Roll No. : ☐☐☐☐☐☐☐☐☐☐☐ NMMS(E)

**ENGLISH**  [A]  Sl No. : **159445**

# NMMS - FEBRUARY, 2023

## 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 OMR Answer Sheet given, with a **Blue or Black Ball Point Pen Only**. 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.

[V23-1] *Contd...*

6. If you do not know the answer to any question, do not spend much time on it and pass on to the 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.

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This Booklet consists of 28 Pages for 180 Questions + 02 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 **Blue or Black Ball Point Pen**.

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Directions: Questions (1 to 10):

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

1.  12      8        16      7        25      21

        80            207            ?

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

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2.      36            9            25

    49 |26| 64     81 |21| 25     64 |?| 144

        25            16            36

    (1)   19          (2)   23          (3)   25          (4)   31

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3.      2            4            3

    1 (13) 3       1 (?) 5       1 (17) 5

        5            6            4

    (1)   21          (2)   25          (3)   27          (4)   29

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4.   20160  4
     ?      4
     480    8
       96  24

    (1)   860          (2)   1140          (3)   2880          (4)   3240
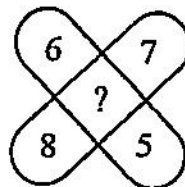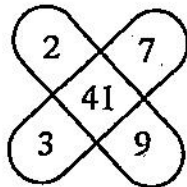
5.

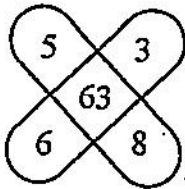| 13 | 54 | ? |
|----|-----|----|
| 7 | 45 | 32 |
| 27 | 144 | 68 |

(1)  42      (2)  36      (3)  6      (4)  4

6. 
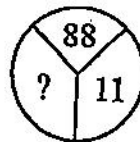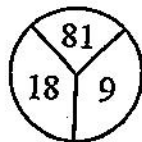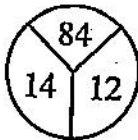
(1)  26      (2)  82      (3)  83      (4)  86

7. 

(1)  10      (2)  12      (3)  14      (4)  16

8.

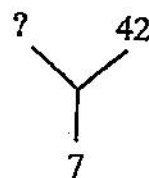| 8 | 17 | 23 |
|----|----|----|
| 12 | 5 | 29 |
| 10 | 13 | ? |

(1)  9      (2)  23      (3)  33      (4)  43

9. 
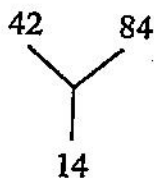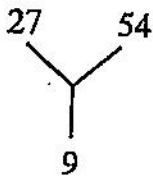
(1)  12      (2)  21      (3)  24      (4)  35

10. 
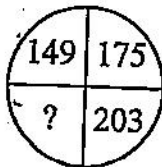
(1)  148      (2)  208      (3)  213      (4)  233

**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 as per instructions.

11. $84 \div 6 \times 4 + 44 - 25 = ?$

   (1)  65        (2)  75        (3)  85        (4)  95

12. $12 - ? = 11.6544$

   (1)  0.03456    (2)  0.003456    (3)  0.3456    (4)  3.456

13. $\sqrt{(26)^2 - (24)^2} = ?$

   (1)  10        (2)  20        (3)  30        (4)  40

14. $0.03 + 3 + 30.003 + 300.3 = ?$

   (1)  3.33333    (2)  33.3333    (3)  333.333    (4)  3333.33

15. $72 \times ? = 5184$

   (1)  48        (2)  52        (3)  68        (4)  72

16. 23% of $? = 12167$

   (1)  52900    (2)  25900    (3)  59200    (4)  59900

17. If $6^x + 1080 = 1296$ then $x = ?$

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

18. $1210121 \div 11 = ?$

   (1)  11011    (2)  110011    (3)  1111    (4)  1100011

19. If $8x^3 = 4096$ then $x = ?$

   (1)  2        (2)  4        (3)  8        (4)  3

20. If $25 \times 216 \times 2401 = 5^a \times 6^b \times 7^c$ then $a + b + c = ?$

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

# NMMS(E)

**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 right answer. Indicate as per instructions.

21. 4, 8, 28, 80, 244, ?
    (1) 278      (2) 428      (3) 628      (4) 728

22. 48, 24, 96, 48, 192, ?
    (1) 76      (2) 90      (3) 96      (4) 98

23. 3, 7, 15, ?, 63, 127
    (1) 30      (2) 31      (3) 47      (4) 52

24. 4, 12, 36, 108, ?
    (1) 144      (2) 216      (3) 304      (4) 324

25. 1, 4, 10, 22, 46, ?
    (1) 64      (2) 86      (3) 94      (4) 122

26. 165, 195, 255, 285, 345, ?
    (1) 395      (2) 390      (3) 420      (4) 435

27. 3, 12, 27, 48, 75, 108, ?
    (1) 147      (2) 162      (3) 183      (4) 192

28. 2, 3, 8, 27, 112, ?
    (1) 226      (2) 339      (3) 452      (4) 565

29. 2, 15, 41, 80, ?
    (1) 111      (2) 120      (3) 121      (4) 132

30. 4832, 5840, 6848, ?
    (1) 7815      (2) 7846      (3) 7856      (4) 7887

**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. $324 + 18 = 8 \times 10$
    (1) $\div, -, =$      (2) $-, \times, =$      (3) $+, \div, =$      (4) $\times, =, \times$

32. $156 + 12 = 8 \times 5$
    (1) $\div, +, =$      (2) $\div, =, +$      (3) $=, \times, +$      (4) $-, \times, =$

33.  121 – 4 = 22 + 22
(1)  +, =, ×       (2)  =, ×, +       (3)  ×, =, ×       (4)  =, +, ×

