

Exercise - I (Conceptual Questions)

Build Up Your Understanding

KINGDOM – PLANTAE – ALGAE

1. Which algal groups have similarity in pigment composition ?
 (1) Red algae and brown algae
 (2) Green algae and blue green algae
 (3) Kelps and diatoms
 (4) Diatoms and euglenoids

BPK001

2. No zoospore formation has been observed in the algal members belonging to:-
 (1) Chlorophyceae (2) Brown algae
 (3) Phaeophyceae (4) Cyanophyceae

BPK004

3. Which pigment is found in Phaeophyceae?
 (1) Chl. a, c and fucoxanthin
 (2) Chl. a, d and violaxanthin
 (3) β Carotene and phycocyanin
 (4) None of these

BPK005

4. Food reserve in Rhodophyta is :-
 (1) Floridean starch (2) Mannitol
 (3) Leucosin (4) All of the above

BPK006

5. Zygotic meiosis is characteristic of :-
 (1) Prokaryotes (2) Thallophyta
 (3) Bryophyta (4) Spermatophyta

BPK007

6. Photosynthetic pigments common to all algae:
 (1) Chlorophyll 'b' and carotene
 (2) Chlorophyll 'a' and 'b'
 (3) Chlorophyll 'a' and carotene
 (4) Chlorophyll and xanthophyll

BPK008

7. *Chlorella*, a very good source of protein, belongs to:-

(1) Chlorophyta (2) Rhodophyta
 (3) Pyrrophyta (4) Phaeophyta

BPK009

8. Deepest algae in sea are :-

(1) Red Algae (2) Brown Algae
 (3) Green Algae (4) Golden Algae

BPK010

9. Phycobilins are characteristic pigments of :-

(1) Rhodophyta and Phaeophyta
 (2) Rhodophyta and Pyrrophyta
 (3) Pyrrophyta and Cyanophyta
 (4) Rhodophyta and Cyanophyta

BPK011

10. Which of the following plant groups have similar pigment composition ?

(1) Rhodophyta and Phaeophyta
 (2) Chlorophyta and Phaeophyta
 (3) Rhodophyta and Cyanophyta
 (4) All of the above

BPK012

11. Globule and nucule are sex organs of :-

(1) *Chara* (2) *Chlorella*
 (3) *Laminaria* (4) *Polysiphonia*

BPK013

12. Flagellated cells are absent in :-

(1) Red algae (2) Blue green algae
 (3) Higher seed plants (4) All the above

BPK014

13. Green algae are considered as ancestors of higher plants due to their resemblance with higher plants in :-

(1) Pigments (2) Cell wall
 (3) Stored food (4) All the above

BPK015

14. Pyrenoids are characteristically found in algae. A pyrenoid consists of :-
 (1) Core of starch surrounded by protein
 (2) Core of protein surrounded by starch
 (3) Core of fatty acids covered by starch
 (4) Nucleic acid and protein
BPK016
15. In Chlorophyta the mode of sexual reproduction is :-
 (1) Isogamy
 (2) Anisogamy
 (3) Oogamy
 (4) Isogamy, Anisogamy and oogamy
BPK017
16. Unique character of Thallophyta is :-
 (1) Thalloid body
 (2) Absence of vascular tissue
 (3) Zygotic meiosis
 (4) All the above
BPK018
17. In Thallophyta main plant body is:-
 (1) Gametophyte (2) Sporophyte
 (3) Diploid plant body (4) Leafy plant body
BPK019
18. Sexual reproduction in Thallophyta takes place by:-
 (1) Isogamy (2) Anisogamy
 (3) Oogamy (4) Any of the above
BPK020
19. Most advanced group of Algae is :-
 (1) Myxophyta (2) Chlorophyta
 (3) Brown algae (4) Phaeophyta
BPK021
20. "Agar-agar" is obtained from :-
 (1) Green Algae (2) Red Algae
 (3) Brown Algae (4) Yellow green Algae
BPK022
21. Motile stages are not found in life cycle of:-
 (1) Red Algae & green Algae
 (2) Red Algae & brown Algae
 (3) Red Algae & blue green Algae
 (4) Green Algae & brown Algae
BPK023
22. Embryo is not formed in Thallophyta due to:-
 (1) Zygotic meiosis
 (2) Zygotic mitosis
 (3) Sporangial meiosis
 (4) Gametic meiosis
BPK024
23. Oogonia of Thallophyta differs with archegonia of Bryophyta :-
 (1) Being multicellular
 (2) Being jacketed
 (3) Being stalked
 (4) Being unicellular and jacket less
BPK025
24. Which of the following best explains the evolution of sexual reproduction ?
 (1) *Chlamydomonas* (2) *Ulothrix*
 (3) *Puccinia* (4) *Albugo*
BPK026
25. *Volvox* belongs to :-
 (1) Brown Algae (2) Red Algae
 (3) Golden Algae (4) Green Algae
BPK028
26. Gametes are non-motile in :-
 (1) Blue green Algae
 (2) Red Algae
 (3) Both (1) and (2)
 (4) Green Algae
BPK029
27. Blue - green algae resembles more closely to:
 (1) Green Algae
 (2) Brown Algae
 (3) Red Algae and bacteria
 (4) Slime moulds
BPK030

28. Which of the following statement is true for algae ?

- (1) Algae have root, stem and leaves
- (2) Algae have true roots but lack leaves
- (3) Algae have rhizoids and leaves
- (4) Body of algae is thallus

BPK031

29. In which plant group reproductive organs are not enclosed in a layer of sterile cells?

- (1) Pteridophyta (2) Thallophyta
- (3) Angiosperm (4) Gymnosperm

BPK032

30. Classification of algae is mainly based on :-

- (1) Reproductive organs
- (2) Structure of spores
- (3) Pigments
- (4) Stored food

BPK033

31. "Carrageenin" is obtained from :-

- (1) *Chondrus crispus* (2) *Laminaria*
- (3) *Gelidium* (4) *Macrocystis*

BPK034

32. Female sex organ of algae is called :-

- (1) Carpel (2) Oogonium
- (3) Archegonia (4) Oosphere

BPK035

33. Which of the following is not correctly matched ?

- (1) Heterocyst = N_2 -fixation structure of B.G.A.
- (2) Hormogonia = Reproductive structure of B.G.A.
- (3) Floridean starch = Stored food of brown algae
- (4) Cyanophycean starch = Stored food of B.G.A.

BPK036

34. Cilia & flagella are absent in life cycle of :-

- (1) Red algae
- (2) Brown algae
- (3) Green algae
- (4) Red algae & B.G.A.

BPK037

35. Which algae best explains the evolution of sexual reproduction ?

- (1) Green algae (2) Red algae
- (3) Brown algae (4) B. G. Algae

BPK038

KINGDOM-PLANTAE – BRYOPHYTA

36. Embryo is present but true vasculature is absent in the group :-

- (1) Cyanophyta (2) Tracheophyta
- (3) Bryophyta (4) Chlorophyta

BPK039

37. The unique feature of bryophytes compared to other green plant groups is that:-

- (1) They produce spores
- (2) They lack vascular tissue
- (3) They lack root
- (4) Their sporophyte is attached to gametophyte

BPK040

38. In bryophytes diploid number of chromosomes occur in:-

- (1) Gametes
- (2) Spores
- (3) Spore mother cells
- (4) Nuclei of gametes

BPK041

39. The group Bryophyta includes :-

- (1) Liverworts and ferns
- (2) Liverworts and club moss
- (3) Moss and ferns
- (4) Liverworts and moss

BPK042

40. A leafy non-vascular plant with dependent sporophytic generation should properly be classified in
(1) Thallophyta (2) Bryophyta
(3) Pteridophyta (4) Spermatophyta
BPK043
41. Bryophyta includes :-
(1) Mosses (2) Psilopsida
(3) Horse tails (4) All the above
BPK044
42. A leafy gametophyte plant with multicellular rhizoids and sporophyte differentiated in foot, seta and capsule should belong to :-
(1) Psilopsida (2) Hepaticopsida
(3) Bryopsida (4) Lycopsida
BPK045
43. Bryophytes differ from thallophytes in having:-
(1) Embryo
(2) Rhizoids
(3) Sterile jacket around sex organs
(4) All the above
BPK046
44. Spores do not form protonema but directly grow into flat branching thallus in :-
(1) Liverworts (2) Mosses
(3) Ferns (4) Gymnosperms
BPK047
45. In Bryophyta, simplest sporophyte occur in:-
(1) *Riccia* (2) *Marchantia*
(3) *Funaria* (4) *Anthoceros*
BPK048
46. In which of the following bryophytes there are gemmae, the means of vegetative reproduction?
(1) *Riccia* (2) *Marchantia*
(3) *Sphagnum* (4) *Anthoceros*
BPK049
47. In Bryophytes what is absent :-
(1) Embryo formation
(2) Fertilization
(3) Motile gametes
(4) True roots and vascular tissue
BPK050
48. In bryophytes fertilization takes place:-
(1) At low temp.
(2) In dry condition
(3) In presence of water
(4) In above all situation
BPK051
49. Which statement is true about bryophytes?
(1) They are non photosynthetic
(2) Zygote produces gametophyte on germination
(3) Spores form gametophyte plant on germination
(4) They have vascular tissues
BPK052
50. Which bryophyte is of economic importance ?
(1) *Funaria* (2) *Marchantia*
(3) *Riccia* (4) *Sphagnum*
BPK053
51. Mosses are gregarious because they :-
(1) Have vascular tissue
(2) Have indirect germination of spores
(3) Have direct germination of spores
(4) Have spore mother cells
BPK054
52. Aquatic ancestry of bryophytes is evidenced by:
(1) Their green colour
(2) Algae like protonema
(3) Many aquatic bryophytes
(4) Flagellated male gametes
BPK055

- 53.** Moss sporophyte is differentiated in :-
 (1) Stem & leaves
 (2) Root, stem and leaves
 (3) Rhizoids, stem & leaves
 (4) None of these
BPK056
- 54.** Oblique septa are found in which part of moss:
 (1) Rhizoids of sporophyte
 (2) Rhizoids of gametophyte
 (3) Leaves
 (4) Stem
BPK057
- 55.** Mosses are ecologically important because
 I. The first organism to colonize base rocks.
 II. It decompose rocks making suitable for the growth of higher plant.
 III. It forms dense mats on soil.
 IV. It reduces the impact of falling rain and soil erosion.
 (1) Only I (2) Only II
 (3) III and IV (4) All of these
BPK366
- 56.** Which of the following plants are similar in requirement of water for fertilisation ?
 (1) Bryophyta
 (2) Pteridophyta
 (3) Angiosperm
 (4) Both (1) and (2)
BPK059
- 57.** The bryophyte which have great water holding capacity :-
 (1) *Anthoceros*
 (2) *Sphagnum*
 (3) *Funaria*
 (4) *Marchantia*
BPK060
- 58.** In which of the following zygote further develops to form a diploid structure ?
 (1) Thallophyta (2) Bryophyta
 (3) Algae (4) Fungi
BPK061
- 59.** Bryophytes are :-
 (1) First successful land plant
 (2) Vascular cryptogams
 (3) Non vascular cryptogams
 (4) Vascular embryophytes
BPK062
- 60.** Sex organ in bryophytes are :-
 (1) Unicellular and jacketed
 (2) Unicellular and non-jacketed
 (3) Multicellular and jacketed
 (4) Multicellular and non jacketed
BPK063
- 61.** Fossilised fuel obtained from bog is:-
 (1) Tar (2) Peat
 (3) Bio-gas (4) Petrol
BPK064
- 62.** Which structure produces the gamete bearing plant of moss ?
 (1) Spore (2) Bud
 (3) Protonema (4) Zygote
BPK065
- 63.** Bryophytes show an advancement over algae in:
 (1) Having multicellular sporophytic generation
 (2) Having parasitic sporophyte
 (3) Having zygotic meiosis
 (4) None of the above
BPK066
- 64.** Which bryophyte is known as Peat moss ?
 (1) *Riccia* (2) *Riella*
 (3) *Sphagnum* (4) *Marchantia*
BPK067
- 65.** Leafy gametophyte occurs in:-
 (1) Liverworts (2) Hornworts
 (3) Moss (4) Fern
BPK068
- 66.** *Sphagnum* may be used as a substitute of :-
 (1) Absorbent cotton
 (2) Non-absorbent cotton
 (3) Plastic
 (4) Polythene
BPK070

- 67.** Non vascular Embryophyta are :-
 (1) Thallophyta (2) Bryophyta
 (3) Pteridophyta (4) Both (1) and (2)

BPK071

- 68.** The water conducting tissue in Bryophyta is:-
 (1) Parenchyma (2) Sclerenchyma
 (3) Tracheids (4) Sieve tubes

BPK072

- 69.** Bryophyta are not tall plants due to:-
 (1) Absence of meristem
 (2) Absence of vascular tissues
 (3) Presence of root system
 (4) All the above

BPK073

- 70.** The first cell of sporophytic generation in Bryophyta is:-
 (1) Spore
 (2) Spore mother cell
 (3) Zygote
 (4) Protonema

BPK074

- 71.** Structures for dispersal of spores in Bryophyta are :-
 (1) Elaters (2) Pseudo elaters
 (3) Peristomial teeth (4) All the above

BPK075

- 72.** Oblique septa in rhizoids are characteristic of:
 (1) Liverworts (2) Hornworts
 (3) Mosses (4) Ferns

BPK076

- 73.** In which Bryophyta germination of spore is indirect:-
 (1) *Riccia* (2) *Rhizopus*
 (3) *Puccinia* (4) *Funaria*

BPK077

- 74.** Male gametes of bryophytes are :-
 (1) Uniflagellate (2) Multiflagellate
 (3) Biflagellate (4) Triflagellate

BPK078

- 75.** The vascular tissue is absent in :-
 (1) Algae, fungi and pteridophytes
 (2) Thallophytes and bryophytes
 (3) Bryophytes and pteridophytes
 (4) Angiosperm and gymnosperm

BPK080

- 76.** The sporophyte of bryophyte is :-
 (1) Parasitic
 (2) Autotrophic
 (3) Saprophytic
 (4) Semiparasitic or parasitic

BPK081

- 77.** Non vascular land plants are called:-
 (1) Bryophytes (2) Pteridophytes
 (3) Fungi (4) Algae

BPK082

KINGDOM-PLANTAE – PTERIDOPHYTA

- 78.** Vascular cryptogams or seed less vascular plants belongs to:-
 (1) Bryophyta (2) Pteridophyta
 (3) Thallophyta (4) Spermatophyta

BPK083

- 79.** Seed habit first established in:-
 (1) Pteridophytes (2) Gymnosperms
 (3) Angiosperms (4) None of the above

BPK084

- 80.** Most conspicuous alternation of generation occurs is:-
 (1) Thallophyta (2) Bryophyta
 (3) Pteridophyta (4) Spermatophyta

BPK085

81. Rhizoids containing sporophytic plants are characteristic of:-
 (1) Bryopsida (2) Sphenopsida
 (3) Cycadophyta (4) Psilopsida
BPK086
82. Which group includes green leaf microphyllous plants:-
 (1) Lycopsidea (2) Sphenopsida
 (3) Psilotopsida (4) Pteropsida
BPK087
83. Roots first originated in :-
 (1) Algae (2) Fungi
 (3) Bryophyta (4) Pteridophyta
BPK088
84. Pteridophyta differs from Bryophyta in having:-
 (1) Vascular tissue
 (2) Archegonia
 (3) Alternation of generations
 (4) Motile sperm
BPK089
85. In Pteridophyta, reduction division occurs when:-
 (1) Prothallus is formed
 (2) Spores are formed
 (3) Sex organs are formed
 (4) Gametes are formed
BPK090
86. The main plant body of Pteridophytes is:-
 (1) Sporophyte
 (2) Gametophyte
 (3) Haploid
 (4) None of the above
BPK091
87. Cryptogamic plants are:-
 (1) Seedless (2) Embryo less
 (3) Leafless (4) Rootless
BPK092
88. *Adiantum* is called "walking fern" due to :-
 (1) Power of locomotion
 (2) Vegetative reproduction
 (3) Motile antherozoids
 (4) All the above
BPK093
89. Plants having vascular tissues but lacking seeds are :-
 (1) Bryophyta (2) Pteridophyta
 (3) Gymnosperms (4) Angiosperms
BPK094
90. Heterospory occurs in :-
 (1) *Selaginella* (2) *Pteridium*
 (3) *Funaria* (4) *Riccia*
BPK095
91. Sporangia are found in fruiting structures called sporocarps in aquatic ferns, which of the following is aquatic fern :-
 (1) *Salvinia* (2) *Selaginella*
 (3) *Pteridium* (4) *Equisetum*
BPK096
92. The antherozoids of fern are :-
 (1) Uniflagellate (2) Biflagellate
 (3) Quadriflagellate (4) Multiflagellate
BPK097
93. In Pteridophytes the spores germinate to form:-
 (1) Protonema (2) Prothallus
 (3) Sporophyte (4) Archegonium
BPK098
94. Aquatic fern which supports the growth of blue green algae, *Anabaena*, and used to increase the yield of paddy crop is :-
 (1) *Salvinia* (2) *Marsilea*
 (3) *Selaginella* (4) *Azolla*
BPK099

95. Most distinct type of alternation of generations is demonstrated by :-

- (1) Angiosperms (2) Ferns
(3) Gymnosperms (4) Bryophytes

BPK100

96. Presence of motile stage in life cycle & requirement of water as a medium to complete life cycle is diagnostic characters of:

- (1) Thallophyta (2) Bryophyta
(3) Pteridophyta (4) Cryptogams

BPK101

97. Evolution of seed habit first started in :-

- (1) *Selaginella* like ancestral pteridophytes
(2) *Psilotum* like ancestral pteridophytes
(3) Gymnosperms
(4) Mosses

BPK102

98. Which is an aquatic fern

- (1) *Psilotum* (2) *Salvinia*
(3) *Chara* (4) *Lycopodium*

BPK103

99. In ferns, the permanent roots are :-

- (1) Tap root
(2) Adventitious roots
(3) Tuberous roots
(4) Rhizome

BPK104

100. Independent alternation of generation is found in-

- (1) Pteridophyta (2) Spermatophyta
(3) Thallophyta (4) Bryophyta

BPK105

101. Stem distinctly differentiated in to node and internode in :-

- (1) Psilopsida (2) Lycopsida
(3) Sphenopsida (4) Pteropsida

BPK106

102. Spore producing part of pteridophytes is:-

- (1) Sporangia of gametophytes
(2) Capsule of sporophytes
(3) Sporangia of sporophytes
(4) Capsule of gametophytes

BPK107

103. In pteridophytes, reduction division takes place in :-

- (1) Zygote
(2) Spore mother cells
(3) Gametangia
(4) Prothallus

BPK108

KINGDOM-PLANTAE – GYMNOSPERM

104. Most advanced Gymnosperm belongs to:-

- (1) Cycadales (2) Coniferales
(3) Gnetales (4) Cycadofilicales

BPK109

105. Which of the following is called father of forest?

- (1) *Pinus* (2) *Banyan*
(3) *Sequoia* (4) *Cedrus*

BPK110

106. All Gymnosperms are:-

- (1) Heterosporous
(2) Arborescent/Woody
(3) Seed plants
(4) All the above

BPK111

107. Gymnosperm plants lack :-

- (1) Vessels (2) Fruits
(3) Companion cells (4) All the above

BPK112

108. Gymnosperm plants do not produce fruits because they do not have:-

- (1) ovary (2) gametes
(3) fertilization (4) None of these

BPK113

109. Ovule is morphologically equivalent to:-

- (1) Megaspore (2) Megasporangium
(3) Microspore (4) Megasporophyll

BPK114

110. Cones in gymnosperm plants are usually :-

- (1) Bisexual (2) Unisexual
(3) Sterile (4) Any of the above

BPK115

111. Zygote of Pteridophyte :-

- (1) Undergoes reduction division just after formation
(2) Produces multicellular gametophyte
(3) Produces multicellular sporophyte
(4) Remains dormant

BPK367

112. Majority of the pteridophytes are :-

- I. Homosporous and produce only one kind of spores.
II. Aquatic in nature.
III. All are Heterosporous.
IV. Restricted to narrow geographical zone because of specific requirement of water.

- (1) I and II (2) II and III
(3) III and IV (4) IV and I

BPK368

113. Heterosporous plants are :-

- (1) Plants producing one kind of spores.
(2) Plants producing large and small spores.
(3) Condition found in *Funaria* and *Marcantia*.
(4) None of these

BPK369

114. Gametophyte depends on sporophyte in:-

- (1) Bryophyta (2) Pteridophyta
(3) Cryptogams (4) Spermatophyta

BPK119

115. Pteridophytes have only

- (1) Small microphyllous leaves
(2) Large macrophyllous leaves
(3) Both microphyllous as well as macrophyllous in some of the ferns
(4) All of the above

BPK370

116. Ephedrine is obtained by :-

- (1) *Ephedra* (2) *Gnetum*
(3) *Pinus* (4) *Cycas*

BPK121

117. Resin turpentine is obtained from:-

- (1) *Pinus* (2) *Adiantum*
(3) Club mosses (4) *Sequoia*

BPK122

118. Which one is false about pteridophyte?

- (1) They flourish well moist and shady condition.
(2) They are found in cool damp and shady place.
(3) The xylem possesses vessels.
(4) None of these

BPK371

119. Spore bearing tracheophytes (Vascular plants):

- (1) Pteridophyta (2) Gymnosperms
(3) Angiosperms (4) All the above

BPK124

120. Which of the following Gymnospermic orders resembles with angiosperms ?

- (1) Cycadales (2) Coniferales
(3) Gnetales (4) Ginkgoales

BPK125

121. Living fossil:-

- (1) *Cycas* (2) *Ginkgo*
(3) *Psilotum* (4) All the above

BPK126

122. Gymnosperms :-

- (1) Are naked seeds plants
- (2) Have tap roots
- (3) Are heterosporous
- (4) All of these

BPK372

123. Which of the following are absent in group gymnosperm ?

- (1) Trees
- (2) Shrubs
- (3) Liana
- (4) Herbs

BPK128

124. Which plant group is exclusively perennial ?

- (1) Dicots
- (2) Ferns
- (3) Gymnosperms
- (4) Monocots

BPK129

125. In *Ginkgo*, male gametes are :-

- (1) Motile
- (2) Non-motile
- (3) Amoeboid
- (4) Absent

BPK130

126. Male gamete of *Cycas* is largest in plant kingdom, is :-

- (1) Non motile
- (2) Biflagellate
- (3) Multiciliate
- (4) Uniflagellate

BPK131

127. The mode of pollination in Gymnospermae is:-

- (1) Anemophily
- (2) Entomophily
- (3) Hydrophily
- (4) Any of the above

BPK132

128. Which of the following are correct for gymnosperms?

- I. Have adventitious root system.
- II. The leaves in gymnosperms can withstand extreme temperature, humidity and wind.
- III. Microspores are produced in microsporangia.

IV. They include medium or tall sized trees and shrubs.

- (1) I and III
- (2) I, II and III
- (3) II, III and IV
- (4) I and IV

BPK373

129. Which of the following remained unchanged for last many million years ?

- (1) *Pinus*
- (2) Rice
- (3) *Cedrus*
- (4) *Ginkgo*

BPK134

130. Life cycle of gymnosperm is :-

- (1) Haplontic
- (2) Haplodiplontic
- (3) Diplontic
- (4) Diplohaplontic

BPK135

131. Which of the following is commonly known as "Chilgoza pine" ?

- (1) *Cycas*
- (2) *Cedrus*
- (3) *Pinus*
- (4) *Ginkgo*

BPK136

132. The gymnosperm resembles with angiosperm in having :-

- (1) Ciliated sperms
- (2) Presence of ovary
- (3) Presence of seed
- (4) Presence of fruit

BPK137

133. In pteridophytes and gymnosperm sporangia are born on which side of sporophyll :-

- (1) Adaxial
- (2) Abaxial
- (3) Lateral
- (4) Terminal

BPK138

134. Megaspore germinate into :-

- (1) Female gametophyte.
- (2) Gametophyte having both male and female sex organs.
- (3) Male gametophyte.
- (4) Male sporophyte.

BPK374

135. Fruits are not formed in gymnosperm because:

- (1) Fertilization is absent
- (2) Pollination is absent
- (3) Seeds are not formed
- (4) Ovary is absent

BPK140

136. The gametophyte of pteridophyte grows in damp, moist and shady places because :-

- (1) They are limited and restricted to a narrow geographical region.
- (2) They need water for fertilization of gametes formed on the gametophyte.
- (3) Water is required for gametogenesis.
- (4) Egg cell swims in water to reach to the antheridia.

BPK375

137. Gymnosperms differ from pteridophytes in having—

- (1) Presence of tracheids
- (2) Presence of embryo
- (3) Presence of ovule
- (4) Companion cell

BPK142

138. Most gymnosperms have :-

- (1) Both archegonia and antheridia
- (2) Antheridia but no archegonia
- (3) Archegonia but no antheridia
- (4) No antheridia or archegonia

BPK143

139. The "endosperm" of a gymnosperm represent:

- (1) Gametophytic tissue
- (2) Sporophytic tissue
- (3) Tissue formed by double fertilization
- (4) Polyploid tissue

BPK144

140. Vessels occur in the following gymnosperm plant :-

- (1) *Ginkgo* (2) *Taxus*
- (3) *Gnetum* (4) All the above

BPK145

141. In gymnosperm endosperm is :-

- (1) Triploid (2) Diploid
- (3) Haploid (4) Tetraploid

BPK146

142. Which of the following is not heterosporous ?

- (1) *Selaginella* (2) *Pinus*
- (3) *Pteridium* (4) *Cycas*

BPK147

143. Multiciliate male gametes are found in :-

- (1) *Pinus* (2) *Cycas*
- (3) *Gnetum* (4) *Mango*

BPK148

144. Which of the following plant form seed and have pollen tube ?

- (1) Angiosperm
- (2) Pteridophytes
- (3) Gymnosperm
- (4) Siphonogamous plants

BPK149

145. The plants frequently grown as ornamentals and are used for medicinal purpose belong to :-

- (1) Angiosperms
- (2) Pteridophytes
- (3) Algae
- (4) Some protist

BPK376

KINGDOM—PLANTAE – ANGIOSPERMS

146. Which of the following is not a part of flower?

- (1) Androecium (2) Gynoecium
- (3) Calyx (4) Trophophyll

BPK151

147. Smallest angiosperm is: -

- (1) *Wolffia* (2) *Eucalyptus*
(3) *Mustard* (4) *Tomato*

BPK152

148. Pulses are: -

- (1) Monocots plants (2) Dicot plants
(3) Both (1) and (2) (4) Conifers

BPK153

149. Which of the following products are provided by angiosperms?

- (1) Fuel
(2) Fodder
(3) Food
(4) Fuel, Fodder and Food

BPK154

150. The seeds are enclosed in ovary in :-

- (1) Angiosperms (2) Gymnosperms
(3) Bryophytes (4) Pteridophytes

BPK155

151. Male sex organ in flower is :-

- (1) Antheridia (2) Stamens
(3) Calyx (4) Nucule

BPK377

152. Which of the following plant groups, produces flowers ?

- (1) Bryophytes (2) Pteridophytes
(3) Algae (4) Angiosperms

BPK157

153. After fertilization ovule converts into: -

- (1) Fruit (2) Ovary wall
(3) Seed (4) Nucellus

BPK158

154. Life cycle of gymnosperm is: -

- (1) Haplontic
(2) Haplo-diplontic
(3) Diplontic
(4) Diplohaplontic

BPK159

155. Which kind of life-cycle pattern is exhibited by seed bearing plants?

- (1) Haplontic
(2) Diplontic
(3) Haplo-diplontic
(4) All of these

BPK160

156. Haplontic life cycle is present in: -

- (1) Wheat (2) Gymnosperm
(3) *Fucus* (4) *Volvox*

BPK161

157. Which of the following life cycle has only one celled zygote as sporophytic generation?

- (1) Haplontic
(2) Diplontic
(3) Haplo-diplontic
(4) All of these

BPK162

EXERCISE-I (Conceptual Questions)

ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	3	4	1	1	2	3	1	1	4	3	1	4	4	2	4
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	3	1	4	2	2	3	1	4	1	4	2	3	4	2	3
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	1	2	3	4	1	3	4	3	4	2	1	3	4	1	1
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	2	4	3	3	4	2	4	4	2	4	4	2	2	3	3
Question	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Answer	2	2	1	3	3	1	2	1	2	3	4	3	4	3	2
Question	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Answer	4	1	2	2	3	4	1	4	1	2	1	1	2	2	1
Question	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Answer	1	4	2	4	2	4	1	2	2	1	3	3	2	3	3
Question	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Answer	4	4	1	2	2	3	4	2	4	3	1	1	3	4	3
Question	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
Answer	4	4	4	3	1	3	1	3	4	3	3	3	2	1	4
Question	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
Answer	2	3	3	1	3	3	3	2	4	2	4	1	2	4	1
Question	151	152	153	154	155	156	157								
Answer	2	4	3	3	2	4	1								

Exercise - II (Previous Year Questions)

AIPMT/NEET

AIPMT 2014

1. Which one of the following shows isogamy with non-flagellated gametes?
 (1) *Sargassum* (2) *Ectocarpus*
 (3) *Ulothrix* (4) *Spirogyra*

BPK209

2. Which one of the following is wrong about *Chara*?
 (1) Upper oogonium and lower round antheridium.
 (2) Globule and nucule present on the same plant.
 (3) Upper antheridium and lower oogonium
 (4) Globule is male reproductive structure

BPK210

3. Which of the following is responsible for peat formation ?
 (1) *Marchantia* (2) *Riccia*
 (3) *Funaria* (4) *Sphagnum*

BPK211

4. Male gametophyte with least number of cell is present in :
 (1) *Pteris* (2) *Funaria*
 (3) *Lilium* (4) *Pinus*

BPK212

5. An alga which can be employed as food for human being is :-
 (1) *Ulothrix* (2) *Chlorella*
 (3) *Spirogyra* (4) *Polysiphonia*

BPK213

AIPMT 2015

6. In which of the following gametophyte is **not** independent free living ?
 (1) *Marchantia* (2) *Pteris*
 (3) *Pinus* (4) *Funaria*

BPK214

7. Read the following five statements (A to E) and select the option with **all correct** statements :-

- (A) Mosses and Lichens are the first organisms to colonise a bare rock.
 (B) *Selaginella* is a homosporous pteridophyte
 (C) Coralloid roots in *Cycas* have VAM
 (D) Main plant body in bryophytes is gametophytic, whereas in pteridophytes it is sporophytic
 (E) In gymnosperms, male and female gametophytes are present within sporangia located on sporophyte

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

BPK215

8. Male gametes are flagellated in :

- (1) *Anabaena* (2) *Ectocarpus*
 (3) *Spirogyra* (4) *Polysiphonia*

BPK216

9. Which one of the following statements is **wrong**?

- (1) Agar - agar is obtained from *Gelidium* and *Gracilaria*
 (2) *Chlorella* and *Spirulina* are used as space food
 (3) Mannitol is stored food in Rhodophyceae
 (4) Algin and carrageen are products of algae

BPK217

Re-AIPMT 2015

10. Which one is a **wrong** statement ?
- (1) Brown algae have chlorophyll a and c, and fucoxanthin.
 - (2) Archegonia are found in Bryophyta, Pteridophyta and Gymnosperms.
 - (3) *Mucor* has biflagellate zoospores.
 - (4) Haploid endosperm is typical feature of gymnosperms.

BPK218

NEET-I 2016

11. Select the **correct** statement :-
- (1) Gymnosperms are both homosporous and heterosporous.
 - (2) *Salvinia*, *Ginkgo* and *Pinus* all are gymnosperms.
 - (3) *Sequoia* is one of the tallest trees.
 - (4) The leaves of gymnosperms are not well adapted to extremes of climate.

BPK219

12. In bryophytes and pteridophytes, transport of male gametes requires :-

(1) Wind (2) Insects (3) Birds (4) Water

BPK220

13. Which of the following would appear as the pioneer organisms on bare rocks?

(1) Lichens (2) Liverworts
(3) Mosses (4) Green algae

BPK221

NEET-II 2016

14. The ovule of an angiosperm is technically equivalent to :
- (1) megaspore mother cell
 - (2) megaspore
 - (3) megasporangium
 - (4) megasporophyll

BPK222

15. Conifers are adapted to tolerate extreme environmental conditions because of :

(1) thick cuticle
(2) presence of vessels
(3) broad hardy leaves
(4) superficial stomata

BPK223

16. Which one of the following statements is **wrong**?

(1) Agar-agar is obtained from *Gelidium* and *Gracilaria*.
(2) *Laminaria* and *Sargassum* are used as food.
(3) Algae increase the level of dissolved oxygen in the immediate environment.
(4) Algin is obtained from red algae, and carrageenan from brown algae.

BPK224

NEET (UG) 2017

17. An example of colonial alga is :

(1) *Volvox*
(2) *Ulothrix*
(3) *Spirogyra*
(4) *Chlorella*

BPK225

18. Zygotic meiosis is characteristic of;

(1) *Fucus*
(2) *Funaria*
(3) *Chlamydomonas*
(4) *Marchantia*

BPK226

19. Life cycle of *Ectocarpus* and *Fucus* respectively are:

(1) Diplontic, Haplodiplontic
(2) Haplodiplontic, Diplontic
(3) Haplodiplontic, Haplontic
(4) Haplontic, Diplontic

BPK227

20. Select the mismatch

- (1) *Cycas* – Dioecious
- (2) *Salvinia* – Heterosporous
- (3) *Equisetum* – Homosporous
- (4) *Pinus* – Dioecious

BPK228

NEET (UG) 2018

21. Which of the following statement is **correct**?

- (1) Ovules are not enclosed by ovary wall in gymnosperms.
- (2) *Selaginella* is heterosporous, while *Salvinia* is homosporous.
- (3) Horsetails are gymnosperms.
- (4) Stems are usually unbranched in both *Cycas* and *Cedrus*.

BPK229

22. Which one is **wrongly** matched ?

- (1) Uniflagellate gametes - *Polysiphonia*
- (2) Biflagellate zoospores - Brown algae
- (3) Gemma cups - *Marchantia*
- (4) Unicellular organism - *Chlorella*

BPK230

23. Winged pollen grains are present in

- (1) Mustard
- (2) *Cycas*
- (3) Mango
- (4) *Pinus*

BPK231

NEET (UG) 2019

24. Phloem in gymnosperms lacks :

- (1) Albuminous cells and sieve cells
- (2) Sieve tubes only
- (3) Companion cells only
- (4) Both sieve tubes and companion cells

BPK232

25. From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in :

- (1) Liverworts
- (2) Mosses
- (3) Pteridophytes
- (4) Gymnosperms

BPK233

NEET (UG) 2020

26. Floridean starch has structure similar to:

- (1) Laminarin and cellulose
- (2) Starch and cellulose
- (3) Amylopectin and glycogen
- (4) Mannitol and align

BPK234

27. Which of the following pairs is of unicellular algae?

- (1) *Chlorella* and *Spirulina*
- (2) *Laminaria* and *Sargassum*
- (3) *Gelidium* and *Gracilaria*
- (4) *Anabaena* and *Volvox*

BPK235

28. Strobili or cones are found in :

- (1) *Equisetum*
- (2) *Salvinia*
- (3) *Pteris*
- (4) *Marchantia*

BPK236

NEET (UG) 2020 (COVID-19)

29. Phycoerythrin is the major pigment in :

- (1) Red algae
- (2) Blue green algae
- (3) Green algae
- (4) Brown algae

BPK237

30. Which of the following statements is incorrect about gymnosperms ?

- (1) They are heterosporous
- (2) Male and female gametophytes are free living
- (3) Most of them have narrow leaves with thick cuticle
- (4) Their seeds are not covered

BPK238

31. Male and female gametophytes do not have an independent free living existence in
 (1) Pteridophytes (2) Algae
 (3) Angiosperms (4) Bryophytes

BPK239

NEET (UG) 2021

32. Gemmae are present in :
 (1) Mosses
 (2) Pteridophytes
 (3) Some Gymnosperms
 (4) Some Liverworts

BPK240

33. Genera like *Selaginella* and *Salvinia* produce two kinds of spores. Such plants are known as:
 (1) Homosorus (2) Heterosorus
 (3) Homosporous (4) Heterosporous

BPK241

34. Which of the following plants is monoecious?
 (1) *Carica papaya*
 (2) *Chara*
 (3) *Marchantia polymorpha*
 (4) *Cycas circinalis*

BPK242

35. Which of the following algae contains mannitol as reserve food material ?
 (1) *Ectocarpus* (2) *Gracilaria*
 (3) *Volvox* (4) *Ulothrix*

BPK243

36. Which of the following algae produce Carrageen ?
 (1) Green algae
 (2) Brown algae
 (3) Red algae
 (4) Blue-green algae

BPK244

NEET (UG) 2022

37. Hydrocolloid carrageen is obtained from :
 (1) Phaeophyceae and Rhodophyceae
 (2) Rhodophyceae only
 (3) Phaeophyceae only
 (4) Chlorophyceae and Phaeophyceae
38. Which of the following is **incorrectly** matched ?
 (1) *Ulothrix* – Mannitol
 (2) *Porphyra* - Floridian Starch
 (3) *Volvox* – Starch
 (4) *Ectocarpus* – Fucoxanthin

BPK245

BPK246

39. Match the plant with the kind of life cycle it exhibits:

List-I		List-II	
(a)	<i>Spirogyra</i>	(i)	Dominant diploid sporophyte vascular plant, with highly reduced male or female gametophyte
(b)	Fern	(ii)	Dominant haploid free-living gametophyte
(c)	<i>Funaria</i>	(iii)	Dominant diploid sporophyte alternating with reduced gametophyte called prothallus
(d)	<i>Cycas</i>	(iv)	Dominant haploid leafy gametophyte alternating with partially dependent multicellular sporophyte

Choose the **correct answer** from the options given below:

- (1) (a)–(ii), (b)–(iii), (c)–(iv), (d)–(i)
 (2) (a)–(iii), (b)–(iv), (c)–(i), (d)–(ii)
 (3) (a)–(ii), (b)–(iv), (c)–(i), (d)–(iii)
 (4) (a)–(iv), (b)–(i), (c)–(ii), (d)–(iii)

BPK247

Re-NEET (UG) 2022

40. Match List - I with List - II :

List-I		List-II	
(a)	<i>Chlamydomonas</i>	(i)	Moss
(b)	<i>Cycas</i>	(ii)	Pteridophyte
(c)	<i>Selaginella</i>	(iii)	Alga
(d)	<i>Sphagnum</i>	(iv)	Gymnosperm

Choose the **correct answer** from the options given below :

- (1) (a) - (iii), (b) - (i), (c) - (ii), (d) - (iv)
- (2) (a) - (iii), (b) - (iv), (c) - (ii), (d) - (i)
- (3) (a) - (iii), (b) - (ii), (c) - (i), (d) - (iv)
- (4) (a) - (ii), (b) - (iii), (c) - (i), (d) - (iv)

BPK248

41. Read the following statements and identify the characters related to the alga shown in the diagram:



- (a) It is a member of Chlorophyceae
- (b) Food is stored in the form of starch
- (c) It is a monoecious plant showing oogonium and antheridium
- (d) Food is stored in the form of laminarin or mannitol
- (e) It shows dominance of pigments chlorophyll a, c and Fucoxanthin.

Choose the **correct answer** from the options given below :

- (1) (a) and (b) only
- (2) (a), (b) and (c) only
- (3) (a), (c) and (d) only
- (4) (c), (d) and (e) only

BPK249

NEET (UG) 2023

42. Identify the pair of heterosporous pteridophytes among the following :

- (1) *Selaginella* and *Salvinia*
- (2) *Psilotum* and *Salvinia*
- (3) *Equisetum* and *Salvinia*
- (4) *Lycopodium* and *Selaginella*

BPK361

43. **Assertion:** The first stage of gametophyte in the life cycle of moss is protonema stage.

Reason: Protonema develops directly from spores produced in capsule.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

- (1) Both Assertion and Reason are correct but Reason is not the correct explanation of Assertion.
- (2) Assertion is correct but Reason is not correct.
- (3) Assertion is not correct but Reason is correct.
- (4) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

BPK362

- 44. Assertion:** In gymnosperms the pollen grains are released from the microsporangium and carried by air currents.

Reason: Air currents carry the pollen grains to the mouth of the archegonia where the male gametes are discharged and pollen tube is not formed.

In the light of the above statements, choose the **correct** answer from the options given below:

- (1) Both **A** and **R** are true but **R** is NOT the correct explanation of **A**.
- (2) **A** is true but **R** is false.
- (3) **A** is false but **R** is true
- (4) Both **A** and **R** are true and **R** is the correct explanation of **A**.

BPK363

NEET (UG) 2023 (Manipur)

- 45.** Which classes of algae possess pigment fucoxanthin and pigment phycoerythrin, respectively ?

- (1) Phaeophyceae and Chlorophyceae
- (2) Phaeophyceae and Rhodophyceae
- (3) Chlorophyceae and Rhodophyceae
- (4) Rhodophyceae and Phaeophyceae

BPK364

- 46.** Which of the following statements is true ?

- (1) All pteridophytes exhibit haplo-diplontic pattern.
- (2) Seed bearing plants follow haplontic pattern.
- (3) Most algal genera are diplontic
- (4) Most bryophytes do not have haplo-diplontic life cycle.

BPK365

NEET (UG) 2024

- 47.** Read the following statements and choose the set of correct statements :

In the members of Phaeophyceae,

- A. Asexual reproduction occurs usually by biflagellate zoospores.
- B. Sexual reproduction is by oogamous method only.
- C. Stored food is in the form of carbohydrates which is either mannitol or laminarin.
- D. The major pigments found are chlorophyll a, c and carotenoids and xanthophyll.
- E. Vegetative cells have a cellulosic wall, usually covered on the outside by gelatinous coating of algin.

Choose the correct answer from the options given below :

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

BPK378

RE-NEET (UG) 2024

- 48.** Identify the **incorrect** pair :

- (1) Sphenopsida — *Adiantum*
- (2) Pteropsida — *Dryopteris*
- (3) Psilopsida — *Psilotum*
- (4) Lycopsida — *Selaginella*

BPK379

- 49.** Which of the following is the **correct** match?

- (1) Gymnosperms : *Cedrus*, *Pinus*, *Sequoia*
- (2) Angiosperms : *Wolffia*, *Eucalyptus*, *Sequoia*
- (3) Bryophytes : *Polytrichum*, *Polysiphonia*, *Sphagnum*
- (4) Pteridophytes : *Equisetum*, *Ginkgo*, *Adiantum*

BPK380

EXERCISE-II (Previous Year Questions)
ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	3	4	3	2	3	2	2	3	3	3	4	1	3	1
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	4	1	3	2	4	1	1	4	4	3	3	1	1	1	2
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	3	4	4	2	1	3	2	1	1	2	2	1	4	2	2
Question	46	47	48	49											
Answer	1	3	1	1											

Exercise - III

Master Your Understanding

(A) NCERT BASED QUESTIONS

1. Algae reproduce by :-
 (1) Asexual (2) Sexual
 (3) Vegetative (4) All the above
BPK250
2. Stored food in Phaeophyceae is :-
 (1) Laminarin or mannitol
 (2) Starch
 (3) Cellulose
 (4) Algin
BPK251
3. Asexual reproduction in maximum brown algae is by :-
 (1) Biflagellated zoospore
 (2) Single flagellated zoospore
 (3) Aplanospore
 (4) None of these
BPK252
4. Pigments in Phaeophyceae :-
 (1) Chlorophyll a (2) Chlorophyll c
 (3) Fucoxanthin (4) All the above
BPK253
5. Generally red algae do not form :-
 (1) Zoospore
 (2) Non-motile spore
 (3) Non-motile gamete
 (4) None of these
BPK254
6. The main plant body of bryophyte is :-
 (1) Haploid (2) Diploid
 (3) Haplo-diploid (4) Diplo-haploid
BPK255
7. The plant body of liverworts is :-
 (1) Sporophyte (2) Thalloid
 (3) With roots (4) Xerophytic
BPK256

8. Vegetative reproduction in mosses is by :-
 (1) Fragmentation (2) Budding
 (3) Both (1) & (2) (4) By spore
BPK257
9. *Marchantia* is an example of :-
 (1) Mosses (2) Liverworts
 (3) Sphenopsida (4) Lycopsida
BPK258
10. In Mosses creeping, green, branched and frequently filamentous stage is called :-
 (1) Protonema (2) Rhizome
 (3) Rhizophore (4) All of these
BPK259
11. The leaves of Pteridophyta are :-
 (1) Microphylls (2) Macrophylls
 (3) Both (1) & (2) (4) None of these
BPK260
12. In majority of the Pteridophytes all the spores are of similar kind such plants are called :-
 (1) Homosporous (2) Heterosporous
 (3) Prothallus (4) Protonema
BPK261
13. Which is the dominant phase of Pteridophytes?
 (1) Gametophyte (2) Sporophyte
 (3) Spores (4) Gametes
BPK262
14. In Pteridophytes, sporophylls may form distinct compact structure, called :-
 (1) Strobili or cones (2) Microphyll
 (3) Macrophyll (4) Tropophyll
BPK263

- | | |
|--|---|
| <p>15. Pteridophytes are classified in to :-
 (1) Three classes (2) Two classes
 (3) Four classes (4) Five classes
 BPK264</p> <p>16. Gymnospermic plants are :-
 (1) Homosporous (2) Heterosporous
 (3) Both (1) & (2) (4) Without spores
 BPK265</p> <p>17. The nucellus is protected by envelopes and the composite structure is called :-
 (1) Megaspore (2) Microspore
 (3) Ovule (4) Cone
 BPK266</p> <p>18. In <i>Cycas</i> specialised roots are associated with N_2 fixing cyanobacteria, called :-
 (1) Tap root (2) Coralloid root
 (3) Adventitious root (4) All the above
 BPK267</p> <p>19. Gymnosperms include :-
 (1) Medium sized trees (2) Tall tree
 (3) Shrubs (4) All the above
 BPK268</p> <p>20. In Gymnosperm which is not found :-
 (1) Antheridia (2) Archegonia
 (3) Both (4) None of these
 BPK269</p> <p>21. Which group does not produce embryo ?
 (1) Algae (2) Moss
 (3) Liverworts (4) Club moss
 BPK270</p> <p>22. In which group the male and female sex organs are called antheridia and archegonia, respectively ?
 (1) Blue green algae (2) Eubacteria
 (3) Protista (4) Bryophyta
 BPK271</p> | <p>23. The group of plants, in which body is differentiated into root, stem and leaf :-
 (1) Chlorophyceae (2) Phaeophyceae
 (3) Lycopsidea (4) Hepaticopsida
 BPK272</p> <p>24. Which is not an example of moss plants ?
 (1) <i>Funaria</i> (2) <i>Polytrichum</i>
 (3) <i>Sphagnum</i> (4) <i>Colletotrichum</i>
 BPK273</p> <p>25. Strobili or cones are not formed in :-
 (1) Lycopods (2) Sphenopsids
 (3) Conifers (4) Ferns
 BPK274</p> <p>26. In which group of plants both male and female gametophytes do not have an independent free living existence ?
 (1) Bryophytes (2) Pteridophytes
 (3) Gymnosperms (4) Both (1) and (2)
 BPK275</p> <p>27. The gametophyte of pteridophytes require to grow :-
 (1) Warm, damp, and shady place
 (2) Cool, damp, and shady place
 (3) Warm, dry, and shady place
 (4) Cool, dry, and place of well sunshine
 BPK276</p> <p>28. Zygotic meiosis occurs in :-
 (1) <i>Pinus</i> (2) <i>Funaria</i>
 (3) <i>Pteridium</i> (4) <i>Chara</i>
 BPK277</p> <p>29. The megaspore mother cell in gymnosperms is differentiated from :-
 (1) Integument (2) Embryo sac
 (3) Nucellus (4) Endosperm
 BPK278</p> |
|--|---|

30. A group of algae, having following characters:

- (a) Chlorophyll a and b are present
- (b) Chloroplast has one or many pyrenoids
- (c) Cell wall made of cellulose and pectose
- (d) Reserve food material is starch

Which one of the following is also a very important character including above characters to call it as a member of Chlorophyceae?

- (1) Plant body colonial only
- (2) Plant body is made of haploid cells called as gametophyte
- (3) Its flagellar character may be 2–8 in number, equal and apical
- (4) It may occur in fresh water, brackish water or salt water

BPK279

31. Integumented megasporangia are formed in:-

- (1) Phanerogames
- (2) Cryptogames only
- (3) Gymnosperms only
- (4) Pteridophytes only

BPK280

32. Needle like leaves to reduce the surface area, thick cuticle, and sunken stomata to reduce water loss etc. are the xerophytic characters present in :-

- (1) Pteridophytes
- (2) Gymnosperms
- (3) Angiosperms
- (4) Sphenopsida

BPK281

33. Consider the following characters :-

- (A) Formation of only one functional megaspore in a megasporangium
- (B) Formation of hard covering around megasporangium
- (C) Development of embryo from zygote within the female gametophyte
- (D) Retention of megaspore inside the megasporangium

These were very essential events occurred during the course of evolution for the phenomenon of:-

- (1) Heterospory
- (2) Seed habit
- (3) Fruit formation
- (4) Covered seed formation

BPK282

34. In gymnosperms, the megaspore forms :-

- (1) Endosperm
- (2) Female gamete
- (3) Male gamete
- (4) Male cone

BPK283

35. Find the odd one with respect to ploidy?

- (1) Spore
- (2) Sporophyte
- (3) Archegonium
- (4) Antheridium

BPK284

36. Which of the following is odd one from the following about liverworts ?

- (1) Foot, Seta, Capsule
- (2) Spore, Archegonium, Antheridium
- (3) Multicellular rhizoids, Protonema
- (4) Rhizoids, Gemmae

BPK285

37. Which is not true about fern plants ?

- (1) They produce sori on sporophylls
- (2) They produce male and female cone by spiral arrangement of sporophylls
- (3) Some fern plants are heterosporous also
- (4) Some ferns are aquatic also

BPK286

38. Which group of plants is of less economic importance but have great ecological importance?

- (1) Gymnosperms (2) Angiosperms
(3) Bryophyta (4) Pteridophyta

BPK287

39. Normally in gymnosperms how many archegonia are produced in an ovule ?

- (1) One (2) Two
(3) Two or more (4) Always one

BPK288

40. Fusion between a large, nonmotile (static) female gamete and a smaller, motile male gamete is termed as :-

- (1) Isogamy (2) Oogamy
(3) Anisogamy (4) Autogamy

BPK289

41. Vascular plants producing integumented megasporangia but not ovary are :-

- (1) Pteridophytes (2) Gymnosperms
(3) Angiosperms (4) Bryophytes

BPK290

(B) ANALYTICAL QUESTIONS

42. Water is essential in Bryophyta :-

- (1) For fertilization and homosporous nature
(2) Water should be filled in archegonium for fertilization
(3) Water is necessary for movement of sperm
(4) For dissemination spores

BPK291

43. Which statement is wrong for *Cycas* ?

- (1) Xylem have vessels
(2) Male cones are well developed
(3) It has coralloid roots
(4) Circinate ptyxis/Circinate veneration

BPK292

44. Walking fern name of *Adiantum* is due to :-

- (1) Dispersal by animals
(2) Reproduction by spores
(3) Vegetative reproduction
(4) Power of locomotion

BPK293

45. Which of the following statement is true for Bryophyta ?

- (1) Along with water absorption roots also provide anchorage to plants
(2) Sporophyte is dominant
(3) Gametophyte is dominant and sporophyte is mostly parasitic
(4) Gametophyte is parasitic

BPK294

46. *Cycas* have two cotyledons but not included in angiosperms because of :-

- (1) Naked ovules
(2) Seems like monocot
(3) Circinate ptyxis
(4) Compound leaves

BPK295

47. What is true for cyanobacteria ?

- (1) Oxygenic with nitrogenase
(2) Oxygenic without nitrogenase
(3) Non oxygenic with nitrogenase
(4) Non oxygenic without nitrogenase

BPK296

48. Vessels are found in :-

- (1) All Angiosperms and some Gymnosperm
(2) Most of the Angiosperms and few Gymnosperms
(3) All Angiosperms, all Gymnosperms and some Pteridophyta
(4) All Pteridophyte

BPK297

49. Plants reproducing by spores such as mosses and ferns are grouped under the general term
 (1) Cryptogams (2) Bryophytes
 (3) Sporophytes (4) Thallophytes
BPK298
50. Chlorenchyma is known to develop in the :-
 (1) Cytoplasm of *Chlorella*
 (2) Mycelium of a green mould such as *Aspergillus*
 (3) Spore capsule of a moss
 (4) Pollen tube of *Pinus*
BPK299
51. Angiosperms have dominated the land flora primarily because of their :-
 (1) Domestication by man
 (2) Power of adaptability in diverse habitat
 (3) Property of producing large number of seeds
 (4) Nature of self pollination
BPK300
52. Top-shaped multiciliate male gametes, and the mature seed which bears only one embryo with two cotyledons, are characteristic features of :
 (1) Cycads
 (2) Gamopetalous angiosperms
 (3) Conifers
 (4) Polypetalous angiosperms
BPK301
53. Holdfast, stipe and frond constitutes the plant body in case of
 (1) Rhodophyceae
 (2) Chlorophyceae
 (3) Phaeophyceae
 (4) All of the above
BPK302
54. A plant shows thallus level of organization. It shows rhizoids and is haploid. It needs water to complete its life cycle because the male gametes are motile. Identify the group to which it belongs to
 (1) Pteridophytes (2) Gymnosperms
 (3) Monocots (4) Bryophytes
BPK303
55. A Prothallus is :-
 (1) A structure in pteridophytes formed before the thallus develops
 (2) A sporophytic free living structure formed in pteridophytes
 (3) A gametophyte free living structure formed in pteridophytes
 (4) A primitive structure formed after fertilization in pteridophytes
BPK304
56. Plants of this group are diploid and well adapted to extreme conditions. They grow bearing sporophylls in compact structures called cones. The group in reference is
 (1) Monocots (2) Dicots
 (3) Pteridophytes (4) Gymnosperms
BPK305
57. Protonema is
 (1) Haploid and is found in mosses
 (2) Diploid and is found in liverworts
 (3) Diploid and is found in pteridophytes
 (4) Haploid and is found in pteridophytes
BPK306
58. The giant Redwood tree (*Sequoia sempervirens*) is a/an
 (1) Angiosperm (2) Free fern
 (3) Pteridophyte (4) Gymnosperm
BPK307

59. Zoospores (motile) are formed in :-

- (1) Sexual reproduction
- (2) Asexual reproduction
- (3) Vegetative reproduction
- (4) Sexual and asexual both

BPK308

60. Binary fission is found in :-

- (1) Multicellular algae
- (2) Unicellular algae
- (3) Multicellular algae and unicellular algae
- (4) None of these

BPK309

61. Hypnospores are formed in :-

- (1) Favourable condition
- (2) Unfavourable condition
- (3) Favourable condition and Unfavourable condition
- (4) None of these

BPK310

62. At least how much amount of carbon dioxide is fixed by algae on earth?

- (1) $\frac{1}{4}$ of total carbon dioxide
- (2) $\frac{1}{2}$ of total carbon dioxide
- (3) $\frac{3}{4}$ of total carbon dioxide
- (4) Small quantity of total carbon dioxide

BPK311

63. Which of the following is not a hydrocolloid?

- (1) Carrageen
- (2) Algin
- (3) Agar-agar
- (4) *Chlorella*

BPK312

64. Iodine and bromine are obtained from :-

- (1) *Laminaria*
- (2) *Chlorella*
- (3) *Porphyra*
- (4) *Sargassum*

BPK313

65. Alginate is obtained from :-

- (1) *Fucus*
- (2) *Laminaria*
- (3) *Macrocystis*
- (4) All of these

BPK314

66. Algae are of paramount importance :-

- (1) As producers
- (2) As consumers
- (3) Both of these
- (4) As microconsumers

BPK315

67. Protonema is a :-

- (1) Stage of gametophytic generation.
- (2) Green branched and develops directly from a spore.
- (3) Produces lateral bud which forms leafy plant body.
- (4) All of the above

BPK316

68. Gymnosperm plants do not produce fruits because they do not have :-

- (1) Ovary
- (2) Gametes
- (3) Fertilization
- (4) None of these

BPK317

69. Life cycle of *Ectocarpus* and *Fucus* are _____ and _____ respectively: -

- (1) Diplontic, Haplo-diplontic
- (2) Haplo-diplontic, Diplontic
- (3) Haplo-diplontic, Haplontic
- (4) Haplontic, Diplontic

BPK164

70. Select the correct statement :-

- (1) *Sequoia* is one of the tallest trees
- (2) The leaves of gymnosperms are not well adapted to extremes of climate
- (3) Gymnosperms are both homosporous and heterosporous.
- (4) *Salvinia*, *Ginkgo* and *Pinus* all are gymnosperms.

BPK319

- 71.** Which of the following is a fruit bearing group?
 (1) Pteridophytes (2) Bryophytes
 (3) Gymnosperms (4) Angiosperms
BPK320
- 72.** Essential parts of the flower are :-
 (1) Androecium (2) Gynoecium
 (3) Both (4) Calyx
BPK321
- 73.** In angiosperm the seed are enclosed in :-
 (1) Thalamus (2) Petiole
 (3) Stamen (4) Fruit
BPK322
- 74.** Which of the followings are monocotyledons:-
 (1) Pulses (2) Grasses
 (3) Cereals (4) Grasses and cereals
BPK323
- 75.** Which of the following are the characters present in dicot angiosperms?
 (1) Tetramerous flower
 (2) Two cotyledons in seeds
 (3) Reticulated venation
 (4) All of them
BPK324
- 76.** The grasses and cereals are respectively :-
 (1) Monocotyledon, Dicotyledon
 (2) Dicotyledon, Monocotyledon
 (3) Dicotyledon, Dicotyledon
 (4) Monocotyledon, Monocotyledon
BPK325
- 77.** Leaves of Mosses and Ferns are :-
 (1) Analogous and homologous both
 (2) Analogous but not homologous
 (3) Homologous but not analogous
 (4) None of the above
BPK058
- 78.** Antheridia and archegonia are absent in :-
 (1) Bryophyta (2) Pteridophyta
 (3) Gymnosperms (4) Angiosperms
BPK120
- 79.** Vessels and companion cells are found in :-
 (1) Pteridophyta (2) *Gnetum*
 (3) *Ephedra* (4) Angiosperm
BPK139
- 80.** Which one have maximum power of adaptation ?
 (1) Bryophyta (2) Pteridophyta
 (3) Gymnosperm (4) Angiosperm
BPK141
- 81.** Modern day (Advanced) plants are :-
 (1) Monocots (2) Dicots
 (3) Gnetales (4) Ferns
BPK150
- 82.** In haploid life cycle the dominant phase is :-
 (1) Diploid sporophyte
 (2) Haploid sporophyte
 (3) Diploid gametophyte
 (4) Haploid gametophyte
BPK331
- 83.** Choose the **incorrect** statement :-
 (1) Haploid life cycle is present in *Spirogyra*
 (2) Diplontic life cycle is present in *Fucus*.
 (3) Haplontic diplontic life cycle is present in Pteridophyte.
 (4) Haplontic life cycle is present in Gymnosperm.
BPK332
- 84.** Which one of the following has haplontic life cycle :-
 (1) Wheat (2) *Funaria*
 (3) *Polytrichum* (4) *Ustilago*
BPK333

85. Life cycle patterns of all seed-bearing plants and maximum algae respectively are :-
 (1) Haplontic, Diplontic
 (2) Haplontic, Haplontic
 (3) Diplontic, Diplontic
 (4) Diplontic, Haplontic

BPK334

86. In haplontic life cycle the haploid spore divides by A division and forms the B, identify the A and B :-
 (1) A-Meiotic, B-Sporophyte
 (2) A-Mitotic, B-Sporophyte
 (3) A-Meiotic, B-Gametophyte
 (4) A-Mitotic, B-Gametophyte

BPK335

87. Life cycle of *Polysiphonia* and *Fucus* is :-
 (1) Diplontic, haplodiplontic
 (2) Haplodiplontic, diplontic
 (3) Haplodiplontic, haplontic
 (4) Haplontic, diplontic

BPK336

88. Choose the incorrect statement :-
 (1) Haplontic life cycle is present in Spirogyra.
 (2) Diplontic life cycle is present in focus.
 (3) Haplo-diplontic life cycle is present in pteridophytes.
 (4) Haplontic life cycle is present in gymnosperm.

BPK337

89. Most algal genera are A some of them such as *Ectocarpus*, *Polysiphonia*, kelps are B Identify the A and B :-
 (1) Diplontic and Diplontic
 (2) Haplontic and haplontic
 (3) Haplontic and diplontic
 (4) Haplontic and haplo-diplontic

BPK338

90. Sporophyte → Spore → "A"

Identify the A :-

- (1) Zygote
 (2) Syngamy
 (3) Gametophyte
 (4) Gametogenesis

BPK339

91. Sporophyte is developed from :-

- (1) Spore
 (2) Gametophyte
 (3) Zygote
 (4) Meiosis

BPK340

92. Given below are two statements:

Statement-I : Natural classification systems also based on evolutionary relationships between the various organisms.

Statement-II : In numerical taxonomy each character is given equal importance and at the same time hundreds of characters can be considered.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (1) Both Statement-I and Statement-II are correct.
 (2) Both Statement-I and statement-II are incorrect.
 (3) Statement-I is correct but Statement-II is incorrect.
 (4) Statement-I is incorrect but Statement-II is correct.

BPK341

93. Given below are two statements:

Statement-I : The form and size of algae is highly variable, ranging from colonial forms like *Ulothrix* and *Spirogyra* and to the filamentous forms like *Volvox*.

Statement-II : Anisogamous type of reproduction is found in *Eudorina*.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (1) Both Statement-I and Statement-II are correct.
- (2) Both Statement-I and statement-II are incorrect.
- (3) Statement-I is correct but Statement-II is incorrect.
- (4) Statement-I is incorrect but Statement-II is correct.

BPK342

94. Given below are two statements:

Statement-I : Agar is one of the commercial products obtained from members of Phaeophyceae.

Statement-II : Major pigments chlorophyll a, d and phycoerythrin is found in the members of Phaeophyceae.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (1) Both Statement-I and Statement-II are correct.
- (2) Both Statement-I and statement-II are incorrect.
- (3) Statement-I is correct but Statement-II is incorrect.
- (4) Statement-I is incorrect but Statement-II is correct.

BPK343

95. Given below are two statements:

Statement-I : Most of the members of Chlorophyceae have one or more storage bodies called pyrenoids located in the chloroplasts.

Statement-II : Cell wall of members of Rhodophyceae is made up of cellulose, pectin and polysulphate esters.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (1) Both Statement-I and Statement-II are correct.
- (2) Both Statement-I and statement-II are incorrect.
- (3) Statement-I is correct but Statement-II is incorrect.
- (4) Statement-I is incorrect but Statement-II is correct.

BPK344

96. Given below are two statements:

Statement-I : Algae are non Embryophytes, Atracheophytes, Spermatophytes and homosporous.

Statement-II : Sex organs of algae are multicellular and jacketed.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (1) Both Statement-I and Statement-II are correct.
- (2) Both Statement-I and statement-II are incorrect.
- (3) Statement-I is correct but Statement-II is incorrect.
- (4) Statement-I is incorrect but Statement-II is correct.

BPK345

97. Given below are two statements:

Statement-I : *Selaginella* and *Salvinia* are homosporous pteridophytes.

Statement-II: Gymnosperms are Tracheophytes, Embryophytes, heterosporous, Spermatophytes, Phanerogams.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (1) Both Statement-I and Statement-II are correct.
- (2) Both Statement-I and statement-II are incorrect.
- (3) Statement-I is correct but Statement-II is incorrect.
- (4) Statement-I is incorrect but Statement-II is correct.

BPK346

98. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Artificial system of classification separated closely related species.

Reason (R) : Artificial system of classification was based on a few characteristics.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both (A) & (R) are correct but (R) is not the correct explanation of (A).
- (2) (A) is correct but (R) is not correct.
- (3) (A) is not correct but (R) is correct.
- (4) Both (A) & (R) are correct and (R) is the correct explanation of (A).

BPK347

99. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Most algal genera are haplontic.

Reason (R) : In algae, mitosis in zygote results in the formation of diploid spores, the diploid spores divide meiotically to form Gametophyte.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both (A) & (R) are correct but (R) is not the correct explanation of (A).
- (2) (A) is correct but (R) is not correct.
- (3) (A) is not correct but (R) is correct.
- (4) Both (A) & (R) are correct and (R) is the correct explanation of (A).

BPK348

100. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Mosses are of great ecological importance.

Reason (R) : Mosses along with lichens are the first organisms to colonise rocks. They decompose rocks making the substrate suitable for the growth of higher plants.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both (A) & (R) are correct but (R) is not the correct explanation of (A).
- (2) (A) is correct but (R) is not correct.
- (3) (A) is not correct but (R) is correct.
- (4) Both (A) & (R) are correct and (R) is the correct explanation of (A).

BPK349

101. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Majority of Pteridophytes are heterosporous.

Reason (R) : Genera like *Selaginella* and *Salvinia* produce two kinds of spores, macro (large) and micro (small).

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both (A) & (R) are correct but (R) is not the correct explanation of (A).
- (2) (A) is correct but (R) is not correct.
- (3) (A) is not correct but (R) is correct.
- (4) Both (A) & (R) are correct and (R) is the correct explanation of (A).

BPK350

102. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : In heterosporous Pteridophytes, gametophyte is dioecious.

Reason (R) : The female gametophytes in heterosporous Pteridophytes, are retained on parent sporophyte for variable periods. In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both (A) & (R) are correct but (R) is not the correct explanation of (A).
- (2) (A) is correct but (R) is not correct.
- (3) (A) is not correct but (R) is correct.
- (4) Both (A) & (R) are correct and (R) is the correct explanation of (A).

BPK351

103. Identify the correct set of statements :

- (a) Natural classification systems were not based on natural affinities among the organisms and evolutionary relationship between various organisms.
- (b) In *Volvox*, *Fucus* sexual reproduction is oogamous.
- (c) In numerical taxonomy, each character is given equal importance and at the same time hundreds of characters can be considered.
- (d) In algae, asexual reproduction is by production of different types of spores, the most common being the conidia.
- (e) At least half of the total carbon di-oxide fixation on earth is carried out by algae through photosynthesis.

Choose the correct answer from the options given below :

- (1) (a) and (b) only
- (2) (b), (c), (d) and (e) only
- (3) (a), (b), (d) and (e) only
- (4) (b), (c) and (e) only

BPK352

104. Identify the correct set of statements :

- (a) Red colour of red algae is due to predominance of the red pigment fucoxanthin.
- (b) *Chlorella* is a multicellular alga rich in proteins is used as food supplement even by space travellers.
- (c) Green algae usually have a rigid cell wall made of an outer layer of cellulose and an inner layer of pectose.
- (d) In red algae food is stored as floridean starch which is very similar to amylopectin and glycogen in structure.

(e) *Fucus* is a brown alga shows haplo-diplontic life cycle.

Choose the correct answer from options given below :

- (1) (a), (b) and (c)
- (2) (a), (b), (c) and (e)
- (3) only (d)
- (4) (c) and (d) only

BPK353

105. Identify the correct set of statements :

- (a) *Polysiphonia*, *Porphyra* are red algae, and *Laminaria*, *Sargassum* are brown algae.
- (b) Asexual reproduction in most brown algae is by biflagellated zoospores that are pear shaped and have two equal laterally attached flagella.
- (c) The plant body of bryophytes is less differentiated than Pteridophytes.
- (d) Species of *Gelidium*, a moss provide peat that have long been used as fuel.
- (e) *Marchantia*, is the leafy member of liverworts has tiny leaf like appendages in two rows on stem like structure.

Choose the correct answer from options given below :

- (1) (a) and (c) only
- (2) (b), (d) and (e) only
- (3) (a), (b) and (c) only
- (4) (c) only

BPK354

106. Identify the correct set of statements :

- (a) The main plant body of the bryophytes is haploid.
- (b) In bryophytes, zygotes do not undergo reduction division immediately and they produce a multicellular body called sporophyte.

(c) In *Selaginella*, *Equisetum* sporophylls may form distinct compact structures called strobili or cones.

(d) *Funaria*, *Polytrichum* and *Sphagnum* are liverworts.

(e) In mosses rhizoids are unbranched and unicellular.

Choose the correct answer from options given below :-

- (1) (a), (b) and (c) only
- (2) (a), (b), (c) and (d) only
- (3) (d) and (e) only
- (4) (a), (b) and (d) only

BPK355

107. Identify the correct set of statements :-

- (a) Pteridophytes are first spermatophytes evolutionarily.
- (b) In homosporous pteridophytes, spores germinate to give rise to inconspicuous, small but multicellular, free living mostly photosynthetic thalloid gametophytes called prothallus.
- (c) Majority of Pteridophytes are homosporous.
- (d) Homosporous Pteridophytes show event precursor to the seed habit.
- (e) *Equisetum* belongs to class Lycopsidea.

Choose the correct answer from options given below :

- (1) (a), (d) and (e) only
- (2) (b) and (c) only
- (3) (a), (b), (c) and (d) only
- (4) (b), (c) and (d) only

BPK356

108. Identify the correct set of statements :

- (a) One of the gymnosperms, the giant red wood tree *sequoia* is one of the tallest tree species.
- (b) Gymnosperms are heterosporous cryptogams.
- (c) Gymnosperms are evolutionarily last archegoniate plant group.
- (d) Pteridophytes are evolutionarily last antheridial plant group.
- (e) The stems are unbranched in *Cycas* and branched in *Pinus* and *Cedrus*.

Choose the correct answer from options given below :

- (1) (a), (b) and (d) only
- (2) (c), (d) and (e) only
- (3) (a), (b), (c) and (d) only
- (4) (a), (c), (d) and (e) only

BPK357

109. Identify the correct set of statements :-

- (a) Roots in some genera have fungal association in the form of mycorrhiza (like *Cycas*), while in some others (like *Pinus*) small specialised roots called coralloid roots are associated with N_2 -fixing cyanobacteria.
- (b) In gymnosperms the multicellular female gametophytes is also retained within megasporangium.
- (c) In gymnosperm's endosperm represents female gametophyte.
- (d) Gymnosperms show anemophilous pollination.
- (e) In *Cycas* the pinnate leaves persist for few year.

Choose the **correct** answer from options given below :-

- (1) (a), (b), (c) and (e) only
- (2) (a), (c), (d) and (e) only
- (3) (b), (c), (d) and (e) only
- (4) (a), (b), (c), (d) and (e)

BPK358

110. Identify the correct set of statements :

- (a) Angiosperms range in size form the smallest *Wolffia* to tall tree like *Eucalyptus*. (Over 100 meter)
- (b) In angiosperms endosperm is haploid and it represents the female gametophyte.

Choose the **correct** answer from options given below :-

- (1) (b) only
- (2) (a) only
- (3) Both (a) and (b)
- (4) None of these

BPK359

111. Identify the correct set of statements :-

- (a) In *Spirogyra* sporophytic generation is represented only by one called zygote.
- (b) *Fucus* is a brown alga shows diplontic life cycle.
- (c) Bryophytes and pteridophytes show diplontic life cycle.
- (d) *Ectocarpus*, *Polysiphonia*, kelps are haplodiplontic.
- (e) Gymnosperms and angiosperms show haplontic life cycle.

Choose the correct answer from options given below :

- (1) (a), (b) and (e) only
- (2) (a), (b), (d) and (e) only
- (3) (a), (b) and (d) only
- (4) (b) and (d) only

BPK360

- 112.** Conifers differ from grasses in the
- (1) absence of pollen tubes
 - (2) formation of endosperm before fertilization
 - (3) production of seeds from ovules
 - (4) lack of xylem tracheids

BPK169

- 113.** Moss peat is used as a packing material for sending flowers and live plants to distant places because :
- (1) it reduces transpiration
 - (2) it serves as a disinfectant
 - (3) it is easily available
 - (4) it is hygroscopic

BPK170

- 114.** In a moss the sporophyte :
- (1) arises from a spore produced from the gametophyte
 - (2) manufactures food for itself, as well as for the gametophyte
 - (3) is partially parasitic on the gametophyte
 - (4) produces gametes that give rise to the gametophyte

BPK171

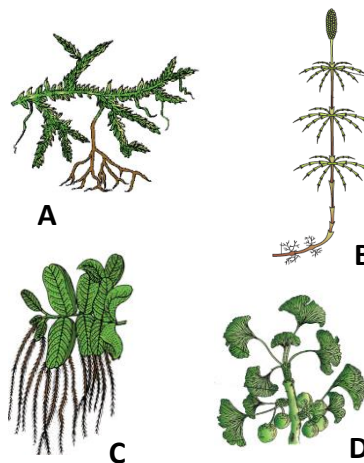
- 115.** If you are asked to classify the various algae into distinct groups, which of the following characters you should choose ?
- (1) Chemical composition of the cell wall
 - (2) Types of pigments present in the cell
 - (3) Nature of stored food materials in the cell
 - (4) Structural organization of thallus

BPK173

- 116.** Algae have cell wall made up of :
- (1) Cellulose, hemicellulose and pectins
 - (2) Cellulose, galactans and mannans
 - (3) Hemicellulose, pectins and proteins
 - (4) Pectins, cellulose and proteins

BPK188

- 117.** Examine the figure A, B, C and D. In which one of the four options all the items A, B, C and D are correct ?



Options :

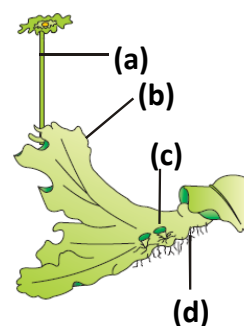
- | A | B | C | D |
|------------------------|-------------------|--------------------|-------------------|
| (1) <i>Equisetum</i> | <i>Ginkgo</i> | <i>Selaginella</i> | <i>Lycopodium</i> |
| (2) <i>Selaginella</i> | <i>Equisetum</i> | <i>Salvinia</i> | <i>Ginkgo</i> |
| (3) <i>Funaria</i> | <i>Adiantum</i> | <i>Salvinia</i> | <i>Riccia</i> |
| (4) <i>Chara</i> | <i>Marchantia</i> | <i>Fucus</i> | <i>Pinus</i> |

BPK190

- 118.** Archegoniophore is present in :-
- (1) *Marchantia*
 - (2) *Chara*
 - (3) *Adiantum*
 - (4) *Funaria*

BPK193

- 119.** Examine the figure given below and select the right option giving all the four parts (a, b, c, d) correctly identified.



	(a)	(b)	(c)	(d)
(1)	Antheri diophore	Male	Globule thallus	Roots
(2)	Antheri diophore	Male thallus	Gemma- cup	Rhizoids
(3)	Archego- niophore	Female thallus	Bud	Foot
(4)	Seta	Sporo- phyte	Proto- nema	Rhizoids

BPK196

120. *Selaginella* and *Salvinia* are considered to represent a significant step toward evolution of seed habit because :-

- (1) Embryo develops in female gametophyte which is retained on parent sporophyte
- (2) Female gametophyte is free and gets dispersed like seeds.
- (3) Female gametophyte lacks archegonia
- (4) Megaspores possess endosperm and embryo surrounded by seed coat.

BPK197

121. Consider the following four statements whether they are correct or wrong :

- (a) The sporophyte in liverworts is more elaborate than that in mosses.
- (b) *Salvinia* is heterosporous
- (c) The life-cycle in all seed-bearing plants is diplontic.
- (d) In *Pinus* male and female cones are borne on different trees.

The two wrong statements together are :

- (1) Statements (a) and (b)
- (2) Statements (a) and (c)
- (3) Statements (a) and (d)
- (4) Statements (b) and (c)

BPK198

122. Which one of the following is a correct statement ?

- (1) Antheridiophores and archegoniophores are present in pteridophytes.
- (2) Origin of seed habit can be traced in pteridophytes.
- (3) Pteridophyte gametophyte has a protonemal and leafy stage.
- (4) In gymnosperms female gametophyte is free living.

BPK200

123. A nitrogen fixing microbe associated with *Azolla* in rice-fields is :-

- (1) *Frankia*
- (2) *Rhizobium*
- (3) *Spirulina*
- (4) *Anabaena*

BPK201

124. Read the following five statements (A-E) and answer as asked next to them :-

- (A) In *Equisetum* the female gametophyte is retained on the parent sporophyte
 - (B) In *Ginkgo* male gametophyte is not independent
 - (C) The sporophyte in *Riccia* is more developed than that in *Polytrichum*
 - (D) Sexual reproduction in - *Volvox* is isogamous
 - (E) The spores of slime molds lack cell walls
- How many of the above statements are correct ?

- (1) Four
- (2) One
- (3) Two
- (4) Three

BPK202

125. Which one of the following pairs is wrongly matched?

- (1) Viroids – RNA
- (2) Mustard – Synergids
- (3) *Ginkgo* – Archegonia
- (4) *Salvinia* – Prothallus

BPK203

126. Megasporangium is equivalent to :

- (1) Ovule (2) Embryo sac
(3) Fruit (4) Nucellus

BPK204

127. Isogamous condition with non-flagallated gametes is found in :

- (1) *Fucus*
(2) *Chlamydomonas*
(3) *Spirogyra*
(4) *Volvox*

BPK205

128. Which of the following is **not** correctly matched for the organism and its cell wall degrading enzyme?

- (1) Fungi – Chitinase
(2) Bacteria – Lysozyme
(3) Plant cells – Cellulase
(4) Algae – Methylase

BPK207

129. Read the following statements (A–E) and answer the question which follows them.

- (a) In liverworts, mosses and ferns gametophytes are free living.
(b) Gymnosperms and some ferns are heterosporous.
(c) Sexual reproduction in *Fucus*, *Volvox* and *Albugo* is oogamous.
(d) The sporophyte in liverworts is more elaborate than that in mosses.
(E) Both, *Pinus* and *Marchantia* are dioecious.

How many of the above statements are correct?

- (1) Four (2) One
(3) Two (4) Three

BPK208

130. The life cycle pattern of *Fucus* is: -

- (1) Haplontic (2) Diplontic
(3) Haplo-diplontic (4) All of these

BPK163

131. The pattern of life cycle in Bryophyte is :-

- (1) Haplontic
(2) Diplontic
(3) Haplo-diplontic
(4) Diploid gametophyte

BPK165

132. Life cycle of kelps is :-

- (1) Haplontic
(2) Diplontic
(3) Haplo-diplontic
(4) Diplontic- haplontic

BPK166

133. Life cycle of the Pteridophytes is :-

- (1) Haplontic (2) Diplontic
(3) Haplo-diplontic (4) All of them

BPK167

134. Which pattern of life cycle is followed by moss and fern respectively :-

- (1) Haplontic, Diplontic
(2) Diplontic, Haplontic
(3) Haplodiplontic, Diplohaplontic
(4) Haplodiplontic, Haplodiplontic

BPK168

EXERCISE-III

ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	1	1	4	1	1	2	3	2	1	3	1	2	1	3
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	2	3	2	4	1	1	4	3	4	4	3	2	4	3	3
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	1	2	2	1	2	3	2	3	3	2	2	3	1	3	3
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	1	1	2	1	3	2	1	3	4	3	4	1	4	2	2
Question	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Answer	2	2	4	1	4	1	4	1	2	1	4	3	4	4	4
Question	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Answer	4	2	4	4	4	1	4	4	4	4	4	2	4	4	3
Question	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Answer	3	1	4	2	1	2	4	4	2	4	3	1	4	3	1
Question	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Answer	1	2	4	3	2	3	2	4	3	2	2	2	1	2	1
Question	121	122	123	124	125	126	127	128	129	130	131	132	133	134	
Answer	3	2	4	2	4	1	3	4	4	2	3	3	3	4	

Important Notes