agriculture
178. Which constitutional article mentions about 'Right to Work'?
 (1) 41 (2) 21 (3) 19 (4) 17
179. For how many hours does a paper mill run in a day?
 (1) 8 (2) 12 (3) 16 (4) 24
180. Consider the following statements and select the correct answer using the code given below.
 A) Public Transport can help in reducing pollution.
 B) Use of helmets and seat belts can avoid many life risks.
 (1) Only A is correct
 (2) Only B is correct
 (3) Both A and B are correct
 (4) Neither A nor B is correct

□□□□

SPACE FOR ROUGH WORK

B

Roll No. :

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NMMS(E)

ENGLISH

B

Sl No. :

150838

NMMS - NOVEMBER, 2018

**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 HB Pencil. 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.

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 27 Pages for 180 Questions + 03 Pages of Rough Work + 02 Title Pages i.e. Total 32 Pages

Part - I : MENTAL ABILITY TEST

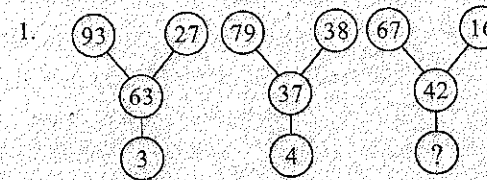
Time : 90 Minutes

Max. Marks : 90

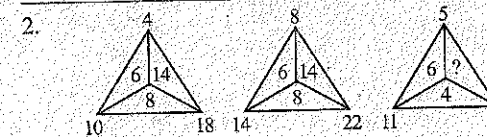
Note : SHADE the correct alternatives in the OMR Answer Sheet provided, from amongst the ones given against the corresponding questions in the Question Paper Booklet. For shading the circles, use a HB Pencil.

Directions: Questions (1 to 10):

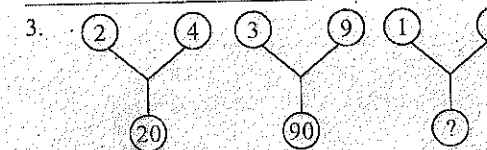
In each of the following questions, a set of figures carrying certain characters is given. Assuming that the characters in each set follow a similar pattern, find the missing character in each case.



- (1) 5 (2) 6 (3) 8 (4) 9



- (1) 8 (2) 14 (3) 10 (4) 6

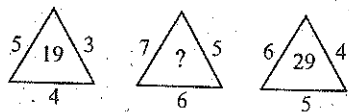


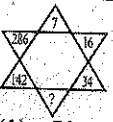
- (1) 20 (2) 25 (3) 26 (4) 75

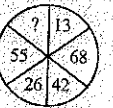
4.

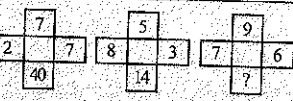
27	22	50
13	12	26
9	2	?

- (1) 12 (2) 39 (3) 18 (4) 24

5. 
 (1) 25 (2) 47 (3) 37 (4) 41

6. 
 (1) 70 (2) 68 (3) 56 (4) 92

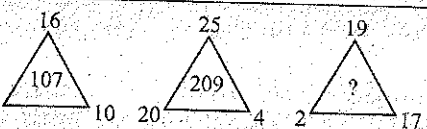
7. 
 (1) 41 (2) 37 (3) 29 (4) 25

8. 
 (1) 72 (2) 68 (3) 82 (4) 96

9.

42	(21)	22
78	(?)	84
162	(18)	99

 (1) 12 (2) 13 (3) 60 (4) 50

10. 
 (1) 68 (2) 93 (3) 175 (4) 217

Directions: Questions (11 to 20):

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.

11. $99999 + 9999 + 999 + 99 = ?$
 (1) 11096 (2) 111096 (3) 111196 (4) 110096
12. $778 + 64 - 214 - 128 + 174 = ?$
 (1) 705 (2) 613 (3) 694 (4) 674

13. $13.141 + 31.417 - 27.118 = ?$
 (1) 16.441 (2) 17.543 (3) 17.490 (4) 17.440

14. $\frac{x}{\sqrt{128}} = \frac{\sqrt{162}}{x}, x =$
 (1) 12 (2) 144 (3) 14 (4) 196

15. $?^3 + 32 = 54$
 (1) 318 (2) 12 (3) 14 (4) 16

16. $\sqrt{5^4} \times 14 - 6 \times 7 + 4^x = 18^2, x =$
 (1) 1 (2) 3 (3) 4 (4) 2

17. $496 \div 0.6 \times 0.5 = ?$ (approximately)
 (1) 413 (2) 595 (3) 148 (4) 653

18. $151.011 - 419.999 + 649.991 = ?$
 (1) 381.003 (2) 420.03 (3) 358.3 (4) 410.3

19. $\frac{9^2 + 8^2}{25} = ?$
 (1) 2.8 (2) 4.8 (3) 5.8 (4) 6

20. $0.009 \times 0.002 = ?$
 (1) 0.18 (2) 0.00018 (3) 0.0018 (4) 0.000018

Directions: Questions (21 to 30):

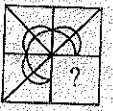
In each of the following questions, there are a certain relationship between two given words on one side of :: and one word is given on another side of ::, while another word is to be found from the given 4 alternatives, having the same relation with this word as the words of the given pair. Choose the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

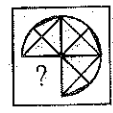
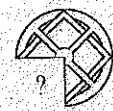
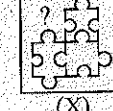
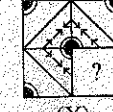
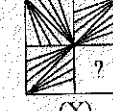
21. Burn : Ointment :: Grief : ?
 (1) Sorrow (2) Adversity (3) Consolation (4) Pity
22. Pen : Stationery :: Chair : ?
 (1) Wood (2) Rest (3) Room (4) Furniture
23. Dam : Water :: Godown : ?
 (1) Sweets (2) Crab (3) Grain (4) Grass

24. Crime : Court :: Disease : ?
 (1) Lawyer (2) Punishment (3) Hospital (4) Doctor
25. Millionaire : Wealth :: Genius : ?
 (1) Capability (2) Smartness (3) Intelligence (4) Awareness
26. Page : Book :: Brick : ?
 (1) Heap (2) Building (3) Clay (4) Mason
27. Driving : Bus :: Flying : ?
 (1) Air (2) Kite (3) Bird (4) Aeroplane
28. Bullet : Rifle :: Arrow : ?
 (1) Archer (2) Bow (3) Target (4) Cord
29. House : Mason :: Furniture : ?
 (1) Wood (2) Chair (3) Table (4) Carpenter
30. Needle : Thread :: Pen : ?
 (1) Write (2) Ink (3) Cap (4) Paper

Directions: Questions (31 to 40):

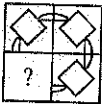
In these questions a figure (X) is given with three parts and fourth with a ? mark. Find the fourth part from the adjacent figures to complete the figure.

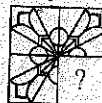
31.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4
32.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4

33.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4
34.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4
35.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4
36.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4
37.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4
38.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4

NMMS(E)

B

39.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4

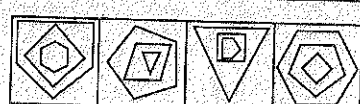
40.  (X)  (1)  (2)  (3)  (4)
- (1) 1 (2) 2 (3) 3 (4) 4

Directions: Questions (41 to 50):

In each of the following questions, there are 4 figures. Three of them are similar in a certain way but one is not like the other three. Find out, which one of the figures different from other.

41.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

42.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

43.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

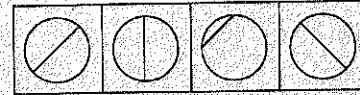
8 - B

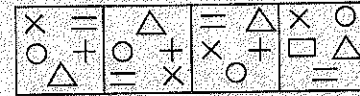
V-101

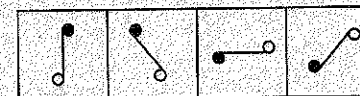
NMMS(E)

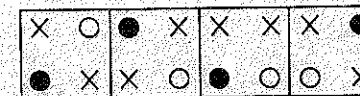
B

44.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

45.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

46.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

47.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

48.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

49.  (1) (2) (3) (4)
- (1) 1 (2) 2 (3) 3 (4) 4

9 - B

V-101

B

(2) (3) (4)

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

Questions (51 to 60):

Given 5 alternatives when filled into each other would form a complete square.



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



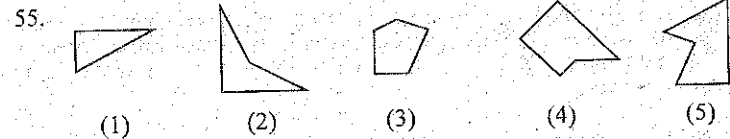
(2) 1, 3, 5 (3) 2, 3, 5 (4) 2, 3, 4



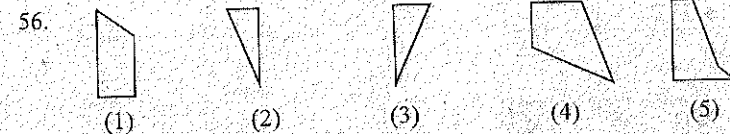
(2) 1, 2, 4 (3) 2, 3, 4 (4) 3, 4, 5



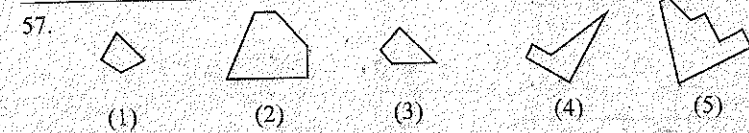
(2) 2, 3, 5 (3) 2, 4, 5 (4) 1, 4, 5

NMMS(E)**B**

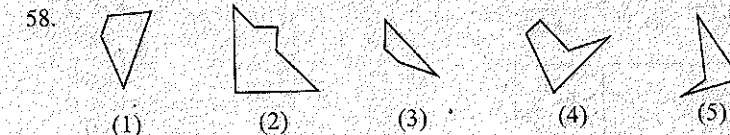
(1) 1, 4, 5 (2) 2, 3, 4 (3) 2, 4, 5 (4) 1, 3, 5



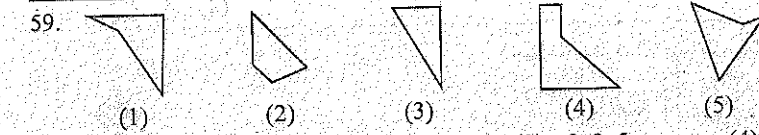
(1) 1, 2, 3 (2) 1, 2, 5 (3) 2, 3, 4 (4) 2, 4, 5



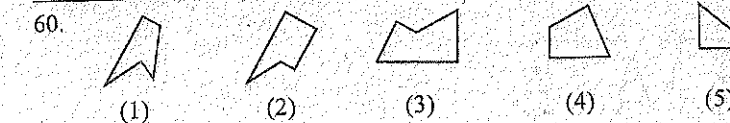
(1) 1, 2, 4 (2) 2, 3, 4 (3) 3, 4, 5 (4) 2, 3, 5



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



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



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

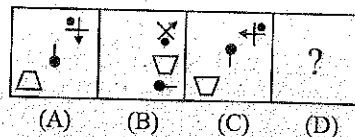
NMMS(E)

B

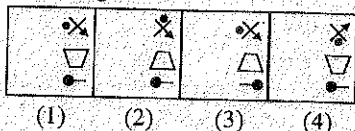
Directions: Questions (61 to 70):

In each of the following questions, the second figure in the first unit of the problem figure bears a certain relationship to the first figure. Similarly one the answer figure bears the same relationship to the first figure of second unit of problem figures you have to therefore locate the figure, which would fit the question mark.

61. Problem Figures

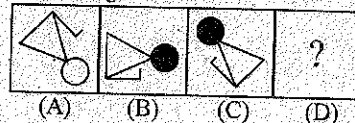


Answer Figures

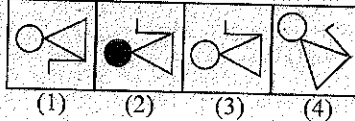


(1) 1 (2) 2 (3) 3 (4) 4

62. Problem Figures

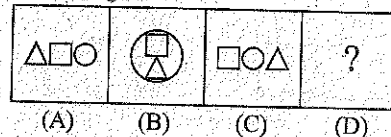


Answer Figures

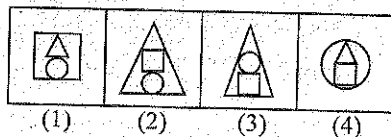


(1) 1 (2) 2 (3) 3 (4) 4

63. Problem Figures



Answer Figures

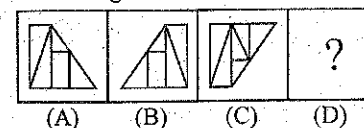


(1) 1 (2) 2 (3) 3 (4) 4

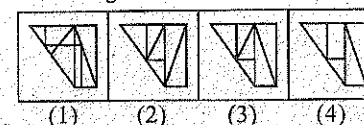
NMMS(E)

B

64. Problem Figures

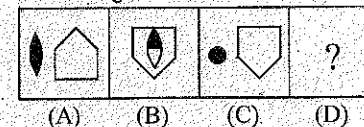


Answer Figures

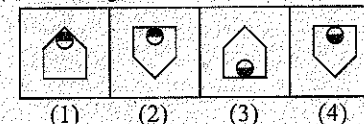


(1) 1 (2) 2 (3) 3 (4) 4

65. Problem Figures

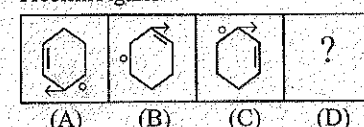


Answer Figures

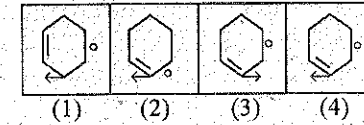


(1) 1 (2) 2 (3) 3 (4) 4

66. Problem Figures



Answer Figures

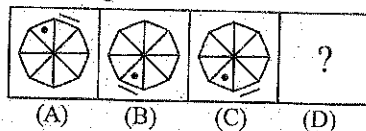


(1) 1 (2) 2 (3) 3 (4) 4

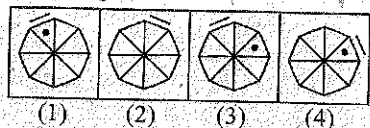
NMMS(E)

B

67. Problem Figures

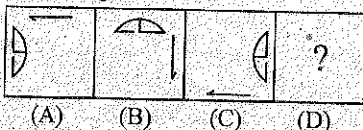


Answer Figures

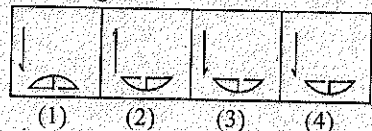


(1) 1 (2) 2 (3) 3 (4) 4

68. Problem Figures

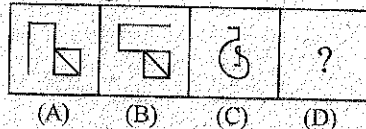


Answer Figures

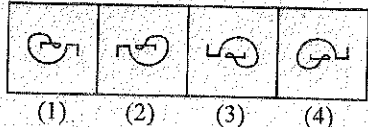


(1) 1 (2) 2 (3) 3 (4) 4

69. Problem Figures



Answer Figures

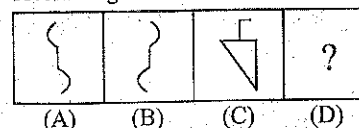


(1) 1 (2) 2 (3) 3 (4) 4

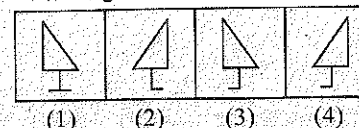
NMMS(E)

B

70. Problem Figures



Answer Figures



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

Directions: Questions (71 to 80):

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.

