PART - I: MENTAL ABILITY TEST
(For Students of Class X)

Time : 120 Minutes
Max. Marks : 100

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you open the question booklet.

1. Answers are to be given on the same OMR Answer Sheet provided for Part-I.
2. There are 100 questions in this test. All are compulsory.
3. This booklet contains questions on Mental Ability Test.
4. Choose the correct answer from the options given for each question and darken the corresponding circle with black ball point pen in the OMR Answer Sheet.
5. Since the time allotted for this Question Paper is very limited you should make the best use of it by not spending too much time on any one question.
6. If you do not know the answer to any question, do not waste time on it and pass on to the next one. If time permits, you can come back to the questions, which you have left in the first instance and attempt them.
7. Rough work can be done anywhere in the Question Booklet but not on the OMR Sheet/loose paper.
8. Every correct answer will be awarded one mark.
9. Please return the OMR Answer Sheet only to the invigilator after completion of the test. You can retain the Question Booklets.
10. English version of the Question Paper will be considered as final in case of any dispute arising out of variation in translated version.
11. Quote your seven digit Roll Number without fail for any future correspondence.

PLEASE TURN OVER THE PAGE AND START ANSWERING.
MENTAL ABILITY TEST / மன்னழக்கில் விளக்கம்

Direction: (Question number 1 - 5)
In each question the numbers/letters are arranged in a sequence based on certain principle. Select the answer from the four alternatives given under each sequence for the term marked by ?

1. 19, 24, 31, 42, 55, 72, ?
   (1) 83   (2) 89
   (3) 91   (4) 93

2. 10, 58, 105, ?, 196, 240, ...
   (1) 150   (2) 151
   (3) 154   (4) 147

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

4. 1, 4, 13, 40, 121, ?
   (1) 202   (2) 364
   (3) 148   (4) 210

5. 0, 1, 2, 3, 6, 11, 20, ?
   (1) 31   (2) 34
   (3) 37   (4) 22

3
Direction: (Question number 6 and 7)
The diagram and the numbers/letters follow certain principle. Select the missing number/letter indicated by question mark?

6. 6, 7, 10, 8, 16, 15, 26, 23, 42, 38, 68, __?
   (1) 61  (2) 80
   (3) 106 (4) 120

7.  
   2 7 7
   5 3 9 11 62 3 17 88 ?
   (1) 20  (2) 59
   (3) 85  (4) 10

Direction: (Question number 8 - 15)
First two terms are connected by some relationship. The same relationship is applicable for the next terms in which one is blank space. Identify the suitable term from the given four alternatives for the blank space.

8. PEN : WRITING : : CYCLE : _________
   (1) REPAIRING  (2) CAR
   (3) RIDING     (4) ROAD

   (1) REPAIRING  (2) CAR
   (3) RIDING     (4) ROAD
9. EYE : FACE : : 
   (1) RING : FINGER
   (2) STEM : ROOT
   (3) KNOB : DOOR
   (4) SHOE : FOOT

10. WING : BEAK : : 
    (1) BUTTON : SHIRT
    (2) PLUTO : VENUS
    (3) HOUSE : CHIMNEY
    (4) BIRD : CAGE

11. ROOM : HOUSE : : 
    (1) REFRIGERATOR : KITCHEN
    (2) CHAIR : ROOM
    (3) ROOF : BUILDING
    (4) WHEEL : CHAIR

12. 5 : 29 : : ? : 41
    (1) 30       (2) 6
    (3) 7       (4) 4

13. CANADA : DOLLAR : : GERMANY :

   (1) YEN
   (2) DOLLAR
   (3) DEUTSCHE MARK
   (4) RIYAL

14. CANADA : DOLLAR : : GERMANY :

   (1) YEN
   (2) DOLLAR
   (3) DEUTSCHE MARK
   (4) RIYAL
14. CARBOHYDRATE : POTATO : : FAT :
   (1) CARROT   (2) TOMATO
   (3) WATER    (4) GHEE

15. DAVIS CUP : LAWN TENNIS : : DEODHAR TROPHY :
   (1) FOOTBALL
   (2) CRICKET
   (3) HOCKEY
   (4) SHUTTLE COCK

16. There are four prime numbers written in ascending order. The product of the first three is 1001 and that of the last three is 2431. The last number is :
   (1) 17   (2) 19
   (3) 23   (4) 13

17. The largest number which divides 62, 132 and 237 to leave the same remainder in each case is :
   (1) 51   (2) 35
   (3) 8    (4) 53

18. Traffic lights at three different road crossings change after every 48 sec, 72 sec and 108 sec respectively. If they all change simultaneously at 7 : 00 : 00 hours then at what time will they again change simultaneously ?
   (1) 7 : 14 : 00 Hrs
   (2) 7 : 14 : 12 Hrs
   (3) 7 : 07 : 12 Hrs
   (4) 7 : 09 : 12 Hrs
19. A student got twice as many sums wrong as he got right. If he attended 60 sums in all, how many did he solve correctly?

(1) 12 (2) 16 (3) 24 (4) 20

20. \[ \frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \ldots + \frac{1}{24 \times 25} = ? \]

(1) 0.36 (2) 0.16 (3) 0.016 (4) 1.6

21. If \[ \frac{2x}{1 + \frac{1}{x}} = 3 \] then the value of \( x \) is:

(1) \( \frac{5}{6} \) (2) \( \frac{6}{5} \) (3) \( \frac{4}{5} \) (4) \( \frac{5}{4} \)

22. If \( \times \) means +, + means −, − means × and + means ÷ then 36 + 18 + 9 − 3 × 26 is:

(1) −40 (2) 78 (3) −1 (4) 1

22. If \( \times \) means +, + means −, − means × and + means ÷ then 36 + 18 + 9 − 3 × 26 is:

(1) −40 (2) 78 (3) −1 (4) 1
23. Notebooks were distributed equally among children of a class. The notebooks each child got was one-eighth of the number of children. If the number of children is half, each child would have got 16 notebooks. The total number of notebooks distributed is:

(1) 512  (2) 312  (3) 248  (4) 428

24. If \( x = \frac{\sqrt{5} + \sqrt{4}}{\sqrt{5} - \sqrt{4}} \) and \( y = \frac{\sqrt{5} - \sqrt{4}}{\sqrt{5} + \sqrt{4}} \) then \( x^2 + y^2 \) is:

(1) 322  (2) 100  (3) 312  (4) \( 8 \sqrt{5} \)

25. If \( \sqrt{13} = 3.605 \) and \( \sqrt{130} = 11.40 \) find \( \sqrt{1.3 + 130} + \sqrt{0.013} \):

(1) 37.34  (2) 37.034  (3) 37.0034  (4) 37.304

26. \[
\frac{1}{\sqrt{9} - \sqrt{8}} - \frac{1}{\sqrt{8} - \sqrt{7}} + \frac{1}{\sqrt{7} - \sqrt{6}} - \frac{1}{\sqrt{6} - \sqrt{5}} + \frac{1}{\sqrt{5} - \sqrt{4}} = ?
\]

(1) \( \sqrt{8} \)  (2) 5  (3) 3  (4) \(-3\)

23. பெண் பாண்டைய மரக்கட்டை அல்லது கொம்பு பிட்டைய குற்றகக் கூட்டும் அதிகம் பிள்ளைகளுக்கு. குறுங்கள் மரக்கட்டை பிள்ளைகளுக்கு முதல் பிட்டையக் குற்றகக் கூட்டும். மாநாட்டுகளை நேர்க்குதல் காரணிகளை 1/8 பகுதி
மரக்கட்டை கொண்டாலே குற்றகக் கூட்டும் குறுங்கள் குறுங்கள் மரக்கட்டை பிட்டையக் குற்றகாக ின குறுங்கள் அதிகமாக வந்து பிட்டையக் குற்றகாக ின குறுங்கள் குற்றகாக ின குறுங்கள்:

