

Exam. Code : 103203

Subject Code : 1338

B.A./B.Sc. 3<sup>rd</sup> Semester

BOTANY—III (A)

(Diversity of Seed Plants and Their Systematics)

Time Allowed—3 Hours]

[Maximum Marks—35

SECTION—I

**Note** :— Attempt *all* parts of Q.No. 1. Answer to each part should be limited to 3-4 lines only. Each part carries 1 mark.

1. (i) Contributions of Birbal Sahni
- (ii) Coralloid roots
- (iii) Petrifications
- (iv) Pycnoxylic wood
- (v) Carpels in primitive angiosperms
- (vi) Phyllotaxy
- (vii) Girdling leaf trace.

SECTION—II

**Note** :— Answer any *four* questions. Each question carries 7 marks.

2. What is heterospory ? Highlight the major events in the evolution of seed habit in phanerogams.

3. Describe general anatomical characters of Gymnosperms.
4. Describe the structure of male and female reproductive organs of *Cycas*.
5. What are fossils ? Give their types and explain the process of fossilization.
6. Explain briefly the following :
  - (a) Anatomy of petiole of *Ginkgo biloba*.
  - (b) Primitive features of *Magnoliales*.
7. Write illustrated notes on the following :
  - (a) *Williamsonia*
  - (b) Transfusion tissue.
8. Give an illustrated account of the life cycle of *Ephedra* with special reference to its advanced features.
9. Trace the origin and evolution of angiosperms.