71. 380, 188, 92, ?, 20, 8, 2
(1) 80 (2) 60 (3) 44 (4) 72

72. 3, 7, 6, 5, 9, 3, 12, 1, 15, ?
(1) 18 (2) 13 (3) -1 (4) 3

73. 23, 21, 24, 19, 26, ?
(1) 29 (2) 28 (3) 17 (4) 15

74. 5, 12, 23, 50, 141, ?
(1) 415 (2) 430 (3) 439 (4) 488

75. 4, 11, 19, 41, ?, 161
(1) 62 (2) 108 (3) 79 (4) 90

76. 9, 5, 6, 10, 5, 23, ?
(1) 50 (2) 65 (3) 70 (4) 60

77. 1, 20, 58, 134, 286, ?
(1) 600 (2) 590 (3) 580 (4) 570

NMMS(E)

B

78. 68, 117, 61, 124, 54, ?
 (1) 141 (2) 121 (3) 151 (4) 131

79. 10, 5, 5, 10, 40, ?
 (1) 350 (2) 320 (3) 360 (4) 370

80. 8, 7, 12, ?, 128, 635
 (1) 42 (2) 24 (3) 33 (4) 26

Directions: Questions (81 to 90):

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.

81. $56 = 7 + 2 - 16$
 (1) $+, \times, +$ (2) $-, +, \times$ (3) $+, \times, =$ (4) $+, -, -$

82. $34 \times 2 = 17 + 34$
 (1) $-, \times, +$ (2) $+, +, +$ (3) $-, +, \times$ (4) $+, +, =$

83. $10 \times 5 = 2 + 4$
 (1) $+, +, =$ (2) $-, +, +$ (3) $\times, -, =$ (4) $=, \times, -$

84. $210 + 15 = 15 - 15$
 (1) $+, -, \times$ (2) $+, =, +$ (3) $-, \times, \times$ (4) $=, \times, -$

85. $900 = 30 + 2 \times 15$
 (1) $\times, =, +$ (2) $+, =, \times$ (3) $+, +, \times$ (4) $=, \times, \times$

86. $729 = 9 + 9 \times 9$
 (1) $+, +, +$ (2) $=, \times, +$ (3) $=, +, \times$ (4) $=, \times, \times$

87. $15 \div 10 = 2 \times 3$
 (1) $\times, +, +$ (2) $\times, +, -$ (3) $=, +, +$ (4) $=, +, +$

88. $64 + 48 = 4 + 4$
 (1) $=, +, \times$ (2) $=, -, \times$ (3) $+, +, +$ (4) $\times, +, +$

89. $30 = 2 + 9 + 12$
 (1) $=, +, \times$ (2) $=, \times, +$ (3) $+, \times, -$ (4) $+, \times, +$

90. $196 + 13 + 13 = 27$
 (1) $=, +, \times$ (2) $=, +, \times$ (3) $+, +, +$ (4) $=, \times, +$

NMMS(E)

B

SPACE FOR ROUGH WORK.

SPACE FOR ROUGH WORK

Part - II : SCHOLASTIC APTITUDE TEST

Time : 90 Minutes

Max. Marks : 90

Note :

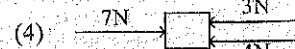
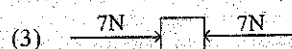
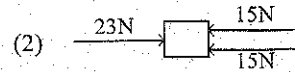
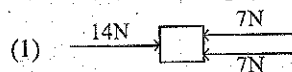
- i) Subject, Question No. and Marks allotted:

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 **HB Pencil**.

PHYSICS

91. Which of the following system gives 7N as resultant force?



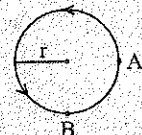
92. An object moving in a circular path and covered $\frac{3}{4}$ th distance on the perimeter of the path to reach from A and B. If 'r' is radius of the circular path, then the ratio between distance travelled and displacement by the object between A and B is

(1) $2\sqrt{2}\pi : 3$

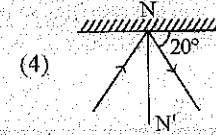
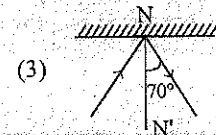
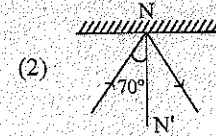
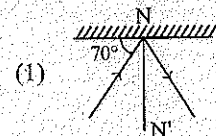
(2) $3\sqrt{2} : 2\pi$

(3) $3\sqrt{2}\pi : 2\sqrt{2}$

(4) $3\pi : 2\sqrt{2}$



93. A light ray reflected as plane surface and angle of reflection is 70° , which of the following do not represent the same? (NN' is normal to the plane surface)



94. When a glass rod is rubbed with a silk cloth then charges deposited on them respectively as follows:

- (1) Positive charge on silk, negative charge on glass rod
 (2) Negative charge on silk, positive charge on glass rod
 (3) Positive charge on both
 (4) Negative charge on both

95. The reason for hot air moves to upward direction because it:

- (1) Occupies larger place, density increases
 (2) Occupies smaller place, density increases
 (3) Occupies larger place, density reduce
 (4) Occupies smaller place, density reduce

96. The intensity of the sound 1000 times more powerful than that total silence is _____
 (1) 1000 dB (2) 3 dB (3) 60 dB (4) 30 dB

97. Which of the following is called as "rain gauge"?
 (1) Udo meter (2) Pluviometer (3) Ombrometer (4) All the above

98. $68^\circ\text{F} = \text{_____}^\circ\text{C}$
 (1) 36 (2) 0 (3) 20 (4) 68

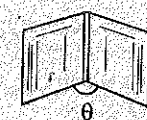
99. x y K L
 A B

A, B are two bar magnets as shown in the figure. Let (x, y); (K, L) are the edges of the poles respectively. Then which of the following is true?

- (1) y and K attract each other (2) y and L repel each other
 (3) x and K attract each other (4) x and L attract each other

100. θ is the angle between the two plane mirrors attached as shown in the figure. If the system forms 3 images then the value of θ is _____

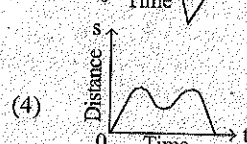
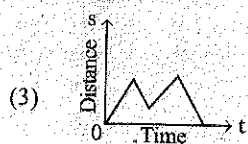
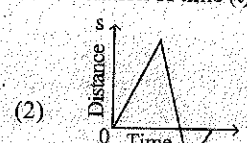
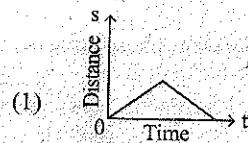
- (1) 120° (2) 96°
 (3) 40° (4) 180°



101. In a house everyday they are using six, 100W bulbs for 3 hours, five 60W bulbs for 6 hours, five 40W bulbs for 2 hours. In the month of August and September let they used in the same way. What is the difference in units consumed by them in these two months?

- (1) 120 (2) 4000 (3) 124 (4) 4

102. Which of the following graph doesn't indicate the relation of time (t) and distance(s)



CHEMISTRY

103. When copper utensils are exposed to air, we find greenish coat on them, due to reaction of copper with _____

- (1) oxygen only
- (2) oxygen and moisture
- (3) oxygen, carbondioxide and moisture
- (4) oxygen, hydrogen and moisture

104. Which of the following is Fire extinguisher?

- (1) Oxalic Acid
- (2) Copper Sulphate
- (3) Ammonium Hydroxide
- (4) Aluminium Hydroxide

105. Highly melliabile metal among the given metals

- | | |
|----------|------------|
| (1) Iron | (2) Zinc |
| (3) Gold | (4) Copper |

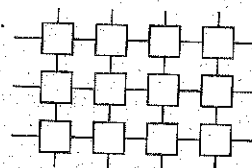
106. Match the following:

- | Set I | | | | Set II | | | |
|-------|--------------------------------------|----|------------------------------|--------|--|--|--|
| i) | Rapid combustion | a) | Burning of crackers | | | | |
| ii) | Spontaneous combustion | b) | Burning of wood | | | | |
| iii) | Explosion | c) | Burning of camphor | | | | |
| iv) | Combustion | d) | Burning of white phosphorous | | | | |
| (1) | i - c ii - d iii - a iv - b | | | | | | |
| (2) | i - c ii - a iii - b iv - d | | | | | | |
| (3) | i - a ii - b iii - c iv - d | | | | | | |
| (4) | i - c ii - b iii - a iv - d | | | | | | |

107. Choose the incorrect statement

- (1) PET and HDPE are commonly recycled
- (2) PS (code 6), used for making coffee cups, egg boxes etc
- (3) Sanitary diapers and bandages are made of Nylon
- (4) Firemen wear dress is made of melamine fabric

108.



(Cross-linked arrangement of monomers)

The arrangement of monomers in the above figure indicates _____ polymer

- | | | | |
|-----------|---------|----------|--------------|
| (1) Nylon | (2) PET | (3) HDPE | (4) Bakelite |
|-----------|---------|----------|--------------|

109. Example for Non-Toxic and renewable fuel is _____

- | | | | |
|----------------|---------|--------------|---------|
| (1) Bio-Diesel | (2) CNG | (3) Gasoline | (4) LPG |
|----------------|---------|--------------|---------|

110. In the process of electroplating the result is _____

- a) Concentration of electrolyte unchange
- b) Mass of the anode decreases
- c) Mass of the cathode decreases
- d) Concentration of electrolyte decreases

- | | | | |
|-----------|-----------|-----------|-----------|
| (1) a & b | (2) b & d | (3) a & c | (4) c & d |
|-----------|-----------|-----------|-----------|

111. Which of the following acid is not hazardous to drink

- | | |
|---------------------------------|-----------------------|
| (1) Concentrated Nitric-Acid | (2) Carbonic Acid |
| (3) Concentrated Sulphuric Acid | (4) Hydrochloric Acid |

112. When Magnesium burns in the presence of Oxygen, it forms Magnesium Oxide in the form of powder ash; when it dissolved in water, a New substance is formed. What is the nature of this substance?

- | | | | |
|------------|-----------|-------------|-------------------|
| (1) Acidic | (2) Basic | (3) Neutral | (4) Can't confirm |
|------------|-----------|-------------|-------------------|

113. Match the following:

- | Set A | | | | Set B | | | |
|-------|---|----|-----------------|-------|--|--|--|
| i) | Burning of camphor | a) | Physical change | | | | |
| ii) | Heating of sugar solution upto formation of a solid | b) | Galvanisation | | | | |
| iii) | Evaporation of camphor placed on a open tray | c) | Crystallisation | | | | |
| iv) | Depositing of one metal on another metal | d) | Chemical change | | | | |
| (1) | i - d ii - a iii - c iv - b | | | | | | |
| (2) | i - d ii - c iii - a iv - b | | | | | | |
| (3) | i - d ii - c iii - b iv - a | | | | | | |
| (4) | i - c ii - d iii - a iv - b | | | | | | |

BIOLOGY

114. The human sperm gets energy for its motility from _____
 (1) Head (2) Mitochondria (3) Neck (4) Tail
115. Match the item in Part - I with Part - II
- | Part - I | | | | Part - II | | | |
|----------|-------------|---------|--------|-----------|--------------------|--|--|
| a) | Vinegar | | | i) | Calcium hydroxide | | |
| b) | Baking Soda | | | ii) | Sodium chloride | | |
| c) | Lime water | | | iii) | Acetic acid | | |
| d) | Common Salt | | | iv) | Sodium bicarbonate | | |
| (1) | a - iv | b - iii | c - ii | d - i | | | |
| (2) | a - iii | b - iv | c - i | d - ii | | | |
| (3) | a - ii | b - iii | c - iv | d - i | | | |
| (4) | a - ii | b - i | c - iv | d - iii | | | |
116. Instrument used to measure wind speed and direction.
 (1) Thermometer (2) Rain Gauge (3) Anemometer (4) Periscope
117. Which of the below is a male hormone?
 (1) Estrogen (2) Progesteron (3) Adrenaline (4) Testosterone
118. Who invented antibiotic tetracycline?
 (1) Dr. Jonas Salk (2) Dr. Yellapragada Subba Rao
 (3) Dr. Alexander Flemming (4) Dr. Edward Jenner
119. Prof. J. K. Kurian is popularly known as
 (1) Father of Green revolution (2) Father of White revolution
 (3) Father of Blue revolution (4) Father of Biology
120. Disease caused by Protozoan
 (1) AIDS (2) Elephantiasis (3) Malaria (4) Typhoid
121. Normal temperature of the human body
 (1) 98.4° F (2) 96.4° F (3) 95.4° F (4) 94.8° F
122. Name the cell that transfers messages
 (1) Bone cell (2) Nerve cell (3) Muscle cell (4) Blood cell
123. The last level in the food chain is made up of
 (1) Decomposers (2) Consumers
 (3) Producers (4) None of the above
124. Global grain is
 (1) Wheat (2) Oats (3) Pulses (4) Rice
125. Root nodules of leguminosae family plants contains an organism called
 (1) Plasmodium (2) Penicillium (3) Rhizobium (4) Clostridium