34.  1521 × 13 = 9 + 13
(1)  ÷, =, +       (2)  =, +, ×       (3)  ÷, ×, =       (4)  ÷, =, ×

35.  16 + 384 × 6 = 1024
(1)  ×, ÷, =       (2)  ×, =, +       (3)  ×, +, =       (4)  ×, –, =

36.  392 + 28 = 7 × 7
(1)  =, ×, ×       (2)  ÷, =, +       (3)  =, ÷, ×       (4)  =, ×, +

37.  722 = 19 + 2 × 19
(1)  +, =, ×       (2)  –, =, ×       (3)  =, ×, ×       (4)  ÷, =, +

38.  729 + 9 = 27 ÷ 3
(1)  –, =, ×       (2)  ×, =, ×       (3)  =, ×, +       (4)  ÷, =, ×

39.  450 + 30 = 5 – 3
(1)  ÷, =, ×       (2)  =, ÷, ×       (3)  =, +, ×       (4)  –, =, ×

40.  144 + 6 × 14 = 336
(1)  –, ×, =       (2)  ÷, ×, =       (3)  ×, +, =       (4)  ÷, =, ×

**Directions: Questions (41 to 50):**

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

41.  Tiger : India : : Bear : ?
(1)  Australia       (2)  America       (3)  Russia       (4)  England

42.  Apple : Fruit : : Potato : ?
(1)  Flower       (2)  Seed       (3)  Leaf       (4)  Root

43.  Agra : Taj Mahal : : Amritsar : ?
(1)  Golden Temple    (2)  Red Fort       (3)  Hawa Mahal       (4)  Lotus Temple

44.  Chair : Wood : : Mirror : ?
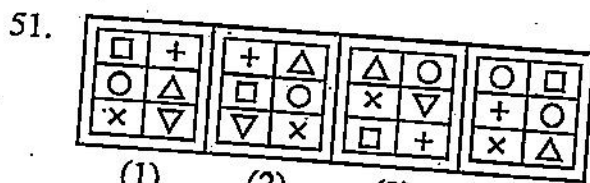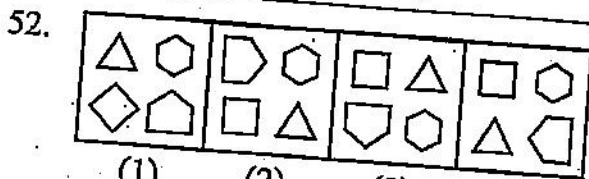(1)  Print       (2)  Food       (3)  Pulp       (4)  Glass

A

45. Punjab : Chandigarh : : Tripura : ?
 (1) Agartala     (2) Kohima     (3) Ranchi     (4) Panaji

46. Assam : Bihu : : Gujarat : ?
 (1) Bhangra     (2) Yakshagan     (3) Garbha     (4) Nautanki

47. Cloth : Mill : : Newspaper : ?
 (1) Editor     (2) Press     (3) Reporter     (4) Reader

48. Boy : Man : : Girl : ?
 (1) Father     (2) Mother     (3) Sister     (4) Woman

49. India : Delhi : : China : ?
 (1) Moscow     (2) Beijing     (3) Kabul     (4) Singapore

50. Eyes : See : : Ears : ?
 (1) Smell     (2) Write     (3) Breathe     (4) Listen

**Directions: Questions (51 to 60):**

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

51.



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

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

52.



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

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

53.



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

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

**54.**



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

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

**55.**



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

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

**56.**



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

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

**57.**



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

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

**58.**



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

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

**59.**



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

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

A

60.

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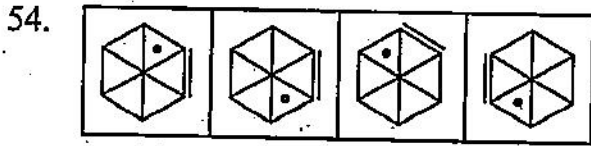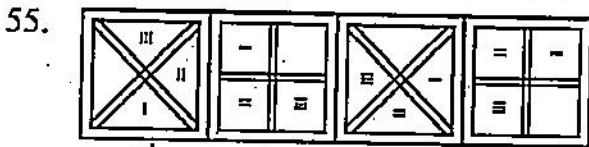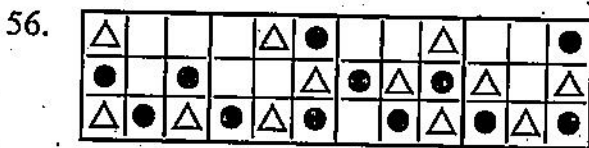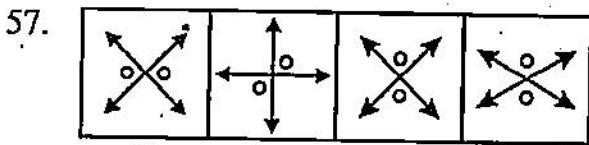
(1)   1

(2)   2

(3)   3

(4)   4

**Directions: Questions (61 to 70):**
In each of the following questions select a figure from amongst the four alternatives which when placed in the blank space (?) of the figure (X) would complete the pattern.
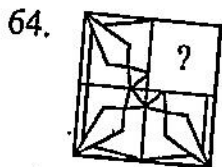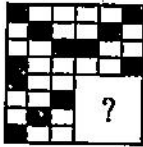
61.

(X)

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

(1)   1

(2)   2

(3)   3

(4)   4

62.

(X)

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

(1)   1

(2)   2

(3)   3

(4)   4

63.

(X)

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

(1)   1

(2)   2

(3)   3

(4)   4

64.

