Sr. No. 7047

Exam. Code: 210002
Subject Code : 4823

M.Sc. Botany - 2nd Sem.

(2517)

Paper-BOTC-522: Diversity & Biology of Gymnosperms

Time allowed: 3 hrs. **Max. Marks: 50**

SECTION – A

Note: - Attempt all parts of Section A. Your answer should not exceed 4 lines. Each part carries 1mark.

I. i) Name two deciduous gymnosperms.
ii) Contributions of Birbal Sahni.
iii) Lagenostome
iv) Petrifactions
v) Transfusion tissue
vi) Diploxylic bundles.
vii) Why *Ginkgo biloba* is called a living fossil?
viii) Give two angiosperm-like features of *Gnetum*.

SECTION – B

Note: - Answer any 7 questions. Each question carries 3 marks. Your answer should not exceed 2 pages

1. What are the main xerophytic characters of gymnosperms?
2. Write a short note on the Palaeozoic era of geological formations in India.
3. What are progymnosperms? Name two genera representing progymnosperms.
4. Describe the morphology of leaves of Cordaitales
5. Explain briefly the seed-scale complex in conifers.
6. What are coralloid roots? Give their anatomical features.
7. Give graphic representation of the life cycle of *Pinus*.
8. Draw and label the following:
   a) Microsporophyll of *Cycas*
   b) L.S of ovule of *Ephedra*
9. Describe the vegetative morphology of *Welwitschia*.
10. Where do you find entomophily in gymnosperms? Give examples

SECTION – C

Note: - Answer any 3 questions. Each question carries 7 marks. Your answer should not exceed 4 pages

1. When did gymnosperms originate? Explain the important anatomical features of the stem and leaves of gymnosperms.
2. Give a general account of the order Cycadofilicales.
3. With labelled diagrams, describe the structure of the male and female 'flowers' of *Welwitschia*.
4. Describe the structural complexity of the female gametophyte in gymnosperms.
5. Describe the cytology in various groups of gymnosperms.

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