Mental Ability and Scholastic Aptitude Test

Time: 4 hours  Max. Marks: 200

Instructions for candidates:

1. Each question carries one mark. All questions are compulsory.

2. You have been provided with an answer sheet (OMR) for this question paper. Darken the correct option of each question in the answer sheet (OMR) with black/blue ball pen.

3. Rough work may be done on the blank space provided for this purpose.

4. There is no negative marking in this test.

5. Do not use white fluid on OMR Answer Sheet.

6. Half an hour extra should be given to physically handicapped candidates only.
Rough Work / ਬੋਲਣ ਵਿੱਚ
Direction: There is a number series following a pattern. One place is left blank. Find the correct answer from the given options Questions (1-5).

(1) 16,33,65,131,_____523
    (1) 613  (2) 261  (3) 521  (4) 262

(2) 15,17,32,49,81,130,_____81
    (1) 211  (2) 226  (3) 179  (4) 194

(3) 28,33,31,36,29,39
    (1) 40  (2) 38  (3) 32  (4) 34

(4) 62,64,30,32,14,16,_____
    (1) 12  (2) 6  (3) 18  (4) 13

(5) 38,62,74,102,_____
    (1) 124  (2) 104  (3) 102  (4) 120

Direction - In question (6-10) find the odd term/wrong term or which is different from the rest three terms.

(6)  (1) 31:96  (2) 15:63  (3) 22:91
    (4) 23.95

(7)  (1) DFGE  (2) KMNL  (3) PRSQ
    (4) UXWV

(8)  (1) (2,8,18)  (2) (7,8,24)  (3) (3,9,21)
    (4) (5,7,19)

(9)  (1) CGTX  (2) QJUF  (3) BFUY
    (4) DKPW

(10) (1) 65  (2) 344  (3) 730
     (4) 101

Direction - In questions (11-13) the letters/numbers follow a definite pattern. Find the missing letter/number to complete the pattern.

(11) ___ bcc ___ ac ___ aabb ___ ab ___ cc
    (1) bacab  (2) bca  (3) aabca  (4) abaca

(12) gfe ___2g___e22___fe2___gf___22
    (1) e2fg2  (2) 2fg2g  (3) e2g2e  (4) 2fg2e

(13) 00___0___1___0___0___1
    (1) 10010  (2) 01011  (3) 01100  (4) 00111
Direction: In question (14-16) Developing relationship among items on the left side of sign :: find relationship on the rights side of sign :: by choosing from alternatives.

(14) 18:48 :: 100 : ?
   (1) 160  (2) 180  (3) 120  (4) 144

(15) JOB : JOKE :: ROB : ?
   (1) ROBE  (2) RODE  (3) ROAL  (4) ROSE

(16) Tagore : Poetry :: Picasso : ?
   (1) Art  (2) Literature  (3) Painting  (4) Architecture

Direction - In question (17-23) find the missing term that will come in place of question mark.

(17) 372 580 918
    235 405 735
    274 350
   (1) 366  (2) 345  (3) 482  (4) 432

(18) 4  6
    7  108  ?  3
    2  63  113  9
    8  3
   (1) 68  (2) 36  (3) 54  (4) 72

(19) 6  10  ?
    3  2  2
    6  20  4
    12  25  64
   (1) 12  (2) 8  (3) 10  (4) 6

(20) 9  17  69
    13  12  62
    ?  13  81
   (1) 5  (2) 9  (3) 21  (4) 10
Direction: In question (26-27) Find the correct group of signs to solve the Equation.

(26) \( \sqrt{100} \times \sqrt{16} \times \sqrt{225} \times \sqrt{1} \)
   (1) \( +, =, +, = \)
   (2) \( +, =, x, = \)
   (3) \( +, =, -, x, = \)
   (4) \( -, x, = \)

(27) \( 24 \times 34 \times 2 \times 5 \times 12 \)
   (1) \( +, +, =, x, = \)
   (2) \( =, x, =, +, + \)
   (3) \( =, x, =, +, + \)
   (4) \( x, =, +, + \)

Direction: In questions (28-31) six children P, Q, R, S, T, U are playing football. P and T are brothers, U is the sister of T, R is the only son of P's uncle, Q and S are the daughters of the only brother of R's father.

(28) How is R related to U?
   (1) Brother
   (2) Cousin
   (3) Uncle
   (4) Son
29) How many male players are there?
   (1) One  (2) Two  (3) Three  (4) Five

30) How many female players are there?
   (1) Four  (2) Three  (3) Two  (4) One

31) How is $Q$ related to $P$?
   (1) Sister  (2) Uncle  (3) Neice  (4) Cousin

32) If "Red" is called "Green"; "Green" is called "Yellow"; "Yellow" is called "Violet"; "Violet" is called "Blue"; "Blue" is called "Orange"; Then what is the colour of Vegetable Lady finger
   (1) Green  (2) Blue  (3) Yellow  (4) Violet

Directions -Questions (33-66) study the columns and answer. In column I some words are given and their codes are given in column II. The codes in the column II are not in the same order as the letter of words in column I.

