

2 0 1 6

BOTANY

(Major)

Paper : 1.2

Full Marks : 60

Time : 3 hours

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

1. Choose the correct answer : 1×7=7

(a) Elaters in bryophytes help in

- (i) assimilation of CO₂
- (ii) dispersal of spores
- (iii) vegetative reproduction
- (iv) sexual reproduction

(b) Which of the following steles is considered to be the most primitive?

- (i) Haplostele
- (ii) Plectosteles
- (iii) Solenosteles
- (iv) Dictyosteles

- (c) Presence of peltate sporangium is a characteristic feature of
- (i) Lycopsidea
 - (ii) Pteropsida
 - (iii) Sphenopsida
 - (iv) Psilopsida
- (d) Elongated sporogonium is a characteristic of
- (i) *Riccia*
 - (ii) *Marchantia*
 - (iii) *Sphagnum*
 - (iv) *Anthoceros*
- (e) Which of the following bryophytes shows *Nostoc* colonies in the thallus?
- (i) *Riccia*
 - (ii) *Marchantia*
 - (iii) *Sphagnum*
 - (iv) *Anthoceros*
- (f) *Sphagnum* is commonly known as
- (i) reindeer moss
 - (ii) cow moss
 - (iii) common moss
 - (iv) peat moss

(g) Which of the following structures does not occur in *Selaginella*?

- (i) Ligule
- (ii) Ramenta
- (iii) Trabecula
- (iv) Rhizophore

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

- (a) Eusporangiate and Leptosporangiate types of development of sporangia
- (b) Prothallus and Protocorm
- (c) Haplostele and Mixed protosteles
- (d) Homospory and Heterospory

3. Write short notes on any three of the following : $5 \times 3 = 15$

- (a) Heterospory and seed habit
- (b) Sporocarp of *Marsilea*
- (c) Water absorption and retention mechanism in *Sphagnum*
- (d) Economic importance of Bryophyta
- (e) Rhizophore of *Selaginella*

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

- (a) Give an account of the morphology and reproduction of *Psilotum nudum*. 10

Or

Discuss the telome theory of evolution of sporophyte.

- (b) What is meant by alternation of generation? Explain with reference to the life history of *Polytrichum*. 2+8=10

Or

Give a comparative account on the sporophytes of *Riccia*, *Marchantia* and *Anthoceros*. 10

- (c) Give a general account on various methods of spore dispersal in bryophytes. 10

Or

Compare and contrast among the spore-bearing organs of *Lycopodium*, *Selaginella* and *Equisetum* with labelled diagrams.