(X)

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

(1)   1

(2)   2

(3)   3

(4)   4

65.
(X)    (1)    (2)    (3)    (4)

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

66.
(X)    (1)    (2)    (3)    (4)

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

67.
(X)    (1)    (2)    (3)    (4)

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

68.
(X)    (1)    (2)    (3)    (4)

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

69.
(X)    (1)    (2)    (3)    (4)

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

70.
(X)    (1)    (2)    (3)    (4)
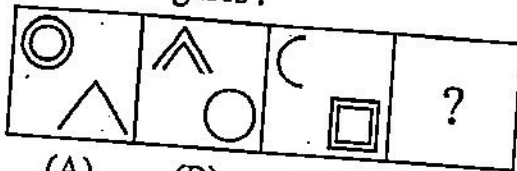
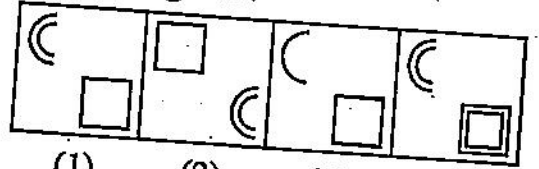(1)   1       (2)  2       (3)  3       (4)  4

# NMMS(E)

**Directions: Questions (71 to 80):**

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 of the answer figure bears the same relationship to the first figure of the second unit of problem figures, you have to therefore locate the figure, which would fit the Question mark (?).
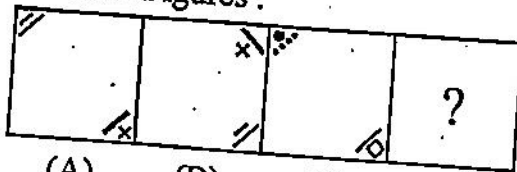
71. Problem Figures :



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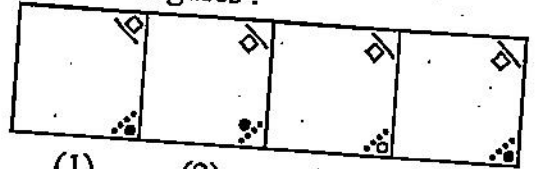
(1) 1    (2) 2    (3) 3    (4) 4

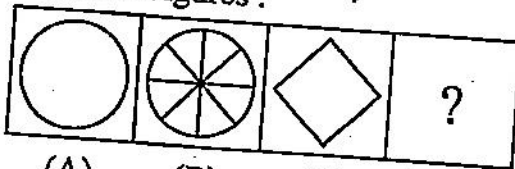Answer Figures :



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

72. Problem Figures :



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

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

Answer Figures :



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

73. Problem Figures :



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

(1) 1    (2) 2    (3) 3    (4) 4
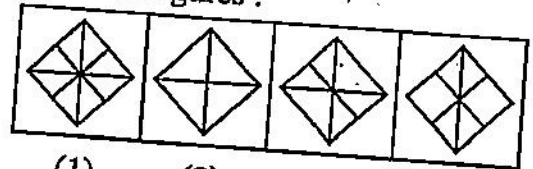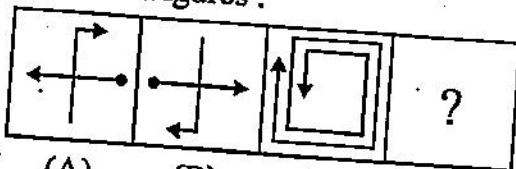
Answer Figures :



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

74. Problem Figures :



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

(1) 1    (2) 2    (3) 3    (4) 4
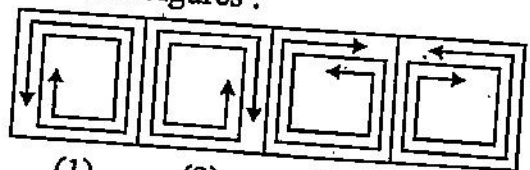
Answer Figures :



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

75. Problem Figures :
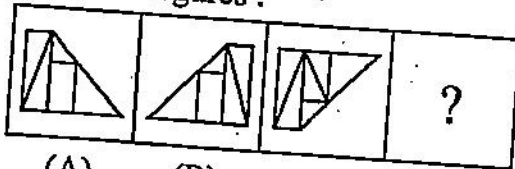


(A)    (B)    (C)    (D)

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

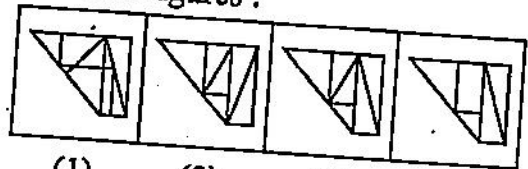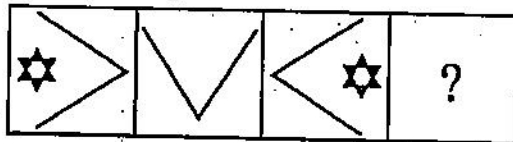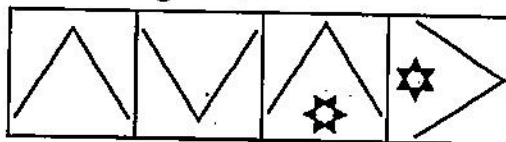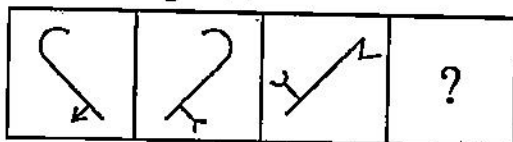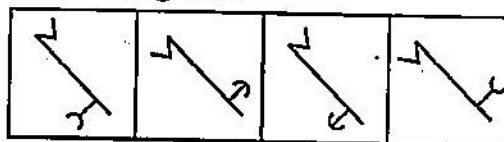Answer Figures :



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

76. Problem Figures :



Answer Figures :



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

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

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

77. Problem Figures :



Answer Figures :



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

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

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

78. Problem Figures :
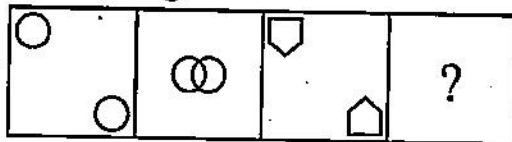


Answer Figures :
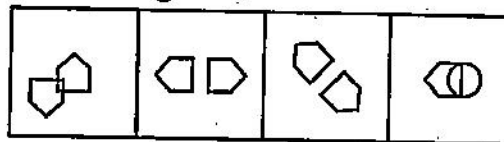


(A)    (B)    (C)    (D)

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

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

79. Problem Figures :
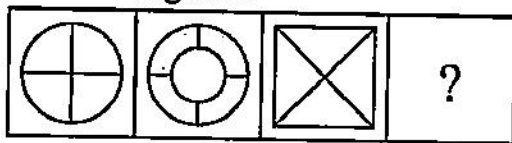


Answer Figures :
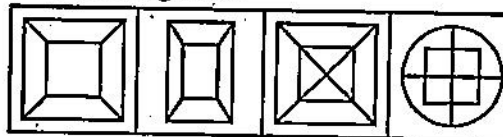


(A)    (B)    (C)    (D)

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

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

80. Problem Figures :



Answer Figures :



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

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

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

# NMMS(E)
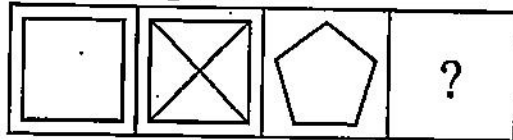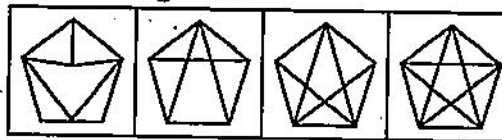
**Directions: Questions (81 to 90):**

Select the alternative which represents three out of the five alternative figures which when fitted into each other would form a complete square.

81.

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

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

---

82.

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

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

---

83.

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

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

---

84.

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

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

---

85.

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

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

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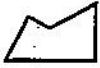
86.

(1)　　　(2)　　　(3)　　　(4)　　　(5)

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

87.

(1)　　　(2)　　　(3)　　　(4)　　　(5)

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

88.

(1)　　　(2)　　　(3)　　　(4)　　　(5)

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

89.

(1)　　　(2)　　　(3)　　　(4)　　　(5)

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

90.

(1)　　　(2)　　　(3)　　　(4)　　　(5)

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

SPACE FOR ROUGH WORK

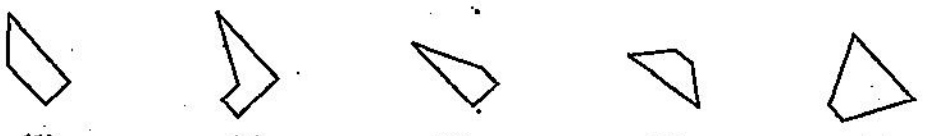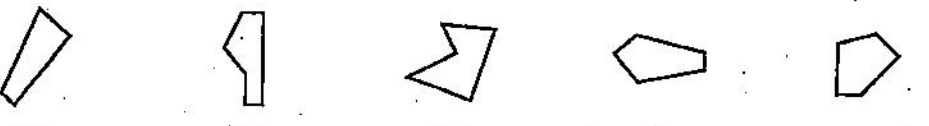# Part - II : SCHOLASTIC APTITUDE TEST

Time : 90 Minutes

Max. Marks : 90

Note :

i)    Sl. No., 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 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 **Blue or Black Ball Point Pen.**

A

## PHYSICS

91. Expand form of 'ISRO'
    (1) International Space Rocket Organization
    (2) Indian Space Rocket Organization
    (3) International Space Research Organization
    (4) Indian Space Research Organization

92. Statement 1 : Warm air is lighter than cold air.
    Statement 2 : Without material medium 'Radiation' is not possible
    (1) Statement 1 is true statement 2 is false
    (2) Statement 1 is false statement 2 is true
    (3) Both 1, 2 statements are true
    (4) Both 1, 2 statements are false

93. 90 km/h =
    (1) 324 m/s       (2) 25 m/s        (3) 25m/minute      (4) 324 km/minute

94.
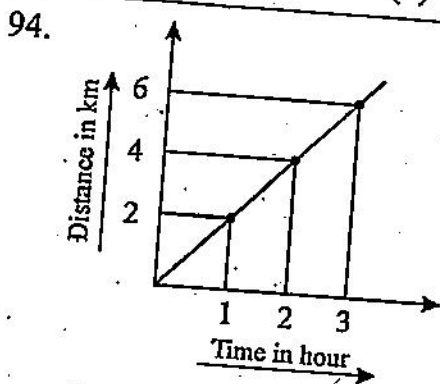


above graph represents time and distance covered by a vehicle. Then speed of the vehicle is _____
    (1) increasing
    (2) decreasing
    (3) remains constant
    (4) initially decreased and then increased

95. Which of the following represents battery
    (1) 
    (3) 
    (2) 
    (4) 

V23-1
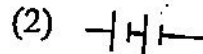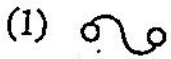
96. Which of the following doesnot work on 'Heating effect of electricity'
    (1) Electric motor
    (2) Electric stove
    (3) Electric room heater
    (4) Electric coffee/cettle

97. 225 kg (Let $g = 10$ m/sec$^2$) = _____
    (1) 22.5 N
    (2) 2250 N
    (3) 2.25 N
    (4) 0.225 N

98. AB represents a plane mirror, NN$^1$ assumed normal line to it
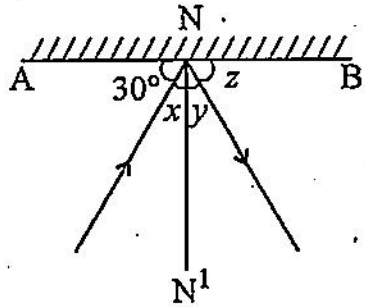
    

    Then
    (1) $x = 30°, y = 30°, z = 30°$
    (2) $x = 60°, y = 60°, z = 60°$
    (3) $x = 30°, y = 60°, z = 30°$
    (4) $x = 60°, y = 60°, z = 30°$

99. The Scientist_____ discovered that a magnetic field is produced around a current carrying conductor
    (1) C.V. Raman
    (2) Newton
    (3) Oersted
    (4) Volt

100. 40°C in Fahrenheit is _____
    (1) 104°F
    (2) 313°F
    (3) 40°F
    (4) 0°F

101.
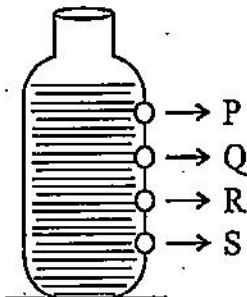
    

    Let the water is coming out from the holes P, Q, R, S of a open bottle, then from which hole the water comes out with great force than the other three holes
    (1) P
    (2) Q
    (3) S
    (4) R

102. While watching TV or Computer follow the simple rule (regarding eye care)
    (1) 20-20-20
    (2) 10-20-10
    (3) 5-20-5
    (4) 5-10-5

# CHEMISTRY

103. Which of the following indicator can show the strength of acid/base.
    (1) Methyl Orange
    (2) Phenolphthalein
    (3) Litmus
    (4) Universal Indicator

104. Which of the following material is not used in the lab activity of reaction of acids on metals to produce Hydrogen gas
    (1) Zinc Metal
    (2) Hydrochloric acid
    (3) Baking Soda
    (4) Conical flask

105. Choose the correct matching from the following.
    X) Vinegar
    Y) Baking Soda
    Z) Table Salt

    i) Sodium Carbonate
    ii) Sodium Chloride
    iii) Acetic Acid
    iv) Sodium Bi-Carbonate

    (1) X-iii, Y-i, Z-ii
    (2) X-iii, Y-ii, Z-i
    (3) X-iii, Y-iv, Z-ii
    (4) X-iii, Y-i, Z-iv

106. The chemical change among the following is _____
    (1) Water to clouds
    (2) Cow dung to Biogas
    (3) Ice to water
    (4) Growth of a tree

107. Vinegar + A → Sodium Acetate + B + Water. What are the names of A and B respectively in the above reaction.
    (1) Carbon dioxide and Lime water
    (2) Carbon dioxide and Baking Soda
    (3) Baking Soda and Carbon dioxide
    (4) Lime water and Carbon dioxide

108. Which of the following is not obtained from coal.
    (1) Compressed Natural Gas
    (2) Coal tar
    (3) Coal gas
    (4) Coke

109. Which of the following statement is not true.
   (1) Coke is almost pure form of Carbon
   (2) CNG is the less pollutant fuel
   (3) Petroleum can be made in the Laboratory
   (4) Conservation of dead vegetation into Coal is called Carbonisation

110. (A) : Petroleum is a fossil fuel.
   (R) : The resources of petroleum are limited.
   (1) Both (A) and (R) correct, (R) is correct reason for (A).
   (2) (A) is correct, (R) is incorrect.
   (3) Both (A) and (R) correct, (R) is not a correct reason for (A).
   (4) (A) is incorrect, (R) is correct.

111. Which of the following fibre is called as 'Artificial Silk'.
   (1) Cotton
   (2) Rayon
   (3) Nylon
   (4) Acrylic

112. Which of the following is not a Thermosetting plastic.
   (1) Polythene Bag
   (2) Electric Switch
   (3) Cooker handle
   (4) Floor tiles

113. (A) : Handles of screwdrivers are made of plastic.
   (R) : Plastics are good conductors of electricity.
   (1) Both (A) and (R) true, (R) is correct reason for (A).
   (2) (A) is true, (R) is false
   (3) Both (A) and (R) are false
   (4) (A) is false, (R) is true

# BIOLOGY

114. Pinky is unable to see properly in low light and during night time. To get rid of this problem, what are the food materials she should include in her diet?
(1) Carrot, Moringa, Milk products
(2) Citrus fruits, Amla, Sprouts
(3) Bran of cereals, Egg
(4) Cod liver oil, Shark liver oil

115. Match the following

| Set - A | | Set - B | |
|---|---|---|---|
| i) | Lactobacillus | a) | Antibiotic |
| ii) | Tetracycline | b) | Alcohol formation |
| iii) | Yeast | c) | Nitrogen fixation |
| iv) | Blue green algae | d) | Preparation of curd |

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

116. Pedology is the scientific study of _____ .
(1) Water      (2) Air      (3) Living things      (4) Soil

117. Ravi resembles his father. The transfer of characters from the parents to the offspring is called ___(A)___ . The ___(B)___ contains thread like structures called ___(C)___ which carry ___(D)___ that help in transfer of characters.
(1) (A) - Inheritance, (B) - Chromosomes, (C) - Genes, (D) - Nucleus
(2) (A) - Chromosomes, (B) - Genes, (C) - Inheritance, (D) - Nucleus
(3) (A) - Inheritance, (B) - Nucleus, (C) - Chromosomes, (D) - Genes
(4) (A) - Chromosomes, (B) - Nucleus, (C) - Genes, (D) - Inheritance

118. Arrange the following steps involved in holozoic nutrition in a sequence
A) Digestion    B) Absorption    C) Egestion    D) Assimilation
E) Ingestion
(1) A, B, C, D, E    (2) E, A, B, D, C    (3) C, A, D, B, E    (4) E, A, C, D, B

119. Identify the stage A in the life cycle of a silk worm.
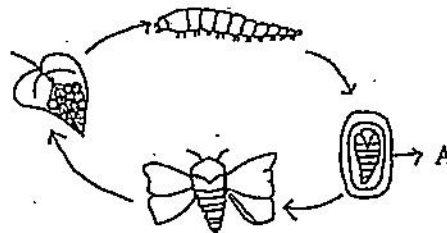


(1) Larva      (2) Imago      (3) Egg      (4) Pupa

120. Rabi crops among the following are
i) Paddy    ii) Wheat    iii) Mustard    iv) Maize
(1) i, ii      (2) ii, iv      (3) ii, iii      (4) i, iii

121. Assertion (A) :  Covid 19 is a pandemic.

Reason (R) :  A disease which infects most of the people around the world at the same time is called a pandemic.

(1)  (R) is the correct explanation for (A).  (2)  (R) is not the correct explanation for (A).

(3)  (R) is correct but (A) is wrong.  (4)  Both (A) and (R) are wrong.

122. Match the following.

| Set - A | | Set - B | |
| --- | --- | --- | --- |
| i) | Stem with nodes | a) | Banana |
| ii) | Eyes | b) | Sugarcane |
| iii) | Seed | c) | Potato |
| iv) | Suckers | d) | Tamarind |

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

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

123. Observe the given diagrams and identify the group of micro-organisms to which they belong to
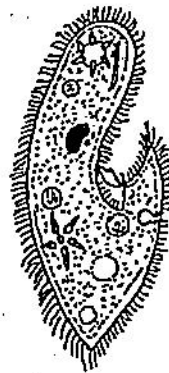


A)  Bacteria  B)  Protozoa  C)  Fungi  D)  Algae

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

124. Seed drill : Sowing : : Hoe :

(1)  Ploughing  (2)  Levelling the field

(3)  Removing weeds  (4)  Irrigation

125. Fill in the blanks in the pathway of air in human respiration.

Nostrils → A → B → Wind Pipe → C → Lungs
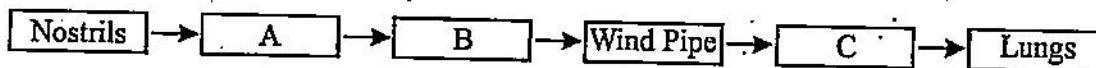
(1)  A - Nasal cavity, B - Bronchi, C - Pharynx

(2)  A - Nasal cavity, B - Pharynx, C - Bronchi

(3)  A - Pharynx, B - Bronchi, C - Nasal cavity

(4)  A - Pharynx, B - Nasal cavity, C - Bronchi

# MATHEMATICS

126. Increasing the numerator by 15% and decreasing the denominator by 8%. The value of a fraction will be $\dfrac{15}{16}$. What is the value of the original fraction?

(1) $\dfrac{5}{4}$  (2) $\dfrac{3}{4}$  (3) $\dfrac{4}{3}$  (4) $\dfrac{5}{6}$

127. If 50% of $(x-y)$ = 30% of $(x+y)$ then what percent of $x$ is $y$?

(1) 15%  (2) 25%  (3) 75%  (4) 125%

128. If $216 \times 2500 \times 300 = 2^x \cdot 3^y \cdot 5^z \cdot 7^w$ then $(x+y+z)w =$

(1) 9  (2) 8  (3) 17  (4) 0

129. If $x : y = 5 : 2$ then $(8x+9y) : (8x+2y) =$

(1) 22 : 29  (2) 26 : 61  (3) 29 : 22  (4) 61 : 26

130. $\dfrac{2^{n+4}-2\times 2^n}{2\times 2^{n+3}}+2^{-3} =$

(1) $2^{n+1}$  (2) $\dfrac{9}{8}-2^n$  (3) $\dfrac{1}{8}-2^{n+1}$  (4) 1

131. The value of

$$\dfrac{3}{1^2\cdot 2^2}+\dfrac{5}{2^2\cdot 3^2}+\dfrac{7}{3^2\cdot 4^2}+\dfrac{9}{4^2\cdot 5^2}+\dfrac{11}{5^2\cdot 6^2}+\dfrac{13}{6^2\cdot 7^2}+\dfrac{15}{7^2\cdot 8^2}+\dfrac{17}{8^2\cdot 9^2}+\dfrac{19}{9^2\cdot 10^2}=$$

(1) $\dfrac{1}{100}$  (2) 1  (3) $\dfrac{101}{100}$  (4) $\dfrac{99}{100}$

132. If $\dfrac{a}{x}+\dfrac{y}{b}=1$ and $\dfrac{b}{y}+\dfrac{z}{c}=$ then $\dfrac{x}{a}+\dfrac{c}{z}=$

(1) 0  (2) $\dfrac{b}{y}$  (3) 1  (4) $\dfrac{y}{b}$

133. $5-\left[\dfrac{3}{4}+\left\{2\dfrac{1}{2}-\left(0.5+\overline{\dfrac{1}{6}-\dfrac{1}{7}}\right)\right\}\right]=$

(1) $2\dfrac{13}{84}$  (2) $2\dfrac{61}{84}$  (3) $2\dfrac{23}{84}$  (4) $2\dfrac{47}{84}$

134. Ratio of circumference of a circle and its area whose diameter is '*d*'

    (1) $2:d$      (2) $4:d$      (3) $4:\pi$      (4) $d:4$

135. If the ratio of the interior angle and exterior angle of a regular polygon is 7 : 2 then the number of sides of that polygon is _____

    (1) 9      (2) 7      (3) 8      (4) 11

136. For what value of '*p*' the equation $8(2p - 5) - 6(3p - 7) = 1$ becomes true?

    (1) 2      (2) 3      (3) $\dfrac{1}{2}$      (4) $\dfrac{1}{3}$

137. In the given figure, $\overline{AB} // \overline{CD}$ and E is a point in between them. Then the value of $x + y + z$.
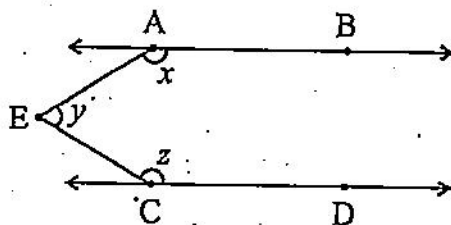


    (1) 360°      (2) 180°      (3) 270°      (4) 150°

138. From the figure the values of *x* and *y* respectively
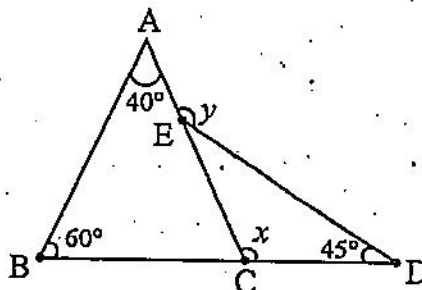


    (1) 135°, 100°      (2) 80°, 100°      (3) 100°, 145°      (4) 100°, 115°

139. If $2 = x + \dfrac{1}{1 + \dfrac{1}{3 + \dfrac{1}{4}}}$ then the value of *x* is

    (1) $\dfrac{12}{17}$      (2) $\dfrac{13}{17}$      (3) $\dfrac{18}{17}$      (4) $\dfrac{21}{17}$

140. The value of $\dfrac{0.723\times0.619\times0.532+6.19\times0.0532\times0.723+7.23\times0.0619\times0.532}{0.0723\times5.32\times0.619+0.723\times0.532\times0.619}$

   (1)   0.5       (2) $\dfrac{3}{2}$       (3)   1       (4)   1.874

141. If the Median of the observations $\dfrac{x}{2},\dfrac{x}{6},\dfrac{x}{8},x,\dfrac{x}{4}$ is 7. ($x>0$) then find the value of $x$.

   (1)   56       (2)   28       (3)   42       (4)   7

142. Observe the pie chart. It gives the expenditure (in percentage) on various items and savings of a family during a month.

If the monthly savings of the family is ₹ 3000, what is the monthly expenditure on clothes?
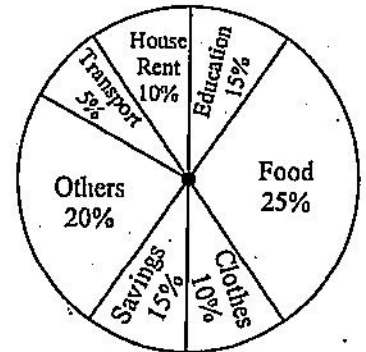
   (1)   ₹ 2500       (2)   ₹ 5000       (3)   ₹ 3500       (4)   ₹ 2000

143. Match the following.

| Figure | | No. of independent measurements are required to construct it |
|---|---|---|
| a) | Square | i) 3 |
| b) | Parallelogram | ii) 1 |
| c) | Rhombus | iii) 5 |
| d) | Quadrilateral | iv) 2 |

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

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

144. Which of the following statements is/are true?

   a)   $\dfrac{-12}{5}$ is greater than –2.

   b)   $\dfrac{-3}{5}$ lies between –1 and 0.

   c)   $x\cdot(y+z)=x\cdot y+x\cdot z$ is called associative property.

   d)   There are only two rational numbers which are equal to their reciprocals.

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

145. If the radius of a circle is increased by 50% then the increase in its area is

   (1)   100%       (2)   50%       (3)   22%       (4)   125%

# HISTORY

146. What was the capital of Mamluk dynasty during the rule of Qutbuddin Aibak?
    (1) Delhi
    (2) Lahore
    (3) Agra
    (4) Devagiri

147. Which of the following statements is/are true?
    i) 'Ghatikas' were educational institutions.
    ii) 'Ghatikas' were established by Hoysalas.
    (1) (i) only
    (2) (ii) only
    (3) (i) & (ii)
    (4) None of the two

148. 'Artha Seeri' in Kakatiya's reign were those who
    (1) cultivate Government land on rent basis
    (2) collect taxes from the farmers and traders
    (3) belongs to financially middle class in society
    (4) brings the forest land under cultivation

149. Women in Vijayanagara Kingdom were trained in
    i) Music     ii) Fine arts     iii) Wrestling
    (1) (i) only
    (2) (ii) only
    (3) (i) & (ii) only
    (4) (i), (ii) & (iii)

150. Match the following.
    i) Abdul Fazal          a) Zabt
    ii) Dhara Shiko         b) Translation of Bhagavat Gita
    iii) Tansen             c) Ain-E-Akbari
    iv) Todar Mal           d) Megh Malhar
    (1) i-b, ii-a, iii-c, iv-d
    (2) i-b, ii-c, iii-d, iv-a
    (3) i-c, ii-b, iii-d, iv-a
    (4) i-a, ii-d, iii-b, iv-c

151. Which of the following is not a belief of Sufism?
    (1) There is only one God
    (2) All are the children of God
    (3) To love a fellow human being is to love God
    (4) Music and dance take people away from God

152. Which of the following statements is/are True?

    i)     When Mir Jafar protested, the East India Company installed Mir Qasim in his place.

    ii)    When Mir Qasim complained, the East India Company defeated him in battle of Buxar.

    (1)    (i) only

    (2)    (ii) only

    (3)    (i) & (ii)

    (4)    None of the two

153. The treaty of Salbai was associated to this War

    (1)    First Anglo-Maratha War

    (2)    Second Anglo-Maratha War

    (3)    Third Anglo-Maratha War

    (4)    Fourth Anglo-Maratha War

154. With reference to the effect of colonial rule on tribal lives, which of the following statements is/are True?

    i)     Tribal chiefs got more powers in many areas.

    ii)    Tribal chiefs were allowed to keep their land titles.

    iii)   Jhum cultivators suffered a lot.

