

Exam. Code : 210002

Subject Code : 4215

M.Sc. (Botany) 2nd Semester

DIVERSITY AND BIOLOGY OF GYMNOSPERMS

Paper : BOTC-522

Time Allowed—3 Hours] [Maximum Marks—50

Note :— Attempt **five** questions in all selecting at least **one** question from each section. Draw neatly labelled diagrams wherever required. All questions carry equal marks.

SECTION—A

1. Discuss the general characters and life cycle of gymnosperms as first seed plants. 10
2. Write illustrated notes on any **two** of the following :
 - (a) Distribution of gymnosperms in India.
 - (b) The Mesozoic era.
 - (c) Gondwanaland. 5×2=10

SECTION—B

3. Elucidate general characters, classification and phylogenetic relations of progymnosperms. 10

4. Write illustrated notes on any **two** of the following :

(a) *Pentoxylon*

(b) Male cones of *Pinus*

(c) Stem anatomy of *Ephedra*. 5×2=10

SECTION—C

5. Give an illustrated account of evolutionary tendencies in the male cones of gymnosperms. 10

6. Write illustrated notes on any **two** of the following :

(a) Megasporophylls

(b) Archegonia in gymnosperms

(c) Ovules of *Pinus*. 5×2=10

SECTION—D

7. Elucidate the mechanism of pollination in gymnosperms with reference to both transfer and reception of pollen. 10

8. Write illustrated notes on any **two** of the following :

(a) Base number of chromosomes

(b) Karyotype asymmetry

(c) Salpinx. 5×2=10