MATHEMATICS

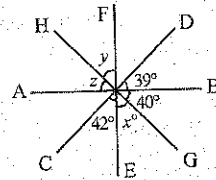
126. Two natural numbers are such that their product, sum and difference are in the ratio 24:7:1. The product of the two numbers, is
 (1) 48 (2) 24
 (3) 12 (4) 16
127. The population of a town 2 years ago was 62500. Due to migration to cities, it decreases every year at the rate of 4% per annum. The present population is
 (1) 60,600 (2) 12,500
 (3) 10,000 (4) 57,600
128. Ramu was given an increment of 10% on his salary. His new salary is ₹ 3575. The salary of Ramu before increment is
 (1) ₹ 3217.50 (2) ₹ 3250
 (3) ₹ 3932.50 (4) ₹ 3500
129. If $\frac{1}{x+1} + \frac{1}{x+2} = \frac{2}{x+10}$ then $x =$
 (1) $-\frac{26}{17}$ (2) 1 (3) $\frac{17}{26}$ (4) $\frac{26}{17}$
130. If the mean of a, b, c is M and $ab+bc+ca=0$. Then mean of a^2, b^2, c^2 is
 (1) $4M^2$ (2) $5M^2$
 (3) $3M^2$ (4) M^2
131. A right angled triangle has all its sides are intersects and its area is 30 sq.cm. then the perimeter of the triangle in cms. is
 (1) 30 (2) 42 (3) 64 (4) 45
132. The value of $\frac{2^n + 2^{n-1}}{2^{n+1} - 2^n}$ is
 (1) $\frac{2^{n-1}}{2^{n+1}}$ (2) $\frac{3}{2}$ (3) $\frac{2}{3}$ (4) 2^n

NMMS(E)

B

133. From the figure $\angle x + \angle y =$

- (1) 116°
(2) 120°
(3) 99°
(4) 118°



134. A certain amount of marbles are given to three students P, Q and R in the ratio 3:4:5. If P and Q receive a total of 315 marbles then the marbles received by R

- (1) 225
(2) 79
(3) 105
(4) 300

135. Product of $\left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right) \dots \dots \dots \left(1 - \frac{1}{p}\right) =$

- (1) 1
(2) $1 - \frac{2}{p}$
(3) $\frac{p-1}{p}$
(4) $\frac{1}{p}$

136. The least number which when divided by 16, 18, 21 leaves remainders 3, 5 and 8 is

- (1) 1008
(2) 995
(3) 1021
(4) 990

137. The mean of 5 numbers is 27. If one more number is included then the mean is 25. The included number is

- (1) 15
(2) 57
(3) 52
(4) 17

138. If $(4x+5) : (3x+11) = 13:17$ then $x =$

- (1) -2
(2) 122
(3) 2
(4) 1

139. Sonu's father is thrice as old as Sonu. After 12 years he will be just twice his daughter. Then the Sonu's present age is (years)

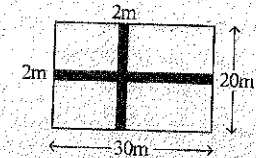
- (1) 10
(2) 12
(3) 15
(4) 11

NMMS(E)

B

140. A rectangular lawn is 30 m by 20 m. It has two roads each 2m wide running in the middle of it as shown in the figure. Then the area of roads is

- (1) 96 m^2
(2) 100 m^2
(3) 600 m^2
(4) 504 m^2



141. If $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{9}{2}\right)^{1-2m}$ then $m =$

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

142. Three numbers are in the ratio 1:2:3. The sum of their cubes is 98784. Then the numbers are

- (1) 12, 24, 36
(2) 14, 28, 42
(3) 16, 32, 48
(4) 13, 26, 39

143. A boy has 3 boxes of different fruits. Box 'A' weighs $2\frac{1}{2}$ kg more than box 'B' and box 'C' weighs $10\frac{1}{4}$ kg more than box B. The total weight of the boxes is $48\frac{3}{4}$ kg. Then the weight of box 'A' is

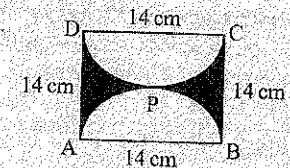
- (1) 12 kg
(2) $22\frac{1}{4}$ kg
(3) $34\frac{1}{4}$ kg
(4) $14\frac{1}{2}$ kg

144. If $A = x\%$ of y and $B = y\%$ of x then which of the following is true?

- (1) $A < B$
(2) $A > B$
(3) $A = B$
(4) If $x < y$ then $A > B$

145. From the adjacent figure area of shaded region is

- (1) 42 cm^2
(2) 196 cm^2
(3) 154 cm^2
(4) 350 cm^2



HISTORY

146. Who among the following was not one of the 'Astadiggajas'?
- | | |
|-----------------------|---------------------------|
| (1) Ramaraja Bhushana | (2) Ayyalaraju Ramabhadru |
| (3) Pingali Surana | (4) Pavuluri Mallana |
-
147. The last Mughal Emperor was:
- | | |
|-------------------------|-------------------------|
| (1) Aurangzeb | (2) Jahandar Shah Zafar |
| (3) Muhammad Shah Zafar | (4) Bahadur Shah Zafar |
-
148. 'Zabt' was not possible in these provinces:
- | | |
|-----------------------------|-------------------|
| (1) Gujarat only | (2) Bengal only |
| (3) Both Gujarat and Bengal | (4) None of these |
-
149. Under which settlement was every piece of land given a survey number and legal ownership of that was fixed?
- | | |
|-------------------------------|--------------------------|
| (1) Ryotwari settlement | (2) Permanent settlement |
| (3) Both of these settlements | (4) None of these |
-
150. The First World War broke out in:
- | | | | |
|----------|----------|----------|----------|
| (1) 1914 | (2) 1916 | (3) 1918 | (4) 1920 |
|----------|----------|----------|----------|
-
151. In which session of the Congress was it declared that the objective of the Congress was to achieve Swarajya by all legitimate and peaceful means?
- | | | | |
|------------|--------------|------------|------------|
| (1) Bombay | (2) Amritsar | (3) Lahore | (4) Nagpur |
|------------|--------------|------------|------------|
-
152. Who discovered the sea route to India in 1498?
- | | | | |
|--------------|-------------------|--------------|----------------|
| (1) Columbus | (2) Vasco da Gama | (3) Magellan | (4) Marco polo |
|--------------|-------------------|--------------|----------------|
-
153. A temple for goddess nishumbhasudini was built by:
- | | | | |
|----------------|------------|----------------|----------------|
| (1) Vijayalaya | (2) Aditya | (3) Rajendra I | (4) Rajaraja I |
|----------------|------------|----------------|----------------|
-
154. "..... you have a broad and beautiful street full of fine houses.... and these houses belong to merchants, and there you find all sorts of rubies and diamonds... and clothes of every sort on the earth.... in the evening you have a fair where they sell horses, fruits, vegetables, wood etc" - Whose description was this about Vijayanagara City?
- | | | | |
|-----------|----------|------------------|------------------|
| (1) Nuriz | (2) Paes | (3) Abdul Razzak | (4) Nicolo Conti |
|-----------|----------|------------------|------------------|
-
155. Which of the following was the division of share in profits between James Watt and Boulton?
- | | |
|--|--|
| (1) $\frac{1}{2}$ to watt and $\frac{1}{2}$ to Boulton | (2) $\frac{2}{3}$ to watt and $\frac{1}{3}$ to Boulton |
| (3) $\frac{2}{3}$ to Boulton and $\frac{1}{3}$ to watt | (4) $\frac{3}{4}$ to Boulton and $\frac{1}{4}$ to watt |

GEOGRAPHY

156. The day which is called an equinox is:
- | | | | |
|--------------|------------------|-------------|-----------------|
| (1) March 21 | (2) September 22 | (3) June 21 | (4) December 22 |
|--------------|------------------|-------------|-----------------|
-
157. In which of the following sets, are the places arranged from south to north with reference to their location?
- | | |
|------------------------------------|-------------------------------------|
| (1) Nigeria, France, Arctic Tundra | (2) Arctic Tundra, France, Nigeria, |
| (3) France, Nigeria, Arctic Tundra | (4) Arctic Tundra, Nigeria, France |
-
158. Most of the forests of Andhra Pradesh fall in this category:
- | | |
|-----------------------|----------------------|
| (1) Deciduous forests | (2) Thorny forests |
| (3) Evergreen forests | (4) Mangrove forests |
-
159. The Sun never sets in Tundra region through out:
- | | |
|-----------------------------------|------------------------------------|
| (1) February, March and April | (2) May, June and July |
| (3) August, September and October | (4) November, December and January |
-
160. Aluminum is extracted from:
- | | | | |
|-------------|----------|------------|-------------|
| (1) Bauxite | (2) Mica | (3) Chrome | (4) Barytes |
|-------------|----------|------------|-------------|
-
161. Out of the following, where does it rain very heavily?
- | | |
|----------------------|-------------------|
| (1) on the mountains | (2) on the plains |
| (3) on the plateaus | (4) on the oceans |
-
162. Mediterranean sea separates:
- | | |
|----------------------|--------------------------|
| (1) Asia and America | (2) Africa and Australia |
| (3) Europe and Asia | (4) Europe and Africa |
-
163. 'Polder' type of agriculture is practiced predominantly in:
- | | | | |
|-------------|------------|-------------|-----------|
| (1) England | (2) Poland | (3) Holland | (4) Spain |
|-------------|------------|-------------|-----------|
-
164. Which of the following was an independent country by 1913?
- | | | | |
|-------------|-------------|-----------|------------|
| (1) Liberia | (2) Nigeria | (3) Egypt | (4) Angola |
|-------------|-------------|-----------|------------|
-
165. If the average annual rainfall is 110 centimeters, then it will be considered as:
- | | |
|--------------------|-------------------------|
| (1) Low rain fall | (2) Moderate rain fall |
| (3) High rain fall | (4) Very high rain fall |

POLITICAL SCIENCE

166. In India, who among the following is/are elected directly?

- (1) President (2) Members of Lok Sabha
(3) Vice President (4) Members of Rajya Sabha

167. Uttar Pradesh has 80 Lok Sabha constituencies while Meghalaya has only two Lok Sabha constituencies. The reason for this is:

- (1) Uttar Pradesh is a plain region while Meghalaya is a mountainous region.
(2) Uttar Pradesh has a larger population while Meghalaya has a smaller population.
(3) Uttar Pradesh is a developed region while Meghalaya is a backward region.
(4) There is not any specific reason for this.

168. Which of the following sentences is correct?

- (1) Bail is not a right of the accused
(2) FIR is filed in the court
(3) The police is not part of judiciary
(4) All the civil and criminal cases are taken up by the police

169. A law making it compulsory to give official information was made for the first time in the state of:

- (1) Rajasthan (2) Gujarat (3) Tamilnadu (4) Andhra Pradesh

170. Which of the following states does not have a bicameral legislature?

- (1) Andhra Pradesh (2) Telangana (3) Maharashtra (4) Kerala

171. During national emergency, the term of Legislative Assembly of a state can be extended by:

- (1) 3 months (2) 6 months (3) 9 months (4) 12 months

172. The first headmistress of the country's first school for girls was:

- (1) Savitri Bai Phule (2) Tara Bai Shinde
(3) Rama Bai Saraswathi (4) Shanta Bai Kamble

173. The National Voters Day is celebrated on:

- (1) November 25 (2) December 25 (3) January 25 (4) February 25

174. The President of India appoints the Chief Election Commissioner under the constitutional article:

- (1) 324(2) (2) 324(4) (3) 324(6) (4) 324(8)

175. The sentence "May God protect our people" is written in the preamble of constitution of:

- (1) India (2) America (3) Japan (4) South Africa

ECONOMICS

176. Which constitutional article mentions about 'Right to Work'?

- (1) 41 (2) 21 (3) 19 (4) 17

177. For how many hours does a paper mill run in a day?

- (1) 8 (2) 12 (3) 16 (4) 24

178. Consider the following statements and select the correct answer using the code given below.

- A) Public Transport can help in reducing pollution.
B) Use of helmets and seat belts can avoid many life risks.

- (1) Only A is correct
(2) Only B is correct
(3) Both A and B are correct
(4) Neither A nor B is correct

179. Nidhi has a hundred rupee note with her. She saw a promise on that note which says, "I promise to pay the bearer the sum of hundred rupees". Who signs that promise?

- (1) The Finance Minister of India
(2) The President of India
(3) The Governor of Reserve Bank of India
(4) Chairman's of National Banks

180. Which of the following is the most important contributor to poverty in India?

- (1) Laziness of the people (2) Lack of regular employment
(3) Mal nutrition (4) Giving importance to agriculture



NMMS(E)

C

SPACE FOR ROUGH WORK

Roll No. :

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NMMS(E)

ENGLISH

C

SI No. :

150839

NMMS - NOVEMBER, 2018

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 HB Pencil. 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.

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 27 Pages for 180 Questions + 03 Pages of Rough Work + 02 Title Pages i.e. Total 32 Pages

Part - I : MENTAL ABILITY TEST

Time : 90 Minutes

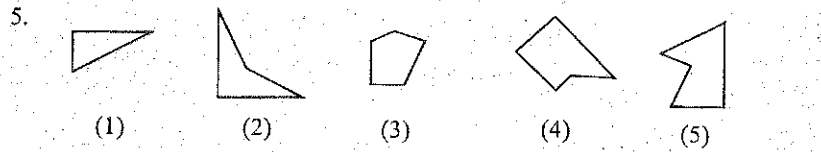
Max. Marks : 90

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 HB Pencil.

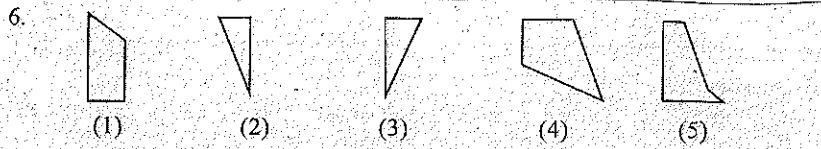
Directions: Questions (1 to 10):

Select from the given 5 alternatives when filled into each other would form a complete square.