    (1)    (ii) & (iii) only

    (2)    (i), (ii) & (iii)

    (3)    (i) only

    (4)    (ii) only

155. The immediate cause of the 1857 revolt was

    (1)    Introduction of the new rifles

    (2)    Spread of Christianity

    (3)    Abolition of Sati

    (4)    Annexation of Indian States

## GEOGRAPHY

156. Match the following.

| | | | |
|---|---|---|---|
| i) | World Environment Day | a) | April 22 |
| ii) | World Earth Day | b) | June 5 |
| iii) | World Water Day | c) | September 16 |
| iv) | World Ozone Day | d) | March 22 |

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

157. The French word 'Environer' means
  (1) Neighbourhood   (2) Nature     (3) Earth     (4) Air

158. Which type of forests are in majority in Andhra Pradesh?
  (1) Evergreen forests           (2) Deciduous forests
  (3) Thorny forests            (4) Mangrove forests

159. Which of the following statements is/are True?
  i) Red Indians live in the Congo basin and pigmies live in the Amazon basin.
  ii) Red Indians and pigmies still lead a primitive life style.
  (1) (i) only     (2) (ii) only     (3) (i) & (ii)     (4) None of the two

160. The first person to Voyage across the globe by sea was
  (1) Columbus           (2) Vasco da Gama
  (3) Magellan            (4) Herodotus

161. The colour used to show a place with the height of 3000-7000 msl on a map is
  (1) White     (2) Violet     (3) Orange     (4) Yellow

162. Identify the odd one out among the following resources.
  (1) Coal     (2) Solar energy   (3) Petroleum   (4) Natural gas

163. Rows of trees are planted to protect soil cover. This is called
  (1) Shelter belts           (2) Mulching
  (3) Contour barriers        (4) Inter cropping

164. Which of the following statements is/are True?
  i) India lies between 8°4' - 37°6' North latitudes.
  ii) India lies between 68°7' - 97°25' East longitudes.
  (1) (i) only     (2) (ii) only     (3) (i) & (ii)     (4) None of the two

165. Which of the following statements is/are False?
  i) The first country to develop hydro electricity was Norway.
  ii) The first tidal energy station was built in France.
  iii) Uranium is found in the monazite sands of Kerala.
  (1) (i) only     (2) (ii) only     (3) (iii) only     (4) (i) and (ii) only

# POLITICAL SCIENCE

166. A resolution on how independent India's constitution should look like was passed by the Indian National Congress at
   (1) Kanpur session               (2) Karachi session
   (3) Surat session                (4) Lucknow session

167. Match the following.
   i)   Sovereignty              a)  Head of the state throw election
   ii)  Socialism                b)  Religious freedom
   iii)  Secularism              c)  Minimalizing inequalities
   iv)  Republic                 d)  Complete power to take decisions
   (1) i-a, ii-c, iii-b, iv-d       (2) i-b, ii-a, iii-d, iv-c
   (3) i-c, ii-d, iii-b, iv-a       (4) i-d, ii-c, iii-b, iv-a

168. Governor is appointed by the
   (1) State Government         (2) Chief Justice of the High Court
   (3) Central Government       (4) President

169. Which of the following statements is False regarding the composition of Legislative Council?
   (1) 1/3 of the members are elected by the Legislative Assembly.
   (2) 1/3 of the members are elected by the Local authorities.
   (3) 1/12 of the members are elected by the Graduates Constituency.
   (4) 1/12 of the members are nominated by the Governor of the State.

170. Which of the following statements is/are True?
   i)   The Government does not interfere in religious practices in U.S.A.
   ii)  The Government interferes in religious affairs, when necessary, in India.
   (1) (i) only    (2) (ii) only    (3) (i) & (ii)    (4) None of the two

171. EVMs were used throughout India for the first time in the year.
   (1) 1999    (2) 2004    (3) 2009    (4) 2013

172. The First Health Minister of Independent India was
   (1) Jairamdas Daulatram      (2) Rajkumari Amrit Kaur
   (3) Dr. John Mathai         (4) Jagjivan Ram

173. Which of the following statements is True?
   i)   The Parliament Consists of the President, the Lok Sabha and the Rajya Sabha.
   ii)  There are 545 elected members in the Lok Sabha.
   (1) (i) only    (2) (ii) only    (3) (i) & (ii)    (4) None of the two

174. Identify the False statement.
   (1) A Public Interest Litigation (PIL) can be filed in the Supreme Court only.
   (2) Even a letter or a telegram addressed to the Court could be treated as a PIL.
   (3) PIL was used to secure justice on many issues.
   (4) The mid-day meal scheme started in Government Schools because of a PIL.

175. Who is the present Education Minister of India?
   (1) Smriti Irani           (2) Prakash Javadekar
   (3) Ramesh Pokhriyal      (4) Dharmendra Pradhan

## ECONOMICS

176. Match the following.

| | | |
|---|---|---|
| i) | Fishing | a) Industry |
| ii) | Manufacturing | b) Service |
| iii) | Banking | c) Labour |
| | | d) Agriculture |

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

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

177. Which of the following is known as 'Golden fibre'?

(1) Cotton      (2) Jute

(3) Wheat      (4) Maize

178. The word 'Viticulture' is associated to

(1) Grapes      (2) Fish

(3) Fruits      (4) Silkworms

179. Minimum age limit to drive transport vehicles is

(1) 16 years      (2) 18 years

(3) 20 years      (4) 25 years

180. The largest producer of bauxite in the World is

(1) Africa      (2) Asia

(3) Australia      (4) South America

□□□□

SPACE FOR ROUGH WORK