

**B A, BSC, BCOM DEGREE END SEMESTER EXAMINATION – MARCH 2026**  
**UGP (HONS.) SEMESTER – 4: DISCIPLINE SPECIFIC COURSE**  
**COURSE: 24UBOTDSC203 : BRYOLOGY, PTERIDOLOGY AND GYMNOSPERMS**

*(For Regular 2024 Admission)*

Time: 1.5 Hours

Max. Marks: 50

***Answer any 10 questions; Each question carries 5 marks***

1. Discuss any five vegetative reproduction methods in bryophytes. (CO1 U)
2. Write a comparative account of the sporophytes of *Riccia* and *Pogonatum*. (CO3 An)
3. Give an account of the anatomy of *Anthoceros* thallus with suitable diagrams. (CO3 U)
4. Describe the structure and arrangement of sex organs in *Pogonatum*. (CO3 U)
5. Name a heterosporous pteridophyte. Draw the life cycle of a heterosporous pteridophyte. (CO1 A)
6. Describe the important features of the Smith (2006) classification. Write the classification up to the order level. (CO2 CO5)
7. With the help of a neat, labelled diagram, explain the structure of the gametophyte of *Pteris*. (CO3 A)
8. Explain any five ecological and economic benefits of pteridophytes, citing suitable examples. (CO4 A)
9. Compare the structure of siphonostele and solenostele with labelled diagrams. (CO1 A)
10. List out and explain any five salient features of Gymnosperms. (CO1 U)
11. Outline the classification of gymnosperms as proposed by Sporne (1965) up to the order level. (CO2 U)
12. Discuss the morphological and anatomical features of the coralloid root of *Cycas*. State its significance. (CO3 U)
13. Write short notes on the peculiar features of the following in *Pinus*: (CO3 U)
  - a) Foliage leaf
  - b) Pollination mechanism
  - c) Pollen grains
  - d) Seeds
  - e) Root

(5 x 10 = 50)