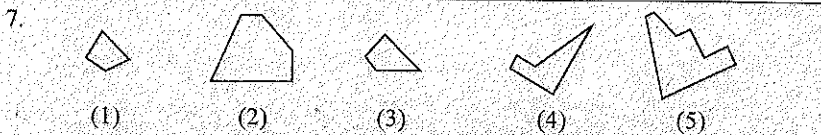
1.  (1)  (2)  (3)  (4)  (5)
 (1) 1, 4, 5 (2) 2, 3, 4 (3) 1, 3, 4 (4) 2, 3, 5
2.  (1)  (2)  (3)  (4)  (5)
 (1) 1, 4, 5 (2) 1, 3, 5 (3) 2, 3, 5 (4) 2, 3, 4
3.  (1)  (2)  (3)  (4)  (5)
 (1) 1, 3, 4 (2) 1, 2, 4 (3) 2, 3, 4 (4) 3, 4, 5
4.  (1)  (2)  (3)  (4)  (5)
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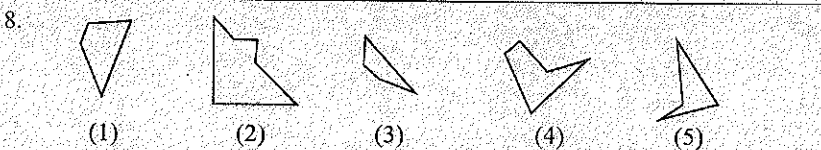
(1) 1, 4, 5 (2) 2, 3, 4 (3) 2, 4, 5 (4) 1, 3, 5



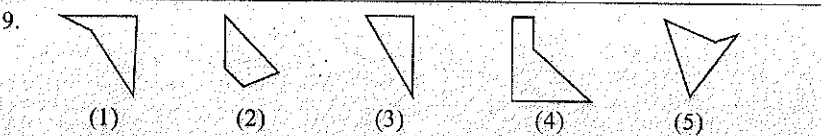
(1) 1, 2, 3 (2) 1, 2, 5 (3) 2, 3, 4 (4) 2, 4, 5



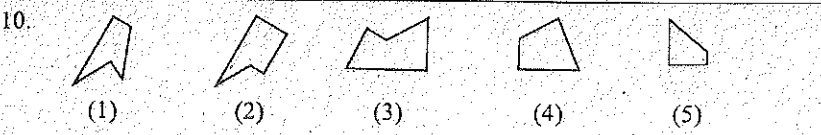
(1) 1, 2, 4 (2) 2, 3, 4 (3) 3, 4, 5 (4) 2, 3, 5



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



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

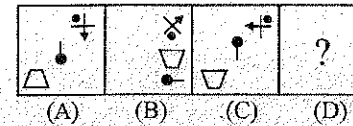


(1) 1, 2, 3 (2) 1, 3, 4 (3) 1, 3, 5 (4) 1, 4, 5

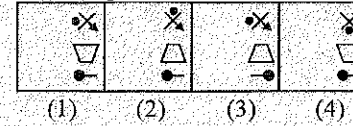
Directions: Questions (11 to 20):

In each of the following questions, the second figure in the first unit of the problem figure bears a certain relationship to the first figure. Similarly one the answer figure bears the same relationship to the first figure of second unit of problem figures you have to therefore locate the figure, which would fit the question mark.

11. Problem Figures

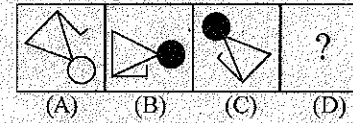


Answer Figures

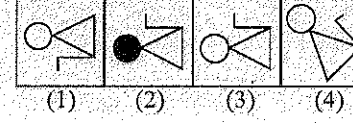


(1) 1 (2) 2 (3) 3 (4) 4

12. Problem Figures

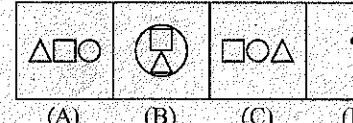


Answer Figures

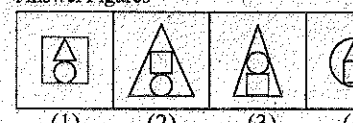


(1) 1 (2) 2 (3) 3 (4) 4

13. Problem Figures

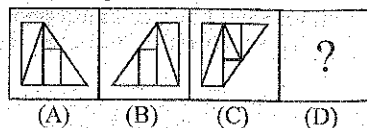


Answer Figures

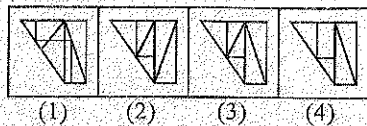


(1) 1 (2) 2 (3) 3 (4) 4

14. Problem Figures

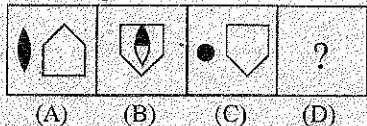


Answer Figures

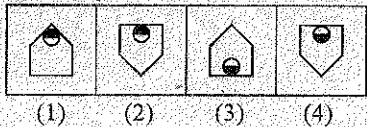


(1) 1 (2) 2 (3) 3 (4) 4

15. Problem Figures

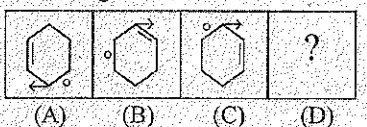


Answer Figures

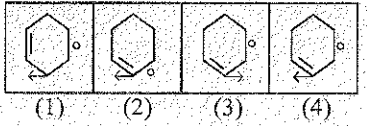


(1) 1 (2) 2 (3) 3 (4) 4

16. Problem Figures

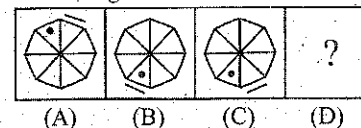


Answer Figures

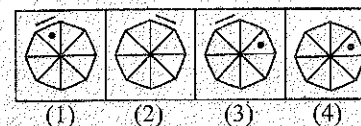


(1) 1 (2) 2 (3) 3 (4) 4

17. Problem Figures

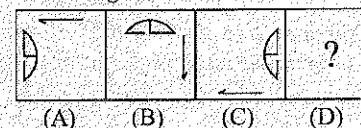


Answer Figures

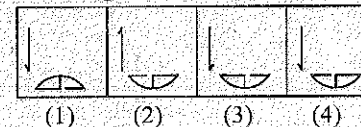


(1) 1 (2) 2 (3) 3 (4) 4

18. Problem Figures

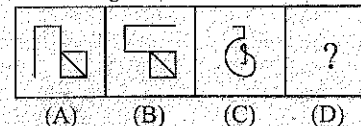


Answer Figures

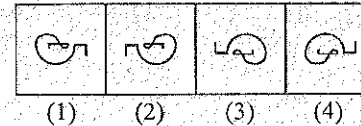


(1) 1 (2) 2 (3) 3 (4) 4

19. Problem Figures

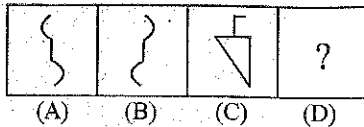


Answer Figures

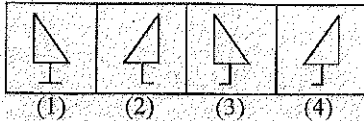


(1) 1 (2) 2 (3) 3 (4) 4

20. Problem Figures



Answer Figures



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

Directions: Questions (21 to 30):

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.

21. 380, 188, 92, ?, 20, 8, 2
(1) 80 (2) 60 (3) 44 (4) 72
22. 3, 7, 6, 5, 9, 3, 12, 1, 15, ?
(1) 18 (2) 13 (3) -1 (4) 3
23. 23, 21, 24, 19, 26, ?
(1) 29 (2) 28 (3) 17 (4) 15
24. 5, 12, 23, 50, 141, ?
(1) 415 (2) 430 (3) 439 (4) 488
25. 4, 11, 19, 41, ?, 161
(1) 62 (2) 108 (3) 79 (4) 90
26. 9, 5, 6, 10.5, 23, ?
(1) 50 (2) 65 (3) 70 (4) 60
27. 1, 20, 58, 134, 286, ?
(1) 600 (2) 590 (3) 580 (4) 570
28. 68, 117, 61, 124, 54, ?
(1) 141 (2) 121 (3) 151 (4) 131

29. 10, 5, 5, 10, 40, ?
(1) 350 (2) 320 (3) 360 (4) 370

30. 8, 7, 12, ?, 128, 635
(1) 42 (2) 24 (3) 33 (4) 26

Directions: Questions (31 to 40):

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.

31. $56 = 7 + 2 - 16$
(1) +, ×, + (2) -, +, × (3) +, ×, = (4) +, -, -
32. $34 \times 2 = 17 \div 34$
(1) -, ×, + (2) +, +, + (3) -, +, × (4) +, +, =
33. $10 \times 5 = 2 + 4$
(1) +, +, = (2) -, +, + (3) ×, -, = (4) =, ×, -
34. $210 + 15 = 15 - 15$
(1) +, -, × (2) +, =, + (3) -, ×, × (4) =, ×, +
35. $900 = 30 \div 2 \times 15$
(1) ×, =, + (2) +, =, × (3) +, +, × (4) =, ×, ×
36. $729 = 9 + 9 \times 9$
(1) +, +, + (2) =, ×, + (3) =, +, × (4) =, ×, ×
37. $15 + 10 = 2 \times 3$
(1) ×, +, + (2) ×, +, - (3) =, +, + (4) =, +, +
38. $64 \div 48 = 4 + 4$
(1) =, +, × (2) =, -, × (3) +, +, + (4) ×, +, +
39. $30 = 2 + 9 + 12$
(1) =, +, × (2) =, ×, + (3) +, ×, - (4) +, ×, +
40. $196 + 13 + 13 = 27$
(1) =, +, × (2) =, +, × (3) +, +, + (4) =, ×, +

NMMS(E)



Directions: Questions (41 to 50):

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.

41. (1) 5 (2) 6 (3) 8 (4) 9
42. (1) 8 (2) 14 (3) 10 (4) 6
43. (1) 20 (2) 25 (3) 26 (4) 75
44.

27	22	50
13	12	26
9	2	?

 (1) 12 (2) 39 (3) 18 (4) 24
45. (1) 25 (2) 47 (3) 37 (4) 41
46. (1) 70 (2) 68 (3) 56 (4) 92

NMMS(E)



47. (1) 41 (2) 37 (3) 29 (4) 25
48. (1) 72 (2) 68 (3) 82 (4) 96
49.

42	(21)	22
78	(?)	84
162	(18)	99

 (1) 12 (2) 13 (3) 60 (4) 50
50. (1) 68 (2) 93 (3) 175 (4) 217

Directions: Questions (51 to 60):

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.

51. $99999 + 9999 + 999 + 99 = ?$
(1) 11096 (2) 111096 (3) 111196 (4) 110096
52. $778 + 64 - 214 - 128 + 174 = ?$
(1) 705 (2) 613 (3) 694 (4) 674
53. $13.141 + 31.417 - 27.118 = ?$
(1) 16.441 (2) 17.543 (3) 17.490 (4) 17.440
54. $\frac{x}{\sqrt{128}} = \frac{\sqrt{162}}{x}, x = ?$
(1) 12 (2) 144 (3) 14 (4) 196
55. $?^3 + 32 = 54$
(1) 318 (2) 12 (3) 14 (4) 16

56. $\sqrt{5^4} \times 14 - 6 \times 7 + 4^x = 18^2$, $x =$
 (1) 1 (2) 3 (3) 4 (4) 2
57. $496 \div 0.6 \times 0.5 = ?$ (approximately)
 (1) 413 (2) 595 (3) 148 (4) 653
58. $151.011 - 419.999 + 649.991 = ?$
 (1) 381.003 (2) 420.03 (3) 358.3 (4) 410.3
59. $\frac{9^2 + 8^2}{25} = ?$
 (1) 2.8 (2) 4.8 (3) 5.8 (4) 6
60. $0.009 \times 0.002 = ?$
 (1) 0.18 (2) 0.00018 (3) 0.0018 (4) 0.000018

Directions: Questions (61 to 70):

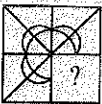
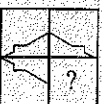
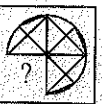
In each of the following questions, there are a certain relationship between two given words on one side of :: and one word is given on another side of ::, while another word is to be found from the given 4 alternatives, having the same relation with this word as the words of the given pair. Choose the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

61. Burn : Ointment :: Grief : ?
 (1) Sorrow (2) Adversity (3) Consolation (4) Pity
62. Pen : Stationery :: Chair : ?
 (1) Wood (2) Rest (3) Room (4) Furniture
63. Dam : Water :: Godown : ?
 (1) Sweets (2) Crab (3) Grain (4) Grass
64. Crime : Court :: Disease : ?
 (1) Lawyer (2) Punishment (3) Hospital (4) Doctor
65. Millionaire : Wealth :: Genius : ?
 (1) Capability (2) Smartness (3) Intelligence (4) Awareness
66. Page : Book :: Brick : ?
 (1) Heap (2) Building (3) Clay (4) Mason
67. Driving : Bus :: Flying : ?
 (1) Air (2) Kite (3) Bird (4) Aeroplane

68. Bullet : Rifle :: Arrow : ?
 (1) Archer (2) Bow (3) Target (4) Cord
69. House : Mason :: Furniture : ?
 (1) Wood (2) Chair (3) Table (4) Carpenter
70. Needle : Thread :: Pen : ?
 (1) Write (2) Ink (3) Cap (4) Paper

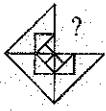
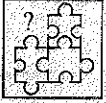
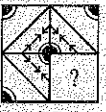
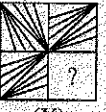
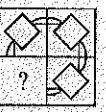
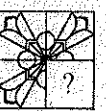
Directions: Questions (71 to 80):

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

71.  (X)  (1)  (2)  (3)  (4)
 (1) 1 (2) 2 (3) 3 (4) 4
72.  (X)  (1)  (2)  (3)  (4)
 (1) 1 (2) 2 (3) 3 (4) 4
73.  (X)  (1)  (2)  (3)  (4)
 (1) 1 (2) 2 (3) 3 (4) 4
74.  (X)  (1)  (2)  (3)  (4)
 (1) 1 (2) 2 (3) 3 (4) 4

NMMS(E)



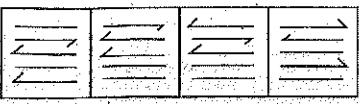
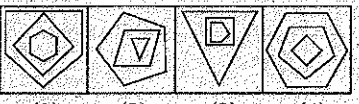
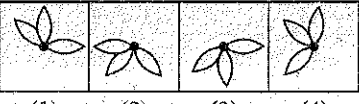
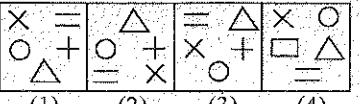
75.  ?
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4
76.  ?
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4
77.  ?
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4
78.  ?
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4
79.  ?
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4
80.  ?
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4

NMMS(E)



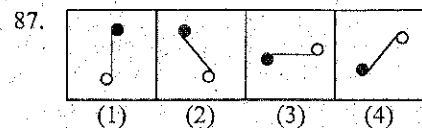
Directions: Questions (81 to 90):

In each of the following questions, there are 4 figures. Three of them are similar in a certain way but one is not like the other three. Find out, which one of the figures different from other.

