

[This question paper contains 4 printed pages.]

934

Your Roll No. ....

**B.Sc. (Hons.) / II**

**C.**

**BOTANY – Paper IV**

(Archegoniatae)

(Admissions of 2004 and onwards)

Time : 3 Hours

Maximum Marks : 38

*(Write your Roll No. on the top immediately  
on receipt of this question paper.)*

*Attempt five questions in all, including  
Q No. 1 which is compulsory.*

*All parts of a question should be answered together.*

1. Answer any three from the following :

(a) Draw a label diagram of L.S sporophyte of *Anthececos*.

(b) Name a Pteridophyte with gametophyte having vascular tissue.

(c) Compare the thalli of *Pellia* and *Porella*.

(d) Describe siphonostele giving suitable examples.

(e) What is apospory ? (2×3=6)

P.T.O.

2. Write short notes on any **four** of the following :

- (a) Vegetative propagation in Bryophytes
- (b) Ecological significance of Bryophytes
- (c) Heterospory in Pteridophytes
- (d) *Psilotum* is a living fossil
- (e) Polyembryony in *Pinus*
- (f) *Ephedra* is considered advanced over *Cycas*  
(2×4=8)

3. Define any **eight** of the following :

- (a) Sporophyte
- (b) Synangia
- (c) Apophysis
- (d) Nucellus
- (e) Reticulate venation
- (f) Stele
- (g) Eusporangiate development
- (h) Subcubous arrangement of leaf
- (i) Retort cells
- (j) Prothallus  
(8×1=8)

4. Distinguish between any **four** of the following :
- (a) Monoxylic and Pycnoxylic wood
  - (b) Node and internode of *Equisetum*
  - (c) Male and female receptacle of *Marchantia*
  - (d) Chloronema and caulonema
  - (e) Exosporic and endosporic development
  - (f) Ovule of *Cycas* and *Gnetum* (2×4=8)
5. Draw a neat and well labeled diagram of any **two** :
- (a) T.S. leaflet of *Cycas*
  - (b) L.S. Cone of *Equisetum*
  - (c) L.S. sporophyte of *Pellia*
  - (d) V.S. Synangia of *Psilotum* (4×2=8)
6. (a) Compare spore dispersal mechanism of *Riccia*, *Marchantia*, *Anthoceros* and *Pellia*.
- (b) With the help of suitable diagrams of archegonia comment on the evolutionary trends of *Riccia*, *Pellia*, *Funaria*, *Pteris* and *Pinus*. (4+4=8)

7. Give an account of stellar evolution in Pteridophytes.  
(8)
8. Enumerate the diagnostic characteristics of Gymnosperms. How do they resemble and differ from Pteridophytes ?  
(4+2+2=8)