# BOTONY

81. The scientist who proposed several simple and practical measures for controlling wheat rusts in India is:
    (a) K.C. Mehta   (b) P.K.K Nair   (c) Micheli   (d) P.Maheswari

82. The functions of ICAR are
    (a) To promote basic and advanced research for improving crop varieties.
    (b) To control and co-ordinate agricultural research.
    (c) To provide financial assistance to young scientists working in the field of agriculture.
    (d) All the above

83. A teacher was explaining about a constant physical contact involving almost equal physiological inter dependence in two different thalloid forms. He was trying to explain one of the following:
    (a) Mycorrhizal association   (b) Establishment of heterothallism
    (c) Operation of Heterothallism   (d) Advent of lichen formation.

84. A dicot plant with only one tuberous root is seen in
    (a) Ipomoea batatus   (b) Daucus carota
    (c) Ruellia tuberosa   (d)Asparagus racemosus.

85. Leaflets are developed on the branches formed on the primary rachis only in
    (a) Tamarindus   (b) Delonix   (c) Millingtonia   (d) Coriandrum

86. Choose the correct combinations from the following

Column – A	Column – B	Column – C
(I) Hypanthodium	Fleshy cuplike peduncle	Sessile unisexual flowers
(II) Cyathium	Deep cuplike peduncle	Pedicellate unisexual flowers
(III)Head Inflorescence	Flattened disc like peduncle	Pedicellate unisexual and / or bi-sexual flowers
(IV) Spadix	Fleshy peduncle	Pedicellate unisexual flowers

    (a) I, II, III, IV   (b) I, II & III   (c) I & II   (d) I Only

87. Polysiphonous pollen grain means
    (a) Single pollentube is developed from many pollen grains
    (b) Many pollentubes are developed from many completely, fused pollen grains
    (c) More than one pollentube are formed from each pollen grain
    (d) Many pollen grains are formed from single pollentube.

88. There are 10 flowers in one individual plant of Pisum. In each microsporangium of every stamen of all the flowers, there are 30 microspore mother cells. How many pollen grains are formed from that plant?
    (a) 4,000   (b) 10,000   (c) 24,000   (d) 48,000

89. The ratio between the number of cohorts of sub classes polypetalae and gamopetalae in Bentham and Hooker classification is
    (a) 3:2   (b) 1:1   (c) 2:3   (d) 5:7

90. Each carpel of Gloriosa encloses 60 ovules, out of which 27% became abortive and another 13% could not be fertilized due to various reasons. How many seeds occur in thecapsule if all the remaining ovules are fertilized in the lone flower of the plant?
(a) 36 (b) 76 (c) 108 (d) 180

91. Assertion (A): Nucleolar organizer regions are absent in prokaryotes
Reason (R): True nucleus is absent in prokaryotic cells
(a) A and R are true and R is the correct explanation of A.
(b) A and R are true and R is not the correct explanation of A.
(c) A is true, R is false. (d) A is false, R is true.

92. "B – DNA" molecule with $510A^0$ length contains 20% of Cytosine. Then the total number of hydrogen bonds in it are
(a) 360 (b) 120 (c) 270 (d) 130

93. Cell organelles concern with the formation of outermost and first formed layer of cell wall during cytokinesis are
(A) Dictyosomes (B) Peroxysomes (C) E.R (D) Lysosomes
(a) A, B (b) B, C (c) C, D (d) A, C

94. Wood of a tree trunk consists of
(I) Bast (II) Alburnum (III) Bark (IV) Duramen
(a) I, II (b) II, III (c) II, IV (d) I, II, III

95. Arrange the following in the order of their location from periphery to center in the entire dicotyledonous plant body.
(I) Fusiform cells (II) Trichoblasts (III) Collocytes (IV) Tyloses
(a) IV, I, II, III (b) II, III, I, IV (c) III, II, I, IV (d) I, IV, III, II

96. Assertion (A): Libriform fibres are truefibres
Reason (R): Libriform fibres develop from non-functional tracheids by reduction.
(a) A and R are true and R is the correct explanation of A.
(b) A and R are true and R is not the correct explanation of A.
(c) A is true, R is false. (d) A is false, R is true.

