

Roll No. :

NMMS(E)

ENGLISH

A

SI No. :

165005

NMMS - DECEMBER, 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.

V23-501

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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.**

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

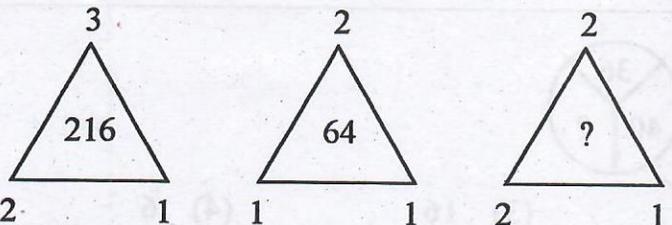
Time : 90 Minutes

Max. Marks : 90

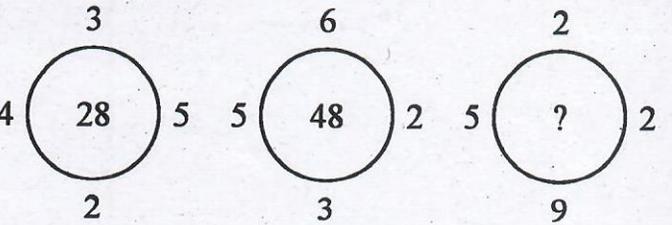
Note : SHADE the correct alternatives in the OMR Answer Sheet provided, from amongst the ones given against the corresponding questions in the Question Paper Booklet. For shading the circles, use a Blue or Black Ball Point Pen.

Directions: Questions (1 to 10):

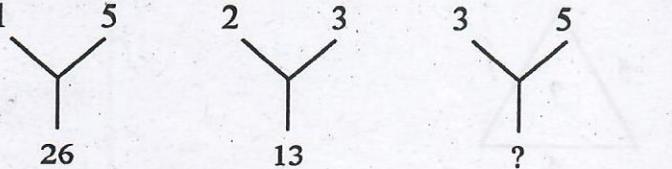
In each of the following questions, a set of figures carrying certain characters given. Assuming that the characters in each set follows similar pattern, find the missing character in each case from the given four alternatives.

1. 

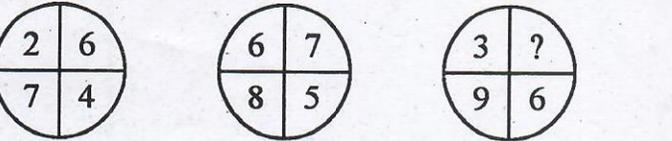
(1) 256 (2) 128 (3) 125 (4) 214

2. 

(1) 68 (2) 72 (3) 96 (4) 76

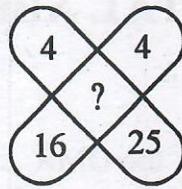
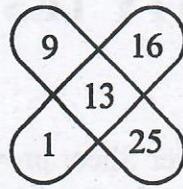
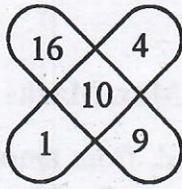
3. 

(1) 26 (2) 34 (3) 39 (4) 30

4. 

(1) 7 (2) 9 (3) 2 (4) 18

5.



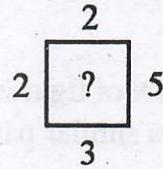
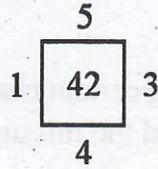
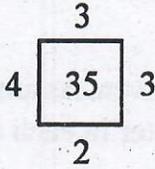
(1) 10

(2) 12

(3) 17

(4) 13

6.



(1) 60

(2) 20

(3) 32

(4) 34

7.



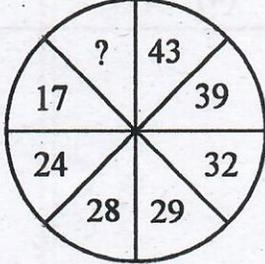
(1) 4

(2) 14

(3) 16

(4) 6

8.



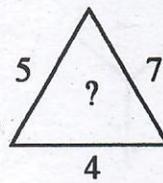
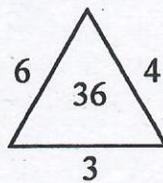
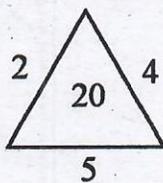
(1) 14

(2) 12

(3) 15

(4) 9

9.



(1) 76

(2) 70

(3) 80

(4) 56

10.

?	20	5
7	21	6
9	18	4

(1) 10

(2) 6

(3) 12

(4) 8

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. $35 + [19 - 18 + \{12 \times 5 - (-4 + 14)\}] = ?$

- (1) 71 (2) 81 (3) 86 (4) -14

12. $2.35 + 20.35 + 0.0235 = ?$

- (1) 25.235 (2) 22.935 (3) 43.8735 (4) 22.7235

13. $\frac{250 \times 250 - 120 \times 120}{370} = ?$

- (1) 130 (2) 120 (3) 250 (4) 150

14. $0.09 \times 0.007 = ?$

- (1) 0.0063 (2) 0.063 (3) 0.00063 (4) 0.000063

15. If $7 + x = 15 - x$ then $x = ?$

- (1) 8 (2) 4 (3) 11 (4) -4

16. $2 + \frac{22}{10} + \frac{22}{100} + \frac{222}{1000} + \frac{222}{10000} = ?$