<table>
<thead>
<tr>
<th>33</th>
<th>Find the code of 'F'</th>
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<td>(4)</td>
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<th>What is Code of 'PLASTER' word</th>
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<th>37</th>
<th>How many 5's are there in the given number sequence each of which are immediately preceded by 3 or 4 but are not immediately followed by 8 or 9.</th>
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<th>Column II</th>
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<th>How many M's occur in the following letter series which are preceded by 'W' and followed by 'v'</th>
<th>Column I</th>
<th>Column II</th>
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<td>4</td>
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<td></td>
</tr>
<tr>
<td>(4)</td>
<td>5</td>
<td></td>
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</table>
(39) Find the word which cannot be formed from the letters of the word 'INFRASTRUCTURE'.
(1) RESTRAIN  (2) FRACTURE  (3) CHARTER  (4) NATURE

(40) Find the word which can be formed from the letters of the word 'ENVIRONMENT'.
(1) ENVY  (2) ENTERTAIN  (3) ENTRANCE  (4) EMINENT

Direction - Read the information carefully and answer the questions (41 to 44). P, T, V, R, M, D, K and W are sitting around a round table. V is second to left of T, T is fourth to right of M, D and P are not immediate neighbours of T. D is the third to the right of P. W is not an immediate neighbour of P. P is to the immediate left of K.

(41) Who is second to left of K
(1) R  (2) P  (3) M  (4) W

(42) Who is to the immediate left of V
(1) T  (2) M  (3) D  (4) W

(43) Who is third to right of V
(1) P  (2) R  (3) K  (4) T

(44) What is P's position with respect to V
(1) Fourth to the left  (2) Second to the left  (3) Fifth to the right  (4) Third to the right

Direction: Questions (45-46) Four positions of the same dice have been shown. Select the alternative which provides correct answer to the question asked.

(45) Which number would be opposite to 3
(1) 6  (2) 5  (3) 1  (4) 4

(46) Which number would be opposite to 5
(1) 6  (2) 4  (3) 3  (4) 2
(47) In a row of twenty five children Gagan is the 14th from the right end. Varun is third to the left of Gagan. What is Varun's position from the left end of the row?
(1) Seventh  (2) Tenth  
(3) Eighth  (4) Ninth

(48) A person is to climb a tree of 50 feet height. In every second he climbs 5 feet but slips down 4 feet. After how many seconds he will be able to touch the top of tree?
(1) 50  (2) 46  
(3) 49  (4) 48

(49) Anju walks 15 metres toward north, then she turns left at 90° and walks 30 metres, then turns right at 90° and walks 25 metres. How far is she from the starting point and in which direction
(1) 50 metres, north-west  
(2) 50 metres, west  
(3) 55 metres, north-east  
(4) 60 metre, north

(50) Karan wants to go to college which is situated in a direction opposite to that of a Mall. He starts from his house which is in the east and comes at a four way place (Churaha). His left side road goes to the Mall and straight in front is the Bus Stand. In what direction is the college located?
(1) North-East  (2) South  
(3) East  (4) North

Direction: In questions (51-54) the following diagrams circle stands for Insurance agents, the square stands for hard working, the triangles stands for rural people and rectangle stands for graduates. Based upon these diagrams answer the questions.

(51) Non-rural and hard working Insurance agents who are graduates are indicated by the region
(1) 9  (2) 5  
(3) 10  (4) 7

(51) निक्षेप -पृथक (51-54) हैं जो निक्षेप बिच चंबल बीमा हैं।
(1) 9  (2) 5  
(3) 10  (4) 7
(52) Insurance agents who are neither graduates nor hard working but rural are represented by the region.

(1) 12 (2) 11
(3) 10 (4) 8

(53) Hard working non-graduates rural agents are represented by the region

(1) 6 (2) 9
(3) 7 (4) 12

(54) Non-graduates insurance agents who are not hard working and who do not belong to rural areas are represented by the region

(1) 6 (2) 5
(3) 8 (4) 11

Direction: In question (55-57) which of the following diagrams correctly represents the relation between given three items

(55) Universe, Earth, Europe

(56) Door, Window, House

(57) Radio, T.V., Cinema Hall

Direction - In question (58-59) Arrange the words as they occur in the dictionary and choose the correct sequence.

