SRIGAYATRI EDUCATIONAL INSTITUTIONS
ANDHRA PRADESH

CLASS – X
Time: 3 Hr.

NTSE_TEST PAPER-1

Max. Marks: 200

Read the following instructions carefully before answering.

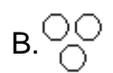➢ The question paper contains questions numbered 001 to 200.

Mental Ability	**001 to 050**
English	**051 to 100**
Mathematics	**101 to 120**
Physics	**121 to 134**
Chemistry	**135 to 147**
Biology	**148 to 160**
Social Studies	**161 to 200**

➢ All questions are multiple choice questions with single right answer.
➢ Mark all the answers on the OMR Sheet given to you.
➢ Each question carries one mark.
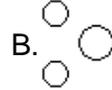➢ Read the instructions given on the OMR sheet before you bubble the answers.

MENTAL ABILITY TEST

I.   Choose the correct answer

1.   Look at this series: F2, __, D8, C16, B32, What number should fill the blank?
    A. A16   B. G4
    C. E4   D. E3

2.   Look at this series: V, VIII, XI, XIV, __, XX, What number should fill the blank?
    A. IX   B. XXIII
    C. XV   D. XVII

3.   Find out the alternative which will replace the question mark
Microphone : Loud :: Microscope : ?
    A. Elogate   B. Investigate
    C. Magnify   D. Examine

4.   Choose the word which is different from the rest.
    A. Curd   B. Butter
    C. Oil   D. Cheese
    E. Cream

5. Which of the following diagrams indicates the best relation between Earth, Sea and Sun?

    A.   B.

    C.   D.

6. Find the missing term/series
    CMM, EOO, GQQ, _____, KUU
    A. GRR   B. GSS
    C. ISS   D. ITT

7. Find out which of the answer choices completes the same relationship with the   third word
    Play is to **actor** as **concert** is to
    A. symphony   B. musician
    C. piano   D. percussion

8. Look at this series: 58, 52, 46, 40, 34, ? What number should come next?
    A. 26   B. 28
    C. 30   D. 32

9. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.
    589654237, 89654237, 8965423, 965423, ?
    A. 58965   B. 65423
    C. 89654   D. 96542

10. Fill the blank in the middle of the series or end of the series.
    SCD, TEF, UGH, _____, WKL
    A. CMN   B. UJI
    C. VIJ   D. IJT

11. Look at this series: 2, 1, (1/2), (1/4), ? What number should come next?
    A. (1/3)   B. (1/8)
    C. (2/8)   D. (1/16)

12. Look at this series: 7, 10, 8, 11, 9, 12, ? What number should come next?
    A. 7   B. 10
    C. 12   D. 13

13. Look at this series: 36, 34, 30, 28, 24, ? What number should come next?
    A. 20   B. 22
    C. 23   D. 26

14. Look at this series: 22, 21, 23, 22, 24, 23, ? What number should come next?
    A. 22   B. 24
    C. 25   D. 26

15. Look at this series: 53, 53, 40, 40, 27, 27, ? What number should come next?
    A. 12   B. 14
    C. 27   D. 53

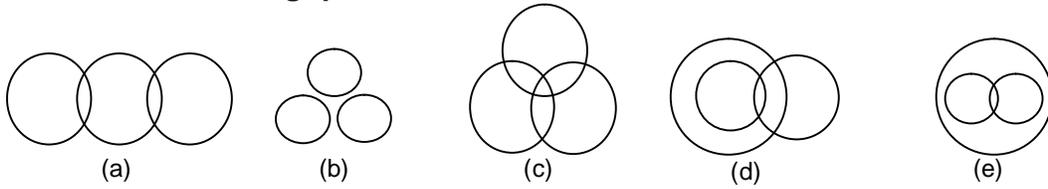16. Which of the following diagrams indicates the best relation between Hockey, Football and Cricket ?

A.

B.

C.

D.

DIRECTIONS: Select the pair in which the numbers are similarly related as in the given pairs:

17. 13:169
(A) 22:484   (B) 20:440   (C) 15:135   (D) 10:140

18. 14:2
(A) 21:3   (B) 24:3   (C) 27:3   (D) 30:3

19. 2:1113
(A) 2:3333   (B) 3:1114   (C) 4:1113   (D) 5:1114

Directions: Choose that set of numbers from the four alternative sets, that is similar to the given set.