- (1) 4.8644 (2) 4.8844 (3) 4.6642 (4) 4.8684

17. $65 \times ? = 4225$

- (1) 45 (2) 75 (3) 55 (4) 65

18. If $5^x + 5^x + 5^x = 75$, then $x = ?$

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

19. $20\% \text{ of } 80 + 80\% \text{ of } 20 = ?$

- (1) 100 (2) 32 (3) 16 (4) 48

20. If $\sqrt{64} + \sqrt{x} = 12$, then $x = ?$

- (1) 36 (2) 16 (3) 49 (4) 64

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. 11, 23, 48, 99, 202, ? | (1) 404 | (2) 409 | (3) 301 | (4) 423 |
| 22. 8, 10, 13, 18, 25, ? | (1) 36 | (2) 43 | (3) 31 | (4) 48 |
| 23. 4, 7, 11, 18, 29, 47, ? | (1) 58 | (2) 68 | (3) 72 | (4) 76 |
| 24. 6, 7, 18, 28, 54, ? | (1) 82 | (2) 112 | (3) 110 | (4) 127 |
| 25. 0, 2, 6, 12, ?, 30, 42 | (1) 15 | (2) 18 | (3) 20 | (4) 24 |
| 26. 4, 8, 32, 256, ? | (1) 4096 | (2) 2048 | (3) 3072 | (4) 3584 |
| 27. 16, 80, 40, 200, 100, ? | (1) 400 | (2) 500 | (3) 250 | (4) 1000 |
| 28. 5, 9, 16, 29, ?, 103 | (1) 82 | (2) 58 | (3) 67 | (4) 54 |
| 29. 8, 27, 64, 125, ? | (1) 169 | (2) 185 | (3) 216 | (4) 246 |
| 30. 5, 54, ?, 5492, 54936 | (1) 556 | (2) 1026 | (3) 548 | (4) 2506 |

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. $762 = 28 - 10 + 79$ | (1) $+, =, \times$ | (2) $=, +, \times$ | (3) $\times, =, +$ | (4) $+, \times, =$ |
| 32. $576 + 12 = 6 + 8$ | (1) $\div, -, =$ | (2) $\times, =, \div$ | (3) $\div, =, \times$ | (4) $\div, \times, =$ |

33. $24 - 54 = 9 + 30$

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

34. $125 \div 50 = 5 \times 15$

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

35. $84 - 15 + 527 = 733$

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

36. $1000 - 25 \times 8 = 32$

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

37. $580 - 5 \div 4 = 120$

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

38. $400 = 20 \times 35 + 55$

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

39. $23 = 23 - 8 + 0$

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

40. $18 = 18 + 2 - 18$

- (1) $-, =, \times$ (2) $+, =, \times$ (3) $+, \times, =$ (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. Temperature : Degrees :: Mass : ?

- (1) Litre (2) Joule (3) Watt (4) Kilogram

42. West Bengal : Kolkatta :: Uttar Pradesh : ?

- (1) Chennai (2) Lucknow (3) Patna (4) Kanpur

43. Radio : Listen :: Newspaper : ?

- (1) Talk (2) Read (3) Play (4) Sing

44. Tea : Leaves :: Coffee : ?

- (1) Seeds (2) Plant (3) Flower (4) Leaves

45. Kerala : Kathakali :: Andhra Pradesh : ?

- (1) Bharathanatyam (2) Kathak (3) Kuchipudi (4) Odissi

46. Ramayana : Valmiki :: Gitanjali : ?

- (1) Ravindranath Tagore (2) Premchand
(3) Vivekananda (4) K.M. Munshi

47. Gavaskar : Cricket :: Dhyanchand : ?

- (1) Football (2) Badminton (3) Tennis (4) Hockey

48. Compound : Carbon dioxide :: Element : ?

- (1) Brass (2) Gold (3) Steel (4) Bronze

49. Car : Garage :: Aeroplane : ?

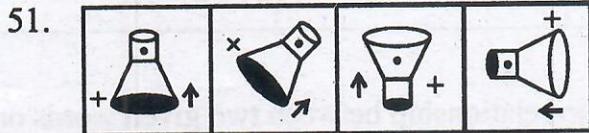
- (1) Port (2) Harbour (3) Hangar (4) Depot

50. Earth : Planet :: Moon : ?

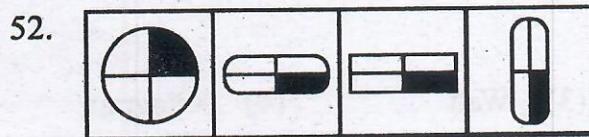
- (1) Planet (2) Star (3) Satellite (4) Asteroid

Directions: Questions (51 to 60):

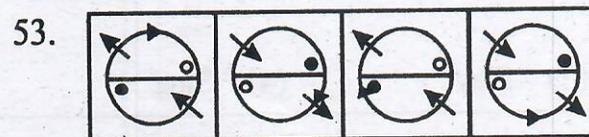
In each question, out of four alternatives figures marked (1), (2), (3) and (4), three are similar in a certain manner. However, one figure is not like the other three. Choose the figure which is different from the rest.



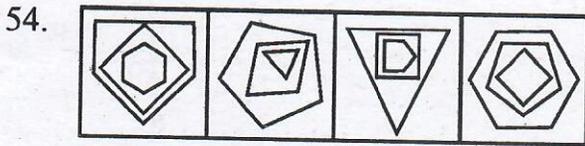
- (1) 1 (2) 2 (3) 3 (4) 4



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

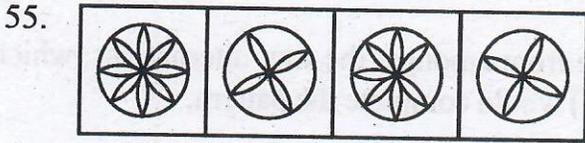


- (1) 1 (2) 2 (3) 3 (4) 4



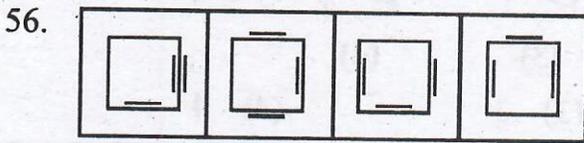
(1) (2) (3) (4)

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



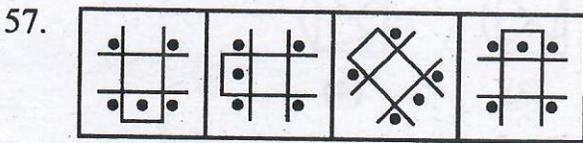
(1) (2) (3) (4)