(58) (I) Select (II) Seldom
(III) Send (IV) Selfish
(V) Seller

(1) II, V, IV, I, III (2) II, I, V, IV, III
(3) I, II, IV, V, III (4) II, I, IV, V III

(59) (I) Continuation (II) Contention
(III) Contain (IV) Continuous
(V) Count

(1) III, II, I, IV, V (2) III, II, IV, I, V
(3) III, II, IV, V, I (4) III, II, IV, V

(53) विद्वान धन्त वीर्य देवता से तु उन्न गर्मसुप्त उत्त आते तु वी विद्वान वह पद्मुंद एक तु, तु लक्ष्मीपुष्प है।

(1) 12 (2) 11
(3) 10 (4) 8

(55) शुद्ध, ध्यान, धृष्टि

(56) व्यवसाय, विद्वान, ध्वंस

(57) तेजस, दी, तिरंभ गाण

(58) (I) Select (II) Seldom
(III) Send (IV) Selfish
(V) Seller

(1) II, V, IV, I, III (2) II, I, V, IV, III
(3) I, II, IV, V, III (4) II, I, IV, V III

(59) (I) Continuation (II) Contention
(III) Contain (IV) Continuous
(V) Count

(1) III, II, I, IV, V (2) III, II, IV, I, V
(3) III, II, IV, V, I (4) III, II, IV, V
Direction -Q (60-61) If > denotes +, < denotes -, + denotes \( + \), \( \wedge \) denotes \( \times \), - denotes =, \( \wedge \) denotes \( \times \), = denotes <. Choose the correct statement in each of following questions

60. (1) 14>18+9=16+4<1
(2) 3<6A4\geq 25 =8+4\geq 1
(3) 12\geq 9+3<6\times 2+5\geq 6
(4) 4\geq 3A8\leq 1-6+2\geq 24

61. (1) 7\geq 7+7=7\geq 7+1
(2) 7\geq 7+7=14
(3) 7\geq 7+7=6
(4) 7\geq 7+7=8

62. A father is three times as old as his son. Five years ago he was four times as old as his son. Find the present age of the son.
(1) 17 years
(2) 15 years
(3) 12 years
(4) 19 years

63. An ice compartment of a refrigerator is 6 cm wide and 8 cm deep (long) and 5 cm high. The number of cubes of ice having an edge of 2 cm will there be in the compartment.
(1) 80
(2) 30
(3) 24
(4) 20

64. What is the least number of coins required to make one rupee from different coins of 1, 5, 10 and 25 paise, so that you have at least one coin of each type.
(1) 11
(2) 12
(3) 7
(4) 4

65. If "STATION MASTERS MIND THE TRAIN" =98 Then "SCHOOL MASTERS TRAIN THE MIND" = ?
(1) 96
(2) 85
(3) 99
(4) 72

66. At what time between 4 and 5 O'clock will the minute hand and hour hand of a clock be in opposite direction.
(1) 40 minutes past 4
(2) 54\frac{6}{11} minutes past 4
(3) 42 minutes past 5
(4) 54\frac{4}{11} minutes past 5

61. (1) 7\geq 7+7=7\geq 7+1
(2) 7\geq 7+7=14
(3) 7\geq 7+7=6
(4) 7\geq 7+7=8
67 The minute hand of a clock overtakes the hour hand at intervals of 65 minutes of the correct time. How much in a day does the clock gain or lose?  
(1) Lose 10 10/143 minutes  
(2) Gain 10 10/143 minutes  
(3) Gain 11 10/143 minutes  
(4) lose 11 10/143 minutes  

68 Any day in April is always on the same day of the week as the corresponding day in  
(1) June (2) December  
(3) July (4) August  

69 On what dates of August 1980 did Tuesday fall?  
(1) 2nd, 9th, 16th, 23rd, 30th  
(2) 3rd, 10th, 17th 24th, 31st  
(3) 4th, 11th, 18th, 25th  
(4) 5th, 12th, 19th, 26th  

70 Teena’s income is 25% more than Meena. By what percent Meena’s income is less than Teena  
(1) 20 (2) 18  
(3) 25 (4) 15  

71 Find Correct conclusion from Statement Statements:  
(I) Mohit is an artist  
(II) Artists are beautiful  
Conclusions  
(1) Mohit is not beautiful.  
(2) All beautiful Persons are artists.  
(3) Mohit is beautiful.  
(4) Beautiful Persons are not artists.  