97. Study the following lists

List - I	List – II
(A) Ephemeral	(I) Neerium
(B) Mucilage	(II) Zizipus
(C) Multiple epidermis	(III) Calotropis
(D) Spine	(IV) Tribulus
	(V) Aloe

The correct match is

	A	B	C	D		A	B	C	D
(a)	II	IV	V	I	(b)	V	II	I	IV
(c)	IV	V	I	II	(d)	IV	III	II	I

98. Select the incorrect match
    (a) Salvia - Free floating rootless pteridophyte
    (b) Wolffia - Free floating rootless angiosperm
    (c) Ceratophyllum - submerged suspended rootless angiosperm
    (d) Pistia - Free floating angiosperm with root pockets.

99. According to product law the probability of yellow wrinkled seeds is represented as
    (a) $\dfrac{3}{4} X \dfrac{3}{4} = \dfrac{9}{16}$
    (b) $\dfrac{1}{\overline{4}} X \dfrac{1}{\overline{4}} = \dfrac{1}{\overline{16}}$
    (c) $\dfrac{3}{4} X \dfrac{1}{4} = \dfrac{3}{16}$
    (d) $\dfrac{1}{2} X \dfrac{1}{2} = \dfrac{1}{4}$

100. Number of linkage groups in Pisum sativum is
    (a) 14   (b) 2   (c) 4   (d) 7

101. Assertion (A): The life cycle in Funaria is called diplohaplontic
    Reason   (R): In Funaria, there is a alternation of haploid gametophytic and diploid
                sporophytic phases, one becoming parent to the other.
    (a) A and R are true and R is the correct explanation of A.
    (b) A and R are true and R is not the correct explanation of A.
    (c) A is true, R is false.   (d) A is false, R is true.

102. Two adjacent filaments of Spirogyra offinis each 10 cells participating in reproduction.
    How many new Spirogyra plants are produced during sexual reproduction?
    (a) 5   (b) 10   (c) 20   (d) 40

103. Heterothallism is a kind of
    (a) Isogamy   (b) Anisogamy
    (c) Oogamy   (d) Physiological anisogamy

104. What is the ratio of equational divisions that takes place in Cycas and Angiosperms
    respectively leading to the formation of male gametes from pollen grain?
    (a) 3:2   (b) 3:1   (c) 2:1   (d) 2:3

105. Study the following lists
        List - I   List – II
    (A) Apospory in Pteris takes palce in   (I) Sporophyte
    (B) Endosperm in Cycas   (II) Gametophyte
    (C) Calyptra   (III) Sporophyte
    (D) Nucellus in Cycas   (IV) Gametophyte
                                               (V) Gametophyte

    The correct match is
        A   B   C   D   A   B   C   D
    (a) I   IV   V   III   (b)   IV   I   V   III
    (c) I   V   III IV   (d)   III   II   I   IV

106. Assign the following substances to cellwall, flagella, 'S' layer and pili of bacteria in
    correct sequence.
    (I) Glycoprotein   (II) Fimbrillin   (III) Teichoic acid   (IV) Flagellin
    The correct sequence is
    (a) III, I, IV, II   (b) III, IV, I, II   (c) II, IV, III, I   (d) III, IV, II, I

107. The disease caused by the virus having double stranded nucleic acid with ribose sugar as genetic material is
(a) Tobacco mosaic disease
(b) Cauliflower mosaic disease
(c) Dahlia mosaic disease
(d) Rice stunting disease

108. By which mechanism the salt resistant plants can get rid off excess Na^+ ions to the outer side through the roots?
(a) H^+ -ATP ase uniportsystem
(b) Na^+ -ATP ase uniportsystem
(c) H^+ -Cl symport system
(d) Na^+ -H^+ antiport system