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



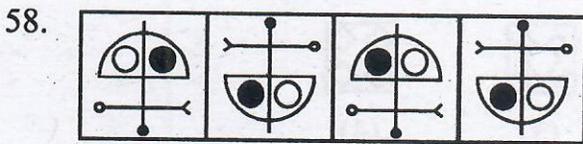
(1) (2) (3) (4)

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



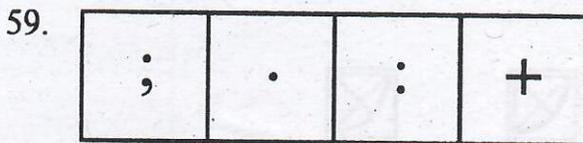
(1) (2) (3) (4)

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



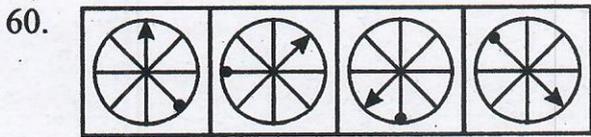
(1) (2) (3) (4)

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



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

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

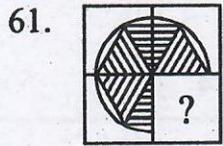


(1) (2) (3) (4)

(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.



(X)



(1)



(2)

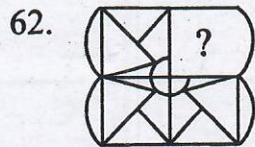


(3)



(4)

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



(X)



(1)



(2)

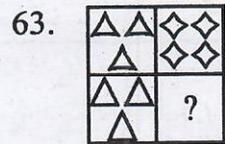


(3)



(4)

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



(X)



(1)



(2)

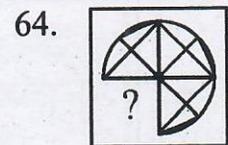


(3)



(4)

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



(X)



(1)



(2)

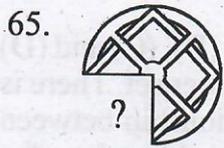


(3)



(4)

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



(X)

(1) 1



(1)

(2) 2



(2)



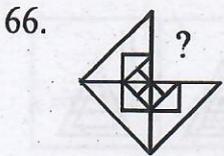
(3)

(3) 3



(4)

(4) 4



(X)

(1) 1



(1)

(2) 2



(2)



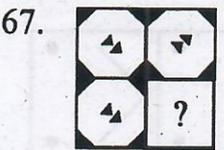
(3)

(3) 3



(4)

(4) 4



(X)

(1) 1



(1)

(2) 2



(2)



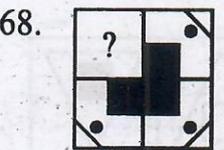
(3)

(3) 3



(4)

(4) 4



(X)

(1) 1



(1)

(2) 2



(2)



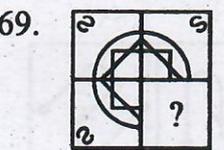
(3)

(3) 3



(4)

(4) 4



(X)

(1) 1



(1)

(2) 2



(2)



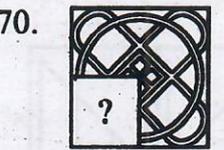
(3)

(3) 3



(4)

(4) 4



(X)

(1) 1



(1)

(2) 2



(2)



(3)

(3) 3



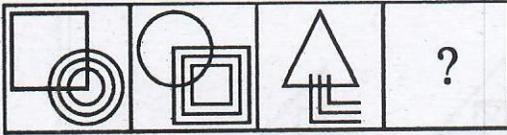
(4)

(4) 4

Directions: Questions (71 to 80):

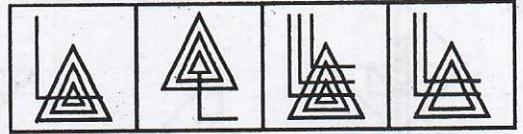
In each of the following questions consists of two sets of figures. Figures (A), (B), (C) and (D) constitute the Problem set while figures (1), (2), (3) and (4) constitute the Answer set. There is a definite relationship between figures (A) and (B). Establish a similar relationship between figure (C)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

71. Problem Figures :



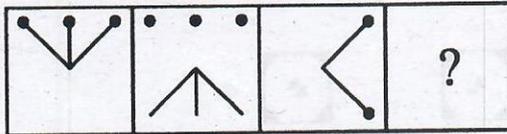
(A) (B) (C) (D)
(1) 1 (2) 2

Answer Figures :



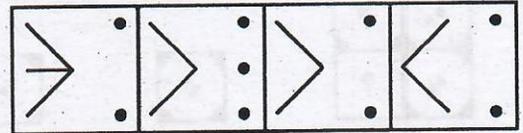
(1) (2) (3) (4)
(3) 3 (4) 4

72. Problem Figures :



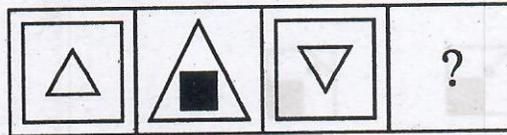
(A) (B) (C) (D)
(1) 1 (2) 2

Answer Figures :



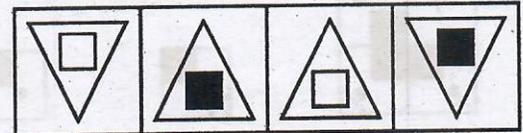
(1) (2) (3) (4)
(3) 3 (4) 4

73. Problem Figures :



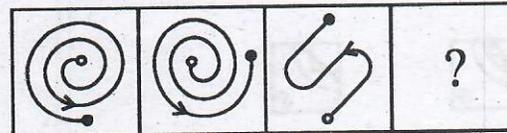
(A) (B) (C) (D)
(1) 1 (2) 2

Answer Figures :



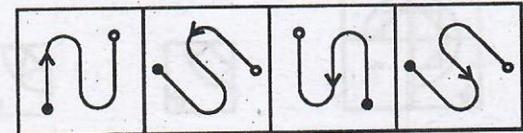
(1) (2) (3) (4)
(3) 3 (4) 4

74. Problem Figures :



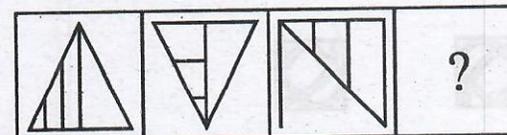
(A) (B) (C) (D)
(1) 1 (2) 2

Answer Figures :



