[This question paper contains 4 printed pages.]

1299 *Your Roll No.* .....

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

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.)

Answer Sections **A, B** and **C** *on separate sheets. Attempt* **all** *questions.* **All** *parts of a question should be answered together.*

SECTION A (Bryophytes)

1. Define any **six** of the following :

   (a) Peristome

   (b) Elaterophore

   (c) Annulus

   (d) Appendiculate Scales

   (e) Protonema

   (f) Tubers

P.T.O.

(g) Gemma

(h) Incubous leaf arrangement (½×6=3)

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

(a) Amphibious nature of bryophytes

(b) Sporophyte of *Anthoceros*

(c) Capsule of *Funaria* (2½×2=5)

3. Draw well labelled diagram of any **two** of the following :

(a) V.S. antheridiophore of *Marchantia*

(b) L.S. sporophyte of *Sphagnum*

(c) L.S. Antheridial head of *Funaria* (2½×2=5)

SECTION B (Pteridophyte)

4. Write notes on any **three** of the following :

(a) Evolutionary significance of *Psilotum*

(b) Xerophytic and hydrophytic adoption of *Equisetum*

(c) Heterospory in *selaginella*

(d) Stellar evolution in pteridophytes

(e) Morphology of *Marsilea* plant (3×3=9)

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

(a) Coenosorus

(b) Prothallus

(c) Sporocarp

(d) Synangium

(e) Dictyostele

(f) Trabeculae

(g) Ligule

(h) Peltate scale

(i) Heterospory

(j) Megaphyll (½×8=4)

SECTION C (Gymnosperm)

6. Draw well labelled diagram of any **three** of the following :

(a) T.S. needle of *Pinus*

(b) L.S. ovule of *Gnetum*

(c) L.S. Male strobilus of *Ephedra*

(d) T.S. Coralloid root of *Cycas* (2×3=6)

7. Attempt any **three** of the following :

(i) *Gnetum* is a unique taxon of Gnetales. Comment.

(ii) Write notes on Male flower of *Ephedra.*

(iii) Describe structure of Microsporophyll and microsporangia in *Cycas*.

(iv) Give detail account of female cone of *Pinus*.

(2×3=6)