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MBOT-503

Gymnosperms and Plant Anatomy

M.Sc. Botany (MSCBOT-20)

1st Semester Examination June 2022

Time: 2 Hours

Max. Marks: 40

Note : This paper is of Forty (40) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section – A

(Long Answer – type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Ten (10) marks each. Learners are required to answer any two (02) questions only.

[2 x 10 = 20]

- Q.1.** Describe the general characters of Gymnosperms in detail with special reference to Cycas and Ephedra.
- Q.2.** Explain structures and functions of xylem and phloem.

P.T.O.

- Q.3. Write short note on the following:
- Procambium
 - Tyloses
 - Trichome
 - Ergastic substances
 - Apical cell theory
- Q.4. Write descriptive note on the following (any two):
- Classification of Gymnosperms
 - Secondary growths
 - Life cycle of Gymnosperms
- Q.5. Describe the process of microsporogenesis and megasporogenesis in coniferales.

Section – B

(Short-answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Five (05) marks each. Learners are required to answer any Four (04) questions only. [4 x 5 = 20]

- Q.1. Write short note on any two of the following:
- Periblem
 - Protoderm
 - Procambium

P.T.O.

- Q.2. Give an account of the organization and development of shoot apex and the theories associated with them.
- Q.3. Write a brief account on xerophytic adaptations in Gymnosperms.
- Q.4. Differentiate the following:
- Pycnoxylic wood and monoxylic wood
 - Coralloid roots and mycorrhizal roots
- Q.5. Briefly answer the following:
- Differentiate between sarcotesta and sclerotesta
 - Write four points of difference of Gymnosperms from Angiosperm.
- Q.6. Enumerate differences between the following:
- Bennettiales and Cycadales
 - Taxales and Gnetales
- Q.7. Discuss the variation in the structure of female gametophyte in Gymnosperms.
- Q.8. Write short notes on any two of the following:
- Laticifers
 - Lateral roots
 - Sieve elements
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