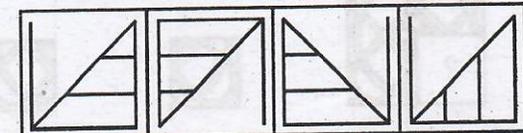
(1) (2) (3) (4)
(3) 3 (4) 4

75. Problem Figures :



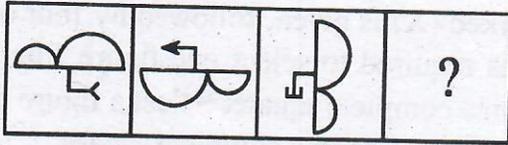
(A) (B) (C) (D)
(1) 1 (2) 2

Answer Figures :



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

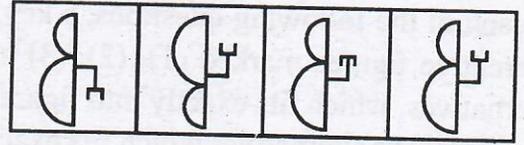
76. Problem Figures :



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

(1) 1 (2) 2

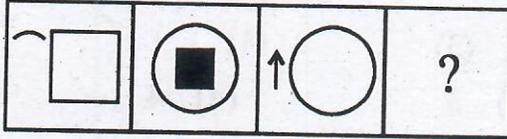
Answer Figures :



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

(3) 3 (4) 4

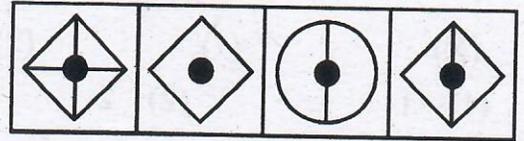
77. Problem Figures :



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

(1) 1 (2) 2

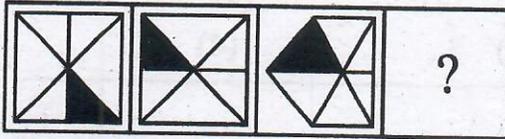
Answer Figures :



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

(3) 3 (4) 4

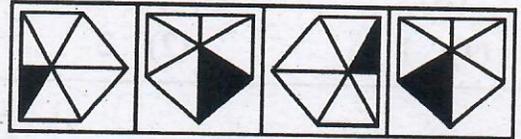
78. Problem Figures :



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

(1) 1 (2) 2

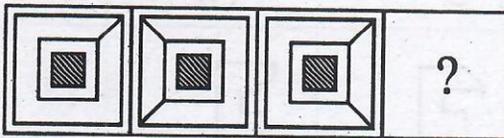
Answer Figures :



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

(3) 3 (4) 4

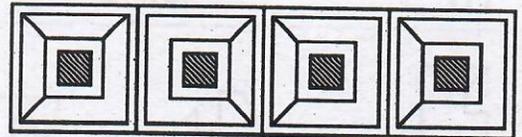
79. Problem Figures :



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

(1) 1 (2) 2

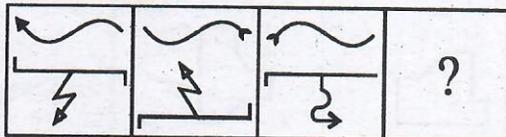
Answer Figures :



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

(3) 3 (4) 4

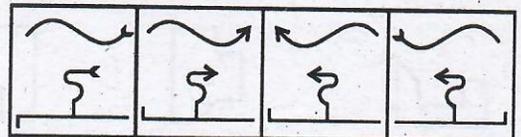
80. Problem Figures :



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

(1) 1 (2) 2

Answer Figures :

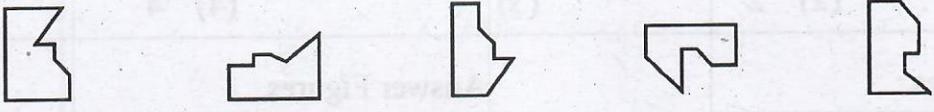


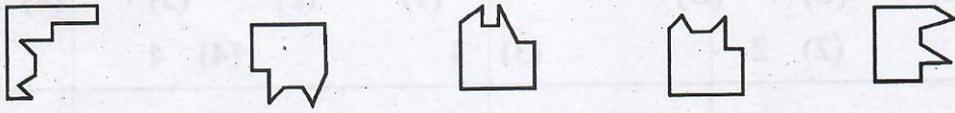
(1) (2) (3) (4)

(3) 3 (4) 4

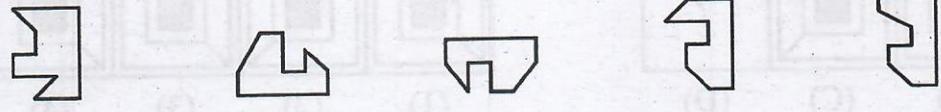
Directions: Questions (81 to 90):

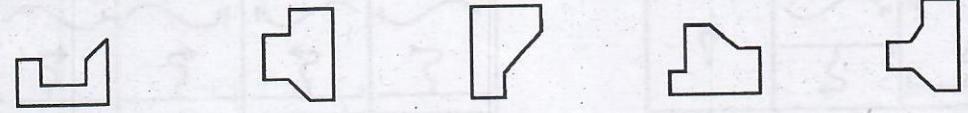
In each of the following questions, a key figure marked (X) is given, followed by four other alternative figures marked (1), (2), (3) and (4). It is required to select one figure from the alternatives, which fits exactly into figure (X) to form a complete square. Select a figure from the given four alternatives which fits exactly into Figure-X to form a complete square.