72 How many triangles and parallelograms are in the given figure  
(1) 21, 17  
(2) 19, 13  
(3) 19, 17  
(4) 21, 15  

73 Select from the four alternatives, the box that can be formed by folding the sheet as shown in figure.  

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

74 The minute hand of a clock overtakes the hour hand at intervals of 65 minutes of the correct time. How much in a day does the clock gain or lose?  
(1) 10 10/143 minutes  
(2) 10 10/143 minutes  
(3) 11 10/143 minutes  
(4) 11 10/143 minutes  

75 Any day in April is always on the same day of the week as the corresponding day in  
(1) June (2) December  
(3) July (4) August  

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(3) 4th, 11th, 18th, 25th  
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(2) 19, 13  
(3) 19, 17  
(4) 21, 15  

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(1) B only  
(2) A only  
(3) A and C only  
(4) A, B, C and D
74 Find the Mirror Image of figure.

**PLEDGE**

?  
IVINGCE  (1)  
IVINGCE  (2)  
IVINGCE  (3)  
IVINGCE  (4)

**Direcution** - In questions (75-77) find the correct alternative from the Answer figures to complete the question figures.

75 Question Figure

**Answer Figures**

1 2 3 4

76 Question Figure

**Answer Figures**

1 2 3 4

77 Question Figure

**Answer Figures**

1 2 3 4

78 Question Figure

**Answer Figures**

1 2 3 4
Direction - (Question 81 - 83) Paper is folded as shown with the dotted lines in 'X' & 'Y' and the last figure 'Z' has been cut. How would the paper look like when unfolded.
Direction - In questions (84-86), which figure among Alternatives will replace the question mark according to series.

84

Question Figure

Answer Figures

85

Question Figure

Answer Figures

86

Question Figure

Answer Figures

87

Direction - First rotate the figure by 90° in clockwise direction and then find out the water Image from the given Alternatives.

Question Figure

Answer Figures

Direction - In questions (88-90) select the alternative which satisfy the same condition of placement of dots as shown in the figure.

Question Figure

Answer Figures
Direction - In question (91-93) figure A and B are related in some Particular Manner. Replace question mark for figure D, by developing same relationship between C and D as is between A & B.

**Question Figure**

*Answer Figures*
Direction - In question (94-95) out of four figures, one figure is different, while the others are similar in some way. Find out the different figure.

(94) 

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Direction - In question (96-97) Five diagrams A,B,C,D,E are given. Three out of these when put together make a square. Find the alternative which one has three such diagrams.

(96) 

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<td>(3) B,D,E</td>
<td>(4) B,C,E</td>
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(97) 

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<td>(1) A,B,D</td>
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<tr>
<td>(3) B,D,E</td>
<td>(4) B,C,E</td>
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</table>
Direction - In questions (98-99) if two figures among five figures are interchanged then five figures arranged in certain order. Find among alternatives.

(98)  

1  2  3  4  5  

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

(99)  

1  2  3  4  5  

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

(100) How many squares are in given figure.

(1) 32  (2) 48  
(3) 78  (4) 70
101. A small source of light casts a sharp shadow on an opaque object shows
1. Ray Nature of Light  
2. Wave Nature of Light  
3. Particle Nature of Light  
4. Duel Nature of Light

102. In Domestic Electric Circuits appliances are always connected in
1. Series  
2. Parallel  
3. Mixed  
4. Bulbs in Series and Fans in Parallel

103. A force of 40 N acts on a body, and body moves through a distance of 2 metre at an angle of 45° in the direction of the force. The work done by the force is
1. \(40\sqrt{2}\ J\)  
2. \(20\sqrt{2}\ J\)  
3. \(80\sqrt{2}\ J\)  
4. \(40\sqrt{2}\ J\)

104. In the above graph what is the value of Acceleration?
1. 360 ms\(^{-2}\)  
2. 180 ms\(^{-2}\)  
3. 0.9 ms\(^{-2}\)  
4. 1.8 ms\(^{-2}\)

105. A Person cannot see the object beyond 50 cm. The power of lens to correct this defect will be
1. +2 D  
2. -2 D  
3. +5 D  
4. +0.5 D

106. If the frequency of wave is tripled, then its wave length?
1. Becomes Double  
2. Becomes Half  
3. Becomes One third of original  
4. Remains same.
107 A positively charged particle (alpha particle) projected towards west is deflected towards north by magnetic field. The direction of magnetic field is
1. Downwards 2. Towards South
3. Towards East 4. Upwards

108 If distance between Earth and Moon is increased by Six time, then force of gravitation between both will ......
1. Increased 1/36 times
2. Decrease 1/36 times
3. Increase 36 times
4. Decrease 6 times

109. A bullet of mass 20g is horizontally fired with velocity of 150 ms$^{-1}$ from pistol of mass 2 kg. What is the recoil velocity of the Pistol.
1. -1.5ms$^{-1}$
2. +1.5ms$^{-1}$
3. -3.0ms$^{-1}$
4. 0 ms$^{-1}$

110. A object is placed 5 cm in front of Convex mirror, whose radius of curvature is 3cm. Find the Position and Nature of Image.
1. +1.15 cm, Real and Erect.
2. +1.15 cm, Virtual and inverted
3. +1.15 cm, Virtual and Erect
4. -1.15 cm, Virtual and Erect.