20. Given set: (2, 14, 16)
(A) 2, 7, 8   (B) 2,9,16   (C) 3, 21, 24   (D) 4,16,18

21. Given set: (3, 18, 36)
(A) 2, 10, 16   (B) 4, 24, 48   (C) 6, 42, 48   (D) 12, 72, 96

22. 225:256:: 289:?
(A) 324   (B) 391   (C) 400   (D) 342

23. 8:27:: 64: ?
(A) 81   (B) 125   (C) 49   (D) 100

24. 42:56:: 110:?
(A) 18   (B) 132   (C) 136   (D) 140

25. If FRIEND is coded as HUMJTK, how can CANDLE be written in that code?
(A) DEQJQM   (B) DCQHQK   (C) EDRIRL   (D) ESJFME

26. If ROBUST is coded as QNATRS in a certain language, which word would be coded as ZXCMP?
(A) AWDLQ   (B) AYDNQ   (C) BZEOR   (D) YYBNO

27. If CIGARETTE is coded as GICERAETT, then DIRECTION will be coded as
(A) NOIETCRID   (B) RIDTCENOI   (C) IRDTIONE   (D) NORTECDII

Direction: Choose the venn diagram which best illustrates the three given classes in each of the following questions

(a) (b) (c) (d) (e)

28. Tennis fans, Cricket Players, Students

29. Flowers, Clothes, White

30. Smokers, Lawyers, Non-smokers

31. Human beings, Teachers, Graduates

32. Males, Fathers, Doctors

33. Fathers, Uncles, Men

34. Musicians, Men, Women

35. Whales, Fishes, Crocodiles

36. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.
Problem Figures: Answer Figures:

  (A)   (B)   (C)   (D)   (E)   (1)   (2)   (3)   (4)   (5)
A.1   B.2
C.3   D.4
E.5

37. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

Problem Figures: Answer Figures:

  (A)   (B)   (C)   (D)   (E)   (1)   (2)   (3)   (4)   (5)
A.1   B.2
C.3   D.4
E.5

38. Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures: **Answer Figures:**
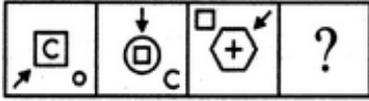

  (A)   (B)   (C)   (D)   (1)   (2)   (3)   (4)   (5)
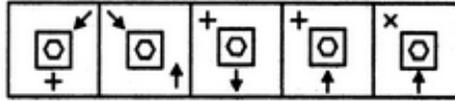A.1   B.2
C.3   D.4
E.5

39. Select a suitable figure from the Answer Figures that would replace the question mark (?).
    Problem Figures: Answer Figures:

  (A) (B) (C) (D)   (1) (2) (3) (4) (5)

A.1   B.2
C.3   D.4
E.5

40. Choose the figure which is different from the rest.

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

A.1   B.2
C.3   D.4
E.5

41. Choose the figure which is different from the rest.

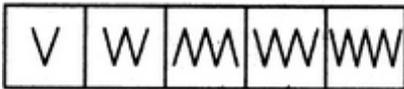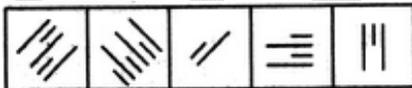

  (1) (2) (3) (4) (5)

A.1   B.2
C.3   D.4
E.5

42. Choose the figure which is different from the rest.

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

A.1   B.2
C.3   D.4
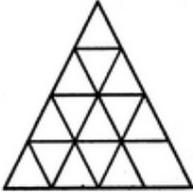E.5

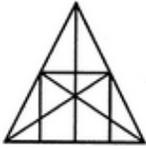43. Find the minimum number of straight lines required to make the given figure.

A.9   B.11
C.15   D.16

44. What is the number of straight lines and the number of triangles in the given figure?

A.10 straight lines and 34 triangles
B.9 straight lines and 34 triangles
C.9 straight lines and 36 triangles
D.10 straight lines and 36 triangles

45. If PALE is coded as 2134, EARTH is coded as 41590, how can is PEARL be coded in that language?
(A) 25430   (B) 29530   (C) 25413   (D) 24153

46. If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH?
(A) 216473   (B) 246173   (C) 214673   (D) 214763

47. If 'paper' is called 'eraser', eraser is called 'bag', 'bag' is called 'scale', scale is called 'pencil' and pencil is called 'paper', what will a person write with?
(A) Pencil   (B) Scale   (C) Eraser   (D) Paper

48. If **CUSHION** is called **PILLOW**, **PILLOW** is called **MAT**, **MAT** is called **BED SHEET** and **BED SHEET** is called **COVER**, which will be spread on the floor?
(A) Cover   (B) Bed sheet   (C) Mat   (D) Pillow