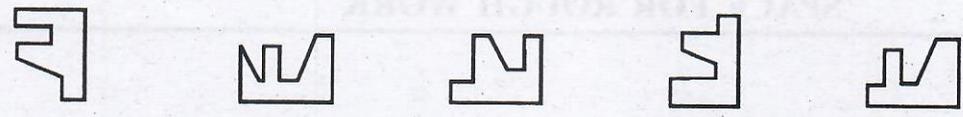
81. 
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4

82. 
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4

83. 
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4

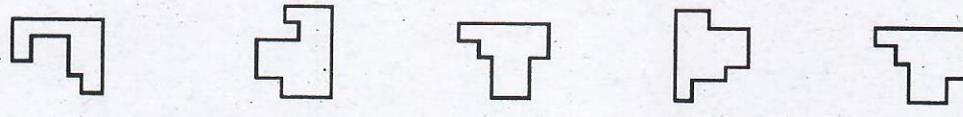
84. 
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4

85. 
 (X) (1) (2) (3) (4)
 (1) 1 (2) 2 (3) 3 (4) 4

86. 

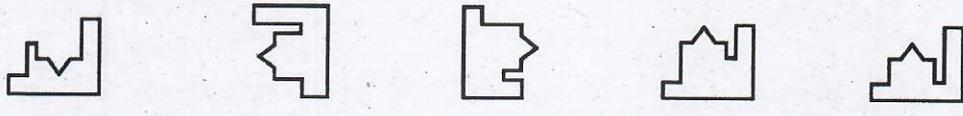
(X) (1) (2) (3) (4)

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

87. 

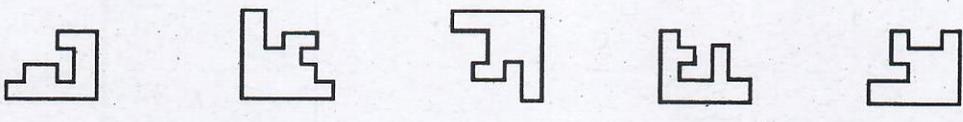
(X) (1) (2) (3) (4)

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

88. 

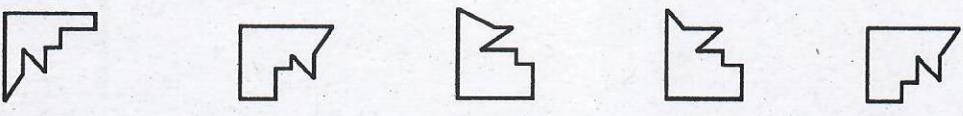
(X) (1) (2) (3) (4)

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

89. 

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

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

90. 

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

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

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**.

PHYSICS

91. For same pair of bodies the correct relation between the different types of frictions
- (1) static friction > sliding friction > rolling friction
 - (2) static friction < sliding friction < rolling friction
 - (3) sliding friction > static friction > rolling friction
 - (4) static friction < rolling friction < sliding friction
-
92. In which of the following situation the heat produced due to friction is useful
- (1) Operating mixer grinder
 - (2) Running a wheel in machine
 - (3) Lighting a matchstick
 - (4) Operating an electric fan
-
93. Which of the following statement is not true?
- (1) Force applied on unit area is called pressure.
 - (2) Force has only magnitude but no direction.
 - (3) A force can act on an object with or without being in contact with it.
 - (4) A force arises due to the interaction between two objects.
-
94. Which of the following is true?
- (1) If the amplitude becomes twice the loudness reduced to half.
 - (2) If the amplitude becomes half the loudness increased by four times.
 - (3) If the amplitude becomes twice the loudness increased twice.
 - (4) If the amplitude becomes twice the loudness increased by four times.
-
95. The sound from a honey bee is produced when it vibrates it's wings at an average rate of 200 vibrations per second. The time taken for one vibration in milli seconds is _____
- | | |
|----------|---------|
| (1) 0.5 | (2) 5 |
| (3) 0.25 | (4) 2.5 |
-
96. 36 km/hour =
- | | |
|------------|------------|
| (1) 5 m/s | (2) 10 m/s |
| (3) 18 m/s | (4) 36 m/s |
-

97. Light rays coming from Sun are having _____ motion.

- (1) Rotatory (2) Vibratory
(3) Circular (4) Rectilinear

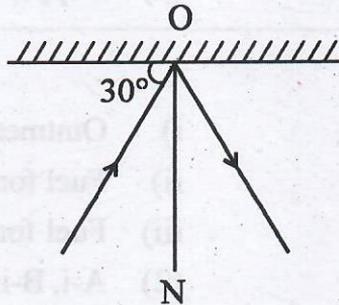
98. Suppose in a house there are 10 bulbs of 100 W each, 10 bulbs of 60 W each, 10 bulbs of 40 W each. All them are used for 10 hours every day. How much bill need to pay at Rs. 3/- per unit for the month of February 2023?

- (1) Rs. 1860/- (2) Rs. 6180/-
(3) Rs. 1680/- (4) Rs. 8610/-

99. Which of the following will consume more electricity for equal intervals of time?

- (1) Compact fluorescent lamp (2) Tube light
(3) Incandescent bulb (4) LED bulb

100.



Angle of reflection in the above diagram is _____

- (1) 60° (2) 30°
(3) 90° (4) 120°

101. _____ is used in ophthalmoscope.

- (1) Convex lens (2) Concave lens
(3) Convex mirror (4) Concave mirror

102. Which one of the following is lowest temperature when compared with each other?

- (1) 73.4°F (2) 23°C
(3) 296 K (4) 20°C

CHEMISTRY

103. PCRA means

- (1) People Conservation Research Association
 - (2) People Cooperative Reporting Association
 - (3) Petroleum Conservation Reporting Association
 - (4) Petroleum Conservation Research Association
-

104. The slow process of conversion of dead vegetation into coal is called _____

- (1) Sulphonation
 - (2) Carbonisation
 - (3) Crystallization
 - (4) Catenation
-

105. Coke is used in the manufacturing of _____

- (1) Gold
 - (2) Silver
 - (3) Steel
 - (4) Copper
-

106. Match the following.

- | | |
|----------------------|-----------------------------|
| A) LPG | i) Ointment |
| B) Kerosene | ii) Fuel for home |
| C) Paraffin Wax | iii) Fuel for Jet aircrafts |
| (1) A-ii, B-iii, C-i | (2) A-i, B-ii, C-iii |
| (3) A-i, B-iii, C-ii | (4) A-ii, B-i, C-iii |
-

107. Which is a false statement?

- (1) Hydrogen gas has less weight than air.
 - (2) Air has less weight than hydrogen.
 - (3) Sodium hydroxide reacts with a metal releases hydrogen.
 - (4) Sulphuric acid reacts with a metal releases hydrogen.
-

108. _____ gave the modern definition of acids and alkalis.

