## BIO – BOTANY

### BOOK BACK 1 MARK QUESTIONS & ANSWERS

**CHOOSE AND WRITE THE CORRECT OPTIONS.**

1. Artificial system of classification of plants was proposed by a  
   a. British botanist  
   b. Swedish botanist  
   c. German botanist  
   d. Indian botanist

2. Which of the following classification is a sexual system of classification?  
   a. Artificial system  
   b. Natural system  
   c. Phylogenetic system  
   d. Natural selection

3. The botanist who introduced binomial system is  
   a. Carolus Linnaeus  
   b. Gaspard Bauhin  
   c. Sir Joseph Dalton Hooker  
   d. Adolf Engler

4. Genera plantarum of Bentham and Hooker was published in  
   a. a single volume  
   b. two volumes  
   c. three volumes  
   d. four volumes

5. In Bentham and Hooker classification of plants, the present day ‘orders’ were referred to by them as  
   a. series  
   b. cohorts  
   c. orders  
   d. families

6. Plants having flowers with free petals are placed under  
   a. Monochlamydeae  
   b. Monocotyledons  
   c. Gamopetalae  
   d. Polypetalae

7. Inferae includes  
   a. 6 orders and 34 families  
   b. 4 orders and 23 families  
   c. 3 orders and 9 families  
   d. 5 orders and 27 families

8. How many families were described by Bentham and Hooker in their classification?  
   a. 204  
   b. 212  
   c. 202  
   d. 102

9. In Bentham and Hooker’s classification of plants, the present by “families” were referred to by them as  
   a. families  
   b. cohorts  
   c. orders  
   d. series

10. Thalamiflorae includes  
    a. 4 orders and 23 families  
    b. 6 orders and 34 families  
    c. 5 orders and 27 families  
    d. 3 orders and 12 families

11. Which one of the following series includes the epigynous flowers?  
    a. Thalamiflorae  
    b. Disciflorae  
    c. Inferae  
    d. Heteromerae

12. The family included under the series Unisexualae is  
    a. Solanaceae  
    b. Euphorbiaceae  
    c. Malvaceae  
    d. Musaceae

13. *Thespesia populnea* belongs to  
    a. Solanaceae  
    b. Euphorbiaceae  
    c. Malvaceae  
    d. Musaceae

14. Malvaceae is placed in the series  
    a. Thalamiflorae  
    b. Inferae  
    c. Heteromerae  
    d. Disciflorae

15. Anthers are monothecous in  
    a. Solanaceae  
    b. Euphorbiaceae  
    c. Malvaceae  
    d. Musaceae

16. In *Abelmoschus esculentus*, the fruit is  
    a. drupe  
    b. schizocarp  
    c. regma  
    d. loculicidal capsule

17. Binomial of lady’s finger is  
    a. *Hibiscus cannabinus*  
    b. *Thespesia populnea*  
    c. *Gossypium barbadense*  
    d. *Abelmoschus esculentus*

18. Solanaceae is placed under  
    a. Malvales  
    b. Polemoniales  
    c. Unisexualae  
    d. Ranales.

19. In which of the following plants the midrib and veins are found with yellowish spines  
    a. *Solanum melongena*  
    b. *Datura metal*  
    c. *Solanum xanthocarpum*  
    d. *Petunia hybrida*.

20. The carpels are obliquely placed in the members of  
    a. Malvaceae  
    b. Solanaceae  
    c. Euphorbiaceae  
    d. Musaceae

21. Euphorbiaceae includes about
22. *Ricinus communis* is a
   a. herb  b. shrub  c. tree  d. cladode.

23. An example of cladode is
   a. *Phyllanthus emblica*  b. *Ricinus communis*
   c. *Jatropha curcas*  d. *Euphorbia tirucalli*.

24. In *Hevea brasiliensis*, the leaves are
   a. simple  b. trifoliately compound  c. sessile  d. palmately lobed.

25. “The bird of paradise flower” refers to

26. The phylloxy in *Musa* is
   a. alternate  b. opposite  c. distichous  d. spiral

27. In inflorescence in *Ravenala madagascariensis* is
   a. compound cyme  b. compound raceme  c. branched spadix  d. simple raceme

28. The number of fertile stamens in *Ravenala madagascariensis* is
   a. Three  b. four  c. five  d. six

29. The change from meristematic tissue to permanent tissue is called
   a. differentiation.  b. self perpetuating  c. photosynthesis.  d. cell division.

30. The type of tissue presents in the petioles of banana and Canna, is
   a. stellate parenchyma  b. prosenchyma  c. aerenchyma  d. chlorenchyma.

31. The tissue generally present in all organs of plant is
   a. parenchyma  b. chlorenchyma  c. collenchyma  d. sclerenchyma

32. The lamellar collenchyma is seen in the hypodermis of

33. The root hairs are produced from
   a. rhizodermis  b. trichomes  c. accessory cells  d. trichoblasts

34. The osteosclereids are seen in
   a. seed coat of *Crotalaria*  b. see coat of *Pisum*  c. pulp of *Pyrus*  d. petioles of *banana*

35. Bicollateral vascular bundles are seen in the members of

36. The root hairs originate from
   a. trichoblasts  b. endodermis  c. hypodermis  d. pericycle.

37. The casparian strips are found in the endodermis of
   a. dicot stem  b. dicot root  c. monocot stem  d. dicot leaf.

38. The passage cells are found in endodermis of
   a. dicot stem  b. monocot stem  c. dicot root  d. dicot leaf.

39. The polyarch condition is found in
   a. monocot leaf  b. dicot leaf  c. monocot stem  d. monocot root

40. The inner most layer of the cortex is
   a. epidermis  b. hypodermis  c. endodermis  d. pericycle.

41. The vascular bundle with protoxylem facing centre of the stem is
   a. exarch  b. endarch  c. tetrarch  d. polyarch

42. When the xylem and the phloem lie in the same radius, the vascular bundle is called
   a. conjoint  b. radial  c. open  d. closed.

43. The vascular bundles are skull shaped in
   a. dicot root  b. monocot root  c. dicot stem  d. monocot stem.

44. The protoxylem lacuna is present in the vascular bundles of

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a. dicot root  b. monocot root  c. dicot stem  d. monocot stem

45. Isobilateral leaf is present in
   a. grass  b. Cucurbita  c. sunflower  d. bean

46. The vascular bundle in the leaf is
   a. collateral and open  b. collateral and closed.  c. bicollateral and open  d. collateral and exarch

47. The term chromosome was introduced by

48. Who had first proved that the genes are carried by the chromosome?

49. The coupling test cross ratio is
   a. 1:7:7:1  b. 7:1:1:7  c. 1:1:1:1  d. 9:3:3:1

50. Recombination of chromosome takes place in _____ stage of prophase I of meiosis.
   a. leptotene  b. zygotene  c. pachytene  d. diplotene

51. Hugo de Vries first used the term mutation based on his observation on

52. Biochemical mutants of _____ failed to synthesize certain amino acids.

53. The gametes of Drosophila melanogaster carry
   a. Three chromosomes  b. four chromosomes  c. seven chromosomes  d. eight chromosomes

54. Nullisomy is represented by
   a. 2n – 1  b. 2n + 1  c. 2n + 2  d. 2n – 2.

55. Double helix DNA model was proposed by _____

56. The width of DNA molecule is
   a. 18 Å  b. 20 Å  c. 34 Å  d. 35 Å

57. RNA is universally present in all organisms except in _____
   a. TMV  b. bacteria  c. algae  d. DNA viruses

58. mRNA is about _____ of the RNA content of the cell
   a. 10 - 20%  b. 5 - 10%  c. 3 - 5%  d. 20 - 30%

59. In bacterial cell, there are more than _____ tRNAs
   a. 200  b. 70  c. 300  d. 400

60. Restriction enzymes are synthesized by
   a. bacteria only  b. Yeast and bacteria only  c. eukaryotic cells only  d. all kinds of cells

61. Each restriction enzyme cleaves a molecule only at
   a. the ends of genes  b. methyl groups  c. nucleotide sequence  d. the time of DNA replication

62. One of the following process is employed to introduce a foreign gene into a cell
   a. electrolysis  b. electroporation  c. plasmid  d. ligation

63. The number of transgenic plants available to-day are approximately
   a. six  b. two  c. twelve  d. fifty

64. A toxic protein called delta endotoxin is insecticidal and it is produced by
   a. Escherichia coli  b. Streptomyces griseus  c. Bacillus thuringiensis  d. Bacillus lactii

65. Pseudomonas putida is an engineered bacterium that can
   a. produce a hormone  b. produce a antibiotic  c. digest crude oil slick  d. pollute the soil

66. The inherent potential of any living plant cell to develop into entire organism is called
   a. differentiation  b. organogenesis  c. morphogenesis  d. totipotency

67. The function of cytokinin is to increase

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68. By the application of tissue culture, one important product is formed
   a. artificial synthetic seeds b. many seeded fruit
   c. triploid endosperm d. induction of flowers

69. The two protoplasts are fused with a fusogen called
   a. polyethylene glycol (PEG) b. Polyvinyl chloride (PVC)
   c. Polyethylene glycol (PEG) d. Phosphoric ethane

70. Somatic hybrids are produced through
   a. asexual fusion b. protoplasmic fusion
   c. vegetative propagation d. grafting

71. One of the following organism is a SCP

72. Enriched vitamin tablets are produced from the following organism for human consumption
   a. Nostoc b. yeast c. Spirulina d. Mushroom

73. Photosynthesis takes place in
   a. mitochondria b. peroxisomes c. chloroplasts d. ribosomes

74. During cyclic electron transport, which one of the following is produced
   a. NADPH only b. ATP only c. NADH only d. both ATP and NADPH

75. Which one of the following is a five carbon compound?
   a. fructose b. erythrose c. ribose d. DHAP

76. Which one of the following is a C₄ plant?
   a. rice b. wheat c. sugarcane d. potato

77. The essential component for the formation of chlorophyll
   a. Mg b. Fe c. Cl d. Mn

78. The pigment which is highly efficient in absorbing solar energy is
   a. phycobilins b. chlorophyll c. carotinoids d. xanthophylls

79. Which of the following bacterium oxidizes ammonia to nitrate
   a. Nitrosomonas b. Rhizobium c. Closteridium d. E. coli

80. Which of the following is a total parasite

81. Which of the following wavelengths of light is most effective for photosynthesis
   a. 100 nm to 200 nm b. 200 nm to 300 nm c. 400 nm to 700 nm d. 700 nm to 900 nm

82. Dark respiration is the function of
   a. peroxisomes b. mitochondria c. chloroplast d. ribosomes

83. The gas evolved during photosynthesis is
   a. carbondioxide b. nitrogen c. hydrogen d. oxygen

84. Dark reaction is also known as
   a. Krebs cycle b. Calvin cycle c. pentosephosphate pathway d. photorespiration

85. C₄ pathway is otherwise known as
   a. EMP pathway b. Hatch-Slack pathway c. photorespiration d. electron transport chain

86. Photorespiration is otherwise called as
   a. C₂ cycle b. C₃ cycle c. C₄ cycle d. C₅ cycle

87. An example for insectivorous plant is

88. Which of the following is regarded as primary pigment?

89. The dark reactions of photosynthesis were discovered by
90. Which of the following is a 5C compound?

91. In C₃ plants light reactions and dark reactions occur in
   a. bundle sheath cells   b. mesophyll cells   c. epidermal cells   d. vascular cells

92. In C₃ pathway acceptor molecule of CO₂ is
   a. Phosphoenol pyruvate   b. RuBP   c. PGA   d. DHAP

93. Which of the following is not a C₄ plant?

94. Vanda plant is a/an ----
   a. total parasite   b. partial parasite   c. epiphyte   d. saprophyte

95. The reducing power produced in the light reaction is
   a. NADP   b. ATP   c. ADP   d. NADPH

96. Which of the following is not accessory pigments?
   a. Phycobilins   b. Chlorophylls   c. Carotenoids   d. Xanthophylls

97. The photosynthetic pigments are located in

98. Which of the following is the common respiratory substrate?
   a. Proteins   b. Lipids   c. Carbohydrates   d. Vitamins

99. The number of high energy terminal bonds present in ATP is
   a. one   b. two   c. three   d. four

100. The first step in aerobic respiration is
   a. glycolysis   b. Krebs cycle   c. terminal oxidation   d. cyclic photophosphorylation

101. Fructose 1,6-bisphosphate is cleaved to two molecules of 3 carbon compounds by
   a. aldolase   b. enolase   c. pyruvic kinase   d. hexokinase

102. Cisaconitic acid is converted into isocitric acid by the addition of a molecule of water. This reaction is catalyzed by
   a. citric acid synthetase   b. fumarase   c. malic dehydrogenase   d. aconitase

103. Complete oxidation of one molecule of glucose yields
   a. 38 ATP   b. 36 ATP   c. 35 ATP   d. 2 ATP

104. Oxidative decarboxylation of pyruvic acid is catalyzed by
   a. pyruvic dehydrogenase   b. pyruvic kinase
   c. pyruvic mutase   d. pyruvic isomerase

105. Ketoglutaric acid is a ______ carbon compound
   a. two   b. three   c. four   d. five

106. Glucose is phosphorylated to glucose-6-phosphate by
   a. aldolase   b. kinase   c. mutase   d. hexokinase

107. Respiratory quotient of glucose is
   a. zero   b. unity   c. more than one   d. less than one

108. One molecule of FADH₂ on oxidation yields
   a. One ATP   b. two ATP   c. three ATP   d. four ATP

109. One molecule of NADH₂ on oxidation yields
   a. One ATP   b. two ATP   c. three ATP   d. four ATP

110. Formation of ATP during electron transport chain is known as
   a. dephosphorylation   b. photophosphorylation
   c. oxidative phosphorylation   d. substrate level phosphorylation
111. Which of the following is referred to as EMP pathway?
   a. Glycolysis       b. Krebs cycle
   c. Electron transport chain   d. Pentose phosphate pathway

112. The total amount of energy released from one molecule of glucose on oxidation is about
   a. 1600 kJ   b. 2300 kJ   c. 2500 kJ   d. 2900 kJ

113. Which of the following is a 5C compound?
   a. Phosphoglyceraldehyde       b. Erythrosephosphate
   c. Xylulose phosphate   d. Sedoheptulose phosphate

114. Which one of the following plant hormones was first discovered?

115. An example for synthetic auxin is
   a. IAA   b. PAA   c. ABA   d. NAA

116. Apical dominance is due to
   a. ethylene   b. auxin   c. gibberellin   d. cytokinin

117. Bakanae disease in paddy is caused by
   a. abscissic acid   b. phenyl acetic acid   c. naphthelene acetic acid   d. gibberellic acid

118. In sigmoid curve the rapid growth phase is designated as
   a. lag phase   b. log phase   c. dormant phase   d. steady state phate

119. Auxin prevents
   a. apical dominance   b. ageing process   c. parthinocarpy   d. abscission

120. “Foolish seedling” disease of rice is caused by
   a. auxin   b. gibrellins   c. cytokinin   d. abscisic acid

121. Closure of stomata is caused by
   a. auxin   b. gibrellins   c. cytokinin   d. abscisic acid

122. The chemical used in the field to eradicate weeds is
   a. 2, 4 - D   b. IAA   c. ABA   d. urea

123. Abscission is prevented by

124. The response of a plant to the relative lengths of light and dark periods is known as
   a. vernalization   b. photorespiration   c. photosynthesis   d. photoperiodism

125. Photoperiodic response in flowering was first observed in
   a. wheat   b. Maryland Mammoth   c. Oats   d. Chrysanthemum

126. Which of the following is a short day plant?
   a. wheat   b. tobacco   c. sunflower   d. maize

127. Which of the following is a long day plant?
   a. tobacco   b. sunflower   c. maize   d. wheat

128. Which pathogen causes the blast disease of rice?
   a. Cercospora personata   b. Pyricularia oryzae   c. Xanthomonas citri   d. Tungro virus

129. What is the collateral host plant of Pyricularia oryzae?

130. Which pathogen causes Tikka disease of groundnut?
   a. Cercospora personata   b. Pyricularia oryzae   c. Xanthomonas citri   d. Tungro virus

131. Acalyphine is extracted from

132. Binomial of ‘vilvum’ is
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