

# BOTANY Paper-A

## (Plant Diversity-II)

Time Allowed : 3 Hours]

[Maximum Marks : 68

- Note: (i) Attempt five questions in all.  
(ii) Q. No. 1 is compulsory. Attempt four more questions, selecting one from each Unit.  
(iii) Draw diagrams wherever necessary.

1. (A) Fill in the blanks :

- (i) Multicellular and obliquely septate rhizoids are seen in.....  
(ii) There is no foot and seta in the sporogonium of.....  
(iii) The mucilage cavities in *Anthoceros* thallus contain.....  
(iv) The new name of *Rhynia major* is.....  
(v) Vallecular canals are present in the.....region of aerial stem of *Equisetum*.  
(vi) An isophyllous species of *Selaginella* is.....

6×1=6

(B) Multiple Choice Questions :

- (i) There is no columella in the capsules of :  
(a) *Riccia* (b) *Funaria*  
(c) *Anthoceros* (d) All of the above.
- (ii) Appendiculate scales are present in the thallus of :  
(a) *Riccia* (b) *Marchantia*  
(c) *Funaria* (d) *Anthoceros*
- (iii) 'Cord-moss' is the common name of :  
(a) *Marchantia* (b) *Anthoceros*  
(c) *Funaria* (d) *Riccia*
- (iv) The spore-bearing leaf of *Peter* is called as :  
(a) *Sporophyll* (b) *Spike*  
(c) *Sporogonium* (d) *Sporangiophore*.
- (v) Which type of stele is seen in the aerial stem of *Equisetum*?  
(a) Solenostele (b) Siphonostele  
(c) Dictyostele (d) Protostele

(vi) Which of the following is a polystelic species of *Selaginella*?

(a) *S. chrysocaulos*

(b) *S. rupestris*

(c) *S. selaginoides*

(d) *S. willdenovii*

6×1=6

#### UNIT-I

2. (a) Give the diagrammatic representation of the life history of *Riccia*.  
(b) Write a note on gemma cups.

4,2

3. (a) Describe briefly the structure of sporogonium of *Marchantia*.

(b) Draw (only) the V.S. of thallus of *Marchantia*.

4,2

#### UNIT-II

4. (a) Describe the structure of sporogonium of *Funaria*.

(b) Write a note on protonema.

4,2

5. Give a diagrammatic sketch of the life history of *Anthoceros*.

6

#### UNIT-III

6. (a) Describe the structure of sporophyte of *Rhynia*.

(b) Describe briefly the structure of spike of *Selaginella*. 3×2=6

7. (a) Discuss the structure and morphological nature of rhizophores of *Selaginella*.

(b) Describe briefly the gametophytes of *Selaginella*. 3×2=6

#### UNIT-IV

8. (a) Describe the structure of the strobilus of *Equisetum*.

(b) Give the ecological characters of the sporophyte of *Equisetum*.

4,2

9. Attempt any three of the following :

(a) Sporangia of *Pteris*.

(b) Prothallus of *Pteris*.

(c) Draw only a meristele of *Pteris*.

(d) Draw only T.S of Rhizome of *Equisetum*.

3×2=6