

**3 (Sem-1) BOT M 2 (O)**

**2 0 1 9**

**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*

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(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

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(g) Amphiphloic siphonostele is present in the rhizome of

- (i) *Pteris*
- (ii) *Marsilea*
- (iii) *Gleichenia*
- (iv) *Thymenophyllum*

2. Distinguish between the following :  $2 \times 4 = 8$

- (a) Leptosporangiate and Eusporangiate
- (b) Apospory and Apogamy
- (c) Prothallus and Protocorm
- (d) Antheridium and Archegonium

3. Answer any *three* of the following questions :

$5 \times 3 = 15$

- (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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