

Time – 3 hr.

Marks - 100

- N.B.
1. All questions are compulsory.
  2. Draw neat labelled diagrams wherever necessary.
  3. All questions carry equal marks.

- Q.1 Attempt any two** **20**
- a Describe the internal structure of *Marchantia* thallus and add a note on its systematic position.
  - b Explain the structure of antheridiophore of *Marchantia*.
  - c Sketch, label and describe the sporophyte of *Pellia*.
  - d Give an account of the internal structure of *Sphagnum* stem and leaf.
- Q.2 Attempt any two** **20**
- a Explain the external morphology of *Lycopodium*. Add a note on its systematic position.
  - b Describe the transverse section of stem of *Equisetum*.
  - c Give an account of sexual reproduction in *Adiantum*.
  - d Explain the structure of V. S. of sporocarp of *Marsilea*.
- Q.3 Attempt any two** **20**
- a Describe "Progressive sterilization theory" with respect to evolution of sporophyte of bryophytes.
  - b Give an account of different habitats of bryophytes.
  - c Discuss soral evolution in pteridophytes.
  - d Write in details economic importance of pteridophytes.
- Q.4 Attempt any two** **20**
- a Explain the ovulate strobilus of *Biota (Thuja)*. Add a note on its structure of ovule.
  - b Give an account of the T.S. of old stem with reference to anomalous growth of *Gnetum*.
  - c Describe the structure of staminate strobilus of *Ephedra*. Add a note on microsporangium & microspores.
  - d Write economic importance of Gymnosperms.
- Q.5 Write short notes on any four of the following.** **20**
- a Internal structure of *Pellia* thallus
  - b Systematic position of *Sphagnum*
  - c L.S of *Lycopodium* cone.
  - d External morphology of *Adiantum*
  - e Bryophytes as bioindicators of water pollution.
  - f Classification of *Gnetum*.