Botany-II
Plant Div. IV
13/10

QP Code : 12839

(2½ Hours) **[Total Marks : 75**

N.B. : (1) **All** questions are **compulsory.**
(2) **All** questions carry **equal** marks.
(3) **Draw** neat and labeled diagrams wherever **necessary.**

1. Attempt any **two** of the following : **15**
   (a) Describe the structure of male cone of *Ephedra*. Add a note on structure of microsporangium and microspore.
   (b) With respect to *Ephedra* describe
   (i) T.S. of stem (ii) T.S. of root
   (c) Describe the male cone and male flower of *Gnetum*.
   (d) Describe the structure of V.S. of ovule of *Gnetum*. Add a note on its systematic position.

2. Attempt any **two** of the following : **15**
   (a) Give the systematic position, distinguishing characters, floral formula and plants of economic importance of family Umbelliferae.
   (b) Write the morphological peculiarities and systematic position of family Cucurbitaceae.
   (c) Discuss the importance of Palynology in relation to taxonomy.
   (d) Discuss Bentham and Hooker's system of classification and comment on its merits and demerits.

3. Attempt any **two** of the following : **15**
   (a) Describe the structure of microsporangium and trace the process of microsporogenesis in Angiosperms.
   (b) Give the structure of megasporangium ? Explain the process megasporogenesis.
   (c) Describe the structure of *Polygonum* type of embryo sac.
   (d) Describe the process of development of *Capsella* type of embryo.

4. Attempt any **two** of the following : **15**
   (a) Describe anomalous secondary growth in stem of *Achyranthes*.
   (b) Explain the anomalous secondary growth in Beet root.
   (c) What is anomalous secondary growth? Describe anomalous secondary growth in *Dracaena* stem.
   (d) What is stomata ? Describe Paracytic and Anisocytic type of stomata.

5. Attempt any **three** of the following : **15**
   (a) Describe female cone of *Ephedra*.
   (b) Describe T.S. of *Gnetum* leaf.
   (c) Give economic importance of Palmae.
   (d) Describe double fertilization.
   (e) Describe Diacytic and Anomocytic stomata.
   (f) Describe anomalous secondary growth in Radish root.