- (1) Newton
 - (2) CV Raman
 - (3) Arrhenius
 - (4) Joule
-

109. Which one of the following is called as olfactory indicator?

- | | |
|----------------|-------------------------|
| (1) Red litmus | (2) Methyl Orange |
| (3) Clove oil | (4) Universal indicator |
-

110. The process of deposition of a layer of Zinc on iron is called as _____

- | | |
|---------------------|-------------------|
| (1) Crystallization | (2) Galvanisation |
| (3) Globalization | (4) Carbonisation |
-

111. Which of the following is physical change?

- (1) Melting of Wax in candle into liquid.
 - (2) Reaction of Zinc with hydrochloric acid.
 - (3) Reaction of Zinc with Sodium hydroxide.
 - (4) Reaction of Zinc with Oxygen to form Zinc oxide.
-

112. _____ vitamin is known as Ascorbic acid.

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

113. Which of the following gas is obtained from Natural gas is used in the production of fertilisers?

- | | |
|--------------|-------------|
| (1) Hydrogen | (2) Helium |
| (3) Florine | (4) Lithium |
-

BIOLOGY

114. Identify the incorrect statement/s.

Statement A : Soyabeans help in the formation of muscles and regulate the chemical reactions in the body.

Statement B : Magnesium hydroxide is used in the confirmation test of proteins.

Statement C : Iodine is used to detect the pigments in a leaf.

- (1) A, B are incorrect (2) A, C are incorrect
 (3) B, C are incorrect (4) A, B, C are incorrect

115. Choose the correct answer.

Binary Fission : Amoeba :: Budding :

- a) Paramecium b) Spirogyra c) Yeast d) Hydra
 (1) (a), (c) (2) (b), (c) (3) (c), (d) (4) (a), (d)

116. Assertion (A) : If you fall ill, doctor may give you some antibiotic tablets, capsules or injections such as penicillin.

Reason (R) : The source of these medicines is only viruses, which can kill or stop the growth of the disease causing micro-organisms.

- (1) (R) is the correct explanation for (A).
 (2) (R) is not the correct explanation for (A).
 (3) (A) is wrong.
 (4) (A), (R) are wrong.

117. Match the following :

- | | |
|---------------------|----------------------|
| a) Mulberry Silk | i) Telangana |
| b) Pochampalli Silk | ii) Andhra Pradesh |
| c) Ahimsa Silk | iii) Bombax Mori |
| d) Tasar Silk | iv) Madhya Pradesh |
| e) Chanderi Silk | v) Antheraea Mylitta |
- (1) a-(v), b-(ii), c-(iv), d-(iii), e-(i) (2) a-(iii), b-(i), c-(ii), d-(v), e-(iv)
 (3) a-(iv), b-(iii), c-(i), d-(ii), e-(v) (4) a-(v), b-(ii), c-(iii), d-(iv), e-(i)

118. Fill up the blanks P, Q, R with correct answers.

The number of times we inhale and exhale air in a minute is called the ____ (P) ____ . We breathe about ____ (Q) ____ per minute normally. But after doing exercise it may be more than ____ (R) ____ per minute.

- (1) (P) - Anaerobic respiration, (Q) - 14 to 20 times, (R) - 15 breaths
 (2) (P) - Respiratory rate, (Q) - 10 to 15 times, (R) - 15 breaths
 (3) (P) - Respiratory rate, (Q) - 14 to 20 times, (R) - 25 breaths
 (4) (P) - Anaerobic respiration, (Q) - 10 to 15 times, (R) - 25 breaths

119. Which of the following fruits have more fibre content?

- a) Mango b) Banana c) Grapes d) Pomogranate
 (1) (a), (b) (2) (a), (c) (3) (b), (c) (4) (b), (d)

MATHEMATICS

126. $45 - [34 - \{39 - (12 - P)\}] = 58$, value of P?

- (1) 38 (2) 20 (3) 27 (4) 15

127. $\frac{(789 + 576)^2 + (789 - 576)^2}{789 \times 789 + 576 \times 576} = ?$

- (1) 4 (2) 222 (3) 2 (4) 1356

128. What is the number of prime factors contained in the product $30^7 \times 22^5 \times 34^{11}$?

- (1) 4 (2) 7 (3) 8 (4) 5

129. If the length of a rectangle increased by 10% and its breadth is decreased by 10%. Then the change in its area will be

- (1) 1% increase (2) 1% decrease
 (3) 10% increase (4) No change

130. If $\frac{96}{23} = a + \frac{1}{b + \frac{1}{c + \frac{1}{d}}}$ then the values of a, b, c, d respectively

- (1) $a = 1, b = 5, c = 7, d = 3$ (2) $a = 4, b = 5, c = 1, d = 3$
 (3) $a = 4, b = 3, c = 1, d = 3$ (4) $a = 4, b = 5, c = 3, d = 1$

131. If three numbers are $4a, 6a, 7a$. What will be their L.C.M., where 'a' is a positive integer?

- (1) $84a$ (2) $84a^3$ (3) $168a$ (4) $168a^3$

132. The average of 10 numbers is 31. Find the average of the numbers formed by multiplying each of them with 7.

- (1) 310 (2) 217 (3) 70 (4) 317

133. If an unbiased die is thrown once, what is the probability of getting a perfect square number?

- (1) $\frac{1}{3}$ (2) $\frac{2}{3}$ (3) $\frac{1}{6}$ (4) $\frac{1}{2}$

134. If one is added to the denominator of a fraction, then the fraction becomes $\frac{1}{2}$. If '1' is added to the numerator of the fraction, the fraction becomes 1, then the fraction is

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

135. $\sqrt{41 - \sqrt{21 + \sqrt{19 - \sqrt{9}}}} =$

- (1) 6 (2) 4 (3) 7 (4) 13

136. Which of the following measures can form a triangle?

- (1) 6 cm, 4 cm, 7 cm (2) 4 cm, 4 cm, 8 cm
 (3) 60°, 50°, 100° (4) 60°, 40°, 70°

137. If $\sqrt{21025} = 145$ then match the following.

I

II

a) $\sqrt{210.25}$

i) 0.145

b) $\sqrt{2.1025}$

ii) 14.5

c) $\sqrt{0.021025}$

iii) 1.45

(1) a → ii, b → iii, c → i

(2) a → ii, b → i, c → iii

(3) a → iii, b → i, c → ii

(4) a → i, b → iii, c → ii

138. Additive inverse of $4x^2 - 7x + 5$ is

(1) $-4x^2 + 7x - 5$

(2) $-(-4x^2 - 7x + 5)$

(3) $5 - 7x + 4x^2$

(4) $-4x^2 + 7x + 5$

139. The price of a school bag is reduced by 20%. In order to retain original price, the present price has to increase by

(1) 45%

(2) 50%

(3) 20%

(4) 25%

140. Each interior angle of a regular polygon is 165° . What is the number of sides that the polygon has?

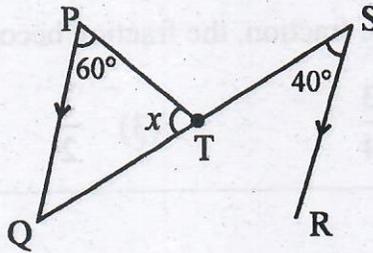
(1) 20

(2) 8

(3) 24

(4) 21

141. In the given figure $PQ \parallel SR$ and $\angle QPT = 60^\circ$, $\angle RST = 40^\circ$ then find the value of x .



- (1) 120° (2) 80° (3) 40° (4) 100°

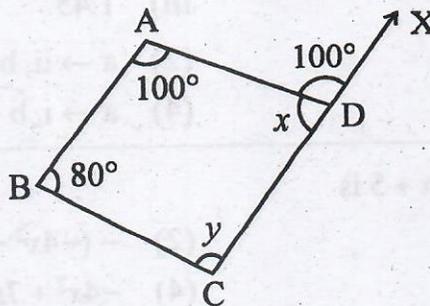
142. If $\left[\left(\sqrt{13^2} \right)^2 \right]^2 = x^2$ then what is the value of x ?

- (1) 13 (2) 17 (3) 26 (4) 169

143. The ratio of number of boys and girls in a school of 800 students is 5:3. How many more girls should be admitted to make the ratio 1:1.

- (1) 200 (2) 100 (3) 50 (4) 150

144. Find the values of x, y from the figure.



- (1) $110^\circ, 80^\circ$ (2) $80^\circ, 100^\circ$
 (3) $70^\circ, 110^\circ$ (4) $120^\circ, 60^\circ$

145. If $\frac{6^{m+2} \times 8^{m-2} \times 4^{-2}}{3^m \times 12^2} = 2^{2m-6}$ then what is the value of m ?

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

HISTORY

146. Match the following.

- | Dynasty | Founder |
|------------------------------------|------------------------------------|
| i) Sayyid | a) Kijar Khan |
| ii) Tughlaq | b) Ghiyasuddin |
| iii) Khilji | c) Jalaluddin |
| iv) Mamluk | d) Qutbuddin Aybak |
| (1) i-(a), ii-(b), iii-(c), iv-(d) | (2) i-(d), ii-(c), iii-(b), iv-(a) |
| (3) i-(b), ii-(a), iii-(d), iv-(c) | (4) i-(c), ii-(b), iii-(a), iv-(d) |

147. Find out the wrongly matched pair.

- (1) Basavapuram - Palkuriki Somanadha
- (2) Kumara Sambhavam - Nannechoda
- (3) Kridabhiramam - Vallabharaya
- (4) Sivatatva Saram - Vidya Nadha

148. 'Nrutyaratnavali' written by Jayapa explains the dance styles which are reflected in the sculpture of

- | | |
|----------------------------|-----------------------------|
| (1) Thousand pillar temple | (2) Ramappa temple |
| (3) Ekambaranadha temple | (4) Hazara Ramaswamy temple |

149. Who wrote about Vijayanagara Empire that a large number of women were employed in royal palaces as dancers, domestic servants and palanquin bearers?

- | | |
|-----------|------------------|
| (1) Paes | (2) Nicolo Conti |
| (3) Nuniz | (4) Barbosa |

150. He had come to Madras from England in 1743 at the age of 18. When in 1767 he left India, his Indian fortune was worth £ 401,102. Interestingly, when he was appointed as Governor, he was asked to remove corruption in company administration. But he was himself cross-examined in 1772 by the British Parliament which was suspicious of his vast wealth. Although he was acquitted, he committed suicide in 1774. Who was 'he'?

- | | |
|----------------|------------------|
| (1) Cornwallis | (2) Dalhousie |
| (3) Wellesley | (4) Robert Clive |

151. With which foreign power in India did Tipu Sultan establish a close relationship and modernised his army with their help?

- | | |
|------------|--------------|
| (1) France | (2) Portugal |
| (3) Spain | (4) Holland |
-

152. Which of the following is not under the British rule by 1857?

- | | |
|--------------|---------------|
| (1) Bombay | (2) Hyderabad |
| (3) Calcutta | (4) Madras |
-

153. Who among the following thought that the British should act as paternal father figures protecting the ryots under their charge?