(1) 512  (2) 312  (3) 248  (4) 428

24. \( x = \frac{\sqrt{5} + \sqrt{4}}{\sqrt{5} - \sqrt{4}} \) மற்றும் \( y = \frac{\sqrt{5} - \sqrt{4}}{\sqrt{5} + \sqrt{4}} \) என்று காணவும் \( x^2 + y^2 \) என்ற மதிப்பு:

(1) 322  (2) 100  (3) 312  (4) \( 8 \sqrt{5} \)

25. \( \sqrt{13} = 3.605 \) மற்றும் \( \sqrt{130} = 11.40 \) என்று காணவும் \( \sqrt{1.3 + 130} + \sqrt{0.013} \) என்ற மதிப்பு:

(1) 37.34  (2) 37.034  (3) 37.0034  (4) 37.304

26. \[
\frac{1}{\sqrt{9} - \sqrt{8}} - \frac{1}{\sqrt{8} - \sqrt{7}} + \frac{1}{\sqrt{7} - \sqrt{6}} - \frac{1}{\sqrt{6} - \sqrt{5}} + \frac{1}{\sqrt{5} - \sqrt{4}} = ?
\]

(1) \( \sqrt{8} \)  (2) 5  (3) 3  (4) \(-3\)
27. \[ \sqrt{\frac{(0.03)^2 + (0.21)^2 + (0.065)^2}{(0.003)^2 + (0.001)^2 + (0.0065)^2}} = ? \]

(1) \( \frac{1}{10} \)  (2) 100
(3) 10  (4) \( \frac{1}{100} \)

28. A lead pencil is in the shape of a right circular cylinder. The pencil is 28 cm long and its radius is 3 mm. If the lead is of radius 1 mm, the volume of the wood used is:

\[ \frac{22}{7} \times 28 \times 28 \times 28 \times 28 \] cm\(^3\)

(1) 0.352 cm\(^3\)  (2) 7.04 cm\(^3\)
(3) 3.52 cm\(^3\)  (4) 7.04 cm\(^3\)

29. The difference between a two digit number and the number obtained by interchanging the positions of its digits is 36. The difference between the two digits of that number is:

\[ 10x + y - 10y - x = 36 \]
\[ 9x - 9y = 36 \]
\[ x - y = 4 \]

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

28. குறுக்கு கரையும் பூச்சியை நுழை விளக்கத்தானையால் வெங்குத்து. அதன் மீது 28 பெட்டி. அதன் மீது 3 பெட்டி. அதன் 11 பெட்டிகள் காரணிகளும் அதன் 1 பெட்டி. அதன் காரணிகளும் பெட்டிகள் பலம்பட்டு வெங்குத்து காண அரசு:

(1) 0.352 cm\(^3\)  (2) 7.04 cm\(^3\)
(3) 3.52 cm\(^3\)  (4) 7.04 cm\(^3\)

29. குறுக்கு கரையும் பூச்சியை நுழை விளக்கத்தானையால் வெங்குத்து. அதன் மீது 28 பெட்டி. அதன் மீது 3 பெட்டி. அதன் 11 பெட்டிகள் காரணிகளும் அதன் 1 பெட்டி. அதன் காரணிகளும் பெட்டிகள் பலம்பட்டு வெங்குத்து காண அரசு:

(1) 4  (2) 3
(3) 6  (4) 5
30. A and B are two stations 390 km apart. A train starts from A at 10 am and travels towards B at 65 kmph. Another train starts from B at 11 am and travels towards A at 35 kmph. At what time do they meet?

(1) 3.15 pm  (2) 2.15 pm  (3) 4.15 pm  (4) 12.15 pm

31. A cone, a hemisphere and a cylinder have equal bases. If the heights of the cone and the cylinder are equal to its common radius, then the ratio between their volumes is:

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

32. One side of a rhombus is 20 cm and one diagonal is 24 cm. Find the area of the rhombus.

(1) 200 cm$^2$  (2) 384 cm$^2$  (3) 288 cm$^2$  (4) 348 cm$^2$
Direction: (Question number 33 - 37)

If the English alphabets A to Z have numerical value from 0 to 25 respectively denoted by \( \gamma(A) = 0 \); \( \gamma(B) = 1 \), etc. \( \gamma(z) = 25 \) and sum of two alphabets a and b is defined as \( a + b = c \) if \( \gamma(c) = \gamma(a) + \gamma(b) \) then answer the question 33 - 37.

33. \( E + K = ? \)
   (1) O     (2) M
   (3) N     (4) P

34. \( B + U = ? \)
   (1) U     (2) W
   (3) V     (4) X

35. \( A + C + F = ? \)
   (1) O     (2) G
   (3) H     (4) I

36. \( L - S = ? \)
   (1) U     (2) T
   (3) R     (4) S

37. \(-D - P = ? \)
   (1) I     (2) J
   (3) H     (4) K

Hint: In this question, you need to add the numerical values of the alphabets. For example, \( E = 4 \), \( K = 11 \), so \( E + K = 4 + 11 = 15 \), which corresponds to \( O \).


dipa[epath]: (திசைவாய் கோடி 33 - 37)

அல்பாபேடை(A to Z) எவ்வாறு எண்ணிக்கையில் வேறுபடும் 0 நேரம்
25 நேரான எண்ணிக்கைகளுக்கு ஆன \( \gamma(A) = 0 ;
\gamma(B) = 1, \gamma(z) = 25 \) என்று தருவது ஒரு சரியை குறித்து
\( a + b = c \) என்று மேற்பட்டு வருகையான எண்ணிக்கை
\( \gamma(c) = \gamma(a) + \gamma(b) \) என்று தருவது
தெளிவாகவோ எளிதாகவோ

33. \( E + K = ? \)
   (1) O     (2) M
   (3) N     (4) P

34. \( B + U = ? \)
   (1) U     (2) W
   (3) V     (4) X

35. \( A + C + F = ? \)
   (1) O     (2) G
   (3) H     (4) I

36. \( L - S = ? \)
   (1) U     (2) T
   (3) R     (4) S

37. \(-D - P = ? \)
   (1) I     (2) J
   (3) H     (4) K

11
38. In a certain code GOOD is written as JRRG and JACK is written as MDFN, then FRUIT is written as:

(1) IUYLW (2) IUXLW
(3) IUXMW (4) IVXLW

39. In a certain code JUNGLE is written as JNLEGU then FOREST is written as:

(1) ROFEST (2) FORTSE
(3) TSEROF (4) FRSTEO

40. The 10th consonant from the first consonant of the English alphabet is:

(1) N (2) M
(3) Q (4) R

41. What letters appear in ECONOMY and not in SECOND?

(1) MY (2) NM
(3) EY (4) CN

42. Which letter would divide the letters between N and Z into two equal halves?

(1) V (2) I
(3) T (4) W
Direction: (Question number 43 - 46)
Pick the odd item from the following sets.

43. (1) Buddhism (2) Jainism
    (3) Pessimism (4) Hinduism

44. (1) Hunger (2) Cakes
    (3) Vegetables (4) Pastries

45. (1) King (2) Queen
    (3) Princess (4) Labourer

46. (1) Egypt (2) West Bengal
    (3) China (4) India

Direction: (Question number 47 - 54)
Figures A and B are related in some manner. In the same manner figures C and D are related. Choose the figure D in the given four alternatives.

47.

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

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

13
Direction: (Question number 55 - 58)

All the four figures in the set of problem figures have a definite sequence. Discover the sequence and pick-up one figure from answer figures that completes the series.
Direction : (Question number 59 and 60)
Pick the figure not in same category.