111 A current of 0.5 A is drawn by a filament of and electric bulb for 10 minutes. find the no of electrons flows through the circuit are
1. 6 x$10^{18}$ Electrons
2. 18 x$10^{18}$ Electrons
3. 6 x$10^{20}$ Electrons
4. 18 x$10^{20}$ Electrons

112 Which of following cannot hear ultrasound waves?
1. Bats 2. Human
3. Dolphins 4. Dogs

113 Refractives Indexes (indices) of Water =1.33, Kerosene=1.44, Ruby=1.71 & Diamond =2.42 are respectively, in which of these velocity of light is minimum?
1. water
2. Kerosene
3. Ruby
4. Diamond
114 Among Mg, Mg$^{2+}$, Al, Al$^{3+}$ which will have the largest and smallest size respectively?
1. Mg$^{2+}$, Al
2. Al$^{3+}$, Mg
3. Mg, Al$^{3+}$
4. Al, Mg$^{2+}$

115 Which of the following statements about the modern periodic Table is/are incorrect?
1. The elements in the Modern periodic table are arranged on the basis of their decreasing atomic number.
2. The elements in the Modern periodic table are arranged on the basis of increasing atomic masses.
3. Isotopes are arranged in adjoining or different groups in the Modern periodic table.
4. The elements in the Modern periodic table are arranged on the basis of their increasing atomic number.
   1. 1 only
   2. 1 and 2
   3. 1 and 4
   4. 1 and 4

116 In Alumino-Thermite process aluminium is used as
1. Oxidising agent
2. Reducting agent
3. Catalyst

117 The greater number of water molecule will be in
1. 18 gm to H$_2$O
2. 18 moles of water
3. 18 molecules of water
4. 1.8 gram of water

118 Consider the following equation of chemical reaction of a metal M
4M+3O$_2$ $\rightarrow$ 2 M$_2$O$_3$
The equation represents:
1. Combination reaction as well as oxidation
2. Combination reaction as well as reduction
3. Decomposition reaction as well as oxidation
4. Oxidation reaction as well as displacement reaction

119 Identify the correct oxidant and reductant in the following reaction
PbS + 4H$_2$O$_2$ $\rightarrow$ PbSO$_4$ + 4H$_2$O
1. PbS  - Oxidant
   H$_2$O$_2$  - Reductant
2. PbS  - Reductant
   PbSO$_4$  - Oxidant
3. PbS  - Reductant
   H$_2$O$_2$  - Oxidant
4. H$_2$O$_2$  - Oxidant
   H$_2$O  - Reductant
120 Silver articles become black on prolonged exposure to air. This is due to the formation of
1. \( \text{Ag}_2\text{O} \)
2. \( \text{Ag}_3\text{N} \)
3. \( \text{Ag}_2\text{S} \)
4. \( \text{Ag}_2\text{S} \text{ and } \text{Ag}_3\text{N} \)

121 How many moles of \( \text{NaOH} \) are present in 160g of \( \text{NaOH} \)
1. 4 mole
2. 2 mole
3. 1 mole
4. 3 mole

122 When a vegetative oil is treated with Hydrogen in the presence of Nickel catalyst it forms fat
(Vegetable Ghee) This is an example of
1. Displacement reaction
2. Decomposition reaction
3. Addition Reaction
4. Double displacement reaction

123. This electronic configuration 2,8,6 represents element
1. Calcium
2. Sulphur
3. Oxygen
4. Magnesium

124. The Soap molecule has a
1. Hydrophobic head and Hydrophobic tail
2. Hydrophobic head and Hydrophilic tail
3. Hydrophilic head and Hydrophilic tail
4. Hydrophilic head and Hydrophobic tail

125 pH is defined as
1. \(- \log [\text{H}_2\text{O}^+]\)
2. \(- \log [\text{H}_2\text{O}]\)
3. \(+ \log [\text{H}^+] [\text{OH}^-]\)
4. \(- \log [\text{H}^+] [\text{OH}^-]\)

126 Which gas boils out first during fractional distillation of air.
1. Argon
2. Nitrogen
3. Oxygen
4. Carbondioxide

127 Which of the following is a plant hormone
1. Insulin
2. Thyroxine
3. Estrogen
4. Cytokinin

128 The shape of guard cells changes due to change in the
1. Protein composition of cells
2. Temperature of cells
3. Amount of water in cells
4. Position of nucleus in the cells

129 Which of the following is a true statement
1. Ovary releases three eggs in every month
2. The eggs are produced in the uterus
3. If the egg is not fertilized, it lives for about one day
4. The fertilization takes place in the ovaries
130. The tissues that help in the movement of body are
(1) Muscular tissues
(2) Skeletal tissues
(3) Connective tissues
(4) Conducting tissues.