49. Find the odd one out
(A) Vapour   (B) Mist   (C) Hailstone   (D) Fog

50. Find the odd one out
(A) Circle : Arc (B) Chair : Leg   (C) Flower : Petal (D) Cover : Page

ENGLISH

(51-55) Read the passage and answer the questions that follow.
Just as some men like to play football or cricket, so some men like to climb mountains. This is often very difficult to do, for mountains are not just big hills. Paths are usually very steep. Some mountain sides are straight up and down, so it may take many hours to climb as little as one hundred feet. There is always the danger that you may fall off and be killed or injured. Men talk about conquering a mountain. It is a wonderful feeling to reach the top of a mountain after

climbing for hours and may be, even days. You look down and see the whole country below you. You feel god-like. Two Italian prisoners of war escaped from a prison camp in Kenya during the war. They did not try to get back to their own country, for they knew that was impossible. Instead, they climbed to the top of Mount Kenya, and then they came down again and gave themselves up. They had wanted to get that feeling of freedom that one has, after climbing a difficult mountain.

51. Some men like to climb mountains because
     (A) they do not like to play football or cricket
     (B) they want to have a wonderful feeling
     (C) they know the trick of climbing
     (D) they like to face danger

52. To climb mountains is often difficult because
     (A) mountains are big hills   (B) it consumes more time
     (C) prisoners often escape from camps and settle there   (D) paths are steep and uneven

53. It is a wonderful feeling _____. 'It' refers to _____
     (A) the steep path   (B) the mountain   (C) the prisoner   (D) mountaineering

54. Two Italian prisoners escaped from the camp and climbed on the top of Mount Kenya
     (A) to get the feeling of freedom   (B) to escape to Italy
     (C) to gain fame as mountaineers   (D) none of the above

55. Mountaineering is not a very popular sport like football or cricket because
     (A) it may take many hours or days   (B) there are no spectators in this sport
     (C) people do not want to enjoy a god-like feeling   (D) none of the above

(56-65)In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each five words are suggested, one of which fits the blank appropriately. Find out the appropriate one.

Before we tell the world to live in peaceful co-existence, we should... 56... the problems of our country in the same . ..57... . Example is better than . ..58... This is what we should . ..59... to do. We have problems . . .60... us in the face, linguistic feuds, provincial jealousies, domestic quarrels. These have . . .61... our stability over the centuries: we do not seem to have . ..62... anything from our past history. The only lesson history ... 63... us is that we learn nothing from history. Time and again, on account of our ... 64... our jealousies, our quarrels with neighbours, we have lost our independence. We seem to be again . . .65... apart.

56. (a) settle   (b) pacify   (c) destroy   (d) observe   (e) device
57. (a) cooperation   (b) encouragement (c) spirit   (d) process
     (e) determination
58. (a) support   (b) practice   (c) force   (d) precept   (e) action
59. (a) contribute   (b) attempt   (c) involve   (d) advise   (e) direct
60. (a) projecting   (b) directing   (c) demanding   (d) focusing   (e) staring
61. (a) percolated   (b) provided   (c) guaranteed   (d) undermined
     (e) exhibited
62. (a) learned   (b) evaluated   (c) evolved   (d) mattered
     (e) possessed
63. (a) tells   (b) educates   (c) teaches   (d) announces (e) directs
64. (a) arguments   (b) deeds   (c) identity   (d) criticism (e) feuds

65. (a) making   (b) falling   (c) lacking   (d) telling   (e) dividing

(66 – 75) Fill in the blanks with the correct alternative out of the four words suggested

66. You must dispense _____ his services.
(A) of   (B) in   (C) at   (D) with

67. I slept after lunch _____ armed chair
(A) on   (B) into   (C) in   (D) over

68. At the time of difficulty turn _____ your friend for help.
(A) into   (B) upon   (C) up   (D) down

69. You cannot devise method which _____ all possibilities of error.
(A) ignores   (B) excludes   (C) avoids   (D) includes

70. When the morning _____ the murder was discovered.
(A) came   (B) occured   (C) arrived   (D) happened

71. The _____ to distinguish differences is the basis of science and art.
(A) wisdom   (B) tact   (C) strength   (D) power

72. This photo clearly _____ the difference between the two brothers.
(A) brings about (B) brings out   (C) brings up   (D) brings in

73. Our politicians fill their _____ by exploiting the down trodden.
(A) galleries   (B) coffers   (C) treasures   (D) lockers

