

19/592**M.Sc. (First Semester)****Examination, 2019****Botany****Fourth Paper****(Bryophytes)****Time : Three Hours****Maximum Marks : 100**

Note : Answer **five** questions in all. Short answer type **Question No. 1** carrying **40** marks is **compulsory**. Answer **one** question carrying **15** marks from each unit.

Note : The answers to short Answer type questions should not exceed 200 words and the answers to long Answer type questions should not exceed 500 words.

P.T.O.**19/592**1. Write short notes on following:- $4 \times 10 = 40$

- (a) Photosynthetic tissue in Bryophytes
- (b) How will you distinguish between Elaters and Pseudoelaters?
- (c) Calyptra
- (d) Antheridium of **Porella**
- (e) **Dendroceros**
- (f) Similarities between Bryophytes and Algae.
- (g) Characteristic features of **Takakia**
- (h) Sporophyte of **Notothylas**
- (i) Rhizome of **Polytrichum**
- (j) Amphibious nature of Bryophytes

Unit-I

2. Describe the economic importance and distribution of Bryophytes in India studied by you. 15

OR

Explain about evolution of sporophyte in bryophyte.

Unit-II

3. Give concise account of the following:

3x5=15

- (i) Sporophyte of sphagnum.
- (ii) Sporophyte of **Polytrichum**
- (iii) Aposporous gametophyte

OR

Draw well labelled diagrams only:

- (i) L.S. of the apical portion of antheridial branch of **sphagnum**
- (ii) Internal structure of leaf of **sphagnum**
- (iii) Archegonium of **polytrichum**.

Unit-III

4. Describe the structure and development of sex organs in **Porella**. 15

OR

Describe the classification structure and reproductive organs of **Plagiochasma**. 15

Unit-IV

5. By means of outline labelled diagrams illustrate the chief events in the life cycle of **Anthoceros**. 15

OR

Write short notes on **any three** of the following: 5x3=15

- (i) Fossil history of Bryophyte
- (ii) Phylogeny of Hepaticae
- (iii) Indian Bryologists
- (iv) **Notothylas** Antheridia

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