131. Match the terms in column (A) with those in column (B)

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<td>(1) Trypsin</td>
<td>(a) Pancreas</td>
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<td>(2) Amylase</td>
<td>(b) Liver</td>
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<td>(3) Bile Juice</td>
<td>(c) Gastric glands</td>
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<tr>
<td>(4) Pepsin</td>
<td>(d) saliva</td>
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132. Adenosine triphosphate (ATP) produces during _______ in living organisms and also during _______ in plants.
1. Photosynthesis, Absorption
2. Respiration, Nutrition
3. Photosynthesis, Respiration
4. Respiration, Photosynthesis

133. Muscles contain special protein called _______
1. Contractile Proteins
2. Vacuole Proteins
3. Globular Protein
4. Vesical Protein

134. Which of the following groups have naked embryos
1. Bryophytes and Pteridophytes
2. Bryophytes and Gymnosperms
3. Angiosperms and Pteridophytes
4. Pteridophytes and Angiosperms

135. Which of the following cellular component of blood containing haemoglobin
(1) Red blood Cell
(2) White blood Cell
(3) Plasma
(4) Cytoplasm

136. Recessive characters will appear in
1. F₁ generations
2. F₂ generations
3. both F₁ and F₂
4. F₁ only

137. Which of the following statements is correct
1. Prokaryotic cells have a well defined nucleus
2. Eukaryotic cells have no Mitochondria
3. Prokaryotic cells having Mitochondria
4. Eukaryotic cells having membrane bound organelles
138. Pineal gland is located
   (1) On the kidney (2) In the Brain
   (3) Near Thyroid (4) In Pancreas

139. Which of the following is body's largest blood vessel
   (1) Aorta (2) Pulmonary Vein
   (3) Capillaries (4) Heart

140. Which of the following is not a raw material for photosynthesis
   (1) Carbon dioxide (2) Water
   (3) Oxygen (4) Chlorophyll

141. The pair of equations
   \[ X = 0 \text{ and } x = -\frac{3}{4} \] has ....
   1. One Solution
   2. Two solutions
   3. Infinitely many solutions
   4. No solution

142. If a point \((a,b)\) is equidistant from points \((x+y, y-x)\) and \((x-y, y+x)\) then which of the following is true?
   1. \[ ay = bx \]
   2. \[ ax = by \]
   3. \[ a+b = x+y \]
   4. \[ a^2 - b^2 = x^2 \]

143. For going to a city B from city A, there is a route via city C such that \(AC \perp CB\). \(AC = 2x \text{ km} \) and \(CB = 2(x+7) \text{ km}\).
   It is proposed to construct a 26km highway which directly connects the two cities A and B. Find how much distance will be saved in reaching city B from city A after the construction of the highway.
   1. 5 km
   2. 6 km
   3. 8 km
   4. 13 km

144. In quadrilateral \(ABCD\), \( \angle B = 90^\circ \), \( \angle C - \angle D = 60^\circ \) and \( \angle A - \angle C - \angle D = 10^\circ \). Find the measure of the smallest angle of this quadrilateral
   1. 35
   2. 25
   3. 50
   4. 55

145. Find a natural number whose square diminished by 84 is equal to thrice of 8 more than the given number
   1. -3
   2. 12
   3. 6
   4. 9

146. Find the common difference of an AP whose first term is 1 and the sum of the first four terms is one third of the sum of the next four terms.
   1. 2
   2. 4
   3. 1.5
   4. -2

147. The mean weight of students of a particular class is 52 kg. The mean weight of boys of this class is 56 kg and that of girls is 50 kg. Find the ratio of number of boys to the number of girls in the class.
   1. 1:2
   2. 2:1
   3. 1:1
   4. 2:3
148. In figure PQ || BC. AP : PB = 4 : 3. Find the ratio of areas of \( \triangle BOC \) and \( \triangle POQ \)

1) 16:9
2) 4:3
3) 49:16
4) 16:49

149. In \( \triangle ABC \), \( \angle C = 90^\circ \) and \( \tan A = 1 \)
Find the value of \( 2\sin A \cos A \)

1) \( \sqrt{2} \)
2) \( \frac{1}{\sqrt{2}} \)
3) 1
4) \( 1/\sqrt{2} \)

150. Consider the following statements when two straight lines intersect:

i) Adjacent angles are complementary.
ii) Adjacent angles are supplementary.
iii) Vertically opposite angles are equal.
iv) Vertically opposite angles are supplementary.