59.

<table>
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60.

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Direction : (Question number 61 - 64)
Match the following based on common characteristics:

61.

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62.

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63.

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64.

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</table>
65. First two words are related to each other. Choose the word which bears the same relationship.

Monk : Brotherhood : : letter : ________
(1) jumble (2) gang
(3) album (4) budget

Direction: (Question number 66 - 70)
Read the following information carefully and answer the question.
(i) Five persons J, K, L, M and N participated in a quiz contest.

(ii) One is master of sports, one is master of current events and one is master of art and culture.

(iii) J and M are unmarried ladies and do not hold command in any subject.

(iv) N is the husband in a married couple.

(v) K is the brother of L and is neither master of current events nor art and culture.

(vi) none of the ladies has command over current events and sports.

66. Who is the master of sports?

(1) M (2) L
(3) J (4) K

65. முன்னுவி ஐந்து அவர்களுக்கு ஒன்று தமிழ் தமிழ் கருவியில் பலுக்குண்டுக. அத்தும் கருவிகள் தமிழ் பலுக்குண்டு கருவியில் நூற்றுக் கருவிகள்.

Monk : Brotherhood : : letter : ________
(1) jumble (2) gang
(3) album (4) budget

விளக்கத்தையும் : (கிருஷ்ண விளக்க 66 - 70)
சின்னவிளக்கக் கிருஷ்ணவிளக்க கணவாளர் பாதுகாக்கவும் விளக்கத்தையும் விளக்கவும்.

(i) J, K, L, M மற்றும் N ஒரு பாதுகாக்கவும் விளக்கவும் விளக்கவும் விளக்கவும்.

(ii) நூற்றுக்கு விளக்கக்குண்டு நூற்று டெலிபுக்குண்டு நூற்று கருவியில் நூற்று கருவியில் நூற்று கருவியில் நூற்று கருவியில்.

(iii) J மற்றும் M விளக்கக்குண்டு விளக்கவும்

(iv) நூற்று விளக்கவும் நூற்று விளக்க விளக்கவும் விளக்கவும் விளக்கவும்.

(v) ல் கட்டுரையை கட்டுரையை கட்டுரையை கட்டுரையை கட்டுரையை

(vi) நூற்று விளக்கக்குண்டு நூற்று விளக்கக்குண்டு

விளக்க விளக்கவும் விளக்கக்குண்டு

விளக்கத்தையும் விளக்கத்தையும் விளக்கவும் விளக்கவும் விளக்கவும்.
67. Who is the master of art and culture?

   (1) N   (2) L
   (3) K   (4) M

68. Who is the master of current events?

   (1) N   (2) M
   (3) J   (4) L

69. Wife of N is:

   (1) K
   (2) J
   (3) Data inadequate
   (4) L

70. The three ladies are:

   (1) J, K and M
   (2) J, K and L
   (3) J, L and M
   (4) K, L and M

71. If A is brother of F and F is the daughter of D and P is brother of D. How is P related to A?

   (1) Father
   (2) Uncle
   (3) Grand-father
   (4) Co-brother

72. If A is brother of F and F is the daughter of D and P is brother of D. How is P related to A?

   (1) Father
   (2) Uncle
   (3) Grand-father
   (4) Co-brother
Direction: (Question number 72 - 75)

Observe the diagram carefully and answer the following questions:

Let A - denote the set of persons who speak Tamil
B - who speak English
C - Who speak Malayalam and
D - Set of people who speak Telugu

72. The number of people who can speak both Tamil and English is:
   (1) 12    (2) 4
   (3) 1    (4) 6

73. Find the number of people who can speak English, Malayalam and Telugu.
   (1) 4    (2) 9
   (3) 6    (4) 82

74. Find the number of people who can speak either English or Malayalam.
   (1) 66    (2) 53
   (3) 60    (4) 56

72. அம்தியில் எண்முதல் சாத்தியில் இலங்கையில் எண்முதல் கல்லார்கள் எண்முதல் கல்லார்கள் எண்முதல் கல்லார்கள் எண்முதல் கல்லார்கள்?
   (1) 12    (2) 4
   (3) 1    (4) 6

73. இலங்கையில், மலாயில் மதியில் எண்முதல் சாத்தியில் இலங்கையில் எண்முதல் கல்லார்கள்?
   (1) 4    (2) 9
   (3) 6    (4) 82

74. இலங்கையில் அம்தியில் சாத்தியில் இலங்கையில் எண்முதல் கல்லார்கள் எண்முதல் கல்லார்கள்?
   (1) 66    (2) 53
   (3) 60    (4) 56
75. If the total population is 100, how many do not speak either language?

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

Direction: (Question number 76 and 77)

76. Find the missing terms in the table which follows some pattern.

<table>
<thead>
<tr>
<th>5</th>
<th>7</th>
<th>x</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>y</td>
<td>18</td>
</tr>
<tr>
<td>11</td>
<td>9</td>
<td>99</td>
</tr>
</tbody>
</table>

- (1) $x = 3, y = 35$
- (2) $x = 35, y = 3$
- (3) $x = 12, y = 12$
- (4) Data insufficient

77. 

<table>
<thead>
<tr>
<th>0</th>
<th>-2</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>-6</td>
<td>0</td>
</tr>
</tbody>
</table>

- (1) 5
- (2) -5
- (3) 4
- (4) -4
78. Select any one alternative whose alphabets when placed at the missing places, complete the series.

a _ aa _ a _ baa _ aaba
(1) bbba (2) bbab
(3) bbaa (4) baab

Direction: (Question number 79 and 80)
Find the water image of the following questions.

79. The water image of APPLE79 is:
(1) ABBγΕξέ (2) VBBγΕξέ
(3) VddΓΕξέ (4) AddΓΕξέ

80. TRUTH
(1) LεShH (2) LεShH
(3) LεShH (4) TεShH

Direction: (Question number 81 - 84)
Read the relations carefully and answer the questions.
□ is greater than
Δ is smaller than
○ is equal to
≠ is not equal to

81. If A □ B ; C Δ B and D ○ C then:
(1) C Δ A (2) D □ A
(3) C ≠ D (4) A ○ C

82. If A □ B ; C Δ B and D ○ C then:
(1) C Δ A (2) D □ A
(3) C ≠ D (4) A ○ C

23
82. If $A \neq C$; $C \Delta B$ and $B \odot A$ then:

(1) $A \odot C$  (2) $A \Delta C$

(3) $B \sqcap A$  (4) $A \sqcap C$

83. If $A \Delta C$, $B \sqcap C$ and $B \odot E$ then:

(1) $A \sqcap E$  (2) $A \Delta E$

(3) $A \odot E$  (4) $A \odot B$

84. $A \sqcap O$ and $AB \sqcap AC$ then:

(1) $(A + B) \sqcap (C + D)$

(2) $(B + D) \odot (C + D)$

(3) $(B + D) \sqcap (C + D)$

(4) $(B + D) \Delta (C + D)$

82. $A \neq C$; $C \Delta B$ மற்றும் $B \odot A$ தொண்டிக்:

(1) $A \odot C$  (2) $A \Delta C$

(3) $B \sqcap A$  (4) $A \sqcap C$

83. $A \Delta C$, $B \sqcap C$ மற்றும் $B \odot E$ தொண்டிக்:

(1) $A \sqcap E$  (2) $A \Delta E$

(3) $A \odot E$  (4) $A \odot B$

84. $A \sqcap O$ மற்றும் $AB \sqcap AC$ தொண்டிக்:

(1) $(A + B) \sqcap (C + D)$

(2) $(B + D) \odot (C + D)$

(3) $(B + D) \sqcap (C + D)$

(4) $(B + D) \Delta (C + D)$
Direction: (Question number 85 - 89)

Read the statements and answer the questions.

(i) A family consists of 6 members P, Q, R, S, T and U.

(ii) The family consists of only two female members.

(iii) S is father of R, who is brother of T.

(iv) T is daughter of U.

(v) Q and P are grandsons of S.

(vi) P is a son of T.

85. The female members of the family are:

(1) T and R  (2) T and U  
(3) T and P  (4) T and S

86. The relationship of S to U is:

(1) husband  (2) daughter  
(3) son  (4) wife

87. The relationship of P to Q is:

(1) sister  (2) father  
(3) brother  (4) mother

88. S is brother of R - is S a male?

(1) male  (2) female  
(3) mother  (4) elder

89. P is a son of T - is P a male?

(1) female  (2) male  
(3) younger  (4) elder
88. The male members of the family are:


89. T is a sister of:

(1) U  (2) R  (3) Q  (4) P

90. Mahesh starts walking towards east and after walking 30 m takes right turn and walks again 30 m. Then he turns left and walks 30 m. Again he takes left turn and after walking 15 m finally turn to his left and walks 60 m. How far and in which direction is Mahesh from the starting point?

(1) 20 m North  (2) 30 m West  (3) 30 m South  (4) 15 m South
Direction: (Question number 91 and 92)
Two statements (i) and (ii) are followed by two conclusions numbered (I) and (II). Choose the option which logically follows:

91. Statements:
(i) Some goats are sheep.
(ii) All sheep are cows.

Conclusions:
(I) All cows are sheep.
(II) Some goats are cows.
(1) (I) only true
(2) (II) only true
(3) (I) and (II) are true
(4) Both (I) and (II) are not true

92. Statements:
(i) All mangoes are apples.
(ii) Some grapes are apples.

Conclusions:
(I) All apples are mangoes.
(II) Some apples are mangoes.
(1) (I) only true
(2) (II) only true
(3) (I) and (II) are true
(4) none of these are true
93. The number of triangles in

is:

(1) 10  (2) 4  
(3) 6  (4) 12

94. Two positions of dice are shown below. How many points will appear on the opposite to the face containing 5? 

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

95. Which digit will appear on the face opposite to the face with number 4? 

(1) 3  (2) 5  
(3) 6  (4) 2/3
96. Find the mirror image of “MALAYALAM”.
   (1) MALAYALAM
   (2) MAJAYALAM
   (3) MWAJYALAM
   (4) MAGAYALAM

97. Find the mirror image of “EFFECTIVE”.
   (1) EFFECTIVE
   (2) EVITCEFFE
   (3) EVITCEFFE
   (4) EFFECTIVE

98. Find the mirror image of “MAGAZINE”.
   (1) ENIACMAE
   (2) MAGAZINE
   (3) ENIACMAE
   (4) MAGAZINE
99. If a clock shows 6:45 AM, what is the angle between the needles?
   (1) 90°  (2) 45°  (3) 22.5°  (4) 67.5°

100. A ladder leaning against a vertical wall makes an angle of 60° with the ground. If the foot of the ladder is 3.5 m away from the wall, the length of the ladder, is:
   (1) 7 m  (2) 3.5 m  (3) 14 m  (4) \( \frac{7}{\sqrt{3}} \) m

- o o o -
PART - II : SCHOLASTIC APTITUDE TEST
(For Students of Class X)

Time : 120 Minutes  Max. Marks : 100

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you open the Question Booklet.

1. Answers are to be given on the same OMR Answer Sheet provided for Part-I.
2. There are 100 questions in this test. All are compulsory.
3. The question numbers 101 - 120 belong to Mathematics, 121 - 160 pertain to Science and 161 - 200 are Social Science subjects.
4. Choose the correct answer from the options given for each question and darken the corresponding circle with black ball point pen in the OMR Answer Sheet.
5. Since the time allotted for this Question Paper is very limited you should make the best use of it by not spending too much time on any one question.
6. If you do not know the answer to any question, do not waste time on it and pass on to the next one. If time permits, you can come back to the questions, which you have left in the first instance and attempt them.
7. Rough work can be done anywhere in the Question Booklet but not on the OMR sheet/loose paper.
8. Every correct answer will be awarded one mark.
9. Please return the OMR answer sheet only, to the Invigilator after completion of the test. You can retain the Question Booklets.
10. English version of the Question Paper will be considered as final in case of any dispute arising out of variation in translated version.
11. Quote your seven digit Roll Number without fail for any future correspondence.

PLEASE TURN OVER THE PAGE AND START ANSWERING.
101. The value of \( \left[ 9 \left( \frac{1}{64^3} + 125^3 \right) \right]^{1/4} \) is:

(1) 9  (2) 3  (3) 81  (4) \( 9^{4/9} \)

102. If \( \sqrt{m} + \sqrt{n} - \sqrt{p} = 0 \), then the value of \( (m + n - p)^2 \) is:

(1) \( mn \)  (2) \(- mn \)  (3) 2 \( mn \)  (4) 4 \( mn \)

103. If \( x^2 + \frac{1}{x^2} = 14 \), then the value of \( x^3 + \frac{1}{x^3} \) is:

(1) 52  (2) 42  (3) 24  (4) 25

104. The polynomials \( ax^3 + 4x^2 + 3x - 4 \) and \( x^3 - 4x + a \) leave the same remainder when divided by \( x - 3 \), then the value of \( a \) is:

(1) \(-1\)  (2) \(-4\)  (3) 4  (4) 1
105. The bisectors of $\angle B$ and $\angle C$ of a triangle $ABC$ meet at a point $O$. If $\angle A = 60^\circ$, then $\angle BOC$ is:

(1) $30^\circ$  (2) $60^\circ$
(3) $90^\circ$  (4) $120^\circ$

106. The side $BC$ of $\triangle ABC$ is produced to a point $D$. The bisectors of $\angle ABC$ and $\angle ACD$ meet at point $E$. If $\angle BAC = 60^\circ$, then $\angle BEC$ is:

(1) $15^\circ$  (2) $30^\circ$
(3) $60^\circ$  (4) $120^\circ$

107. $\triangle ABC$ is an isosceles triangle in which $AB = AC$. If the side $BA$ is produced to $D$ such that $AD = AB$, then $\angle BCD$ is:

(1) $30^\circ$  (2) $45^\circ$
(3) $60^\circ$  (4) $90^\circ$

108. In an A.P., the sum of $m$ terms is equal to $n$ and the sum of $n$ terms is equal to $m$, then the sum of $(m+n)$ terms is:

(1) $m+n$  (2) $-(m+n)$
(3) $(m-n)$  (4) $(n-m)$

105. இரு வெள்ளாடும் $ABC$-இன் $\angle B$ மற்றும் $\angle C$-இன் வெள்ளாட்டு புள்ளியில் ஒரு $O$-இன் வெள்ளாட்டு கிளியும். $\angle A = 60^\circ$ எனில், $\angle BOC$ என்பது:

(1) $30^\circ$  (2) $60^\circ$
(3) $90^\circ$  (4) $120^\circ$

106. $\triangle ABC$-இன் பக்கம் $BC$-இன் வெள்ளாட்டு புள்ளியில் $D$-இன் வெள்ளாட்டு கிளியும். $\angle ABC$ மற்றும் $\angle ACD$-இன் வெள்ளாட்டு புள்ளியில் $E$-இன் வெள்ளாட்டு கிளியும். $\angle BAC = 60^\circ$ எனில், $\angle BEC$ என்பது:

(1) $15^\circ$  (2) $30^\circ$
(3) $60^\circ$  (4) $120^\circ$

107. $\triangle ABC$ ஒரு இசைசுறுகூட்ட வளைப்பரப்பிலிருந்தே, $AB = AC$ என்பது. $AD = AB$ என்பது பின்னர் $BA$-இன் வெள்ளாட்டு புள்ளியில் $D$-இன் வெள்ளாட்டு கிளியும் $\angle BCD$ என்பது:

(1) $30^\circ$  (2) $45^\circ$
(3) $60^\circ$  (4) $90^\circ$

108. ஒரு கூட்டுக்குட்ட வளைப்பரப்பில் $m$ வடிவபெறும் கூட்டுக்குட்டாக $n$, முற்பாக $n$ வடிவபெறும் கூட்டுக்குட்டாக $m$ வெள்ளாட்டு கிளியும்: (1) $m+n$  (2) $-(m+n)$
(3) $(m-n)$  (4) $(n-m)$
109. If the roots of the equation \((a^2 + b^2)x^2 - 2b(a + c)x + (b^2 + c^2) = 0\) are equal, then:

1. \(2b = a + c\)
2. \(b = \frac{2ac}{a + c}\)
3. \(b^2 = ac\)
4. \(b = ac\)

110. A right triangle has hypotenuse of length \(p\) cm and one side of length \(q\) cm. If \((p - q) = 1\), then the length of third side is:

1. \(2q + 1\)
2. \(\sqrt{2q + 1}\)
3. \(2p + 1\)
4. \(\sqrt{2p + 1}\)

111. The longest pole that can be kept in a room of dimensions 5 m \(\times\) 4 m \(\times\) 2 m is:

1. \(9\sqrt{5}\) m
2. \(6\sqrt{5}\) m
3. \(3\sqrt{5}\) m
4. \(5\sqrt{3}\) m

112. If the volume of a sphere is equal to its surface area, then the circumference of a cross sectional circle whose centre coincides with the sphere is:

1. \(2\pi\)
2. \(4\pi\)
3. \(6\pi\)
4. \(8\pi\)
113. A circle is inscribed in a triangle ABC with right angle at A. The length of the two sides containing the right angle are 6 cm and 8 cm respectively. The radius of the circle is:

(1) 2 cm  
(2) 6 cm  
(3) 8 cm  
(4) 10 cm

114. A fair die is thrown once. The probability of getting neither a prime nor a composite number is:

(1) 1  
(2) 0  
(3) $\frac{5}{6}$  
(4) $\frac{1}{6}$

115. If the product of two zeroes of the polynomial $x^3 - 6x^2 + 11x - 6$ is 2, then the third zero is:

(1) 1  
(2) 2  
(3) 3  
(4) 4
116. If the HCF of 55 and 22 is expressed in the form of $55m - 22 \times 2$ then the value of $m$ is:

(1) 2  
(2) 1  
(3) 11  
(4) 22

117. The graphs of the linear system $x + y = 1$; $2x + 2y = 2$ gives:

(1) no solution  
(2) unique solution  
(3) infinitely many solutions  
(4) two solutions

118. If $\tan \theta = \frac{a}{x}$, then the value of $\frac{x}{\sqrt{a^2 + x^2}}$ is:

(1) $\cos \theta$  
(2) $\sin \theta$  
(3) $\cosec \theta$  
(4) $\sec \theta$
119. The remainder when \( x^n + n \) divided by \( x - 1 \) is:

(1) \( n \)

(2) cannot be determined

(3) \( n + 1 \)

(4) 0

120. Which of the following statements are not true?

(a) sum of two irrational numbers is always irrational

(b) difference between two irrational numbers is irrational

(c) product of two irrational numbers is irrational

(d) quotient of two irrational numbers is irrational

(1) (a) and (b) only

(2) (a), (b), (c) and (d)

(3) (a), (b) and (c) only

(4) none of the above
121. A car travels from Chennai to Bengaluru with a speed of 60 km/hr and returns back along the same path with a speed of 40 km/hr. The average speed of the car is given by:

(1) 50 km/hr  
(2) 13.8 m/s  
(3) 48 km/hr  
(4) 172.8 m/s

122. What will be the percentage change in momentum of a body when both its mass and velocity are doubled?

(1) 400  
(2) 75  
(3) 500  
(4) 300

123. The displacement-time graph for two particles are shown in the figure. The ratio of velocity of A to velocity of B is:

(1) 1  
(2) 3  
(3) \( \frac{1}{3} \)  
(4) \( \sqrt{3} \)
124. The velocity-time graph of a body moving along a straight line is shown below. The acceleration of the body along OA, AB and BC is:

(1) \(5 \text{ m/s}^2\), 0, \(-5 \text{ m/s}^2\)
(2) \(-5 \text{ m/s}^2\), 0, \(+5 \text{ m/s}^2\)
(3) \(5 \text{ m/s}^2, 1.6 \text{ m/s}^2, -5 \text{ m/s}^2\)
(4) \(-5 \text{ m/s}^2, 1.6 \text{ m/s}^2, 5 \text{ m/s}^2\)

125. Two bodies A and B having masses 2 kg and 4 kg respectively are separated by 2 m. Where should a body of mass 1 kg be placed so that the gravitational force on this body due to A and B is zero?

(1) 8.3 m
(2) 0.83 m
(3) 3.8 m
(4) 0.38 m

124. வேகவிசையையும் வேகமும் வருமாறு நிறுவுகின்ற சுருக்கம் -நான் கூறியும் சிலை நீர்மயமா குறிக்கிறது. OA, AB போன்ற வருமான கூர்களம் BC -ம் மற்றும் ஐக்கிய வேகநிலை வருத்துக்கு:

(1) \(5 \text{ மீ/செ}^2\), 0, \(-5 \text{ மீ/செ}^2\)
(2) \(-5 \text{ மீ/செ}^2\), 0, \(+5 \text{ மீ/செ}^2\)
(3) \(5 \text{ மீ/செ}^2, 1.6 \text{ மீ/செ}^2, -5 \text{ மீ/செ}^2\)
(4) \(-5 \text{ மீ/செ}^2, 1.6 \text{ மீ/செ}^2, 5 \text{ மீ/செ}^2\)
126. A ship of mass $3 \times 10^7$ kg initially at rest is pulled by force of $5 \times 10^4$ N through a distance of 3 m. Assuming that the resistance due to water is negligible the speed of the ship is:

- (1) 1.5 m/s
- (2) 60 m/s
- (3) 0.1 m/s
- (4) 5 m/s

127. An electric bulb is rated 220 V, 110 W. When it is operated on 110 V, the power consumed will be:

- (1) 55 W
- (2) 110 W
- (3) 25 W
- (4) 27.5 W

128. In the above electrical circuit, the readings shown by the ammeter and voltmeter are:

- (1) 2 A, 10 V
- (2) 3.2 A, 16 V
- (3) 2 A, 16 V
- (4) 3.2 A, 10 V
129. In the circuit shown the current in the ammeter is:

(1) 5 A  (2) 4 A  (3) 1.5 A  (4) 8 A

130. If 5 coulombs of charge flows through a conductor in 2 seconds, then the number of electrons flowing through a conductor in one second approximately is:

(1) $30 \times 10^{18}$  (2) $15 \times 10^{18}$  (3) $6 \times 10^{18}$  (4) $12 \times 10^{18}$

131. A stone is dropped from the top of a tower 490 m high into a pond of water at the base of the tower. The splash is heard after (Given $g = 9.8 \text{ m/s}^2$, speed of sound $= 350 \text{ m/s}$)

(1) 11.4 sec  (2) 10 sec  (3) 22.8 sec  (4) 20 sec
132. Infrasound can be heard by:

(1) dog  (2) bat  
(3) rhinoceros  (4) tiger

133. Among the statements which is/are correct?

Acceleration due to gravity:

(a) decreases from equator to poles
(b) decreases from poles to equator
(c) is maximum at the centre of the earth

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

134. An element “X” has six electrons in the “M” shell. It belongs to:

(1) 3rd period, 16th group  
(2) 2nd period, 14th group  
(3) 3rd period, 13th group  
(4) 2nd period, 15th group

132. தென்மறையான செல்வக் கிளைத்திருக்காகும் இளை பொழுது? 