74. Neither the buyer nor the salesmen _____ in favour of the system.
(A) are   (B) is   (C) have   (D) has

75. The team _____ arguing over who should be the captain.
(A) was   (B) were   (C) is   (D) has been

(76-80)The following sentences form a paragraph. The first and the last sentences are in the right order. Choose from the given options the order in which they appear to complete the paragraph

76. (1) Making people laugh is tricky.
(A) At times, the intended humour may simply not come off.
(B) Making people laugh while trying to sell them something is a tougher challenge, since the commercial can fall flat on two grounds.
(C) There are many advertisements that do amuse but do not even begin to set the cash tills ringing.
(D) Again, it is rarely sufficient for an advertiser simply to amuse the target audience in order to reap the sales benefit.
(6) There are indications that in substituting the hard sell for a more entertaining approach, some agencies have rather thrown out the baby with the bath water.
(A) CDBA   (B) ABCD   (C) BADC   (D) DCBA

77. (1) According to recent research, the critical period for developing language skills is between the ages of three and five-and-a-half years.

(A) The read-to child already has a large vocabulary and a sense of grammar and sentence structure.
(B) Children who are read to in these years have a far better chance of reading well in school, indeed, of doing well in all their subjects.
(C) And the reason is actually quite simple.
(D) This correlation is far and away the highest yet found between home influences and school success.
(6) Her comprehension of language is therefore very high.

(A) DACB   (B) ADCB   (C) ABCD   (D) BDCA

78.   (1) The problem of improving Indian agriculture is both a sociological and an administrative one.
(A) It also appears that there is a direct relationship between the size of a state and development.
(B) The issues of Indian development and the problems of India's agricultural sector, will remain with us long into the next century.
(C) Without improving Indian agriculture, no liberalisation and delicensing will be able to help India.
(D) At the end of the day, there has to be a ferment and movement of life and action in the vast segment of rural India.
(6) When it starts marching, India will fly.

(A) DABC   (B) CDBA   (C) ACDB   (D) ABCD

79.   (1) A nation, like an individual, has many personalities and many approaches to life.
(A) If there is a strong organic bond between different personalities, it is well.
(B) Otherwise, this could lead to disintegration and trouble.
(C) Normally, some kind of equilibrium is eventually established.
(D) If normal development is arrested, then conflict arises between different personalities.
(6) In the mind and spirit of India, there has been this fundamental conflict due to a long period of arrested growth.

(A) ABCD   (B) BDCA   (C) CABD   (D) DBCA

80.   (1) Until the MBA arrived on the scene, the IIT graduate was king.
(A) A degree from one of the five IITs was a passport to a well-paying job, great prospects abroad and, for some, a decent dowry to boot.
(B) From the day he or she cracked the joint entrance exam, the IIT student commanded the awe of neighbours and close relatives.
(C) IIT students had, meanwhile, also developed their own special culture, complete with lingo and attitude, which they passed down.
(D) True, the success stories of IIT graduates are legion and they now constitute the cream of the Indian diaspora.
(6) But not many alumni would agree that the IIT undergraduate mindset a serious psychological study, let alone an interactive one.

(A) BACD   (B) ABCD   (C) DCBA   (D) ABCD

(81-85) Directions: In the following questions, disarranged sentences are given. Arrange these in proper order

81.   is (P) / Hindu Sculpture (Q) / movement (R) / full of (S).
(A) QSRP   (B) PSRQ   (C) QPSR   (D) RSQP

82. to the total cost of the product (P) / in reasonable proportion (Q) advertising costs (R) / are no longer(S)
    (A) RSQP   (B) RPQS   (C) RQSP   (D) PSRQ

83. unsurpassed power (P) / modem society (Q) / in (R) / women enjoy (S).
    (A) RQPS   (B) SRPQ   (C) SPRQ   (D) PRSQ

84. American (P) / as men (Q) / earn as much (R) / working women (S).
    (A) PSQR   (B) PRQS   (C) SRQP   (D) PSRQ

85. adventure programmes (P) / adult programmes (Q)/ more than (R) / children watch (S).
    (A) PSRQ   (B) SQRP   (C) PRSQ   (D) SPQR

(85-90) Directions Read each sentence to find out whether there is any error in it. The error f any, will be in one part of the sentence. The number of that part is the answer. If there is no error the answer is 'e'. (Ignore the errors of punctuation, if any.)

86. Why we do not (a) / meet to discuss (b) / this matter in detail (c) I on next Friday? (d) / No error (e).

87. Had we known (a) / that there was a catch (b) / in the offer we (c) / would not have accepted it. (d) / No error (e).