1. (i) and (iii) are correct.
2. (ii) and (iii) are correct.
3. (i) and (iv) are correct.
4. (ii) and (iv) are correct.

151. 3.27 is __________
1) an integer
2) a rational number
3) a natural number
4) an irrational number

152. The sum of all odd natural numbers between 0 to 40 is __________
1) 1600
2) 420
3) 400
4) 210

153. The empirical relation between mean, mode and median is __________
1) mode = 3median - 2mean
2) mode = 2median - 3mean
3) median = 3mode - 2mean
4) mean = 3median - 2mode

154. If the perimeter of a circle is equal to that of a square, then find the ratio of their areas.

1) 14:9
2) 13:11
3) 13:9
4) 14:11

155. Find the number whose square root is twice of its cube root.

1) 64
2) 128
3) 16
4) 4

156. Fill in the blank
\( 49,343,64,___, 81, 729 \)

1) 1024
2) 512
3) 778
4) 182
157. **In an examination a student scores 4 marks for each correct answer and loses 1 mark for each wrong answer. If he attempts total 60 questions and secures 130 marks. Find the number of questions he attempted correct.**

1) 35 2) 38 3) 40 4) 42

158. **A number consists of two digits. The sum of both digits is 11. If 27 added to the number then digits interchange their places. Find the number.**

1) 47 2) 65 3) 83 4) 92

159. **If \( \sqrt{2048} = \sqrt{2^5} \), \( \sqrt{2187} = \sqrt{3^5} \) and \( \sqrt{3125} = \sqrt{5^5} \) then the value of \( x+y-z = \)**

1) 1 2) 9 3) 13 4) 23

160. **Find the value of \( y \) in terms of \( x \)**

\[
\frac{3x+4y-3}{7} = \frac{-3x+4y-7}{9}
\]

1) \( \frac{-24x-11}{4} \) 2) \( \frac{-11x-24}{4} \) 3) \( \frac{-4x-11}{24} \) 4) \( \frac{-24x-4}{11} \)

161. **Who was the first Viceroy of India?**


162. **By which name was Punjab known in Ramayan and Mahabharat?**

1) Panchad 2) Sapat Sindhu 3) Panta Potamia 4) Lahore Suba

163. **In which year was Guru Teg Bahadur Ji born?**

1) 1605 2) 1628 3) 1656 4) 1621

164. **To whom did Guru Har Rai Ji sent Delhi when he was called by Mughal Emperor Aurangzeb?**

1) Prithvi Chand 2) Ram Rai 3) Dhirmal 4) Harkrishan Ji

165. **Who is credited for demanding Swaraj from the Congress platform for the first time?**

1) Surinder Nath Banerjee 2) Gopal Krishan Gokhale 3) Dadabhai Naroji 4) V.D. Savarkar

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166. Which Guru Sahib started the Manji System?
   (1) Guru Arjan Dev ji
   (2) Guru Angad Dev ji
   (3) Guru Ram Das ji
   (4) Guru Arjun Dev ji

167. Which of the following cities was the capital during Banda Singh Bahadur’s Rule?
   (1) Khanna
   (2) Lohgarh
   (3) Kethal
   (4) Sirhind

168. When was the ‘Gadar Party’ formed?
   (1) 1914
   (2) 1913
   (3) 1920
   (4) 1929

169. During the middle of 19th Century Italy was divided into how many states and which one was ruled by the Italian
     Princely house?
     (1) 7, Sardinia-Piedmont
     (2) 6, Sardinia-Piedmont
     (3) 5, Florence
     (4) 6, Habsburg

170. In France the female allegory was named as
     (1) Germania
     (2) Maria
     (3) Alice
     (4) Marianne

171. A liberal colonial officer who formulated new rules to restore the freedom of the Press in India was
     (1) Warren Hastings
     (2) Thomas Macaulay
     (3) William Bentick
     (4) Robert Clive.