- | | |
|--------------------|--------------------|
| (1) Thomas Munro | (2) Alexander Read |
| (3) Holt Mackenzie | (4) Cornwallis |
-

154. Which of the following statements is false regarding tribals in India before independence?

- (1) Some tribals were hunters and gatherers.
 - (2) The Khonds used the oil extracted from the seeds of Sal and Mahua in cooking.
 - (3) The Baigas of central India were reluctant to do work for others.
 - (4) The Santhals of Hazaribagh area loved to work in coal mines.
-

155. In the context of the aftermath of the 1857 revolt, which of the following statements is true?

- (1) The powers of East India Company were transferred to the British Parliament.
 - (2) The proportion of Indian Soldiers in the army was increased.
 - (3) The British started treating Muslims with great honour.
 - (4) Policies were made to protect Landlords and Zamindars.
-

GEOGRAPHY

156. The most suitable word for balancing the need to use resources and also conserve them for the future is
 (1) Development (2) Sustainable development
 (3) Resource conservation (4) Environment protection
-
157. Rate of weathering of the soil is mainly influenced by
 (1) Altitude and slope (2) Colour and texture
 (3) Temperature and rainfall (4) Flora and Fauna
-
158. Fresh water on the earth accounts for only about
 (1) 2.7% (2) 30% (3) 1% (4) 22.8%
-
159. Geocentric theory was proposed by
 (1) Ptolemy (2) Nicolaus Copernicus
 (3) Immanuel Kant (4) Georges Lemaitre
-
160. Which among the following statements is false about the regions of Mediterranean climate?
 (1) These regions are located on the eastern margins of all the continents except Antarctica.
 (2) They have rainfall in winter.
 (3) Natural vegetation in these regions is broad leaf evergreens.
 (4) France is an example for such regions.
-
161. Most of the trees in thorny and shrub forests are sharp and thorny. This is
 (1) to save from animals (2) to grow strongly
 (3) to prevent the transpiration (4) to absorb more nitrogen
-
162. 'Legend' in a map is referred to
 (1) The history of the map (2) The symbols used in the map
 (3) The scale of the map (4) The directions in the map
-
163. A 'light year' measures
 (1) Time (2) Speed (3) Distance (4) Space
-
164. Match the following.
- | | |
|------------------------------------|------------------------------------|
| i) Evergreen forests | a) Willow |
| ii) Deciduous forests | b) Ponna |
| iii) Montane forests | c) Mahogany |
| iv) Mangrove forests | d) Teak |
| (1) i-(b), ii-(a), iii-(c), iv-(d) | (2) i-(c), ii-(d), iii-(a), iv-(b) |
| (3) i-(c), ii-(b), iii-(d), iv-(a) | (4) i-(a), ii-(d), iii-(b), iv-(c) |
-
165. The tropic of cancer does not pass through
 (1) Gujarat (2) Rajasthan
 (3) Madhya Pradesh (4) Bihar

POLITICAL SCIENCE

166. The Chairman of the constitutional drafting committee that formed in 1928 was

- | | |
|-----------------------|--------------------------|
| (1) Motilal Nehru | (2) Jawaharlal Nehru |
| (3) Dr. B.R. Ambedkar | (4) Babu Rajendra Prasad |

167. The Chief Justice of the High Court was appointed by the

- | | |
|------------------------|---------------|
| (1) Chief Minister | (2) Governor |
| (3) Central Government | (4) President |

168. The Chairman of the Rajya Sabha is

- | | |
|--------------------|--------------------|
| (1) Prime Minister | (2) Home Minister |
| (3) President | (4) Vice-President |

169. The First Finance Minister of independent India was

- | | |
|-------------------------|--------------------------|
| (1) Jairamdas Daulatram | (2) Rajkumari Amrit Kaur |
| (3) Dr. John Mathai | (4) Jagjivan Ram |

170. Who is the Present Vice-President of India?

- | | |
|----------------------|--------------------|
| (1) Ram Nath Kovind | (2) Droupadi Murmu |
| (3) Jagdeep Dhankhar | (4) Amit Shah |

171. Match the following.

- | | |
|---------------------------------------|------------------------------------|
| i) Right to equality | a) Article 23-24 |
| ii) Right to education and culture | b) Article 32 |
| iii) Right to constitutional remedies | c) Article 29-30 |
| iv) Right against exploitation | d) Article 14-18 |
| (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) |

172. Which of the following refers to the existence of more than one level of Government in the country?

- | | |
|--------------------------------------|--------------------------|
| (1) Secularism | (2) Federalism |
| (3) Parliamentary form of Government | (4) Integrated Judiciary |

173. A 13-years old boy is working in a hotel. Which fundamental right has been violated here?

- | | |
|--------------------------------|-------------------------------------|
| (1) Right to equality | (2) Right to freedom |
| (3) Right against exploitation | (4) Cultural and Educational rights |

174. Which of the following States does not share its boundary with Nepal?

- | | | | |
|-----------|-------------------|-----------|------------|
| (1) Assam | (2) Uttar Pradesh | (3) Bihar | (4) Sikkim |
|-----------|-------------------|-----------|------------|

175. Which among the following High Courts was established lastly?

- | | | | |
|--------------|------------|------------|-----------|
| (1) Calcutta | (2) Bombay | (3) Madras | (4) Delhi |
|--------------|------------|------------|-----------|

ECONOMICS

176. Before 1947, there was only one iron and steel plant in India. In which of the following present day States was it established?

- | | |
|---------------|--------------------|
| (1) Rajasthan | (2) Jharkhand |
| (3) Odisha | (4) Madhya Pradesh |
-

177. 'Pisciculture' is related to

- | | |
|----------------|-------------|
| (1) Fish | (2) Grapes |
| (3) Silk worms | (4) Flowers |
-

178. Which of the following crops grows best on black soils?

- | | |
|------------|------------|
| (1) Jute | (2) Tea |
| (3) Cotton | (4) Coffee |
-

179. Pittsburgh is called the steel city of

- | | |
|-------------------|---------------|
| (1) Germany | (2) Australia |
| (3) America (USA) | (4) Russia |
-

180. 'Kerb drill' is related to the precautions about

- (1) Crossing road safely
 - (2) Understanding the traffic signals
 - (3) Mitigating the disaster risk
 - (4) Understanding the duties of traffic Police
-



SPACE FOR ROUGH WORK

SEAL
SEAL
SEAL