

# BOTANY Paper-A

## (Plant Diversity-II)

Max. Marks : 36

Time Allowed : 3 Hours

- Note:**
1. Attempt five questions in all.
  2. Question No. 1 is compulsory.
  3. Attempt four more questions, selecting one from each unit.
  4. Draw well labelled diagrams wherever necessary.

1. (a) Multiple Choice Questions :

- (i) Prominent vallecular canals are characteristic feature of which part of *Equisetum* aerial stem ?  
(a) Pith (b) Cortex  
(c) Endodermis (d) Pericycle
- (ii) Heterosporous condition is seen in :  
(a) *Rhynia* (b) *Equisetum*  
(c) *Selaginella* (d) *Pteris*
- (iii) Branched, multicellular and obliquely, septate rhizoids occur in :  
(a) *Funaria* (b) *Anthoceros*  
(c) *Riccia* (d) *Marchantia*
- (iv) In *Selaginella* stem trabeculae represents modified  
(a) Epidermal cells (b) Cortical cells  
(c) Endodermal cells (d) Vascular tissue
- (v) In *Funaria* the number of peristome teeth in two rows are :  
(a) 16 + 16 (b) 08 + 08  
(c) 16 + 08 (d) absent
- (vi) In *Marchantia* sporogonium, elaters help in :  
(a) Spore dispersal (b) Nourishment  
(c) Conduction (d) Mechanical support

6×1=6

(b) Fill in the blanks :

- (i) In *Pteris* the fertile leaf bearing sporangia is called .....
- (ii) Small tongue-shaped outgrowth present at the base on the adaxial side of young leaf of *Selaginella* is known as .....
- (iii) Capsule in *Anthoceros* grows constantly due to the presence of ..... meristem.
- (iv) ..... is commonly called Cord Moss.
- (v) *Riccia* thallus internally shows differentiation into storage and ..... zones.
- (vi) The sporogonium of *Funaria* is differentiated into foot, ..... and capsule.  $6 \times 1 = 6$ .

#### Unit – I

- 2. (a) Give graphic representation of life cycle in *Riccia*. 4, 2
- (b) Write briefly about rhizoids in *Riccia*.
- 3. Give an illustrated account of mature sporogonium of *Marchantia*. 6

#### Unit – II

- 4. Draw L.S. of mature sporogonium of *Anthoceros*. 6
- 5. Write brief notes on :
  - (a) Protonema in *Funaria*.
  - (b) Peristome teeth in *Funaria*. 3, 3

#### Unit – III

- 6. Write short notes on any two of the following :
  - (a) Rhizophores of *Selaginella*
  - (b) Heterospory and its importance
  - (c) Sporangiferous spike of *Selaginella*. 3, 3
- 7. Describe the structure of sporophyte of *Rhynia*. 6

#### Unit – IV

- 8. (a) Describe the structure of elaters and their functions in *Equisetum*.
- (b) Give a brief account of *Equisetum* strobilus. 3, 3
- 9. (a) Draw T.S. Petiole of *Peteris*.
- (b) Write a brief note on *Peteris* prothallus. 3, 3