

2019

BOTANY

(Major)

Paper : 1.2

(Bryophytes and Pteridophytes)

Full Marks : 60

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Choose and write the correct answer : 1×7=7

(a) The development of sporophyte from gametophyte without gamete formation is called

- (i) apogamy
- (ii) apospory
- (iii) heterospory
- (iv) parthenogenesis

(b) Pseudoelaters without thickening bands occur in

- (i) *Marchantia*
- (ii) *Anthoceros*
- (iii) *Porella*
- (iv) *Riccia*

(2)

- (c) Which of the following is used as packing material?
- (i) *Polytrichum*
 - (ii) *Funaria*
 - (iii) *Sphagnum*
 - (iv) *Pogonatum*
- (d) Trabeculae are seen in the sporogonium of
- (i) *Funaria*
 - (ii) *Polytrichum*
 - (iii) *Sphagnum*
 - (iv) *Marchantia*
- (e) Which of the following is 'club moss'?
- (i) *Equisetum*
 - (ii) *Selaginella*
 - (iii) *Lycopodium*
 - (iv) *Rhynia*
- (f) The gametophyte of *Psilotum* is
- (i) exosporic
 - (ii) endosporic
 - (iii) dioecious
 - (iv) endoscopic

(3)

- (g) Amphiphloic siphonostele is present in the rhizome of
- (i) *Pteris*
 - (ii) *Marsilea*
 - (iii) *Gleichenia*
 - (iv) *Thymenophyllum*
2. Distinguish between the following : 2×4=8
- (a) Leptosporangiate and Eusporangiate
 - (b) Apospory and Apogamy
 - (c) Prothallus and Protocorm
 - (d) Antheridium and Archegonium
3. Answer any *three* of the following questions : 5×3=15
- (a) Describe the *Endothecium* in bryophytes.
 - (b) Describe the anatomical peculiarities of the rhizome of *Polytrichum*.
 - (c) Compare and contrast between Bryophytes and Pteridophytes.
 - (d) Describe the primitive characteristics of sporophyte of *Riccia*.
 - (e) Describe morphological nature of rhizophore in *Selaginella*.

4. Answer the following questions : 10×3=30

- (a) Describe in detail about the morphological structure and reproduction of *Marchantia*.

Or

Describe the phylogenetic significance of *Anthoceros*.

- (b) What is alternation of generations? Describe it in relation to *Psilotum* with the help of suitable diagrams.

Or

Write an illustrated account of the different types of gametophytes found in *Lycopodium*.

- (c) What is heterospory? Describe in detail about the origin and evolution of heterospory of seed habit.

Or

Write about the progressive sterilization of the sporogenous tissue.

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