

**FACULTY OF SCIENCE**  
**B.Sc. I Year (Practical) Examination**

Subject: BOTANY

Semester-II

Paper-II (Bryophytes, Pteridophytes, Gymnosperms and Paleobotany)

QUESTION BANK

Time: 3 Hours}

{Max. Marks: 50

**Note: Answer All questions. Draw well labeled diagrams wherever necessary.**

- I. Prepare T.S. of the given material 'A' as a Double stain temporary mount and identify with diagnostic features and provide suitable diagrams.  
(Slide Preparation – 6; Classification – 1; Diagram – 2; Description – 3) (12)
  1. *Lycopodium* stem
  2. *Equisetum* stem
  3. *Marsilea* Petiole / Rhizome
  
- II. Prepare T.S. of the given material 'B' as a Double stain temporary mount and identify with diagnostic features and provide suitable diagrams.  
(Slide Preparation – 6; Classification – 1; Diagram – 2; Description – 3) (12)
  4. *Pinus* needle
  5. *Gnetum* stem
  6. *Gnetum* leaf
  
- III. Identify the given specimens: C, D, E & F (**Bryophyte–2, Pteridophyte –1, &Gymnosperm–1**)  
4 X 2=8M
  7. *Marchantia* thallus with gemma cups
  8. *Marchantia* thallus with antheridiophore
  9. *Marchantia* thallus with archegoniophore
  10. *Anthoceros* thallus
  11. *Anthoceros* with sporophyte
  12. *Polytrichum* with sporophyte
  13. *Lycopodium* with cone
  14. *Equisetum* with cone
  15. *Marsilea* with sporocarp
  16. *Pinus* male cone
  17. *Pinus* female cone
  18. *Gnetum* twig
  19. *Gnetum* male cone
  20. *Gnetum* female cone
  
- IV. Identify the given slides G, H, I & J (**Bryophyte – 1, Pteridophyte – 1, Gymnosperm – 1 & Paleobotany - 1**)  
4 X 2 =8M
  21. *Marchantia* thallus V.S.
  22. *Marchantia* thallus with gemma cups
  23. *Marchantia* antheridiophore L.S.
  24. *Marchantia* archegoniophore L.S.
  25. *Marchantia* sporophyte V.S.
  26. *Anthoceros* thallus V.S.
  27. *Anthoceros* thallus with antheridia
  28. *Anthoceros* thallus with archegonia
  29. *Anthoceros* sporophyte L.S.
  30. *Anthoceros* sporophyte T.S.
  31. *Polytrichum* leaf T.S.
  32. *Polytrichum* stem T.S.
  33. *Polytrichum* antheridial branch

34. *Polytrichum* archegonial branch
35. *Polytrichum* capsule L.S.
36. *Polytrichum* protonema
37. *Rhynia* (Fossil slide)
38. *Lycopodium* strobilus L.S.
39. *Equisetum* strobilus L.S.
40. *Marsilea* sporocarp V.S.
41. Cycadeoidea (Fossil Slide)
42. *Pinus* male cone V.S.
43. *Pinus* pollen grains
44. *Pinus* female cone V.S.
45. *Pinus* ovule V.S.
46. *Gnetum* male cone V.S.
47. *Gnetum* female cone V.S.
48. *Gnetum* ovule V.S.

V. Record & Viva-Voce

5+5=10M

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**Model paper**

**Time: 3 Hours}      {Max. Marks: 50**

**Note:** Answer **All** questions. Draw well labeled diagrams wherever necessary

1. Prepare a double stained permanent mount of the given material 'A' (**Pteridophyte**)  
Draw diagram & give reasons for identification. 12M
  
2. Prepare a double stained permanent mount of the given material 'B' (**Gymnosperms**)  
Draw diagram & give reasons for identification. 12M
  
3. Identify the given specimens C, D, E & F (**Bryophyte – 2, Pteridophyte – 1, & Gymnosperm – 1**)  
4 X 2=8M
  
4. Identify the given slides G, H, I & J (**Bryophyte – 1, Pteridophyte – 1, Gymnosperm – 1 & Paleobotany - 1**) 4 X 2 =8M
  
5. Record & Viva-Voce 5+5=10M