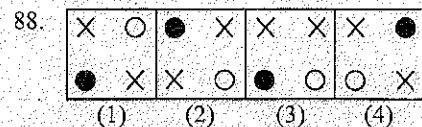
81. 
 (1) 1 (2) 2 (3) 3 (4) 4
82. 
 (1) 1 (2) 2 (3) 3 (4) 4
83. 
 (1) 1 (2) 2 (3) 3 (4) 4
84. 
 (1) 1 (2) 2 (3) 3 (4) 4
85. 
 (1) 1 (2) 2 (3) 3 (4) 4
86. 
 (1) 1 (2) 2 (3) 3 (4) 4

NMMS(E)

C



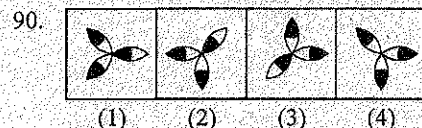
(1) 1 (2) 2 (3) 3 (4) 4



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



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



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

NMMS(E)

C

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

Part - II : SCHOLASTIC APTITUDE TEST

Time : 90 Minutes

Max. Marks : 90

Note :

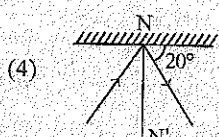
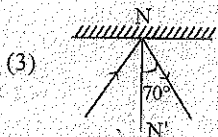
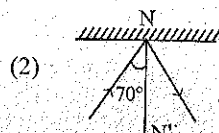
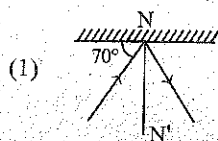
- i) Subject, Question No. and Marks allotted:

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
- HB Pencil**
- .

PHYSICS

91. A light ray reflected as plane surface and angle of reflection is 70° , which of the following do not represent the same? (NN' is normal to the plane surface)



92. When a glass rod is rubbed with a silk cloth then charges deposited on them respectively as follows:

- (1) Positive charge on silk, negative charge on glass rod
- (2) Negative charge on silk, positive charge on glass rod
- (3) Positive charge on both
- (4) Negative charge on both

93. The reason for hot air moves to upward direction because it:

- (1) Occupies larger place, density increases
- (2) Occupies smaller place, density increases
- (3) Occupies larger place, density reduce
- (4) Occupies smaller place, density reduce

94. The intensity of the sound 1000 times more powerful than that total silence is _____
 (1) 1000 dB (2) 3 dB (3) 60 dB (4) 30 dB

95. Which of the following is called as “rain gauge”?

- (1) Udo meter (2) Pluviometer (3) Ombrometer (4) All the above

96. $68^{\circ}\text{F} = \quad^{\circ}\text{C}$

- (1) 36 (2) 0 (3) 20 (4) 68

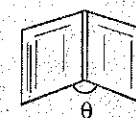
97. x N S y K S N L
A B

A, B are two bar magnets as shown in the figure. Let (x, y) ; (K, L) are the edges of the poles respectively. Then which of the following is true?

- (1) y and K attract each other (2) y and L repel each other.
(3) x and K attract each other (4) x and L attract each other

98. θ is the angle between the two plane mirrors attached as shown in the figure. If the system forms 3 images then the value of θ is

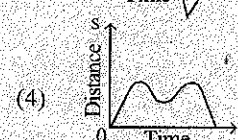
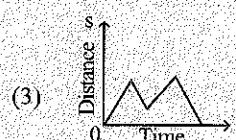
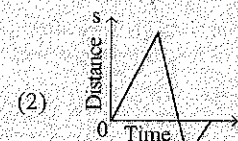
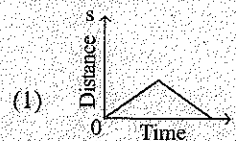
- (1) 120° (2) 96°
(3) 40° (4) 180°



99. In a house everyday they are using six, 100W bulbs for 3 hours, five 60W bulbs for 6 hours, five 40W bulbs for 2 hours. In the month of August and September let they used in the same way. What is the difference in units consumed by them in these two months?

- (1) 120 (2) 4000 (3) 124 (4) 4

100. Which of the following graph doesn't indicate the relation of time (t) and distance(s)



101. Which of the following system gives 7N as resultant force?

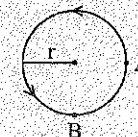
- (1) 

- (2)  A free-body diagram of a square block. A horizontal arrow labeled '23N' points to the right towards the block. Two horizontal arrows labeled '15N' point to the left away from the block, one above and one below the block's center.

- (3) 

- (4) 

102. An object moving in a circular path and covered $\frac{3}{4}$ th distance on the perimeter of the path to reach from A and B. If 'r' is radius of the circular path, then the ratio between distance travelled and displacement by the object between A and B is



- (1) $2\sqrt{2}\pi:3$ (2) $3\sqrt{2}:2\pi$
(3) $3\sqrt{2}\pi:2\sqrt{2}$ (4) $3\pi:2\sqrt{2}$

CHEMISTRY

103. Highly malleable metal among the given metals

- (1) Iron (2) Zinc (3) Gold (4) Copper

104. Match the following:

Set I

- i) Rapid combustion
ii) Spontaneous combustion
iii) Explosion
iv) Combustion

Set II

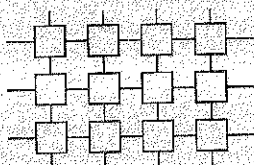
- a) Burning of crackers
b) Burning of wood
c) Burning of camphor
d) Burning of white phosphorous

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

105. Choose the incorrect statement

- (1) PET and HDPE are commonly recycled
(2) PS (code 6), used for making coffee cups, egg boxes etc
(3) Sanitary diapers and bandages are made of Nylon
(4) Firemen wear dress is made of melamine fabric

106.



(Cross-linked arrangement of monomers)

The arrangement of monomers in the above figure indicates _____ polymer

- (1) Nylon (2) PET
(3) HDPE (4) Bakelite

107. Example for Non-Toxic and renewable fuel is _____

- (1) Bio-Diesel (2) CNG
(3) Gasoline (4) LPG

108. In the process of electroplating the result is _____

- a) Concentration of electrolyte unchange
b) Mass of the anode decreases
c) Mass of the cathode decreases
d) Concentration of electrolyte decreases

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

109. Which of the following acid is not hazardous to drink

- (1) Concentrated Nitric-Acid (2) Carbonic Acid
(3) Concentrated Sulphuric Acid (4) Hydrochloric Acid

110. When Magnesium burns in the presence of Oxygen, it forms Magnesium Oxide in the form of powder ash; when it dissolved in water, a New substance is formed. What is the nature of this substance?

- (1) Acidic (2) Basic (3) Neutral (4) Can't confirm

111. Match the following:

Set A

- i) Burning of camphor
ii) Heating of sugar solution upto formation of a solid
iii) Evaporation of camphor placed on a open tray
iv) Depositing of one metal on another metal

Set B

- a) Physical change
b) Galvanisation
c) Crystallisation
d) Chemical change

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

112. When copper utensils are exposed to air, we find greenish coat on them, due to reaction of copper with _____

- (1) oxygen only (2) oxygen and moisture
(3) oxygen, carbondioxide and moisture (4) oxygen, hydrogen and moisture

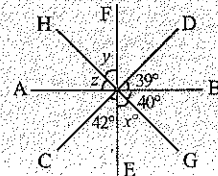
113. Which of the following is Fire extinguisher?

- (1) Oxalic Acid (2) Copper Sulphate
(3) Ammonium Hydroxide (4) Aluminium Hydroxide

BIOLOGY

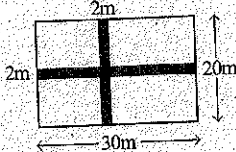
114. Instrument used to measure wind speed and direction.
(1) Thermometer (2) Rain Gauge (3) Anemometer (4) Periscope
115. Which of the below is a male hormone?
(1) Estrogen (2) Progesteron (3) Adrenaline (4) Testosterone
116. Who invented antibiotic tetracycline?
(1) Dr. Jonas Salk (2) Dr. Yellapragada Subba Rao
(3) Dr. Alexander Flemming (4) Dr. Edward Jenner
117. Prof. J. K. Kurian is popularly known as
(1) Father of Green revolution (2) Father of White revolution
(3) Father of Blue revolution (4) Father of Biology
118. Disease caused by Protozoan
(1) AIDS (2) Elephantiasis (3) Malaria (4) Typhoid
119. Normal temperature of the human body
(1) 98.4°F (2) 96.4°F (3) 95.4°F (4) 94.8°F
120. Name the cell that transfers messages
(1) Bone cell (2) Nerve cell (3) Muscle cell (4) Blood cell
121. The last level in the food chain is made up of
(1) Decomposers (2) Consumers
(3) Producers (4) None of the above
122. Global grain is
(1) Wheat (2) Oats (3) Pulses (4) Rice
123. Root nodules of leguminosae family plants contains an organism called
(1) Plasmodium (2) Penicillium (3) Rhizobium (4) Clostridium
124. The human sperm gets energy for its motility from
(1) Head (2) Mitochondria (3) Neck (4) Tail
125. Match the item in Part - I with Part - II
- | | |
|----------------|------------------------|
| Part - I | Part - II |
| a) Vinegar | i) Calcium hydroxide |
| b) Baking Soda | ii) Sodium chloride |
| c) Lime water | iii) Acetic acid |
| d) Common Salt | iv) Sodium bicarbonate |
- (1) a - iv b - iii c - ii d - i
(2) a - iii b - iv c - i d - ii
(3) a - ii b - iii c - iv d - i
(4) a - ii b - i c - iv d - iii

MATHEMATICS

126. If the mean of a, b, c is M and $ab+bc+ca=0$. Then mean of a^2, b^2, c^2 is
(1) $4M^2$ (2) $5M^2$
(3) $3M^2$ (4) M^2
127. A right angled triangle has all its sides are intersects and its area is 30 sq.cm. then the perimeter of the triangle in cms. is
(1) 30 (2) 42 (3) 64 (4) 45
128. The value of $\frac{2^n + 2^{n-1}}{2^{n+1} - 2^n}$ is
(1) $\frac{2^{n-1}}{2^{n+1}}$ (2) $\frac{3}{2}$
(3) $\frac{2}{3}$ (4) 2^n
129. From the figure $|x| + |y| =$
- 
- (1) 116° (2) 120°
(3) 99° (4) 118°
130. A certain amount of marbles are given to three students P, Q and R in the ratio 3:4:5. If P and Q receive a total of 315 marbles then the marbles received by R
(1) 225 (2) 79
(3) 105 (4) 300
131. Product of $\left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right) \dots \left(1 - \frac{1}{p}\right) =$
(1) 1 (2) $1 - \frac{2}{p}$ (3) $\frac{p-1}{p}$ (4) $\frac{1}{p}$

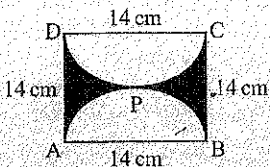
NMMS(E)

C

132. The least number which when divided by 16, 18, 21 leaves remainders 3, 5 and 8, is
 (1) 1008 (2) 995 (3) 1021 (4) 990
133. The mean of 5 numbers is 27. If one more number is included then the mean is 25. The included number is
 (1) 15 (2) 57 (3) 52 (4) 17
134. If $(4x+5) : (3x+11) = 13:17$ then $x =$
 (1) -2 (2) 122 (3) 2 (4) 1
135. Sonu's father is thrice as old as Sonu. After 12 years he will be just twice his daughter. Then the Sonu's present age is (years)
 (1) 10 (2) 12 (3) 15 (4) 11
136. A rectangular lawn is 30 m by 20 m. It has two roads each 2m wide running in the middle of it as shown in the figure. Then the area of roads is
 (1) 96 m²
 (2) 100 m²
 (3) 600 m²
 (4) 504 m²
- 
137. If $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{9}{2}\right)^{1-2m}$ then $m =$
 (1) 2 (2) 1 (3) -1 (4) 0
138. Three numbers are in the ratio 1:2:3. The sum of their cubes is 98784. Then the numbers are
 (1) 12, 24, 36 (2) 14, 28, 42
 (3) 16, 32, 48 (4) 13, 26, 39
139. A boy has 3 boxes of different fruits. Box 'A' weighs $2\frac{1}{2}$ kg more than box 'B' and box 'C' weighs $10\frac{1}{4}$ kg more than box B. The total weight of the boxes is $48\frac{3}{4}$ kg. Then the weight of box 'A' is
 (1) 12 kg (2) $22\frac{1}{4}$ kg
 (3) $34\frac{1}{4}$ kg (4) $14\frac{1}{2}$ kg

NMMS(E)

C

140. If $A = x\%$ of y and $B = y\%$ of x then which of the following is true?
 (1) $A < B$ (2) $A > B$
 (3) $A = B$ (4) If $x < y$ then $A > B$
141. From the adjacent figure area of shaded region is
 (1) 42 cm²
 (2) 196 cm²
 (3) 154 cm²
 (4) 350 cm²
- 
142. Two natural numbers are such that their product, sum and difference are in the ratio 24:7:1. The product of the two numbers, is
 (1) 48 (2) 24
 (3) 12 (4) 16
143. The population of a town 2 years ago was 62500. Due to migration to cities, it decreases every year at the rate of 4% per annum. The present population is
 (1) 60,600 (2) 12,500
 (3) 10,000 (4) 57,600
144. Ramu was given an increment of 10% on his salary. His new salary is ₹ 3575. The salary of Ramu before increment is
 (1) ₹ 3217.50 (2) ₹ 3250
 (3) ₹ 3932.50 (4) ₹ 3500
145. If $\frac{1}{x+1} + \frac{1}{x+2} = \frac{2}{x+10}$ then $x =$
 (1) $-\frac{26}{17}$ (2) 1 (3) $\frac{17}{26}$ (4) $\frac{26}{17}$

HISTORY

146. 'Zabt' was not possible in these provinces:
 (1) Gujarat only (2) Bengal only
 (3) Both Gujarat and Bengal (4) None of these
147. Under which settlement was every piece of land given a survey number and legal ownership of that was fixed?
 (1) Ryotwari settlement (2) Permanent settlement
 (3) Both of these settlements (4) None of these
148. The First World War broke out in:
 (1) 1914 (2) 1916 (3) 1918 (4) 1920
149. In which session of the Congress was it declared that the objective of the Congress was to achieve Swarajya by all legitimate and peaceful means?
 (1) Bombay (2) Amritsar (3) Lahore (4) Nagpur
150. Who discovered the sea route to India in 1498?
 (1) Columbus (2) Vasco da Gama (3) Magellan (4) Marco polo
151. A temple for goddess nishumbhasudini was built by:
 (1) Vijayalaya (2) Aditya (3) Rajendra I (4) Rajaraja I
152. "..... you have a broad and beautiful street full of fine houses.... and these houses belong to merchants, and there you find all sorts of rubies and diamonds... and clothes of every sort on the earth.... in the evening you have a fair where they sell horses, fruits, vegetables, wood etc". - Whose description was this about Vijayanagara City?
 (1) Nuniz (2) Paes (3) Abdul Razzak (4) Nicolo Conti
153. Which of the following was the division of share in profits between James Watt and Boulton?
 (1) $\frac{1}{2}$ to watt and $\frac{1}{2}$ to Boulton (2) $\frac{2}{3}$ to watt and $\frac{1}{3}$ to Boulton
 (3) $\frac{2}{3}$ to Boulton and $\frac{1}{3}$ to watt (4) $\frac{3}{4}$ to Boulton and $\frac{1}{4}$ to watt
154. Who among the following was not one of the 'Astadigajas'?
 (1) Ramaraja Bhushana (2) Ayyalaraju Ramabhadru
 (3) Pingali Surana (4) Pavuluri Mallana
155. The last Mughal Emperor was:
 (1) Aurangzeb (2) Jahandar Shah Zafar
 (3) Muhammad Shah Zafar (4) Bahadur Shah Zafar