(1) பெரிய (2) மிதமாகம்  
(3) குறைவாகம் (4) சுருள்

133. பெரிய தலைத்திருக்காகும் குறைவாக வைக்கத் தோண்டு? 

பெரிய வைக்கும் பெரியாகவே: 

(a) பெரிய தலைத்திருக்கும் குறைவாக வைக்கும்  
(b) குறைவாக வைக்கும் பெரியாக வைக்கும்  
(c) பெரிய வைக்கும் குறைவாக வைக்கும்

(1) (a) பெரிய (2) பெரிய (3) பெரிய (4) பெரிய

134. “X” என்று நேர்ப்போக்கு “M” என்று றூப்பு பெரும்பாகமான பெரும்பாகமாக அத்தூர்ப்போக்கு நேர்ப்போக்கு என்று குறிப்பிட்டார்கள். கூட்டம் என்று குறிப்பிட்டார்கள் 2. கூட்டம்?

(1) 3 - பெரும் குறிப்பிட்டு, 16 - பெரும் குறிப்பிட்டு  
(2) 2 - பெரும் குறிப்பிட்டு, 14 - பெரும் குறிப்பிட்டு  
(3) 3 - பெரும் குறிப்பிட்டு, 13 - பெரும் குறிப்பிட்டு  
(4) 2 - பெரும் குறிப்பிட்டு, 15 - பெரும் குறிப்பிட்டு
135. Pick out the Isobar pair.

(1) $^1\text{H}^1, \ 1\text{H}^2$
(2) $^6\text{Cl}^{13}, \ 7\text{N}^{14}$
(3) $^{17}\text{Cl}^{35}, \ 17\text{Cl}^{37}$
(4) $^{18}\text{Ar}^{40}, \ 20\text{Ca}^{40}$

136. An example of a homo atomic molecule is:

(1) Ozone
(2) Ammonia
(3) Methane
(4) Sulphur di oxide

137. Identify the wrong statement in the following:

(1) Sodium benzoate is used as food preservative.
(2) Sulphuric acid is called as the ‘King of Chemicals’.
(3) The pH of acid is equal to 7.
(4) Curd contains lactic acid.
138. The metal present in chlorophyll is:
   (1) Al    (2) Fe
   (3) Mg    (4) Zn

139. The hardening of plaster of paris on reaction with water is due to the formation of:
   (1) CaSO₄·H₂O
   (2) CaSO₄·2H₂O
   (3) CaSO₄·⁷⁄₄H₂O
   (4) CaSO₄·⁷⁄₂H₂O

140. Foul-smelling of eatables prepared by using oil and fat is due to:
   (1) reaction with Nitrogen in air
   (2) reaction with CO₂ in air
   (3) reaction with sulphur di oxide in air
   (4) reaction with oxygen in air
141. Magnesium ribbon starts floating when it is placed in hot water. Why?

(1) Light metal
(2) Highly reactive
(3) Hydrogen gas stick at the bottom of the metal
(4) Neither light nor heavy

142. Common Hydrogen is also called as:

(1) Protium atom
(2) Deuterium atom
(3) Tritium atom
(4) None of the above

143. Arrange the following in the increasing order of forces of attraction:

(1) water, air, sugar
(2) O₂, H₂O, sugar
(3) salt, air, fruit juice
(4) sugar, oil, air
144. The Ionic compounds are solids at room temperature on account of:

(1) electrostatic force between the opposite ions

(2) electrostatic force between the same ions

(3) weak intermolecular forces between opposite ions

(4) both electrostatic and intermolecular force between the opposite ions.

145. The rate of Chemical reaction depends on:

(1) absence of Catalyst

(2) greater the surface area of the reactant

(3) decrease in temperature

(4) low concentration of the reactant
146. The best method to detect and identify of the drugs present in the blood of criminals in Forensic Science is:

(1) Sublimation
(2) Evaporation
(3) Chromatography
(4) Filtration

147. Match the following:

<table>
<thead>
<tr>
<th>Column - I</th>
<th>Column - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Seed borne disease</td>
<td>Blast of rice</td>
</tr>
<tr>
<td>(b) Soil borne disease</td>
<td>Bacterial blight of rice</td>
</tr>
<tr>
<td>(c) Air borne disease</td>
<td>Leaf spot of rice</td>
</tr>
<tr>
<td>(d) Water borne disease</td>
<td>Tikka disease of groundnut</td>
</tr>
</tbody>
</table>

147. சேர்க்கப்பட்டு பதிவு செய்ய வேண்டிய விளக்கங்கள் பாதுகாப்புக்கான முக்கிய விளக்கங்கள்:

<table>
<thead>
<tr>
<th>பகுதி - I</th>
<th>பகுதி - II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) கொட்டாரச் ஒளி</td>
<td>(i) பழம் நோய்</td>
</tr>
<tr>
<td>(b) வெள்ளையவர்கள் ஒளி</td>
<td>(ii) மேல்வீட்டுடன் வெள்ளை ஒளி</td>
</tr>
<tr>
<td>(c) வானேற்று ஒளி</td>
<td>(iii) காவேற்று ஒளி</td>
</tr>
<tr>
<td>(d) பொழுதுபொழுதுக் ஒளி</td>
<td>(iv) திக்கா தொழில்நுட்ப ஒளி</td>
</tr>
</tbody>
</table>

(1) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(2) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(3) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
(4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
148. Observe the diagram given below. Read the question and select the correct answer.

(a) Which gives the nourishment for the developing embryo sac?

(b) After fertilization, which develops into a seed coat?

(c) Name the nuclei which face towards the chalazal end.

(d) When a soaked seed is pressed, the water oozes out through

(1) Nucellus, Integuments, Micropyle, Antipodals

(2) Antipodals, Micropyle, Nucellus, Integuments

(3) Integuments, Nucellus, Antipodals, Micropyle

(4) Nucellus, Integuments, Antipodals, Micropyle

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148. வகை ஸ்கீட்ஸ் படத்தை பார்த்துக் பலவனும் கொண்டு கைது கூட்டுடன், லைஸ்சும் படத்தை கொண்டு கைது கூட்டுடன் நீரோயல் செல்வது?

(a) குறுக்கு தலையில் பார்த்து கைது கூட்டுடன் நீரோயல்

(b) சுருங்கு குறுகையான பொத்து தாட்டு கொண்டு பல தரத்தெனவே?

(c) உடன் சுக்கான் சுருங்கின் “சமாசம்” நீரோயல் தாட்டுக்கோ?

(d) மேலும் கீழ் புறம் கொண்டு பக்காகு சுருங்காகின் சுருங்காகிற வை சுருங்காக செல்வும் தரத்தெனவே?

(1) சுருங்காக வை, சுருங்காக, தரத்தெனவே, சுருங்காக

(2) சுருங்காக வை, சுருங்காக, சுருங்காக வை, சுருங்காக

(3) சுருங்காக, சுருங்காக வை, சுருங்காக வை, சுருங்காக

(4) சுருங்காக வை, சுருங்காக, சுருங்காக வை, சுருங்காக

19
149. Soil contains decomposed matter. Plants that grow from the soil absorb nutrient elements. When we eat the plants, the nutrients enter into our body. After our death, when our body are buried into the soil, our body will become decomposed matter. This cyclic process refers to:

(1) Life cycle
(2) Bio-Geo Chemical cycle
(3) Biological cycle
(4) Geological cycle

150. Choose the correct series of life cycle of malarial parasite.

(1) A - Life cycle in human liver
B - Life cycle in erythrocytes
C - Sucking of gametocytes by mosquito
D - Life cycle in the body of mosquito
(2) A – Life cycle in erythrocytes
B – Life cycle in human liver
C – Sucking of gametocytes by mosquito
D – Life cycle in the body of mosquito

(3) A – Life cycle in erythrocytes
B – Sucking of gametocytes by mosquito
C – Life cycle in the body of mosquito
D – Life cycle in human liver

(4) A – Life cycle in the body of mosquito
B – Life cycle in erythrocytes
C – Sucking of gametocytes by mosquito
D – Life cycle in human liver
151. Find out the true and false statements from the following:

(a) Pepo is developed from tricarpellary ovary
(b) Drupe is developed from pentacarpellary ovary
(c) Pome is called a pseudofruit
(d) Hesperidium is developed from multicarpellary ovary

(1) (a) true (b) false (c) true (d) false
(2) (a) true (b) false (c) true (d) true
(3) (a) false (b) true (c) false (d) true
(4) (a) false (b) false (c) true (d) true

152. Choose the incorrect pair.

(1) Stomata – transpiration
(2) Osmosis – Semi permeable membrane
(3) Guard Cells – Potassium ions
(4) Exosmosis – Turgidity

153. Assertion (A):
Mule is the product of inter specific hybridization.

Reason (R):
Mule is produced from cross between female donkey and male horse.

(1) (A) is correct; (R) is wrong
(2) Both (A) and (R) are correct
(3) (A) is wrong and (R) is correct
(4) Both (A) and (R) are wrong
154. Centipede and earthworms have a segmented body, but they are in two different phyla. Identify the phyla they belong to.

(1) Arthropoda and Annelida

(2) Arthropoda and Aschelminthes

(3) Annelida and Aschelminthes

(4) None of the above

155. Lysosomes are considered as suicidal bags of cell. The reason is:

(1) Lysosomes contain poison required to kill the cell.

(2) Lysosomes contain lytic enzyme to digest the whole cell content.

(3) Lysosomes contain genes to stop cellular activities.

(4) Lysosomes do not permit oxidation process of the cell.
156. Pick out the items which has sequential arrangement.

(1) Zygotene → Leptotene → Pachytene → Diplotene → Diakinesis

(2) Diakinesis → Zygotene → Leptotene → Pachytene → Diplotene

(3) Leptotene → Zygotene → Pachytene → Diplotene → Diakinesis

(4) Leptotene → Pachytene → Diplotene → Diakinesis → Zygotene

157. Assertion (A):

The pituitary gland is called as 'the Conductor of Endocrine Orchestra'.

Reason (R):

The pituitary gland regulates the other endocrine glands.

(1) Both (A) and (R) are true and (R) explains (A)

(2) Both (A) and (R) are true but (R) doesn't explain (A)

(3) (A) is true but (R) is false

(4) (A) is false but (R) is true

156. விளக்கப்படும்பொருள்களின் கூட்டத்தில் அடுத்து

(1) குறி கருத்துச் சுண்டம் → பலவில்புச் சுண்டம் → லோகமித்துச் சுண்டம் → புகழ்தலுக்குச் சுண்டம்

(2) புகழ்தலுக்குச் சுண்டம் → குறி கருத்துச் சுண்டம் → பலவில்புச் சுண்டம் → புகழ்தலுக்குச் சுண்டம்

(3) பலவில்புச் சுண்டம் → குறி கருத்துச் சுண்டம் → லோகமித்துச் சுண்டம் → புகழ்தலுக்குச் சுண்டம்

(4) பலவில்புச் சுண்டம் → லோகமித்துச் சுண்டம் → புகழ்தலுக்குச் சுண்டம் → குறி கருத்துச் சுண்டம்

157. அம்சம் (A):

பியூரசு கருப்பு ஃபர்க்கின்ற குருதி கீரை கொண்டு "கருத்து மறக்கிறது" என்ற அடுத்துக்குப்பிள்ளிகள்.

கங்கையம் (R):

பியூரசு கருப்பு குழும குருதிலான கருத்துக்கீரை அடுத்துக்குப்பிள்ளிகள்.

(1) (A) முற்பு (R) கறி (A) -தாத்த குருதி கீரை கொண்டு (R)

(2) (A) முற்பு (R) கறி (A) -தாத்த குருதி கீரை கொண்டு (R) அடுத்து

(3) (A) கறி (R) கூறு

(4) (A) கூறு (R) கறி.
158. The parental genotypes are BB × bb. The probability of having bb genotype in the F1 generation is:
(1) 25%  (2) 50%  
(3) 75%  (4) 0%

159. Which of the following statement is not correct about vasopressin hormone?
(1) It constricts the blood vessels and raises the blood pressure.
(2) Vasopressin helps in the reabsorption of water.
(3) Its less production results in diabetes insipidus.
(4) It dilates the blood vessels and raises the blood pressure.

160. Subsequent generations show greater improvement in genetic characters. It is seen in higher animals particularly. This is due to:
(1) crossing over process of sexual reproduction.
(2) living in an area for many generations.
(3) due to pressure for improvement of characters from peers.
(4) asexual reproduction brings improvement.
161. Arrange the following events in chronological order:
(a) The League of Free Nations Association
(b) The League of Nations Society
(c) The League of Nations
(d) The World League for peace

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

162. Who was the designer of Indian National Flag?
(1) Bankim Chandra Chatterjee
(2) Rabindranath Tagore
(3) Pinkali Venkayya
(4) Bipin Chandra Pal

163. The famous monument built to commemorate the end of plague in India in the year 1591.
(1) Buland Darwaza
(2) Charminar
(3) Gol Gumbaz
(4) Gol Konda
164. Who was known as ‘The Heroine of Quit India Movement’?
(1) Sucheta Kriplani
(2) Sarojini Naidu
(3) Jhansi Rani Lakshmi Bai
(4) Aruna Asaf Ali

165. Name the Greek philosopher who was the teacher of Alexander the Great and the student of Plato.
(1) Aristotle
(2) Socrates
(3) Democritus
(4) Pythagoras

166. Which is called the ‘Cradle of Indian Temple Architecture’?
(1) Ajanta
(2) Ellora
(3) Aihole
(4) Chithannavasal

167. Rabindranath Tagore surrendered his ‘Knighthood’ to the British after the event of:
(1) Jallianwala Bagh Massacre
(2) Surat Split
(3) Chauri Chaura Incident
(4) Non Cooperation Movement
168. The dead bodies were preserved by the Egyptians using Natron salt. Its main constituents are:

1. Sodium carbonate and sodium bicarbonate
2. Sodium carbonate and sodium acetate
3. Sodium bicarbonate and sodium benzoate
4. Sodium carbonate and sodium phosphate

169. From which year Kamaraj’s birthday is celebrated as ‘Educational Development Day’?

(1) 2005  (2) 2006  (3) 2007  (4) 2008

170. The first Indian ruler who organized pilgrimage to Haj at the expense of the state.

(1) Humayun  (2) Babar  (3) Akbar  (4) Jahangir

171. Name the war fought between the period 1912-14.

(1) The Second Anglo Boer War  (2) The Russian Civil War  (3) First Balkan War  (4) Jutland War
172. Choose the incorrect pair.

(1) Salem - Kolli hills
(2) Villupuram - Kalvarayan hills
(3) Trichy - Pachaimalai
(4) Srivilliputhur - Sathuragiri hills

173. Kayal goes to her grandpa’s place, Coimbatore along with her sister. She says about the type of soil in Coimbatore to her sister. What is the type of soil?

(1) Alluvial soil (2) Black soil
(3) Laterite soil (4) Red loams

174. Appiko movement is synonymous to Chipko movement started in:

(1) Kerala (2) Odisha
(3) Tamil Nadu (4) Karnataka

175. Which planet has its axis highly tilted?

(1) Earth (2) Uranus
(3) Mars (4) Mercury
176. Which famous pass, between India and China was reopened for trade after 44 years?

(1) Nathu La  (2) Shipki La
(3) Jelep La  (4) Karakoram

177. Minor ports are:

(1) Tidal port  (2) Anchorage port
(3) Duty free port  (4) Entrepot port

178. Which Wildlife Reserve in India was started in 1974 to protect Tiger population?

(1) Ranthambore National Park  (2) Bandipur National Park
(3) Jim Corbet National Park  (4) Kanha Tiger Reserve
Identify the rivers marked in the above map of India.

179. (a) Yamuna, (b) Mahanadi, (c) Krishna
(2) (a) Ganga, (b) Mahanadi, (c) Krishna
(3) (a) Narmada, (b) Godavari, (c) Tapti
(4) (a) Brahmaputra, (b) Ganga, (c) Mahanadi

180. Which instrument is used to measure wind speed?
(1) Hygrometer
(2) Beaufort scale
(3) Wind vane
(4) Bolometer

181. What were the old names of Zambia and Zimbabwe?

(1) North West Africa and South West Africa
(2) Aberdeen and Abyssinia
(3) Northern Rhodesia and Southern Rhodesia
(4) British Honduras and Bechuanaland

182. Which of the following statement(s) is/are correct?

(a) Red and yellow soils develop a reddish colour due to diffusion of magnesium in crystalline and metamorphic rocks.
(b) Black Soils are generally rich in phosphoric content.

(1) (a) only
(2) (b) only
(3) (a) and (b)
(4) none

181. இலங்கிய பெட்ரோபுலோஸ் திசை மற்றும் புதிய உறுப்பினர்கள் பெயர் பெயர்ச்சிந் போது எதுவும் பாதுகாப்பு?

(1) மெட்ராகேன் அண்டிகாரம் மற்றும் பெட்ரோபொலிஸ்
(2) உலகப் பெட்ரோபாலிஸ் அண்டிகாரம்
(3) இலங்கிய பெட்ரோபுலோஸ் மற்றும் புதிய உறுப்பினர்கள்
(4) பெட்ரோபொலிஸ் தொடர்விளையாக மற்றும்

182. பால்பிளாக் குழுவாக்கங்களுக்கு தலை/செலவு எற்றி கருதப்பட்டுள்ளது?

(a) பால் பெட்ரோபுலோஸ் குழுவாக்கங்கள்
(1) (a) பெட்ரோபுலோஸ்

(b) குழுவாக்கங்களின் பால் பெட்ரோபுலோஸ்
(3) (a) பெட்ரோபுலோஸ் (b)

(4) கருதுபட்டுள்ளது
183. Match the following:

(a) Bandung conference (i) 1968
(b) Non Proliferation Treaty (ii) 1996
(c) Nuclear Test Ban Treaty (iii) 1963
(d) Comprehensive Nuclear Test Ban Treaty (iv) 1955

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

184. Pick out the wrong statement about Principles of Pancha Sheel.

(1) Each country should respect the territorial integrity and sovereignty of others.
(2) People's representative should be elected through election.
(3) No one should try to interfere in the internal affairs of others.
(4) All country shall strive for equality and mutual benefits.
185. Who is the India’s first transgender Judge in Lok Adalat?

(1) Joyita Mondal
(2) Swathi Bidhan Baruah
(3) Sathyasri Sharmila
(4) Prithika Yashini

186. Pick the odd man out.

(1) India
(2) Britain
(3) Spain
(4) Saudi Arabia

187. Find the correct statement:

Statement (A):
The Supreme Court cannot interfere in the judgements declared by the Military Tribunals.

Statement (B):
Appeal can be taken from Military Tribunals to Supreme Court.

(1) (A) and (B) are correct
(2) (B) is correct
(3) (A) is correct
(4) (A) and (B) are wrong
188. Who has the authority to give suggestions to the president on politically legal problems?

(1) Supreme Court
(2) Parliament
(3) Prime Minister
(4) Governor

189. 61st amendment of the Constitution Act of ______ has lowered the voting age from 21 years to 18 years.

(1) 1998  (2) 1978
(3) 1968  (4) 1988

190. Which two countries got independence in the year 1971?

(1) Cameroon and Seychelles
(2) Bangladesh and Bahrain
(3) Bahamas and Mozambique
(4) Fiji and Papua New Guinea

191. Which of the following is not an example of an exercise of a fundamental right?

(1) Religious missionaries set up schools
(2) Businessman from Tamil Nadu sets up a restaurant in Assam
(3) An accused engages a lawyer to defend his case
(4) A worker forced to render a free service.
192. Choose the two sovereign countries where Tamil is the official language.

(1) Srilanka, Singapore
(2) Srilanka, Malaysia
(3) Singapore, Mauritius
(4) Malaysia, Singapore

193. Which Chief Justice of India has acted as the Acting President of India?

(1) T.S. Thakur
(2) Mohammad Hidayatullah
(3) Ranganath Mishra
(4) Mirza Hameedullah Beg

194. The First Woman Chairperson of SBI:

(1) Arundhati Bhattacharya
(2) Rekha Sharma
(3) Girija Vyas
(4) Jayanthi Patnaik

195. Which is the tenth largest stock exchange in the world and oldest stock exchange in South Asia?

(1) National Stock Exchange
(2) Madras Stock Exchange
(3) Bombay Stock Exchange
(4) Calcutta Stock Exchange
196. Which Finance Minister has presented the maximum number of union budgets?

1. Pranab Mukherjee
2. Morarji Desai
3. Yashwant Sinha
4. P. Chidambaram

197. Expand - FERA:

1. Foreign Exchange and Resources Act
2. Financial Exchange Regulation Act
3. Fiscal Exchange Reserves Act
4. Foreign Exchange Regulation Act

198. Per capita income is calculated by:

\[
\text{Per capita income} = \frac{\text{Total Population}}{\text{Gross Domestic Product}}
\]

\[
\text{Total Population} = \frac{\text{National Income}}{\text{Total Population}}
\]

\[
\text{National Income} = \frac{\text{Gross Domestic Product}}{\text{Total Population}}
\]
199. MGNREGA 2005 guarantees:

1. Emancipation of women
2. Child upliftment
3. 100 days of employment
4. Minimum support price for farmers

200. State Bank of India before Nationalisation was known as:

1. General Bank of India
2. Bank of Hindustan
3. Grand Bank
4. Imperial Bank of India

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199. MGNREGA 2005 காலத்தில் கிடைக்கப்பட்ட செயல்களைத் தற்போது அறிக்கோளிடுவதற்கு?

1. வெளிக்காட்டியான விளையாட்டு
2. குறுக்கு தொழில்நுட்ப நிறுவனம்
3. 100 நாள் விளையாட்டுக்கேற்றம்
4. விலைநிலைக்காட்டு விளையாட்டு அடையாள விளையாட்டு

200. இந்திய பொற்கனவாரக் என்பது பாதுகாக்கப் பொற்கனவாரக் என்பதில் வளர்வது அடையாளமானவாறு? 

1. பாதுகாக்கப் பொற்கனவாரக்
2. இந்திய பொற்கனவாரக்
3. விலைநிலைக்காட்டு
4. இந்திய விலைநிலைக்காட்டு
FOR ROUGH USE (Not for evaluation)