

B.Sc. (Honours) Examination, 2018
Semester - IV
Botany
Course: BBC – 41 (Core)
(Pteridophytes, Gymnosperms & Palaeobotany)

Time – Three Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer question **No. 1** and **any two** each from **Group –A** and **Group – B**

1. Briefly define **any eight** of the following: 1x8=8
- a) Stele
 - b) Ligule
 - c) Amphisporangiate
 - d) Haploxyton and Diploxyton
 - e) Haplocheilic and Syndetocheilic
 - f) Transfusion tissue
 - g) Melissopalynology
 - h) Pollination drop
 - i) Homeophyllum and Heterophyllum
 - j) Raphe
 - k) Annulus
 - l) Enation

Group – A (Pteridophytes)

2. Mention the non-fern characters in *Ophioglossum*. Describe briefly the external and internal morphology of the aerial complex of this genus. 2+6=8
3. Describe the gametophyte structure of *Psilotum* with suitable illustration. What are the fern characters as exhibited by this genus. Name one Indian species of *Psilotum*. 4+3+1=8
4. Write short notes on **any two** of the following: 4+4=8
 - a. *Archaeopteris arnoldii*
 - b. *Asteroxylon mackei*
 - c. *Lepidocarpon*

Group- B (Gymnosperms & Palaeobotany)

5. Give the scientific name and distribution of *Cycas* present in India. Describe the development of female gametophyte of this genus with suitable diagram. 6+2=8
 6. Give a detail account on the mode of fossil preservation (after Schopf, 1975). What is Biostratinomy and Diagenesis? 6+2=8
 7. Write short notes on **any two** of the following: 4+4=8
 - a) Seed cone complex
 - b) Pollen units
 - c) Pollen shape
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