GEOGRAPHY

156. In which of the following sets, are the places arranged from south to north with reference to their location?
 (1) Nigeria, France, Arctic Tundra (2) Arctic Tundra, France, Nigeria,
 (3) France, Nigeria, Arctic Tundra (4) Arctic Tundra, Nigeria, France
157. Most of the forests of Andhra Pradesh fall in this category:
 (1) Deciduous forests (2) Thorny forests
 (3) Evergreen forests (4) Mangrove forests
158. The Sun never sets in Tundra region through out:
 (1) February, March and April (2) May, June and July
 (3) August, September and October (4) November, December and January
159. Aluminum is extracted from:
 (1) Bauxite (2) Mica (3) Chrome (4) Barytes
160. Out of the following, where does it rain very heavily?
 (1) on the mountains (2) on the plains
 (3) on the plateaus (4) on the oceans
161. Mediterranean sea separates:
 (1) Asia and America (2) Africa and Australia
 (3) Europe and Asia (4) Europe and Africa
162. 'Polder' type of agriculture is practiced predominantly in:
 (1) England (2) Poland (3) Holland (4) Spain
163. Which of the following was an independent country by 1913?
 (1) Liberia (2) Nigeria (3) Egypt (4) Angola
164. If the average annual rainfall is 110 centimeters, then it will be considered as:
 (1) Low rain fall (2) Moderate rain fall
 (3) High rain fall (4) Very high rain fall
165. The day which is called an equinox is:
 (1) March 21 (2) September 22 (3) June 21 (4) December 22

POLITICAL SCIENCE

166. Which of the following sentences is correct?
 (1) Bail is not a right of the accused
 (2) FIR is filed in the court
 (3) The police is not part of judiciary
 (4) All the civil and criminal cases are taken up by the police
167. A law making it compulsory to give official information was made for the first time in the state of:
 (1) Rajasthan (2) Gujarat (3) Tamilnadu (4) Andhra Pradesh
168. Which of the following states does not have a bicameral legislature?
 (1) Andhra Pradesh (2) Telangana (3) Maharashtra (4) Kerala
169. During national emergency, the term of Legislative Assembly of a state can be extended by:
 (1) 3 months (2) 6 months (3) 9 months (4) 12 months
170. The first headmistress of the country's first school for girls was:
 (1) Savitri Bai Phule (2) Tara Bai Shinde
 (3) Rama Bai Saraswathi (4) Shanta Bai Kamble
171. The National Voters Day is celebrated on:
 (1) November 25 (2) December 25 (3) January 25 (4) February 25
172. The President of India appoints the Chief Election Commissioner under the constitutional article:
 (1) 324(2) (2) 324(4) (3) 324(6) (4) 324(8)
173. The sentence "May God protect our people" is written in the preamble of constitution of:
 (1) India (2) America (3) Japan (4) South Africa
174. In India, who among the following is/are elected directly?
 (1) President (2) Members of Lok Sabha
 (3) Vice President (4) Members of Rajya Sabha
175. Uttar Pradesh has 80 Lok Sabha constituencies while Meghalaya has only two Lok Sabha constituencies. The reason for this is:
 (1) Uttar Pradesh is a plain region while Meghalaya is a mountainous region.
 (2) Uttar Pradesh has a larger population while Meghalaya has a smaller population.
 (3) Uttar Pradesh is a developed region while Meghalaya is a backward region.
 (4) There is not any specific reason for this.

ECONOMICS

176. For how many hours does a paper mill run in a day?
 (1) 8 (2) 12 (3) 16 (4) 24
177. Consider the following statements and select the correct answer using the code given below.
 A) Public Transport can help in reducing pollution.
 B) Use of helmets and seat belts can avoid many life risks.
 (1) Only A is correct
 (2) Only B is correct
 (3) Both A and B are correct
 (4) Neither A nor B is correct
178. Nidhi has a hundred rupee note with her. She saw a promise on that note which says, "I promise to pay the bearer the sum of hundred rupees". Who signs that promise?
 (1) The Finance Minister of India
 (2) The President of India
 (3) The Governor of Reserve Bank of India
 (4) Chairman's of National Banks
179. Which of the following is the most important contributor to poverty in India?
 (1) Laziness of the people (2) Lack of regular employment
 (3) Mal nutrition (4) Giving importance to agriculture
180. Which constitutional article mentions about 'Right to Work'?
 (1) 41 (2) 21 (3) 19 (4) 17

□□□□

D

Roll No. :

ENGLISH

D

SI No. :

150840

MENTAL ABILITY AND SCHOLASTIC APTITUDE TEST

Time : Part - I : 90 Minutes

Max. Marks : 90

Time : Part - II : 90 Minutes

Max. Marks : 90

Read the following instructions carefully before you answer the questions. Answers are to be SHADED on a SEPARATE given OMR Answer Sheet with a HB Pencil. 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.

32-D

V-101

V-101

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 27 Pages for 180 Questions + 03 Pages of Rough Work + 02 Title Pages i.e. Total 32 Pages

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 **HB Pencil**.

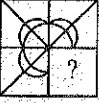
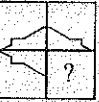
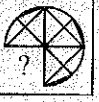
Directions: Questions (1 to 10):

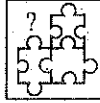
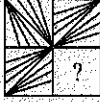
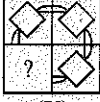
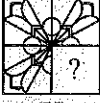
In each of the following questions, there are a certain relationship between two given words on one side of :: and one word is given on another side of ::, while another word is to be found from the given 4 alternatives, having the same relation with this word as the words of the given pair. Choose the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

1. Burn : Ointment :: Grief : ?
(1) Sorrow (2) Adversity (3) Consolation (4) Pity
2. Pen : Stationery :: Chair : ?
(1) Wood (2) Rest (3) Room (4) Furniture
3. Dam : Water :: Godown : ?
(1) Sweets (2) Crab (3) Grain (4) Grass
4. Crime : Court :: Disease : ?
(1) Lawyer (2) Punishment (3) Hospital (4) Doctor
5. Millionaire : Wealth :: Genius : ?
(1) Capability (2) Smartness (3) Intelligence (4) Awareness
6. Page : Book :: Brick : ?
(1) Heap (2) Building (3) Clay (4) Mason
7. Driving : Bus :: Flying : ?
(1) Air (2) Kite (3) Bird (4) Aeroplane
8. Bullet : Rifle :: Arrow : ?
(1) Archer (2) Bow (3) Target (4) Cord
9. House : Mason :: Furniture : ?
(1) Wood (2) Chair (3) Table (4) Carpenter
10. Needle : Thread :: Pen : ?
(1) Write (2) Ink (3) Cap (4) Paper

Directions: Questions (11 to 20):

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

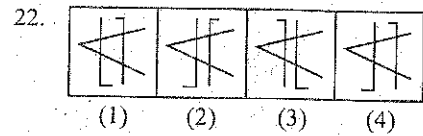
11.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
12.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
13.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
14.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
15.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4

16.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
17.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
18.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
19.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4
20.  (X)  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4

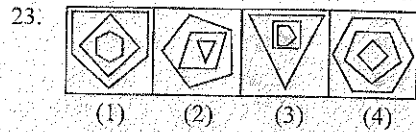
Directions: Questions (21 to 30):

In each of the following questions, there are 4 figures. Three of them are similar in a certain way but one is not like the other three. Find out, which one of the figures different from other.

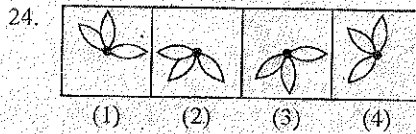
21.  (1)  (2)  (3)  (4)
(1) 1 (2) 2 (3) 3 (4) 4



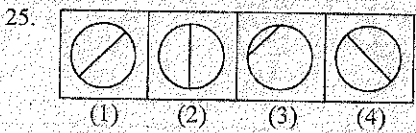
- (1) 1 (2) 2 (3) 3 (4) 4



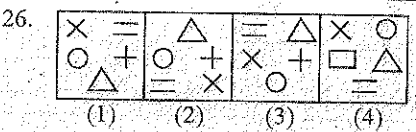
- (1) 1 (2) 2 (3) 3 (4) 4



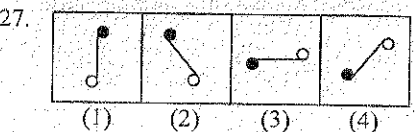
- (1) 1 (2) 2 (3) 3 (4) 4



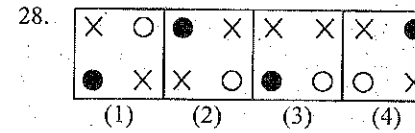
- (1) 1 (2) 2 (3) 3 (4) 4



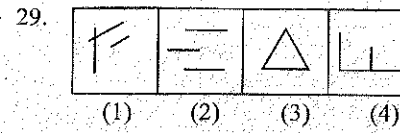
- (1) 1 (2) 2 (3) 3 (4) 4



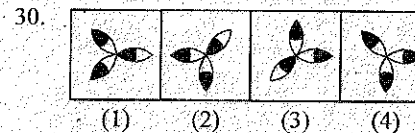
- (1) 1 (2) 2 (3) 3 (4) 4



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



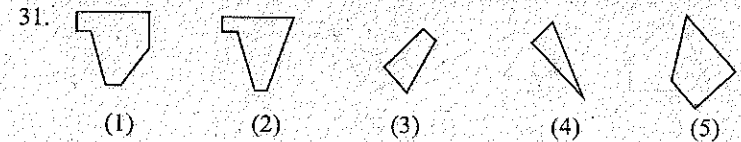
- (1) 1 (2) 2 (3) 3 (4) 4



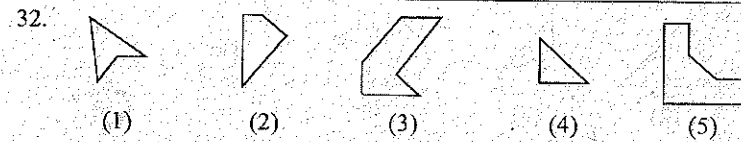
- (1) 1 (2) 2 (3) 3 (4) 4

Directions: Questions (31 to 40):

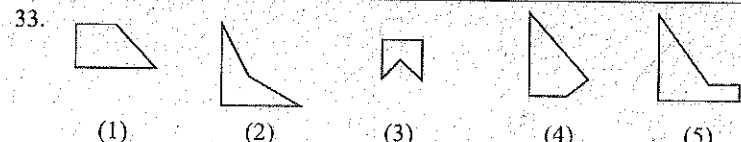
Select from the given 5 alternatives when filled into each other would form a complete square.



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



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

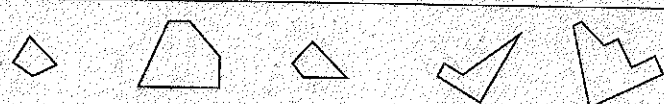


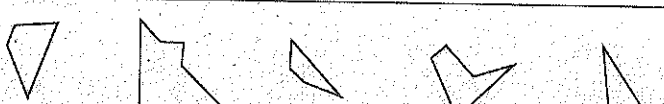
- (1) 1, 3, 4 (2) 1, 2, 4 (3) 2, 3, 4 (4) 3, 4, 5

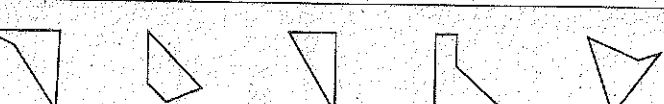
34. 
 (1) 1, 2, 3 (2) 2, 3, 5 (3) 2, 4, 5 (4) 1, 4, 5

35. 
 (1) 1, 4, 5 (2) 2, 3, 4 (3) 2, 4, 5 (4) 1, 3, 5

36. 
 (1) 1, 2, 3 (2) 1, 2, 5 (3) 2, 3, 4 (4) 2, 4, 5

37. 
 (1) 1, 2, 4 (2) 2, 3, 4 (3) 3, 4, 5 (4) 2, 3, 5

38. 
 (1) 1, 2, 3 (2) 1, 2, 4 (3) 1, 2, 5 (4) 2, 3, 5

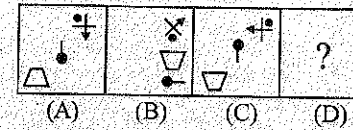
39. 
 (1) 1, 2, 5 (2) 1, 2, 3 (3) 2, 3, 5 (4) 2, 3, 4

40. 
 (1) 1, 2, 3 (2) 1, 3, 4 (3) 1, 3, 5 (4) 1, 4, 5

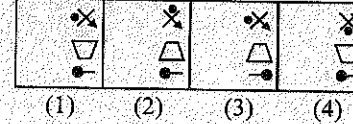
Directions: Questions (41 to 50):

In each of the following questions, the second figure in the first unit of the problem figure bears a certain relationship to the first figure. Similarly one the answer figure bears the same relationship to the first figure of second unit of problem figures you have to therefore locate the figure, which would fit the question mark.

41. Problem Figures

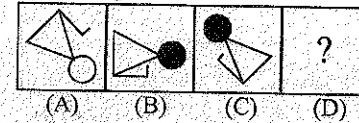


Answer Figures

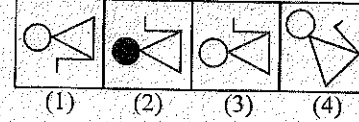


- (1) 1 (2) 2 (3) 3 (4) 4

42. Problem Figures

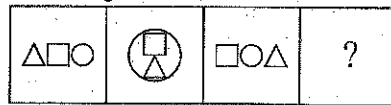


Answer Figures



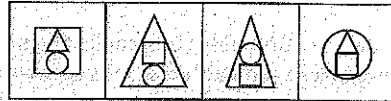
- (1) 1 (2) 2 (3) 3 (4) 4

43. Problem Figures



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

Answer Figures



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

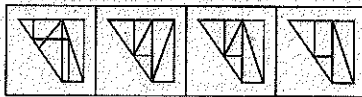
(1) 1 (2) 2 (3) 3 (4) 4

44. Problem Figures



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

Answer Figures



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

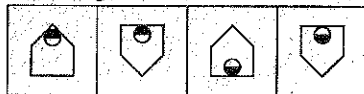
(1) 1 (2) 2 (3) 3 (4) 4

45. Problem Figures



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

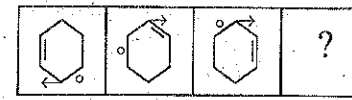
Answer Figures



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

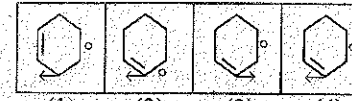
(1) 1 (2) 2 (3) 3 (4) 4

46. Problem Figures



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

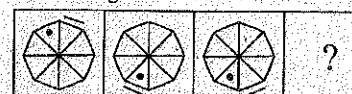
Answer Figures



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

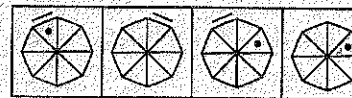
(1) 1 (2) 2 (3) 3 (4) 4

47. Problem Figures



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

Answer Figures



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

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

48. Problem Figures



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

Answer Figures



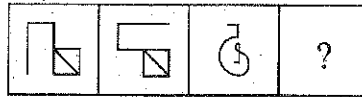
(1) (2) (3) (4)

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

NMMS(E)

D

49. Problem Figures



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

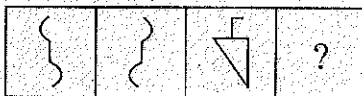
Answer Figures



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

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

50. Problem Figures



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

Answer Figures



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

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

Directions: Questions (51 to 60):

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.

51. 380, 188, 92, __?, 20, 8, 2

(1) 80 (2) 60 (3) 44 (4) 72

52. 3, 7, 6, 5, 9, 3, 12, 1, 15, __?

(1) 18 (2) 13 (3) -1 (4) 3

53. 23, 21, 24, 19, 26, __?

(1) 29 (2) 28 (3) 17 (4) 15

12 - D

V-101

NMMS(E)

D

54. 5, 12, 23, 50, 141, __?

(1) 415 (2) 430 (3) 439 (4) 488

55. 4, 11, 19, 41, __?, 161

(1) 62 (2) 108 (3) 79 (4) 90

56. 9, 5, 6, 10.5, 23, __?

(1) 50 (2) 65 (3) 70 (4) 60

57. 1, 20, 58, 134, 286, __?

(1) 600 (2) 590 (3) 580 (4) 570

58. 68, 117, 61, 124, 54, __?

(1) 141 (2) 121 (3) 151 (4) 131

59. 10, 5, 5, 10, 40, __?

(1) 350 (2) 320 (3) 360 (4) 370

60. 8, 7, 12, __?, 128, 635

(1) 42 (2) 24 (3) 33 (4) 26

Directions: Questions (61 to 70):

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.

61. $56 = 7 + 2 - 16$

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

62. $34 \times 2 = 17 \div 34$

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

63. $10 \times 5 = 2 + 4$

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

64. $210 \div 15 = 15 - 15$

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

65. $900 = 30 + 2 \times 15$

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

13 - D

V-101

66. $729 = 9 + 9 \times 9$
 (1) $+, +, +$ (2) $=, \times, +$ (3) $=, +, \times$ (4) $=, \times, \times$

67. $15 \div 10 = 2 \times 3$
 (1) $\times, \div, +$ (2) $\times, +, -$ (3) $=, +, +$ (4) $=, \div, +$

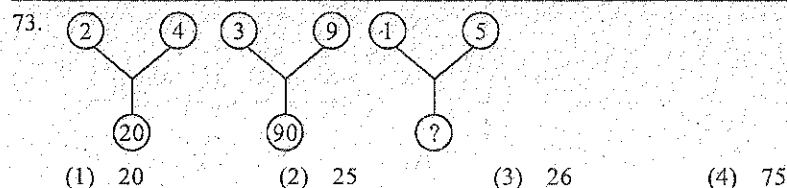
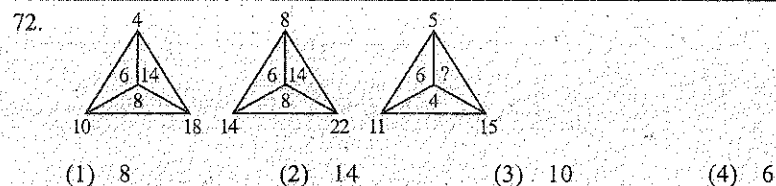
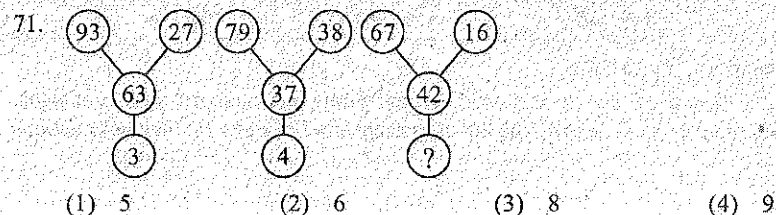
68. $64 + 48 = 4 \div 4$
 (1) $=, +, \times$ (2) $=, -, \times$ (3) $\div, +, +$ (4) $\times, +, \div$

69. $30 = 2 + 9 + 12$
 (1) $=, +, \times$ (2) $=, \times, +$ (3) $+, \times, -$ (4) $+, \times, +$

70. $196 \div 13 + 13 = 27$
 (1) $=, +, \times$ (2) $=, \div, \times$ (3) $+, \div, +$ (4) $=, \times, +$

Directions: Questions (71 to 80):

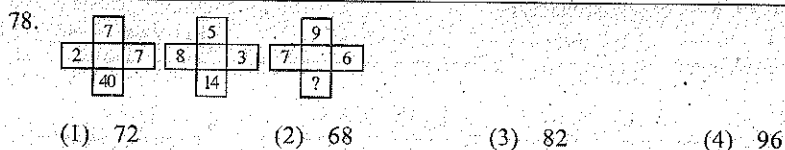
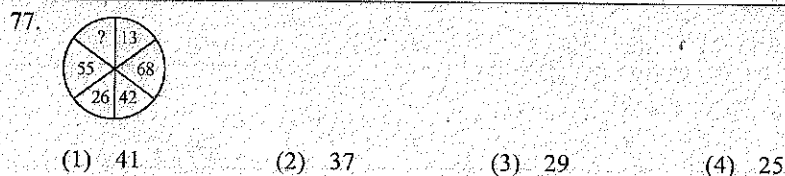
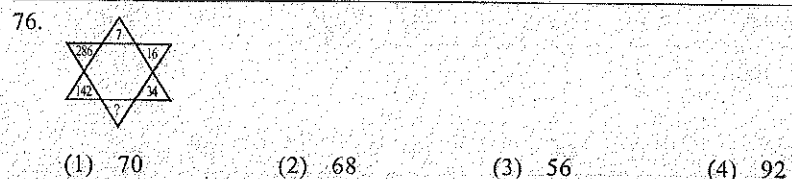
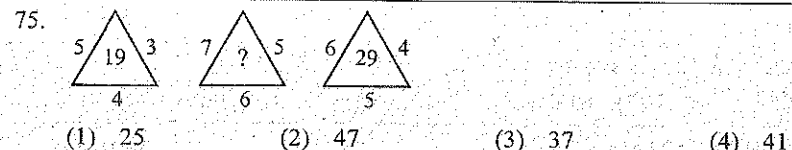
In each of the following questions, a set of figures carrying certain characters is given. Assuming that the characters in each set follow a similar pattern, find the missing character in each case.



74.

27	22	50
13	12	26
9	2	?

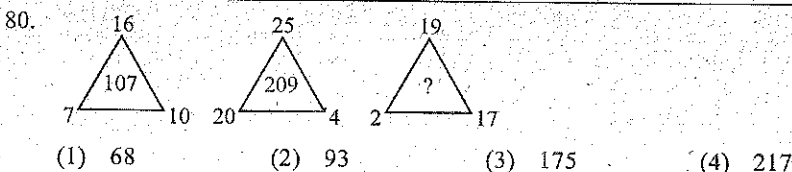
 (1) 12 (2) 39 (3) 18 (4) 24



79.

42	(21)	22
78	(?)	84
162	(18)	99

 (1) 12 (2) 13 (3) 60 (4) 50



Directions: Questions (81 to 90):

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.

81. $99999 + 9999 + 999 + 99 = ?$
 (1) 11096 (2) 111096 (3) 111196 (4) 110096

82. $778 + 64 - 214 - 128 + 174 = ?$
 (1) 705 (2) 613 (3) 694 (4) 674

83. $13.141 + 31.417 - 27.118 = ?$
 (1) 16.441 (2) 17.543 (3) 17.490 (4) 17.440

84. $\frac{x}{\sqrt{128}} = \frac{\sqrt{162}}{x}, x =$
 (1) 12 (2) 144 (3) 14 (4) 196

85. $?^3 + 32 = 54$
 (1) 318 (2) 12 (3) 14 (4) 16

86. $\sqrt{5^4} \times 14 - 6 \times 7 + 4^x = 18^2, x =$
 (1) 1 (2) 3 (3) 4 (4) 2

87. $496 + 0.6 \times 0.5 = ?$ (approximately)
 (1) 413 (2) 595 (3) 148 (4) 653

88. $151.011 - 419.999 + 649.991 = ?$
 (1) 381.003 (2) 420.03 (3) 358.3 (4) 410.3

89. $\frac{9^2 + 8^2}{25} = ?$
 (1) 2.8 (2) 4.8 (3) 5.8 (4) 6

90. $0.009 \times 0.002 = ?$
 (1) 0.18 (2) 0.00018 (3) 0.0018 (4) 0.000018

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

Part - II : SCHOLASTIC APTITUDE TEST

Time : 90 Minutes

Max. Marks : 90

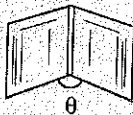
Note :

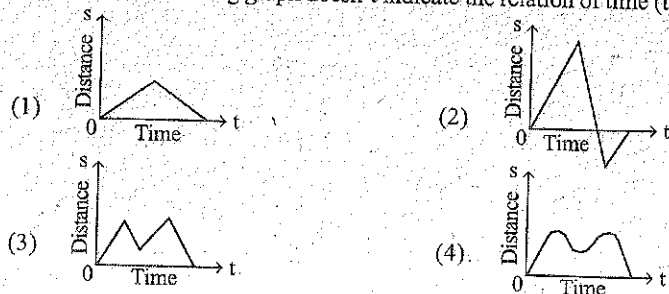
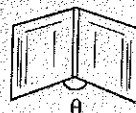
- i) Subject, Question No. and Marks allotted:

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

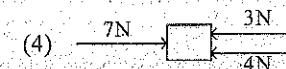
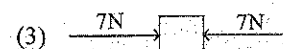
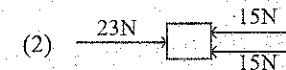
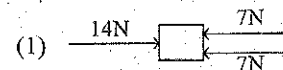
- ii) **SHADE** the circle having the correct alternatives in the OMR Answer Sheet provided, from amongst the ones given against the corresponding questions in the Question Paper Booklet. For shading the circles, use a **HB Pencil**.

PHYSICS

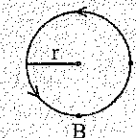
91. The reason for hot air moves to upward direction because it:
- Occupies larger place, density increases
 - Occupies smaller place, density increases
 - Occupies larger place, density reduce
 - Occupies smaller place, density reduce
92. The intensity of the sound 1000 times more powerful than that total silence is _____
- 1000 dB
 - 3 dB
 - 60 dB
 - 30 dB
93. Which of the following is called as "rain gauge"?
- Udo meter
 - Pluviometer
 - Ombrometer
 - All the above
94. $68^{\circ}\text{F} = \text{_____}^{\circ}\text{C}$
- 36
 - 0
 - 20
 - 68
95. $x \begin{array}{|c|c|} \hline \text{N} & \text{S} \\ \hline \end{array} y \quad K \begin{array}{|c|c|} \hline \text{S} & \text{N} \\ \hline \end{array} L$
A B
- A, B are two bar magnets as shown in the figure. Let (x, y); (K, L) are the edges of the poles respectively. Then which of the following is true?
- y and K attract each other
 - y and L repel each other
 - x and K attract each other
 - x and L attract each other
96. θ is the angle between the two plane mirrors attached as shown in the figure. If the system forms 3 images then the value of θ is _____
- 120°
 - 96°
 - 40°
 - 180°
97. In a house everyday they are using six, 100W bulbs for 3 hours, five 60W bulbs for 6 hours, five 40W bulbs for 2 hours. In the month of August and September let they used in the same way. What is the difference in units consumed by them in these two months?
- 120
 - 4000
 - 124
 - 4
98. Which of the following graph doesn't indicate the relation of time (t) and distance(s)
- 



99. Which of the following system gives 7N as resultant force?

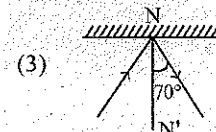
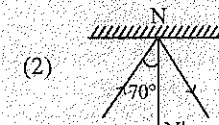
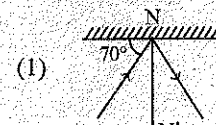


100. An object moving in a circular path and covered $\frac{3}{4}$ th distance on the perimeter of the path to reach from A and B. If 'r' is radius of the circular path, then the ratio between distance travelled and displacement by the object between A and B is



- (1) $2\sqrt{2}\pi:3$ (2) $3\sqrt{2}:2\pi$
(3) $3\sqrt{2}\pi:2\sqrt{2}$ (4) $3\pi:2\sqrt{2}$

101. A light ray reflected as plane surface and angle of reflection is 70° , which of the following do not represent the same? (NN' is normal to the plane surface)



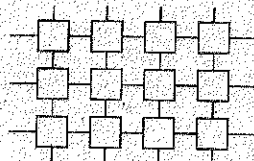
102. When a glass rod is rubbed with a silk cloth then charges deposited on them respectively as follows:
- (1) Positive charge on silk, negative charge on glass rod
 - (2) Negative charge on silk, positive charge on glass rod
 - (3) Positive charge on both
 - (4) Negative charge on both

CHEMISTRY

103. Choose the incorrect statement

- (1) PET and HDPE are commonly recycled
 (2) PS (code 6), used for making coffee cups, egg boxes etc
 (3) Sanitary diapers and bandages are made of Nylon
 (4) Firemen wear dress is made of melamine fabric

104.