172. Which one of the following countries is not a member of South Asian Association for Regional Co-operation
     (SAARC)
     (1) Bhutan
     (2) India
     (3) Nepal
     (4) China

173. By what name the coastal plains from Daman to Goa are known as?
     (1) Malabar Coast
     (2) Konkan Coastal plains
     (3) Eastern Coastal plains
     (4) Northern coastal plains

174. Which one of the following districts is the smallest in area?
     (1) Ludhiana
     (2) Bathinda
     (3) Gurdaspur
     (4) Pathankot

175. Which one of the following regions normally experience the convectional type of rainfall?
     (1) Equatorial region
     (2) South Polar Region
     (3) North Polar Region
     (4) Glaciated region
176. Ravi, Jhelum and Chenab are distributaries of which river?
   (1) Godavari  (2) Ganga  (3) Yamuna  (4) Sindhu

177. Which one of the following agents causes the formation of V-shaped valley?
   (1) Snow  (2) Wind  (3) River  (4) Sea waves

178. Which type of soil is extensively found in Punjab?
   (1) Black Soil  (2) Alluvial Soil  (3) Red soil  (4) Laterite soil

179. Which is the first express way of India?
   (1) Delhi-Calcutta  (2) Mumbai -Pune  (3) Bengaluru-Chennai  (4) Delhi-Mumbai

180. The food needs of any country are determined by?
   (1) The size of population and its standard of living  
   (2) The geographical size of area  
   (3) The urbanized population  (4) The rural population

181. Tropic of Cancer passes through _____ State
   (1) Bihar  (2) Uttar Pradesh  (3) Mizoram  (4) Nagaland

182. The area with more concentration of Jute mills in India are of
   (1) Maharashtra  (2) Gujrat  (3) West Bengal  (4) Uttar Pradesh

183. Which of the following countries does not have vetio power
   1) France  2) India  3) China  4) Russia

184. The principle of 'Judicial Review' has been taken from which country?
   1) United State of America  2) Germany  3) France  4) England

185. How many members are taken for the Lok Sabha and Rajya Sabha from Punjab?
   1) Lok Sabha-11  2) Lok Sabha-13  
   Rajya Sabha-9  Rajya Sabha-7
   3) Lok Sabha-9  4) Lok Sabha-12  
   Rajya Sabha-7  Rajya Sabha-2

186. Who is included in the 'electoral college' or electorate for the election of our President?
   1) All the members of Lok Sabha  2) All the members of Rajya Sabha  
   3) Elected members of Lok Sabha, Rajya Sabha and elected members from State Legislative Assemblies 
   and elected members from Union Territories. 4) All members of Lok Sabha, Rajya Sabha and State Legislative Assemblies.

187. 'Peaceful Co-existence' is the part of which agreement?
   1) Panchsheel  2) Simla Agreement  3) Tashkand Agreement  4) Nehru Layakat Agreement
188 India opposes strongly at International lever for which issue?

189 Which rights are not given to foreigners?
1) Political Rights 2) Economic Rights 3) Social Rights 4) Economic Rights

190 The Chief Minister Generally belongs to -
1) Rajya Sabha 2) Lok Sabha 3) State Legislative Assembly 4) State Legislative Council

191 Right to 'Free and Compulsory Education' was implemented in all over India on ______?.

192 Which among th following is not a key feature of Parliamentary form of Govt. ______?

193 The extra ordinary increase in agriculture especially in the production of wheat and rice is

194 The reward given to the entrepreneur for his factor services is called:
1. Interest 2. Rent 3. Wages 4. Profit

195 When more than required labourers are employed in any occupation, then these extra labourers is called which type of unemploy?

196 The Government policy related to its revenue and expenditure is called:

197 When was the New Industrial Policy launched in India?

198 In India ____________ percent of people are living below poverty line.
1. 21.9 2. 22.9 3. 23.9 4. 24.9

199 Under MNREGA Scheme of the Government how many days of employment is provided to the labourers in India?
1. 100 2. 120 3. 150 4. 200

200 Banking Services are included in which of the following sectors of the economy?
## NTSE - 2019

### Roll Number (11 Digits)

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### Sheet No.

54002

### ANSWER KEY

1 2 3  
Correct / Wrong

### Candidate Name in Block Letters

[Block letters]

### MAT

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### Block Letters

[Block letters]

### Invigilator’s Full Signature

ntsepunjab@gmail.com

### Candidate’s Full Signature

[Signature]
Important Instructions:

1) Use only black or blue ball pen for writing/marking.

2) Darken the complete circle as shown:

3) Write Roll Number in the boxes and also fill corresponding circle.

4) Out of Eleven digit Roll Number the Four digits are already filled remaining Seven digit are to be filled by student.

5) Each question carries one mark.

6) Use of white correction fluid is not allowed.

Sample Roll No:

State Code Year Centre Code Roll no.

Correct:

Wrong:

If your Roll Number is 29180215167 then darken the circles as follows:

State Code Year Centre Code Roll No 29180215167

Sample Roll No:

State Code Year Centre Code Roll No

Correct:

Wrong:

Sample Roll No:

State Code Year Centre Code Roll No

Correct:

Wrong: