TDC-I

BOTANY GENERAL

GROUP-A (150)

Algae

1. Which of the following is a wrong statement regarding algae

   a. algae are chlorophyll bearing b. algae are autotrophic

   c. algae are thalloid d. algae are aquatic only

2. Zoospores are ---------- and method of ---------- reproduction

   a. flagellate, vegetative b. flagellate, asexual

   c. flagellate, sexual d. non-flagellate, asexual

3. Which of the following algae are used as food

   a. *Laminaria* b. *Sargassum* c. *Porphyra* d. all

4. Agar is a commercial product obtained from

   a. algae b. bryophytes c. pteridophytes d. gymnosperms

5. Rhodophyceae is also known as

   a. green algae b. blue-green algae c. red algae d. brown algae

6. Phaeophyceae is also known as

   a. green algae b. blue-green algae c. red algae d. brown algae

7. Which of the following chlorophyll is present in all the classes of algae

   a. chl a b. chl b c. chl c d. chl d

8. Which of the following combination of chlorophylls is present in chlorophyceae

   a. chl a & b b. chl a & c c. chl a & d d. chl b & c

9. Which of the following combination of chlorophylls is present in rhodophyceae

   a. chl a & b b. chl a & c c. chl a & d d. chl b & c

10. Which of the following combination of chlorophylls is present in phaeophyceae

    a. chl a & b b. chl a & c c. chl a & d d. chl b & c

11. Which of the following pigments will be found in *Volvox*

a. chl a & b b. chl a & c c. chl a, b & c d. chl b & c

12. Chlorophyll 'b' will be present in

a. *Ectocarpus* b. *Fucus* c. *Polysiphonia* d. *Oedogonium*

13. Chlorophyll 'c' will be present in

a. *Ectocarpus* b. *Fucus* c. both d. none

14. Which of the following will show the presence of chlorophyll d

a. *Chlamydomonas* b. *Volvox* c. *Fucus* d. *Batrachospermum*

15. Which of the following green algae has a plant body with axis and branches

a. *Chara* b. *Volvox* c. *Oedogonium* d. *Nostoc*

16. Main photosynthetic part in *Fucus* is

a. holdfast b. stipe c. frond d. all

17. Asexual reproduction in red algae takes place by

a. uniflagellate zoospore b. biflagellae zoospore

c. quadriflagellate zoospore d. non-flagelate spore

18. Which of the following algae shows diplontic life cycle

a. *Volvox* b. *Oedogonium* c. *Chara* d. *Fucus*

19. Which of the following algae shows haplontic life cycle

a. *Volvox* b. *Oedogonium* c. *Chlamydomonas* d. all

20. Who is known as a father of Indian phycology

a. M.O.P. Iyenger b. J.C.Bose c. R. Misra d. E.J.Butler

21. Which of the following algal group does not produce motile, flagellated cells?

a. chlorophyta b. chrysophyta c. phaeophyta d. rhodophyta

22. Agar is extracted from the cell wall of

a. rhodophyta b. chlorophyta c. chrysophyta d. pyrrophyta

23. Carposporophyte is found in

a. *Vovox* b. *Chara* c. *Vaucheria* d. *Batrachospermum*

24. Globule and nucule are sex organs of

a. *Chara* b. *Oedogonium* c. *Volvox* d. *Fucus*

25. Which of the following alga has a coenobial thallus

a. *Chara* b. *Volvox* c. *Oedogonium* d. *Vaucheria*

26. Female reproductive structure of *Batrachospermum* is called

a. antheridium b. nucule c. carpogonium d. trichogyne

27. Plakea stage during asexual reproduction is seen in

a. *Vovox* b. *Chara* c. *Ectocarpus* d. *Oedogonium*

28. Cap cell is a characteristic feature of

a. *Volvox* b. *Oedogonium* c. *Fucus* d. *Chara*

29. Species of *Oedogonium* developing antheridia on normal filaments are called

a. macrandrous b. nannandrous c. idioandrosporous d. gynandrosporous

30. Dwarf male formed in some species of *Oedogonium* is called

a. nannandrium b. trichogyne c. carpogonium d. nucule

31. Which of the following is called stonewort

a. *Fucus* b. *Volvox* c. *Chara* d. *Vaucheria*

32. Female reproductive structure of *Chara* is

a. carpogonium b. globule c. nucule d. trichogyne

33. Male reproductive structure of *Chara* is

a. carpogonium b. globule c. nucule d. trichogyne

34. Antheridial filaments are present in

a. *Chara* b. *Volvox* c. *Oedogonium* d. *Fucus*

35. Sex organs are produced in flask-shaped conceptacles in

a. *Chara* b. *Fucus* c. *Polysiphonia* d. *Volvox*

36. Cystocarp is formed in

a. *Fucus* b. *Chara* c. *Batrachospermum* d. *Volvox*

37. Sexual reproduction is not reported in

a. *Chara* b. *Fucus* c. *Nostoc* d. *Volvox*

38. Which is a blue green alga

a. *Chara* b. *Volvox* c. *Ectocarpus* d. *Nostoc*

39. Heterocyst can be observed in

a. *Nostoc* b. *Volvox* c. *Chara* d. *Oedogonium*

40. Which of the following is a unicellular green alga

a. *Chlamydomonas* b. *Volvox* c. *Oedogonium* d. *Vaucheria*

41. *Vaucheria* belongs to the class

a. xanthopyceae b. chlorophyceae c. rhodophyceae d. phaeophyceae

42. Which of the following has a coenocytic thallus

a. *Volvox* b. *Vaucheria* c. *Chara* d. *Oedogonium*

43. Compound zoospore is found in

a. *Volvox* b. *Vaucheria* c. *Chara* d. *Oedogonium*

44. Cup-shaped chloroplast is found in

a. *Fucus* b. *Oedogonium* c. *Chlamydomonas* d. *Vaucheria*

45. *Batrachospermum* is a

a. green alga b. blue-green alga c. red alga d. brown alga

46. In *Batrachospermum*, the whorl of branches of limited growth at the node is called

a. globule b. glomerule c. nucule d. cystocarp

47. The carpospore of *Batrachospermum* develops into a juvenile stage called

a. chantransia stage b. carpsporophyte c. tetrasporophyte d. cystocarp

48. Chantransia stage of *Batrchospermum* forms

a. carpospore b. tetraspore c. zoospore d. monospore

49. Gonimoblast filaments can be observed in

a. *Fucus* b. *Chara* c. *Oedogonium* d. *Batrachospermum*

50. Haplontic life cycle is seen in

a. *Chara* b. *Volvox* c. *Oedongonium* d. all

Fungi

51. Which of the following type of members are not found among fungi

a. autotrophs b. saprophytes c. parasites d. symbionts

52. Which of the following group of fungi has aseptate coenocytic mycelia

a. pyhcomycetes b. ascomycetes c. basidiomycetes d. deuteromycetes

53. Which of the following is known as fungi imperfectii

a. phycomycetes b. ascomycetes c. deuteromycetes d. basidiomycetes

54. Main component of cell wall of fungi is

a. cellulose b. hemicellulose c. chitin d. pectin

55. Coprophilous fungi grow on

a. bread b. leather c. wood d. dung.

56. Which of the following fungal classes is known as “sac fungi”

a. phycomycetes b. ascomycetes c. basidiomycetes d. deuteromycetes

57. Fruiting bodies of ascomycetes are called

a. ascospores b. asci c. ascocarps d. ascogenous hyphae

58. Sex organs are absent but sexual reproduction takes place by plasmogamy in

a. phycomycetes b. ascomycetes c. basidiomycetes d. deuteromycetes

59. Basidia in basidiomycetes are formed by

a. monokaryotic mycelium b. dikaryotic mycelium

c. haploid mycelium d. diploid mycelium

60. Ascocarp with no special opening is called

a. cleisotothecium b. apothecium c. perithecium d. pseudothecium

61. A dolipore septum is characteristic feature of

a. phycomycetes b. ascomycetes c. basidiomycetes d. deuteromycetes

62. Clamp connections are very common in

a. mastigomycotina b. ascomycotina c. basidiomycotina d. deuteromycotina

63. The fertile layer in the ascocarp or basidiocarp is called

a. trama b. hymenium c. subhymenium d. prosenchyma

64. Somatogamy is the

a. fusion of gametes b. fusion of vegetative cells

c. contact between two gametengia d. copulation between two gametengia

65. Species of *Albugo* are

a. obligate parasites b. facultative parasites

c. obligate saprophytes d. facultative saprophytes

66. *Albugo* causes which of the following disease

a. red rust b. black rust c. white rust d. white smut

67. White rust of crucifers is caused by

a. *Albugo candida* b. *Albugo platensis* c. *Albugo bilti* d. *Albugo evolvuli*

68. The mycelium of *Albugo*

a. branched b. aseptate c. coenocytic d. all

69. Hyphae of *Albugo* in the host is

a. intercellular without haustoria b. intercellular with haustoria

c. intracellular without haustoria d. intracellular with haustoria

70. Haustoria of *Albugo* is

a. knob like b. finger like c. branched d. peltate

71. Zoospore of *Albugo* is

a. kidney shaped b. globose c. pear shaped d. spindle shaped

72. What is true about the zoospore of *Albugo*

a. it has two equal flagella, both of tinsel type

b. it has two equal flagella, both of whiplash type

c. it has two unequal flagella, the shorter being tinsel type and the longer whiplash type

d. it has two unequal flagella, the shorter being whiplash type and the longer tinsel type

73. The sporangia in *Albugo* are

a. produced singly on the tip of normal hyphae

b. produced in chains on the tip of normal hyphae

c. produced singly on the tip of sporangiophores

d. produced in chain on the tip of sporangiophore

74. In *Albugo*

a. sexual reproduction is oogamous

b. fertilization tube is formed during fertilization

c. oospore is formed as a result of sexual reproduction

d. all

75. Which of the following is sac fungus

a. *Puccinia* b. *Peziza* c. *Albugo* d. all

76. Coprophilous species of *Peziza* grow on

a. wood b. bread c. dung d. bark

77. Which is known as cup fungus

a. *Erysiphe* b. *Saprolegnia* c. *Synchytrium* d. *Peziza*

78. Fruiting body of *Peziza* is

a. stroma b. perithecium c. apothecium d. cleistothecium

79. Species of *Puccinia* are

a. obligate parasites b. facultative parasites

c. obligate saprophytes d. facultative saprophytes

80. Which species of *Puccinia* causes black stem rust of wheat

a. *P. graminis tritici* b. *P. recondita* c. *P. striiformis* d. *P. asparagi*

81. *Puccinia graminis tritici* is

a. autoecious & microcyclic b. heteroecious & macrocyclic

d. autoecious & microcyclic d. heteroecious & microcyclic

82. Primary host of *Puccinia graminis tritici* is

a. rice b. maize c. barberry d. wheat

83. Secondary host of *Puccinia graminis tritici* is

a. wheat b. barberry c. grass d. parthenium

84. Which of the following stages of *Puccinia graminis tritici* are found on wheat

i. uredineal ii. telial iii. basidial iv. pycnidial v. aecial

a. i & ii b. i, ii, & iii c. i, ii, iii & iv d. i, ii, iii,iv & v

85. Which of the following stages of *Puccinia graminis tritici* are found on barberry

i. uredineal ii. telial iii. basidial iv. pycnidial v. aecial

a. i & ii b. i, ii, & iii c. i, ii, iii & iv d. iv & v

86. Binucleate spores in the life cycle of *Puccinia graminis tritici* are

a. uredospore, teleutospore, aeciospores

b. uredospore, basidiospore, pycniospore

c. uredospore, basidiospore, pycniospore

d. basidiospore, pycniospore

87. Uninucleate spores in the life cycle of *Puccinia graminis tritici* are

a. uredospore, teleutospore, aeciospores

b. uredospore, basidiospore, pycniospore

c. uredospore, basidiospore, pycniospore

d. basidiospore, pycniospore

88. Spore of *Puccinia graminis tritici* that germinates on barberry

a. pycniospore b. basidiospore c. uredospore d. teleutospore

89. Basidial stage in *Puccinia graminis tritici* develops from

a. pycniospore b. basidiospore c. uredospore d. teleutospore

90. Two-celled spore in *Puccinia graminis tritici* is

a. uredospore b. aeciospores c. teleutospore d. basidiospore

Lichens

91. Llichens form first community in

a. psammosere b. halosere c. lithoosere d. hydrosere

92. Source of litmus is the lichen

a. *Cetraria* b. *Rocella* c. *Parmelia* d. *Cladonia*

93. Which of the following is known as Reindeer moss

a. *Cetraria* b. *Rocella* c. *Parmelia* d. *Cladonia*

94. Which of the following is known as Iceland moss

a. *Cetraria* b. *Rocella* c. *Parmelia* d. *Cladonia*

95. Which of the following is a common crustose lichen

a. *Graphis* b. *Parmelia* c. *Usnea* d. *Cladonia*

96. Which of the following is a common foliose lichen

a. *Graphis* b. *Parmelia* c. *Usnea* d. *Cladonia*

97. Which of the following is a common fruticose lichen

a. *Graphis* b. *Parmelia* c. *Usnea* d. *Physica*

98. Which of the following structures are associated with the lichen thallus

a. cyphellae b. cephalodia c. isidia d. all

99. The algal component of a lichen is called

a. mycobiont b. unibiont c. phycobiont d. co-biont

100. Fungal component of the lichens is called

a. mycobiont b. phycobiont c. mycoplasma d. mycosome

Bryophytes

101. In the life cycle of bryophyte the dominant generation is the

a. haploid gametophyte b. diploid gametophyte

c. haploid sporophyte d. diploid sporphyte

102. Bryophytes play important role in plant succession on

a. bare rocks b. bare sand c. newly dug pond d. bare field

103. The bryophytes are attached to the substratum with the help of

a. true roots b. unicellular rhizoids

c. multicellular rhizoids d. b & c

104. The main plant body of bryophyte is a

a. haploid sporophyte b. diploid sporophyte

c. diploid gametophyte d. haploid gametophyte

105. The sporophyte of bryophytes is a

a. multicellular free-living structure

b. unicellular free-living structure

c. multicellular structure dependent on the gametophyte

d. unicellular structure dependent on the gametophyte

106. Peat, which is used as fuel is derived from

a. *Marchantia* b. *Polytrichum*

c. *Anthoceros* d. *Sphagnum*

107. *Marchantia* is a

a. thalloid liverwort b. leafy liverwort c. thalloid moss d. leafy moss

108. In *Marchantia*, gemmae can be seen in the

a. gemma cups b. antheridiophore c. archegoniophore d. capsule

109. Gemmae are ---------- bodies used for ---------- reproduction

a. unicellular, asexual b. unicellular, sexual

c. multicellular, asexual d. multicellular, sexual

110. We can observe antheridiophore on the ---------- thallus of ----------

a. male, *Sphagnum* b. male, *Marchantia*

c. female, *Sphagnum* d. female, *Marchantia*

111. We can observe archegoniophore on the ---------- thallus of ----------

a. male, *Sphagnum* c. male, *Marchantia*

c. female, *Sphagnum* d. female, *Marchantia*

112. In the sporophyte of bryophytes the spores are formed in the

a. foot b. seta c. capsule d. seta & capsule

113. Spore of mosses germinate to produce a filamentous structure called

a. foot b. seta c. gemma d. protonema

114. Which is the correct sequence of events in the life cycle of a bryophyte

a. spore ------ gametophyte ------ sporophyte

b. gametophyte ------ zygote ------- sporophyte

c. Sporophyte ------ spore ------- gametophyte

d. all

115. The main gametophyte of moss is a

a. branched protonema b. unbranched protonema

c. prostrate thallus d. gametophore

116. In moss, the leafy gametophyte is formed

a. directly by the germination of the spore

b. from a lateral bud developing on the protonema

c. from secondary spores formed by the division of spores

d. by the germination of spore mother cell

117. Retort cells are found in

a. *Porella* b. *Marchantia* c. *Sphagnum* d. *Anthoceros*

118. Which of the following does not belong to hepaticopsida

a. *Marchantia* b. *Pellia* c. *Anthoceros* d. *Riccia*

119. Which of the following has *Nostoc* in its thallus

a. *Marchantia* b. *Riccia* c. *Sphagnum* d. *Anthoceros*

120. *Sphagnum* is commonly known as

a. reindeer moss b. club moss c. peat moss d. Iceland moss

121. Which of the following group is commonly known as liverworts

a. lycopsida b. anthocerotopsida c. hepaticopsida d. bryopsida

122. Which of the following group is commonly known as hornworts

a. lycopsida b. anthocerotopsida c. hepaticopsida d. bryopsida

123. Pseudoelaters occur in the capsule of

a. *Sphagnum* b. *Marchnatia* c. *Riccia* d. *Anthoceros*

124. *Nostoc* colonies are present in the thallus of

a. *Riccia* b. *Marchantia* c. *Anthoceros* d. *Sphagnum*

125. Elaterophore is present in the capsule of

a. *Riccia* b. *Marchantia* c. *Pellia* d. *Sphagnum*

Pteridophytes

126. The main plant body of a pteridophyte is a

a. haploid gametophyte b. diploid gametophyte

c. haploid sporophyte d. diploid sporophyte

127. A strobilus or cone is compact structure formed by the

a. leaves b. sprophylls c. roots d. sopres

128. The gametophyte of pteridophyte is called a

a. thallus b. prothallus c. protonema d. sorus

129. Pteridophytes producing only one type of spore are called

a. isosporous b. heterosporous c. homosporous d. monosporous

130. Pteridophytes producing two types of spore are called

a. isosporous b. heterosporous c. homosporous d. monosporous

131. Which of the following is heterosporous

a. *Lycopodium* b. *Marsilea* c. *Equisetum* d. all

132. In pteridophytes, a sporangium arising from a group of initials is called

a. pseudosporangium b. eusporangium c. leptosporangium d. polysporngium

133. In pteridophytes, a sporangium arising from a single initial cell is called

a. pseudosporangium b. eusporangium c. leptosporangium d. unisporngium

134. Sporangia are formed in specialized structure called sporocarp in

a. *Marsilea* b. *Selaginella* c . *Lycopodium* d. *Equisetum*

135. In many ferns, sporangia are present in the form of organized groups called

a. sorus b. sporocarp c. telome d. strobilus

136. Circinate vernation is a characteristic of

a. psilophyta b. lycophyta c. sphenophyta d. pterophyta

137. Which of the following is not included in stele

a. endodermis b. pericycle c. vascular tissues d. pith

138. Which of the following steles has a pith

a. haplostele b. actinostele c. plectostele d. siphonostele

139. A stele without a pith is called

a. protostele b. monostele c. siphonostele d. unistele

140. The spore of the pteridophytes germinates to form

a. prothallus b. protonema c. protocorm d. embryo

141. Lycopodiums are commonly known as

a. club moss b. ground pine c. trailing evergreens d. all

142. *Lycopodium* is divided into two subgenera

a. Urostachya & Homoeophyllum b. Urostachya & Rhopalostachya

c. Homoeophyllum & Heterophyllum d. Rhopalostachya & Heterophyllum

143. Which of the following stele is not found *Lycopodium*

a. plectostele b. actinostele c. mixed protostele d. siphonostele

144. Which of the following types of gametophytes is found in *Lycopodium*

a. Cernuum type b. Clavatum type c. Phlegmaria type d. all

145. Protocorm is found in

a. *Psilotum* b. *Isoetes* c. *Pteris* d. *Lycopodium*

146. Which of the following is commonly known as horsetail

a. *Equisetum* b. *Selaginella* c. *Lycopodium* d. *Pteris*

147. The spores of *Equisetum* have four spirally arranged ribbon-like bands called

a. trabeculae b. elaterophore c. elaters d. tapetum

148. Outer wall of the epidermis of *Equisetum* stem is impregnated with

a. magnesium b. calcium c. silica d. iron

149. Vallecular canals are present in the stem of

a. *Equisetum* b. *Selaginella* c. *Psilotum* d. *Pteris*

150. In *Equisetum* the sporangia are borne in

a. sporophyll b. sporocarp c. sporangiophore d. none

GROUP-B (150)

Gymnosperms

151. The name Gymnosperms is derived from the Greek word 'gymnos' which means

a. empty b. closed c. naked d. inverted

152. Plant group considered as 'phanerogams without ovary'

a. gymnosperms b. angiosperms c. pteridophytes d. bryophytes

153. Plants with naked seeds are

a. gymnosperms b. angiosperms c. pteridophytes d. bryophytes

154. The endosperm of gymnosperms is

a. a part of the female gametophyte b. a part of the male gametophyte

c. a part of the nucellus d. a part of the integument

155. Endosperm of gymnosperms is

a. haploid b. diploid c. triploid d. tetraploid

156. *Pinus* belongs to the order

a. cyacadales b. coniferales c. taxales d. ephedrales

157. Chilghoza pine is

a. *Pinus insularis* b. *Pinus longifolia* c. *Pinus excels* d. *Pinus gerardiana*

158. Foliage leaf of *Pinus* is

a. scale like b. needle like c. blade like c. lanceolate

159. The dwarf shoot of *Pinus* bearing foliage leaves is called

a. spur b. cone c. strobilus d. cataphyll

160. Vascular bundles of *Pinus* stem are

a. conjoint, collateral, open & endarch b. conjoint, collateral, closed & endarch

c. conjoint, collateral, open & exarch d. conjoint, collateral, closed & exarch

161. In *Pinus*

a. vascular bundles are arranged in a ring in the stem

b. root has mycorrhizal association

c. branches are of two types- long shoot and dwarf shoot

d. all

162. What is true about *Pinus*

a. resin canals are present in the cortex of stem

b. wood is pycnoxylic

c. wood of *Pinus* has bars of Sanio

d. all

163. The terminal expanded sterile part of the microsporophyll of *Pinus* is called

a. apophysis b. paraphysis c. epiphysis d. telome

164. Microspores released in huge quantities in *Pinus* is called

a. shower of phosphorous b. shower of sulphur

c. phosphorous cloud d. sulphur cloud

165. Microspore of *Pinus*

a. smooth b. spinous c. winged d. porous

166. In *Pinus*

a. both microsporophylls and megasporophylls occur singly

b. both microsporophylls and megasprophylls occur in cones

c. microsporophylls occur singly but megasporophylls occur in cones

d. microsporophylls occur in cones but megasporophylls occur singly

167. Two types of scales, bract scales and ovuliferous scales are found in

a. microsporophyll of *Cycas* b. megsporophyll of *Cycas*

c. microsporophyll of *Pinus* d. megsporophyll of *Pinus*

168. Male gametes of *Pinus* are

a. large b. top shaped c. multiciliate d. non-flagellate

169. Pollination in *Pinus* takes place by

a. wind b. water c. insect d. bird

170. In *Pinus*

a. branches are dimorphic

b. polyembryony is seen

c. perisperm is present

d. all

Taxonomy of angiosperms

171. Who is the author of "Species Plantarum"

a. Linnaeus b. Engler & Prantl c. Bessey d. de Candolle

172. System of classification proposed by Linnaeus can be considered as

a. artificial b. natural c. phylogenetic d. numerical

173. Bentham & Hooker system of classification may be considered as

a. artificial b. natural c. phylogenetic d. numerical

174. Whose classification may be considered as phylogenetic

a. Linnaeus b. Engler & Prantl c. Bentham & Hooker d. Hutchinson

175. Bentham & Hooker published their classification as

a. Species Plantarum b. Genera Plantarum

c. Theorie Elementaire de la Botanique d. Methodus Plantarum Nova

176. Bentham & Hooker divided dicotyledons into the groups

a. polypetalae, gamopetalae, monochlamydeae

b. polypetalae, gamopetalae, archichlamydeae

c. unipetalae, gamopetalae, monochlamydeae

d. polypetalae, gamopetalae, metachlamydeae

177. Bentham & Hooker divided Polypetalae into

a. 2 series b. 3 series c. 4 series d. 5 series

178. Bentham & Hooker divided Gamopetalae into

a. 2 series b. 3 series c. 4 series d. 5 series

179. Monochlamydeae was divided by Bentham & Hooker into

a. 4 series b. 5 series c. 7 series d. 8 series

180. Bentham & Hooker divided monocotyledons directly into

a. 4 series b. 5 series c. 7 series d. 8 series

181. Polypetalae in Bentham & Hooker system of classification includes the series

a. thalamiflorae b. disciflorae c. calyciflorae d. all

182. Gamopetalae in Bentham & Hooker system of classification includes the series

a. inferae b. heteromerae c. bicarpellatae d. all

183. Hutchinson published his classification as

a. Genera of flowering plants b. Families of flowring plants c. both d. none

184. Hutchinson was associated with the Royal Botanical Gardens in

a. London b. Kew c. Brussels d. Vienna

185. Hutchinson divided dicotyledons into divisions

a. Lignosae b. Herbaceae c. Calyciferae d. a & b

186. Hutchinson divided monocotyledons into divisions

a. Calyciferae b. Corolliferae c. Glumiflorae d. all

187. Hutchinson considered that

a. evolution is both downwards and upwards

b. evolution does not necessarily involve all organs at the same time

c. the evolution has been consistent

d. all

188. Which of the following is not an assumption of Hutchinson

a. dicots are primitive compared to monocots

b. polypetaly is more primitive than gamopetaly

c. apetalous flowers are derived from flowers with petal

d. syncarpy is primitive than apocarpy

189. Binomial system of nomenclature was introduced by

a. Linnaeus b. Bessey c. Engler & Prantl d. Hutchinson

190. Scientific names of plants are based on agreed principles and criteria which are provided in

a. International Code for Botanical Nomenclature
b. International Council for Botanical Nomenclature
c. International Code for Botanical Naming
d. Universal Code for Botanical Nomenclature

191. Botanical names are generally in

a. arabic b. roman c. greek d. latin

192. In a biological name the first part is called --------- and second part ----------

a. family name, generic name b. family name, specific epithet

c. generic epithet, specific epithet d. generic name, family name

193. Verticillaster inflorescence is a characteristic feature of the family

a. Ranunculaceae b. Euphorbiaceae c. Acanthaceae d. Lamiaceae

194. Unisexual flowers are found in

a. Apocyanaceae b. Cucurbitaceae c. Lamiaceae d. Acanthaceae

195. Lamiaceae was formerly known as

a. Labiatae b. Apocyanaceae c. Euphorbiaceae d. Acanthaceae

196. Spikelet is found in

a. Apocyanaceae b. Lamiaceae c. Poaceae d. Euphorbiaceae

197. Labellum is seen in the flower of

a. Amaranthaceae b. Orchidaceae c. Ranunculaceae d. Poaceaea

198. Poaceae was known earlier as

a. Labiatae b. Graminae c. Verbenaceae d. Rubiaceae

199. Tulsi belongs to the family

a. Poaceae b. Orchidaceae c. Acanthaceae d. Lamiaceae

200. Cereals belong to family

a. Orchidaceae b. Lamiaceae c. Poaceae d. Cucurbitaceae

Anatomy

201. The term meristem is derived from ---------- word 'meristos' which means-------

a. greek, divided b. latin, divided

c. greek, growth d. latin, growth

202. Which of the following is responsible for producing secondary tissues:

a. apical meristem b. intercalary meristem

c. lateral meristem d. all

203. Which of the following is a lateral meristem

a. intrafascicular cambium b. interfascicular cambium

c. cork cambium d. all

204. Cells of which of the following tissues retain the power of cell division

a. vascular tissue b. epidermal tissue

c. ground tissue d. none

205. Which of the following is not a character of parenchyma

a. they are generally isodiametric b. they have thin cellulosic wall

c. they usually have intercellular spaces d. they may have thick lignified wall

206. In collenchyma, the corners of the cell are thickened due to the deposition of all except one of the following:

a. Cellulose b. hemicellulose c. pectin d. lignin

207. Which of the following statements is wrong

a. sclerenchyma are dead at maturity without protoplast

b collenchyma may contain chloroplasts

c. mechanical support in plants is mainly provided by sclerenchyma

d. collenchyma never contain chloroplasts

208. Sclereids can be observed in

a. the fruit wall of nuts b. pulp of guava

c. leaves of tea d. all

209. Which of the following xylem elements is not dead;

a. xylem parenchyma b. tracheids

c. vessels d. xylem fibres

210. Which of the following is living but lacks a nucleus at maturity:

a. traceids b. vessels c. sclereids d. sieve tubes

211. Companion cells are closely associated with

a. tracheids b. vessels c. phloem parenchyma d. sieve tubes

212. Which of the following is also called bast fibre:

a. phloem fibre b. xylem fibre c. trachieds d. sclereids

213. Vessels present in xylem are

a. long tube like cells with thick cellulose walls

b. long tube like cells with thick lignified walls

c. long tube like structures made up of cells with thick cellulose walls

d. long tube like structures made up of cells with thick lignified wall

214. Nucleus of companion cell controls the function of

a. vessels b. tracheids c. sieve tubes d. phloem parenchyma

215. Cuticle is absent from the epidermis of

a. roots b. stem c. leaves d. all

216. Stomata consist of ---------- guard cells which are usually ---------- shaped

a. two, dumbbell b. two, bean c. three, dumbbell d. three, bean

217. Which of the following statements is correct

i. walls of guard cells facing stomatal pore are thick

ii. walls of guard cells facing stomatal pore are thin

iii. walls of guard cells away from stomatal pore are thin

iv. walls of guard cells away from stomatal pore are thick

a. i & iii b. ii & iii c. i & iv d. ii & iv

218. Specialized epidermal cells surrounding the gaurd cells are called

a. bulliform cells b. hydathodes

c. complementary cell d. subsidiary cells

219. Which of the following is not included in the ground tissue system

a. epidermis b. xylem c. phloem d. all

220. Mesophyll is the term used for the ---------- of ----------

a. epidermis, leaves b. ground tissue, leaves

c. ground tissue, stem d. vascular bundle, leaves

221. Leaves possess ---------- vascular bundle and roots possess ----------

a. conjoint, radial b. radial, conjoint

c. conjoint, conjoint d. conjoint closed, radial

222. In the vascular bundles of dicot stem, the cambium

a. surrounds the xylem b. surrounds the phloem

c. surrounds the vascular bundle d. present between xylem and phloem

223. In the transverse section of an angiospermic root, the right sequence of tissue from periphery to centre is

a. epidermis, cortex, endodermis, pith, pericycle

b. epidermis, cortex, pericycle, endodermis, pith

c. epidermis, pericycle, cortex, endodermis, pith

d. epidermis, cortex, endodermis, pericycle, pith

224. The innermost layer of cortex is called

a. endodermis b. mesodermis c. epicycle d. pith

225. Which of the following statements is wrong about endodermis of roots

a. it is a single layered structure

b. it is the innermost layer of the cortex

c. it is a multilayered structure

d. its wall has casparian strips

226. Which of the following is not true for roots

a. radial vascular bundles b. unicellular hair

c. endodermis d. multicellular hair

227. Initiation of lateral roots takes place from

a. epidermis b. cortex c. endodermis d. pericycle

228. All tissues on the inner side of the endodermis constitute

a. stele b. pith c. pericycle d. periderm

229. Which of the following is not included in stele

a. endodermis b. pith c. vascular bundles d. pericycle

230. Which of the following is not true about the vascular bundle of dicot stem

a. it is conjoint b. it is open c. it is closed d. it is endarch

231. What is not true about the monocot stems

a. vascular bundles are conjoint and closed

b. vascular bundles are scattered

c. vascular bundles are surrounded by bundle sheath

d. vascular bundles are separated by medullary rays

232. What is true about intrfascicular cambium

a. it is a primary lateral meristem present in vascular bundle of dicot stem

b. it is a secondary lateral meristem present in vascular bundle of dicot stem

c. it is a primary intercalary meristem present in vascular bundle of dicot stem

d. it is secondary intercalary meristem present in vascular bundle of dicot stem

233. What is true about interfascicular cambium

i. it is a lateral meristem ii. it is a secondary meristem

iii. it develops from medullary rays iv. it develops from pith

a. i, ii b. i, ii, iii c. i, ii, iv d. ii, iii

234. Which of the following can not be seen in a monocot stem

i. heartwood ii. sapwood iii. spring wood iv. autumn wood

a. i b. i & ii c. i, ii & iii d. i, ii, iii, & iv

235. Another name of cork cambium is

a. phellem b. phellogen c. periderm d. phelloderm

236. Cork is also known as

a. phellem b. phellogen c. periderm d. phelloderm

237. Secondary cortex is also called

a. phellem b. phellogen c. periderm d. phelloderm

238. Bark refers to all tissues external to

a. vascular cambium b. cork cambium

c. endodermis d. pericycle

239. Which of the following is involved in the formation of an annual ring

i. spring wood ii. autumn wood

iii. heartwood iv. sapwood

a. i b. i & ii c. iii & iv d. i, ii, iii, & iv

240. The most accepted theory to explain shoot apex organization in angiosperms is

a. apical cell theory b. histogen theory

c. tunica-corpus theory d. Korper-Kappe theory

241. Which of the following theories is the most accepted theory for root apex organization

a. apical cell theory
b. histogen theory
c. tunica-corpus theory
d. Korper-Kappe theory

242. Fusiform initials and ray initials are components of

a. vascular cambium b. xylem c. phloem d. medullary ray

243. Axial system of secondary vascular tissue arises from

a. fusiform initials of the cambium
b. ray initials of the cambium
c. both from fusiform and ray initials
d. none

244. Which of the following type of sclereids is known as stone cells

a. brachysclereid b. macrosclereid c. osteosclereid d. trichosclereid

245. Which of the following is a monocot plant but shows secondary growth

a. *Boerhaavia* b. *Dracaena* c. *Tinospora* d. *Amaranthus*

246. In *Dracaena* stem, cambium is formed by the activity of the

a. epidermal cells b. cortical cells c. endodermal cells d. none

247. The activity of cambium in Dracaena results in the formation of

a. conjoint, collateral, closed vascular bundle
b. conjoint, collateral, open vascular bundle
c. conjoint, concentric, amphivasal vascular bundle
d. conjoint, concentric, amphicribral vascular bundle

248. What is the anomaly in secondary growth of *Boerhaavia*

a. formation successive cambial rings
b. formation of extrastelar cambium
c. formation of interxylary phloem
d. formation of interxylary cork

249. Cortical vascular bundles are found in

a. *Boerhaavia* b. *Dracaena* c. *Tinospora* d. all

250. Which of the following is a bone shaped sclereid

a. brachysclereid b. macrosclereid c. osteosclereid d. trichosclereid

Embryology

251. In angiosperms, generative nucleus divides to form

a. 2 male nuclei b. 3 male nuclei c. 2 female nuclei d. 3 female nuclei.

252. Embryo sac is located inside the

a. stigma b. ovule c. micropyle d. style

253. Which of the following statements is correct

a. sporogenous tissue is haploid

b. hard outer layer of pollen is called intine

c. tapetum nourishes the developing pollen

d. microspores are produced by endothecium

254. Functional megaspore in a flowering plant develops into

a. endosperm b. ovule c. embryo-sac d. embryo

255. What is the function of the filiform apparatus?

a. guide the entry of pollen tube
b. recognize the suitable pollen at the stigma
c. produce nectar
d. stimulate division of the generative cell

256. A mass of nutritive material outside the embryo sac is called

a. protoplasm b. pericarp c. ectoderm d. perisperm

257. Exine layer of pollen grain is made up of

a. sporopollenin b. pectin c. cellulose d. chitin

258. Embryo sac of angiosperm is

a. 6-celled b. 7-celled c. 8-celled d. 7-celled

259. Which layer of microsporangium provides nutrition to the developing pollen grains

a. epidermis b. endothecium c. tapetum d. none

260. A typical angiospermic anther is

a. bilobed b. unilobed c. trilobed d. tetralobed

261. Occurrence of more than one embryo in a seed is known as

a. polyembryony b. parthenocarpy c. apomixis d. embryogeny

262. Double fertilization and triple fusion were discovered by

a. Hofmeister b. Nawaschin and Guignard c. Leeuwenhoek d. Strasburger

263. Development of fruit without involving fertilization is

a. adventitive embryony b. polyembryony
c. parthenocarpy d. parthenogenesis

264. Male gametophyte of angiosperms is

a. microsporangium b. nucellus c. microspore d. stamen

265. Which of the following pair has haploid structures

a. nucellus and antipodal cells
b. antipodal cells and egg cell
c. antipodal cells and megaspore mother cell
d. nucellus and primary endosperm nucleus

266. Syngamy means

a. fusion of gametes b. fusion of cytoplasms
c. fusion of two similar pores d. fusion of two dissimilar spores

267. Double fertilization is fusion of

a. two eggs
b. two eggs and polar nuclei with pollen nuclei
c. one male gamete with egg and other with synergid
d. one male gamete with egg and other with secondary nucleus

268. Ovule is straight with funiculus, embryo sac, chalaza and micropyle lying on one straight line. This ovule is

a. orthotropous b. anatropous c. campylotropous d. amphitropous

269. The primary endosperm nucleus is

a. tetraploid b. triploid c. diploid d. haploid

270. The male gametes of rice plant have 12 chromosomes in their nucleus. The chromosome number in the female gamete, zygote and the cells of the seedling will be, respectively,

a. 12, 24,12 b. 4,12, 12 c. 12, 24, 24 d. 24, 12, 24

271. Which of the following is a post-fertilization event in flowering plants?

a. transfer of pollen grains
b. embryo development
c. formation of flower
d. formation of pollen grains

272. The number of chromosomes in the shoot tip cells of a maize plant is 20. The number of chromosomes in the microspore mother cells of the same plant shall be

a. 20 b. 10 c. 40 d. 15

273. If the endosperm cell of a dicot plant contains 30 chromosomes, find the number of chromosomes present in the root cells of the plant

a. 40 b. 10 c. 20 d. 15

274. Which of the tissue culture will form a triploid plant

a. endosperm b. pollen c. megaspore d. ovule

275. For the formation of embryo sac, the megaspore mother cell undergoes

a. two meiotic & two mitotic divisions
b. one meiotic & three mitotic divisions
c. two meiotic divisions
d. one meiotic & two mitotic divisions

276. The largest cell in an embryo sac is-

a. egg b. central cell c. synergid d. antipodal cell

277. In which part of a flower do both meiosis & fertilization occur?

a. ovule b. stigma c. anther d. petal

278. One meiosis produces how many male gametes?

a. 4 b. 2 c. 1 d. 8

279. Father of Indian embryology is

a. P. Maheshwari b. Swaminathan c. R. Misra d. Butler

280. In a fertilized ovule, n, 2n & 3n conditions occur respectively in

a. antipodals, zygote, endosperm
b. megaspore mother cell, nucellus, endosperm
c. egg, nucellus, microspore
d. endosperm, micropyle, egg

281. In coconut liquid nuclear endosperm is surrounded by white kernel which is

a. seedcoat
b. cellular endosperm
c. helobial endosperm
d. fibrous mesocarp

282. Study of pollen grains is

a. palynology b. pomology c. palaeobotany d. taxonomy

283. Which of the following is false in angiosperms

a. egg cell-haploid b. megaspore-diploid
c. pollen grain- haploid d. synergid-haploid

284. In which of the plant species, parthenocarpy takes place?

a. mango b. banana c. peach d. jack fruit

285. What is callus

a. tissues that grow to form an embryoid

b. an unorganized actively dividing the mass of cells maintained in a culture

c. an insoluble carbohydrate

d. a tissue that grows from an embryo

286. Androgenesis results in the formation of

a. haploid plants b. diploid plants c. triploid plants d. tetraploid plants

287. The endosperm of a tetraploid plant (4n) will be

a. 2n b. 3n c. 4n d. 6n

288. A diploid female plant is crossed with a tetraploid male plant. The endosperm will be

a. 3n b. 4n c. 5n d. 6n

289. Filiform apparatus is seen in the

a. megaspore

b. antipodal cells

c. central cell

d. synergids

290. Which is known as androgenesis

a. anther and microspore culture

b. embryo culture

c. ovary culture

d. nucellus culture

291. In some plants, all the microspores in a microsporangium remain together to form a

a. tetrangium b. pollinium c. synangium d. multispornagium

292. Embryo sac may be

a. monosporic b. bisporic c. tetrasporic d. all

293. On the basis of entry of pollen tube, fertilization may be

a. porogamous b. chalazogamous c. mesogamous d. all

294. Mature endosperm with irregularity and unevenness in its surface is called

a. patterned b. ruminate c. reticulate d. scalariform

295. NPC-system is used to describe

a. megaspore b. pollen grain c. embryo sac d. embryo

296. An oily coating over the pollen grain surface in some species of plants is called

a. sporopllenin b. ectoderm c. reticulum d. pollenkitt

297. Embryonal axis is called

a. tigellum b. tegmen c. tapetum d. cotyledon

298. In the anther wall, the layer of cells immediately after edpidermis is called

a. endothecium b. middle layers c. tapetum d. sporogenous tissue

299. Pollination by air is called

a. anemophily b. entomophily c. ornithophily d. none

300. Which of the following mechanisms favours cross pollination in plants

a. self-sterility b. dichogamy c. herkogamy d. all