109. Three plant cells A, B, C are in contact with one another as detailed below. Find the direction of water movement.
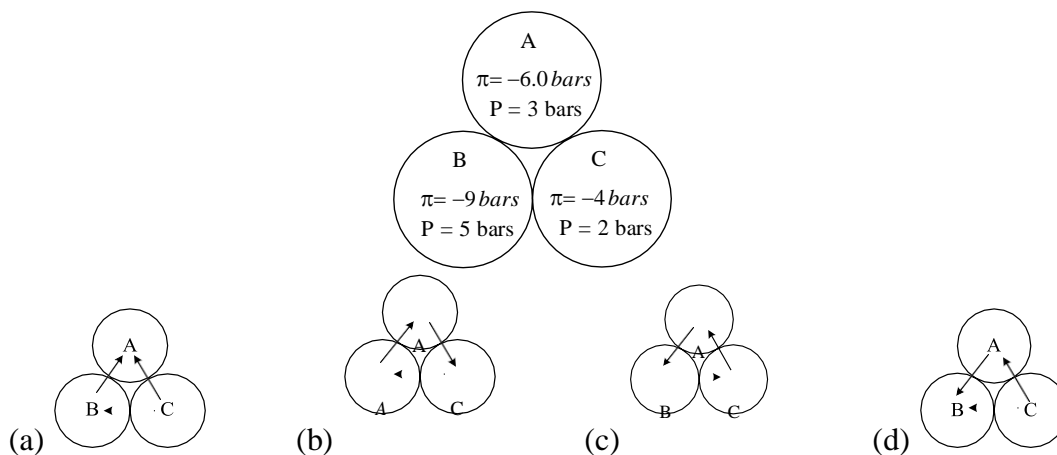
110. The water adhered to the soil particles due to surface forces but not available to the plant is
(a) Gravitational water
(b) Hygroscopic water
(c) Capillary water
(d) Runaway water

111. Study the following table and find out the correct combination.

Column – A	Column – B	Column – C
(I) Zn^{+2}	Hexokinase	IAA Synthesis
(II) Mo	Dinitroginase	NO_3^- to NO_2^-
(III) Fe^{+2}	Catalase	Breakdown of H_2O_2

(a) I alone
(b) I and II
(c) II and III
(d) III alone

112. Assertion (A) : In C_4 path way, the primary carboxylation occurs in cytosol of bundle sheath cell.
Reason   (R) : PEP - Carboxylation occurs in the cytosol of mesophyll cell
(a) A and R are true and R is the correct explanation of A.
(b) A and R are true and R is not the correct explanation of A.
(c) A is true, R is false.
(d) A is false, R is true.

113. Which of the following are mobile electron carriers associated with fourth step of aerobic respiration
(I) Ubiquinone   (II) Cytochrome - 'C' (III) Plastocyanin   (IV) Cytochrome b_6
(a) I, II and IV   (b) II, III and IV   (c) I and II   (d) IV alone

114. Ratio between the number of chl a molecules of both LHC - I and LHC - II and the number of chl b molecules of both LHC - I and LHC - II is
(a) 1:1   (b) 4:1   (c) 4:3   (d) 3:4

115. The central dogma of molecular biology was proposed by
(a) Sachs   (b) Crick   (c) Lederberg   (d) Watson

116. This is highly efficient auxin used in horticulture to induce roots on stem cuttings
(a) IAA   (b) PAA   (c) 2, 4, 5 - T   (d) IBA

117. Large number of desirable characters can be incorporated in to a single variety by
(a) Mutational breeding   (b) Clonal selection
(c) Hybridization   (d) Pureline selection

118. The common disadvantage among the algal, fungal and bacterial SCP is
(a) Rate of growth is slow   (b) Low cell density
(c) Risk of contamination   (d) Rich in RNA

119. The DNA with following base sequence is treated with Eco RI. At how many places the enzyme cuts the DNA.

5^1CGAATTCTGCTTAAGATAT3^1
3^1GCTTAAGACGAATTCTATA5^1

(a) 3   (b) 4   (c) 5   (d) 2

120. Nutrition of Mushroom is
(I) Saprophyte   (II) Symbiont   (III) Parasite   (IV) Autotroph
The correct combination is
(a) I and II only   (b) II and III only   (c) I, II and IV only   (d) I, II and III only

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