

U.G. 4th Semester Examination - 2026**BOTANY****[MAJOR-IV]****Course Code : BOT-MJ-CC-T-04****(Bryophytes and Pteridophytes)****[NEP-2020]****Full Marks : 40****Time : 2½ Hours***The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any five questions: 2×5=10
- a) Name one Indian species of *Marchantia*. Which structure helps in the dehiscence of spores in *Marchantia*?
 - b) What is columella? Name the region which gives rise to columella in *Anthoceros* capsule.
 - c) Define apospory. Who first discovered apospory?
 - d) What is synangium? How many lobes are present in *Psilotum* synangium?
 - e) Mention the systematic position of *Sphagnum*.
 - f) What is vallecular canal? Mention its function.
 - g) What is arthodontous peristome teeth? Give example.

[Turn over]

- h) Mention two xerophytic characters of *Equisetum*.
2. Answer any two questions: $5 \times 2 = 10$
- a) Describe the external morphology of the thallus of *Pellia* with labelled diagram.
- b) Write short note on habitat diversity in pteridophytes.
- c) Describe the anatomical features of rhizome and petiole of *Pteris*.
- d) How does the sporophyte of *Anthoceros* differ from other bryophytes?
3. Answer any two questions: $10 \times 2 = 20$
- a) Discuss briefly the systematic position, morphology and sexual reproduction of *Selaginella*. $1+4+5=10$
- b) Give an outline of classification of bryophyte according to Shaw and Goffinet, 2000. Comment briefly on the classification of bryophyte. $6+4=10$
- c) Describe the various methods of reproduction of *Sphagnum*. Describe the stem anatomy of *Equisetum*. $6+4=10$
- d) Write short notes on i) Origin of pteridophytes
ii) Evolution of sporophyte in bryophytes. $5+5=10$