

## **BOT-503**

### **Gymnosperms, Taxonomy of Angiosperms and Anatomy**

M.Sc Botany (MSCBOT) (12/13/16/17)

First Year, Examination, 2019

**Time: 3 Hours**

**Max. Marks: 80**

**Note:-** This paper is of Eighty (80) marks containing three (03) Section A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

#### **Section-A (Long Answer Type Question)**

**Note:-** Section 'A' contains four (04) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.  
(2×19=38)

1. Give the distribution morphology anatomy and reproductive structure of Gnetales.

2. Discuss in detail the modern trends in plant taxonomy.
3. What is biodiversity? Give different factors responsible for the loss of biodiversity and methods to conserve it.
4. With suitable diagrams and examples discuss secondary growth in dicotyledonous stems. Explain the role of phellogen.

**Section-B**  
**(Short Answer Type Question)**

**Note:-** Section 'B' contains eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any four (04) questions only.

(4×8=32)

1. Discuss some important fossil gymnosperms studied by you.
2. Describe reproductive structures of Cycas.
3. Give an account of International code of Botanical Nomenclature.
4. Write about different steps of herbarium preparation.

5. Give general characters of Ranales.
6. Give a brief account of plant diversity of your area.
7. Discuss different theories related to shoot apex organization.
8. Discuss briefly the Structure of xylem and phloem.

**Section-C**  
**(Objective Type Questions)**

**Note:-** Section 'C' contains one (01) objective type questions of ten (10) parts each part carries 01 (one) mark attempt all the parts. (10×1=10)

**Fill in the blanks:**

- (i) Apical cell theory was given by.....
- (ii) The abbreviation used for central national Herbarium, Howrah is.....
- (iii) The classification of angiosperms given by Thorne is.....in nature.
- (iv) Kanha National park is located in the state of.....

- (v) Secondary growth shown by *mirabilis jalapa* stem is.....in nature.

Write whether following statements are True or False:

- (vi) Endosperm in gymnosperms is triploid (T/F)
- (vii) *Delphinium* is a member of family Ranunculaceae (T/F)
- (viii) Tracheids lack protoplasts. (T/F)
- (ix) In Helobiales plants are generally terrestrial. (T/f)
- (x) Intercalary meristem is present in grasses. (T/F)

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