88. One of the secret (a) / of success is (b) / to keep trying (c) / and not give up. (d) / No error(e).

89. The present study has been designed (a) / to examine whether or not (b) / traditional approaches are (c) / still applicable. (d) / No error (e).

90. If you inform me (a) / of your's arrival time (b) / I shall come to (c) / meet you at the airport. (d) I No error (e).

(91-95) Directions In each of the following sentences some words are underlined for which four choices are given. Select, from the answer choices, choose the word nearest in meaning to the underlined part from the answer choices.

91. The police need **tangible** proof of his guilt before they can act against him.
    (a) emphatic   (b) strong   (c) convincing   (d) clear and certain

92. The parade route was down the **boulevard**.
    (a) highway   (b) avenue   (c) alley   (d) driveway

93. The eyewitness testimony was **incontrovertible**.
    (a) disputable   (b) debatable   (c) unacceptable   (d) unquestionable

94. His **forthright** behaviour shows that he is honest.
    (a) correct   (b) tactful   (c) courteous   (d) straightforward

95. The defendant was grateful for the judge's **clemency**.
    (a) mercy   (b) patience   (c) politeness   (d) relaxed attitude

(96-100) Directions In each of the following sentences some words are underlined for which four choices are given. Select, from the answer choices, the word that is opposite in meaning to the underlined word or phrase in the sentence.

96. In ancient days, a **fragile** glass jar was considered to be more valuable than a human slave.
    (a) heavy   (b) strong   (c) tall   (d) short

97. All these measures will **augment** employment opportunities.
    (a) diminish   (b) circumscribe   (c) restrain   (d) constrain

98. The two friends were **distinct** in everything, dress-manners, hairstyle and food habits.
    (a) opposite   (b) different   (c) uniform   (d) similar

99. The man at the gate had a **forbidding** appearance.
    (a) handsome   (b) lenient   (c) tranquil   (d) mild

100. Her **impetuous** behaviour was attributed to her upbringing.
    (A) rash   (B) poised   (C) sluggish   (D) quiet and gentle

MATHEMATICS

101. If $x = r\cos\theta\cos\phi$, $y = r\cos\theta\sin\phi$, $z = r\sin\theta$, then $x^2 + y^2 + z^2$ is equal to
    (A) 1   (B) 0   (C) r   (D) r^2

102. $\sqrt{\dfrac{1+\cos\theta}{1-\cos\theta}} =$
    (A) $\cos\theta - \cot\theta$ (B) $\cos\theta + \cot\theta$ (C) $\cos\theta$ (D) none

103. $\operatorname{cosec}(270 + \theta)$ = _____

    (A) $-\operatorname{cosec}\theta$ (B) $\sec\theta$ (C) $-\sec\theta$ (D) $\tan\theta$

104. A sexagesimal measure of 150° is equal in circular measure to_____

    (A) $\dfrac{5\pi}{6}$ (B) $\dfrac{3\pi}{6}$ (C) $\dfrac{\pi}{6}$ (D) $\dfrac{7\pi}{6}$

105. $\begin{vmatrix} \tan\theta & \sec\theta \\ \sec\theta & \tan\theta \end{vmatrix} = \ldots\ldots\ldots\ldots$
    (A) 1   (B) 0   (C) 2   (D) -1

106. If $x = \tan\theta + \sec\theta$, $y = \tan\theta - \sec\theta$, then   [   ]
    (A) $xy = 1$ (B) $x^2 + y^2 = 1$ (C) $xy = -1$ (D) $x^2 - y^2 = 1$

107. The minute-hand of a table clock is 3 cm long. How far will its tip move in 20 minutes?   [   ]

    (A) 9 cm   (B) $\dfrac{44}{7}$ cm   (C) $\dfrac{22}{7}$ cm   (D) 3 cm

108. A sexagesimal measure of 72° is equal in circular measure to   [   ]

    (A) $\dfrac{\pi}{5}$ (B) $\dfrac{2\pi}{5}$ (C) π (D) $\dfrac{2\pi}{3}$

109. tan (90 + θ) =   [   ]
    (A) tan θ   (B) sin θ   (C) – tan θ   (D) – cot θ

110. If the terminal side completes one revolution about its vertex, the angle made is
    (A) 360° (B) 270° (C) 180° (D) 90°

111. A straight angle contains
    (A) 90° (B) 135° (C) 180° (D) 225°

112. If a wheel makes 360 revolutions in one minute, then through how many radians does it turn in one second?
    (A) 12π (B) 9π (C) 36π (D) 6π

113. If tan θ is not defined, then θ =
    (A) 0° (B) 45° (C) 60° (D) 90°

114. If $\sin 30^o = \dfrac{1}{2}$ then $\cos 60^o =$

    (A) $\sqrt{2}$ (B) $\sqrt{3}$ (C) $\dfrac{1}{2}$ (D) $\dfrac{\sqrt{3}}{2}$

115. If $\cos 0^o + \sqrt{2}\ \sin 45^o + \sin A = 3$ then A value =
    (A) 90° (B) 30° (C) 45° (D) 60°

116. Tan $(A + B) = \sqrt{3}$, tan A = 1 then ∠B =
    (A) 15° (B) 30° (C) 60° (D) 45°

117. If sin θ = cos θ and $0^o < θ < 90^o$ then θ value in degrees _____.

    (A) 30^0 (B) 40^0 (C) 60^0 (D) 90^0

118.   Sin $90^o \times \cos 0^o \times$ Tan$45^o =$ _____.

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

119.   Cos 2A = _____.

    (A) $\cos^2 A – 1$ (B) $1 – 2\sin^2 A$ (C) $2\cos^2 A + 1$ (D) $\cos^2 A + 1$

120. If the sun is 30^0 above the horizontal, then the length of the shadow cost by a building at 50m high is
    (A) $50/\sqrt{3}m$ (B) $25\sqrt{3}m$ (C) 25m   (D) $50\sqrt{3}m$

PHYSICS

121. Example for insulator
    (A) iron   (B) impure water   (C) diamond   (D) copper

122. The solids with large forbidden gap and few free electrons set as
    (A) insulators   (B) conductors   (C) semiconductors   (D) superconductors

123. Number of free electrons in conductors per cubic metre
    (A) 10^{28} (B) 10^7 (C) 10^{17} (D) 10^{20}

124. Energy gap in conductors
(A) 3 ev   (B) 1 ev   (C) no forbidden gap   (D) 0.25 ev

125. The slate with missing electron is called
(A) conduction band   (B) valence band
(C) hole   (D) E_0

126. The electric current in a semiconductor is due to
(A) electrons   (B) holes   (C) both electrons and holes   (D) none

127. Doping means
(A) purification   (B) addition of impurities
(C) removal of impurities   (D) intrinsic

128. In N-type semiconductor impurities are
(A) Trivalent   (B) Tetravalent   (C) Pentavalent   (D) si and Ge

129. To make Germanium N-type the impurity for doping
(A) phosphorus   (B) aluminium   (C) indium   (D) baron

130. Energy bands in a solid depend on
(A) electronic configuration of atoms   (B) atomic weight
(C) kinetic energy of atoms   (D) total energy of crystal

131. The energy difference between conduction band and valence band is
(A) one quantum   (B) forbidden gap   (C) $E_2 - E_1$ (D) one electron volt

132. There is no distinction between valence band and conduction band in
(A) rubber   (B) silicon   (C) copper   (D) diamond

133. Holes farm in
(A) conduction band   (B) valence band
(C) forbidden gap   (D) outer shell

134. Hole current moves to wards
(A) negative terminal   (B) positive terminal
(C) either +ve or –ve terminal   (D) none

CHEMISTRY

135. Glucose and fructose differ in the _____
(A) no. of carbon atoms   (B) functional group
(C) no. of hydrogen atoms   (D) no. of oxygen atoms

136. Which order is correct regarding sweetness of sugars?
(A) Fructose > Sucrose > Glucose   (B) Fructose > Glucose > Sucrose
(C) Sucrose > Galactose = Maltose   (D) Both (A) and (C)

137. Carbohydrates are
(A) polyhydroxy aldehydes
(B) polyhydroxy ketones
(C) compounds which give poly hydroxy aldehydes/ketones upon hydrolysis

(D) all the above

138. Identify correct statement about glucose.
(A) It is an aldose
(B) It is a reducing sugar
(C) It is a monosaccharide
(D) all the above

139. Alcohol obtained from fermentation tank is known as
(A) wash
(B) rectified spirit
(C) absolute alcohol
(D) denatured spirit

140. The byproduct from sugar industry used as fuel for production of electricity is
(A) bagasse
(B) press mud
(C) molasses
(D) yeast

141. The chemical used to denature spirit is
(A) methyl alcohol
(B) pyridine
(C) absolute alcohol
(D) both (A) and (B)

142. $C_6H_{12}O_6 \xrightarrow{\quad x \quad} 2C_2H_5OH + 2CO_2 \uparrow$
'X' in above reaction is
(A) Sucrose
(B) Molasses
(C) Invertase
(D) Zymase

143. Peptide bond is
(A) –CO–OH
(B) –CO–NH–
(C) –CH$_2$–OH
(D) –CH–NH–

144. Number of amino acids that can be prepared by human body is
(A) 5
(B) 9
(C) 17
(D) 26

145. Amino acids are
(A) covalent compounds
(B) soluble in water
(C) have high m.ps
(D) All of these

146. Sulphitation is addition of
(A) CO_2
(B) $Ca(OH)_2$
(C) SO_2
(D) P_2O_5

147. Which of the following is correct?
(A) Starch + 1% iodine in alcohol $\rightarrow$ blue colour
(B) Starch + 1% iodine in 10% KI solution $\rightarrow$ blue colour
(C) Glucose + benedict's reagent $\rightarrow$ red precipitate
(D) All of these

BIOLOGY

148. Differentiation of callus tissue into different parts tissue culture method is on account of the choice of:
(A) cells from parent plant
(B) containers used for the purpose
(C) tissue selection from the parent plant
(D) concentration of phytohormones like auxins gibberellins, etc in the medium

149. The best choice of a haploid cell in tissue culture is:
(A) Pollen grain
(B) Bud
(C) Root
(D) Anther

150. In curry leaf and neem these are the vegetative reproductive organs:
(A) leaf buds
(B) eyes
(C) root buds
(D) suckers

151. Which of these in not an advatage of vegetative propagation?
(A) It offers uniform root stock for grafting (B) Produces offspring identical to the parent
(C) Involves vegetative part   (D) More chance of genetic variation

152. Fungi reproduces asexually by means of
I   Fragmentation   II Sporulation   III Budding
IV Conidia formation
(A) I & II only   (B) II & III only   (C) I, II & IV only   (D) I, II, III & IV only

153. Example for soft wood cuttings is/are:
(A) dahlia   (B) tecoma   (C) geranium   (D) both A & C

154. During air layering, which of these is not done?
(A) A girdle is made below the node
(B) Girdle portion is covered with moist mass plant
(C) A girdle is made without a node
(D) None of these

155. Mangoes are artificially propagated by
(A) stem cutting   (B) layering   (C) grafting   (D) seeds

156. In which of these methods of grafting both scion & stock remain rooted?
(A) cleft grafting   (B) approach grafting
(C) tongue grafting   (D) bud grafting

157. The buds present in leaf margin of bryophyllum are
(A) apical buds   (B) axillary buds
(C) epiphyllous buds   (D) floral buds

158. Binary fission is seen in
(A) bacteria   (B) euglena   (C) paramecium   (D) all of these

159. Given below are the methods of vegetative propagation.

I.   Bud grafting
II. Stem tubers
III. Bulbs
IV. Suckers
V.   Layering

Which two of the above are methods of artificial propagation?
(A) I and II only   (B) I and V only   (C) II and III only   (D) III and IV only

160. Which of these is a microscopic, unicellular, reproductive unit?
(A) Spore   (B) Hyphae   (C) Mycelium   (D) Bud

161. "Too much money changes too few goods" aptly describes the
(A) inflationary situation   (B) deflationary system
(C) stagflationary situation   (D) none of the above

162. This concept of inflation is more relevant to the Indian context
(A) Demand-pull inflation   (B) Cost-push inflation

(C) Structural inflation   (D) none of the above

163. The Government of India adopted the Basic Minimum Service Programme in
(A) 1995   (B) 1996   (C) 1997   (D) 1993

164. CAD stands for
(A) Command Area Development   (B) Community Area Development
(C) Communal Area Development   (D) Common Authority Development

165. Small farmers Development Agencies were intended to
(A) generate employment opportunities in rural areas
(B) to check rural indebtedness
(C) to control population in rural areas
(D) all the above

166. Duma was
(A) Ministry of the czar
(B) Council of the czar
(C) Representative body elected by workers
(D) Representative body elected by people

167. Mensheviks were
(A) Constitutional democrats   (B) Moderate socialists
(C) Radical socialists   (D) Revolutionaries

168. In Russia workmen's Democratic Party was established in
(A) 1890   (B) 1895   (C) 1905   (D) 1917

169. Lenin developed Marxist ideas because
(A) His elder brother was hanged for plotting to kill Czar Alexander III
(B) He was forcibly exiled to Siberia
(C) He was very much upset at the misery of the agriculturists.
(D) He was imprisoned by Czar Alexander II for his revolutionary ideas.

170. One of the causes for regional imbalance was
(A) selective and discriminatory approach of British
(B) neglect of that area by rulers
(C) presence of abundant waste lands
(D) none of the above

171. The country that won the war against Russia in 1905 was
(A) Japan   (B) China   (C) England   (D) France

172. Serfdom means
(A) Corruption   (B) Feudalism   (C) Agricultural Slavery   (D) Middle class

173. Russian language was made compulsory for all races in Russia by
(A) Rusputin   (B) Nicholas II   (C) Alexander II   (D) Nicholas I

174. In Russia the year in which Bolshevik revolution took place was
(A) 1905   (B) 1925   (C) 1939   (D) 1917

175. England and Germany signed a treaty in
(A) 1890   (B) 1892   (C) 1902   (D) 1878

176. Archduke Ferdinand and his wife Sofia were killed in Sarajevo on
(A) 28th July, 1914   (B) 28th Jan, 1914   (C) 28th June, 1914   (D) 28th Aug, 1914

177. According to a composite index of regional development which State stands first in India?
(A) Kerala   (B) Haryana   (C) Punjab   (D) Maharastra

178. Catherine II of Russia tried
(A) To expand Russian territories   (B) To make military training compulsory
(C) To liberalize her tax policy   (D) To make Russia a powerful nation

179. Inflation caused by increased investment expenditure is known as
(A) cost-push   (B) structural inflation
(C) stagflation   (D) demand-pull inflation

180. The treaty made after World War-I was
(A) The treaty of Frankfurt   (B) The treaty of Prague
(C) The treaty of Paris   (D) The treaty of Versailles

181. Which of the following is regarded as under-employment?
(A) A person not willing to work at all
(B) A person receiving less wages when compared to his skills or education
(C) A person getting more wages than the expected ones
(D) A person getting enough wages for his technical skills

182. The Architect of League of Nations was
(A) Woodrow Wilson   (B) Roosevelt
(C) Lenin   (D) Kaiser William

183. The Nationalist pride of France was hurt because
(A) It lost Alsace and Loraine to Germany
(B) Its naval bases were attacked by Austria
(C) It was defeated in Franco- Prussian war
(D) It had not acquired anything by its colonization

184. Before 1914 the political tensions in Europe were due to
(A) Industrial progress in Europe
(B) Excessive spending on arms
(C) Lack of political unity among European countries
(D) Economic rivalry

185. The ruler of the Balkan countries was
(A) the king of Serbia   (B) the king of Morocco
(C) the sultan of Turkey   (D) the king of Egypt

186. The British atrocities in the Boer war of South Africa were exaggerated by
(A) the German press   (B) the speeches of Lenin
(C) the Italian press   (D) the Boers war

187. The immediate cause of the First World War was
(A) the secret alliances   (B) the murder of Ferdinand
(C) the militarism   (D) the aggressive nationalism

188. The country which was a member of "Triple Entente" was
(A) Italy   (B) England   (C) France   (D) Russia

189. The withdrawal of Russia from World War I in 1917 did not upset England and Russia because
(A) Germany was on the verge of defeat (B) The United States of America joined them
(C) Russian help was only nominal   (D) Holland and Rumania joined them

190. Ferdinand was the prince of
(A) Italy   (B) Serbia   (C) Austria   (D) Germany

191. Which of the following resulted in a world war in 1914?
(A) Germany's attacking Belgium   (B) Russia's declaring war on Germany
(C) Austria declaring war on Serbia   (D) China attacking Japan

192. Kerensky's government was overthrown in Russia in the year
(A) 1905   (B) 1914   (C) 1917   (D) 1922

193. The Union of the Socialist Soviet Republic was formed in
(A) 1905   (B) 1912   (C) 1922   (D) 1935

194. The emperor of Germany at the time of First World War was
(A) William I   (B) William II   (C) William III   (D) William IV

195. Mussolini was the dictator of
(A) Germany   (B) Japan   (C) Italy   (D) Russia

196. The Bloody Sunday happened in the history of
(A) China   (B) England   (C) Japan   (D) Russsia

197. Structural inflation is found mostly in
(A) U.S.A   (B) U.K.   (C) France   (D) Latin America

198. The English envied Germany
(A) for its secret alliances   (B) for its getting new markets
(C) for the growth of its naval power   (D) for its development in industries

199. The capital of Bosnia was
(A) Sarajevo   (B) Milan   (C) Paris   (D) Venice

200. The headquarters of the League of Nations is situated in
(A) New York   (B) Washington   (C) Paris   (D) Geneva