(Cross-linked arrangement of monomers)

The arrangement of monomers in the above figure indicates _____ polymer

- (1) Nylon (2) PET (3) HDPE (4) Bakelite

105. Example for Non-Toxic and renewable fuel is _____

- (1) Bio-Diesel (2) CNG (3) Gasoline (4) LPG

106. In the process of electroplating the result is _____

- a) Concentration of electrolyte unchange
 b) Mass of the anode decreases
 c) Mass of the cathode decreases
 d) Concentration of electrolyte decreases

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

107. Which of the following acid is not hazardous to drink

- (1) Concentrated Nitric-Acid (2) Carbonic Acid
 (3) Concentrated Sulphuric Acid (4) Hydrochloric Acid

108. When Magnesium burns in the presence of Oxygen, it forms Magnesium Oxide in the form of powder ash; when it dissolved in water, a New substance is formed. What is the nature of this substance?

- (1) Acidic (2) Basic (3) Neutral (4) Can't confirm

109. Match the following:

Set A

- i) Burning of camphor
 ii) Heating of sugar solution upto formation of a solid
 iii) Evaporation of camphor placed on a open tray
 iv) Depositing of one metal on another metal

Set B

- a) Physical change
 b) Galvanisation
 c) Crystallisation
 d) Chemical change

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

110. When copper utensils are exposed to air, we find greenish coat on them, due to reaction of copper with _____

- (1) oxygen only (2) oxygen and moisture
 (3) oxygen, carbondioxide and moisture (4) oxygen, hydrogen and moisture

111. Which of the following is Fire extinguisher?

- (1) Oxalic Acid (2) Copper Sulphate
 (3) Ammonium Hydroxide (4) Aluminium Hydroxide

112. Highly melliabile metal among the given metals

- (1) Iron (2) Zinc (3) Gold (4) Copper

113. Match the following:

Set I

- i) Rapid combustion
 ii) Spontaneous combustion
 iii) Explosion
 iv) Combustion

Set II

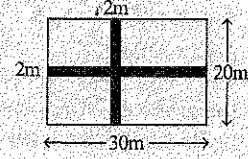
- a) Burning of crackers
 b) Burning of wood
 c) Burning of camphor
 d) Burning of white phosphorous

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

BIOLOGY

114. Who invented antibiotic tetracycline?
 (1) Dr. Jonas Salk (2) Dr. Yellapragada Subba Rao
 (3) Dr. Alexander Flemming (4) Dr. Edward Jenner
115. Prof. J. K. Kurian is popularly known as
 (1) Father of Green revolution (2) Father of White revolution
 (3) Father of Blue revolution (4) Father of Biology
116. Disease caused by Protozoan
 (1) AIDS (2) Elephantiasis (3) Malaria (4) Typhoid
117. Normal temperature of the human body
 (1) 98.4° F (2) 96.4° F (3) 95.4° F (4) 94.8° F
118. Name the cell that transfers messages
 (1) Bone cell (2) Nerve cell (3) Muscle cell (4) Blood cell
119. The last level in the food chain is made up of
 (1) Decomposers (2) Consumers
 (3) Producers (4) None of the above
120. Global grain is
 (1) Wheat (2) Oats (3) Pulses (4) Rice
121. Root nodules of leguminosae family plants contains an organism called
 (1) Plasmodium (2) Penicillium (3) Rhizobium (4) Clostridium
122. The human sperm gets energy for its motility from
 (1) Head (2) Mitochondria (3) Neck (4) Tail
123. Match the item in Part - I with Part - II
- | Part - I | Part - II |
|----------------|------------------------|
| a) Vinegar | i) Calcium hydroxide |
| b) Baking Soda | ii) Sodium chloride |
| c) Lime water | iii) Acetic acid |
| d) Common Salt | iv) Sodium bicarbonate |
- (1) a - iv b - iii c - ii d - i
 (2) a - iii b - iv c - i d - ii
 (3) a - ii b - iii c - iv d - i
 (4) a - ii b - i c - iv d - iii
124. Instrument used to measure wind speed and direction.
 (1) Thermometer (2) Rain Gauge (3) Anemometer (4) Periscope
125. Which of the below is a male hormone?
 (1) Estrogen (2) Progesterone (3) Adrenaline (4) Testosterone

MATHEMATICS

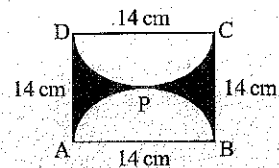
126. The least number which when divided by 16, 18, 21 leaves remainders 3, 5 and 8 is
 (1) 1008 (2) 995 (3) 1021 (4) 990
127. The mean of 5 numbers is 27. If one more number is included then the mean is 25. The included number is
 (1) 15 (2) 57 (3) 52 (4) 17
128. If $(4x+5) : (3x+11) = 13:17$ then $x =$
 (1) -2 (2) 122 (3) 2 (4) 1
129. Sonu's father is thrice as old as Sonu. After 12 years he will be just twice his daughter. Then the Sonu's present age is (years)
 (1) 10 (2) 12 (3) 15 (4) 11
130. A rectangular lawn is 30 m by 20 m. It has two roads each 2m wide running in the middle of it as shown in the figure. Then the area of roads is
 (1) 96 m²
 (2) 100 m²
 (3) 600 m²
 (4) 504 m²
- 
131. If $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{9}{2}\right)^{1-2m}$ then $m =$
 (1) 2 (2) 1 (3) -1 (4) 0
132. Three numbers are in the ratio 1:2:3. The sum of their cubes is 98784. Then the numbers are
 (1) 12, 24, 36 (2) 14, 28, 42
 (3) 16, 32, 48 (4) 13, 26, 39
133. A boy has 3 boxes of different fruits. Box 'A' weights $2\frac{1}{2}$ kg more than box 'B' and box 'C' weights $10\frac{1}{4}$ kg more than box B. The total weight of the boxes is $48\frac{3}{4}$ kg. Then the weight of box 'A' is
 (1) 12 kg (2) $22\frac{1}{4}$ kg
 (3) $34\frac{1}{4}$ kg (4) $14\frac{1}{2}$ kg

134. If $A = x\%$ of y and $B = y\%$ of x then which of the following is true?

- (1) $A < B$ (2) $A > B$
(3) $A = B$ (4) If $x < y$ then $A > B$

135. From the adjacent figure area of shaded region is

- (1) 42 cm^2
(2) 196 cm^2
(3) 154 cm^2
(4) 350 cm^2



136. Two natural numbers are such that their product, sum and difference are in the ratio 24:7:1. The product of the two numbers, is

- (1) 48 (2) 24
(3) 12 (4) 16

137. The population of a town 2 years ago was 62500. Due to migration to cities, it decreases every year at the rate of 4% per annum. The present population is

- (1) 60,600 (2) 12,500
(3) 10,000 (4) 57,600

138. Ramu was given an increment of 10% on his salary. His new salary is ₹ 3575. The salary of Ramu before increment is

- (1) ₹ 3217.50
(2) ₹ 3250
(3) ₹ 3932.50
(4) ₹ 3500

139. If $\frac{1}{x+1} + \frac{1}{x+2} = \frac{2}{x+10}$ then $x =$

- (1) $\frac{-26}{17}$ (2) 1 (3) $\frac{17}{26}$ (4) $\frac{26}{17}$

140. If the mean of a, b, c is M and $ab+bc+ca=0$. Then mean of a^2, b^2, c^2 is

- (1) $4M^2$ (2) $5M^2$
(3) $3M^2$ (4) M^2

141. A right angled triangle has all its sides are intersects and its area is 30 sq.cm. then the perimeter of the triangle in cms. is

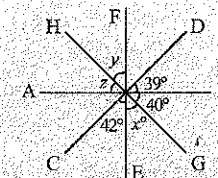
- (1) 30 (2) 42 (3) 64 (4) 45

142. The value of $\frac{2^n + 2^{n-1}}{2^{n+1} - 2^n}$ is

- (1) $\frac{2^{n-1}}{2^{n+1}}$ (2) $\frac{3}{2}$
(3) $\frac{2}{3}$ (4) 2^n

143. From the figure $\angle x + \angle y =$

- (1) 116°
(2) 120°
(3) 99°
(4) 118°



144. A certain amount of marbles are given to three students P, Q and R in the ratio 3:4:5. If P and Q receive a total of 315 marbles then the marbles received by R

- (1) 225 (2) 79
(3) 105 (4) 300

145. Product of $\left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right) \dots \dots \dots \left(1 - \frac{1}{p}\right) =$

- (1) 1 (2) $1 - \frac{2}{p}$
(3) $\frac{p-1}{p}$ (4) $\frac{1}{p}$

HISTORY

146. The last Mughal Emperor was:
 (1) Aurangzeb (2) Jahandar Shah Zafar
 (3) Muhammad Shah Zafar (4) Bahadur Shah Zafar
147. 'Zabt' was not possible in these provinces:
 (1) Gujarat only (2) Bengal only
 (3) Both Gujarat and Bengal (4) None of these
148. Under which settlement was every piece of land given a survey number and legal ownership of that was fixed?
 (1) Ryotwari settlement (2) Permanent settlement
 (3) Both of these settlements (4) None of these
149. The First World War broke out in:
 (1) 1914 (2) 1916 (3) 1918 (4) 1920
150. In which session of the Congress was it declared that the objective of the Congress was to achieve Swarajya by all legitimate and peaceful means?
 (1) Bombay (2) Amritsar (3) Lahore (4) Nagpur
151. Who discovered the sea route to India in 1498?
 (1) Columbus (2) Vasco da Gama (3) Magellan (4) Marco polo
152. A temple for goddess nishumbhasudini was built by:
 (1) Vijayalaya (2) Aditya (3) Rajendra I (4) Rajaraja I
153. "..... you have a broad and beautiful street full of fine houses.... and these houses belong to merchants, and there you find all sorts of rubies and diamonds... and clothes of every sort on the earth.... in the evening you have a fair where they sell horses, fruits, vegetables, wood etc" - Whose description was this about Vijayanagara City?
 (1) Nuniz (2) Paes (3) Abdul Razzak (4) Nicolo Conti
154. Which of the following was the division of share in profits between James Watt and Boulton?
 (1) $\frac{1}{2}$ to watt and $\frac{1}{2}$ to Boulton (2) $\frac{2}{3}$ to watt and $\frac{1}{3}$ to Boulton
 (3) $\frac{2}{3}$ to Boulton and $\frac{1}{3}$ to watt (4) $\frac{3}{4}$ to Boulton and $\frac{1}{4}$ to watt
155. Who among the following was not one of the 'Astadiggajas'?
 (1) Ramaraja Bhushana (2) Ayyalaraju Ramabhadru
 (3) Pingali Surana (4) Pavuluri Mallana

GEOGRAPHY

156. Most of the forests of Andhra Pradesh fall in this category:
 (1) Deciduous forests (2) Thorny forests
 (3) Evergreen forests (4) Mangrove forests
157. The Sun never sets in Tundra region through out:
 (1) February, March and April (2) May, June and July
 (3) August, September and October (4) November, December and January
158. Aluminum is extracted from:
 (1) Bauxite (2) Mica (3) Chrome (4) Barytes
159. Out of the following, where does it rain very heavily?
 (1) on the mountains (2) on the plains
 (3) on the plateaus (4) on the oceans
160. Mediterranean sea separates:
 (1) Asia and America (2) Africa and Australia
 (3) Europe and Asia (4) Europe and Africa
161. 'Polder' type of agriculture is practiced predominantly in:
 (1) England (2) Poland (3) Holland (4) Spain
162. Which of the following was an independent country by 1913?
 (1) Liberia (2) Nigeria (3) Egypt (4) Angola
163. If the average annual rainfall is 110 centimeters, then it will be considered as:
 (1) Low rain fall (2) Moderate rain fall
 (3) High rain fall (4) Very high rain fall
164. The day which is called an equinox is:
 (1) March 21 (2) September 22 (3) June 21 (4) December 22
165. In which of the following sets, are the places arranged from south to north with reference to their location?
 (1) Nigeria, France, Arctic Tundra (2) Arctic Tundra, France, Nigeria,
 (3) France, Nigeria, Arctic Tundra (4) Arctic Tundra, Nigeria, France

POLITICAL SCIENCE

166. Which of the following states does not have a bicameral legislature?
 (1) Andhra Pradesh (2) Telangana (3) Maharashtra (4) Kerala
167. During national emergency, the term of Legislative Assembly of a state can be extended by:
 (1) 3 months (2) 6 months (3) 9 months (4) 12 months
168. The first headmistress of the country's first school for girls was:
 (1) Savitri Bai Phule (2) Tara Bai Shinde
 (3) Rama Bai Saraswathi (4) Shanta Bai Kamble
169. The National Voters Day is celebrated on:
 (1) November 25 (2) December 25 (3) January 25 (4) February 25
170. The President of India appoints the Chief Election Commissioner under the constitutional article:
 (1) 324(2) (2) 324(4) (3) 324(6) (4) 324(8)
171. The sentence "May God protect our people" is written in the preamble of constitution of:
 (1) India (2) America (3) Japan (4) South Africa
172. In India, who among the following is/are elected directly?
 (1) President (2) Members of Lok Sabha
 (3) Vice President (4) Members of Rajya Sabha
173. Uttar Pradesh has 80 Lok Sabha constituencies while Meghalaya has only two Lok Sabha constituencies. The reason for this is:
 (1) Uttar Pradesh is a plain region while Meghalaya is a mountainous region.
 (2) Uttar Pradesh has a larger population while Meghalaya has a smaller population.
 (3) Uttar Pradesh is a developed region while Meghalaya is a backward region.
 (4) There is not any specific reason for this.
174. Which of the following sentences is correct?
 (1) Bail is not a right of the accused
 (2) FIR is filed in the court
 (3) The police is not part of judiciary
 (4) All the civil and criminal cases are taken up by the police
175. A law making it compulsory to give official information was made for the first time in the state of:
 (1) Rajasthan (2) Gujarat (3) Tamilnadu (4) Andhra Pradesh

ECONOMICS

176. Which constitutional article mentions about 'Right to Work'?
 (1) 41 (2) 21 (3) 19 (4) 17
177. For how many hours does a paper mill run in a day?
 (1) 8 (2) 12 (3) 16 (4) 24
178. Consider the following statements and select the correct answer using the code given below.
 A) Public Transport can help in reducing pollution.
 B) Use of helmets and seat belts can avoid many life risks.
 (1) Only A is correct
 (2) Only B is correct
 (3) Both A and B are correct
 (4) Neither A nor B is correct
179. Nidhi has a hundred rupee note with her. She saw a promise on that note which says, "I promise to pay the bearer the sum of hundred rupees". Who signs that promise?
 (1) The Finance Minister of India
 (2) The President of India
 (3) The Governor of Reserve Bank of India
 (4) Chairman's of National Banks
180. Which of the following is the most important contributor to poverty in India?
 (1) Laziness of the people (2) Lack of regular employment
 (3) Mal nutrition (4) Giving importance to agriculture

□□□□