

2024

( CBCS )

( 6th Semester )

**BOTANY**

TENTH PAPER

**( Angiosperm Taxonomy, Anatomy and Embryology )**

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks for the questions***( SECTION : A—OBJECTIVE )**

( Marks : 10 )

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. The book, *Die Natürlichen Pflanzenfamilien* was written by  
 (a) Bentham and Hooker ( ) (b) Engler and Prantl ( )  
 (c) Hutchinson ( ) (d) Linnaeus ( )
2. The System of Classification given by Bentham and Hooker is  
 (a) natural ( ) (b) artificial ( )  
 (c) phylogenetic ( ) (d) modern ( )
3. The largest herbarium in India is  
 (a) Central National Herbarium, Howrah ( )  
 (b) Blatter Herbarium, Mumbai ( )  
 (c) National Botanical Research Institute Herbarium,  
 Lucknow ( )  
 (d) Forest Research Institute Herbarium, Dehradun ( )

4. A specimen or illustration used by the author or designated by him as the nomenclatural type is called  
 (a) isotype ( ) (b) paratype ( )  
 (c) holotype ( ) (d) syntype ( )
5. Labellum is found in the family  
 (a) Cyperaceae ( ) (b) Liliaceae ( )  
 (c) Orchidaceae ( ) (d) Zingiberaceae ( )
6. Ochreate stipule is found in  
 (a) *Euphorbia* ( ) (b) *Polygonum* ( )  
 (c) *Ipomea* ( ) (d) *Citrus* ( )
7. Distinguishing feature in hydrophytes is the presence of  
 (a) aerenchyma ( ) (b) parenchyma ( )  
 (c) sclerenchyma ( ) (d) collenchyma ( )
8. Cork cambium is also called as  
 (a) phellem ( ) (b) phelloderm ( )  
 (c) phellogen ( ) (d) plerome ( )
9. Synergids are absent in the embryo sac of  
 (a) *Allium* ( ) (b) *Polygonum* ( )  
 (c) *Fritillaria* ( ) (d) *Plumbago* ( )
10. Cleistogamous flowers are  
 (a) self-pollinated ( ) (b) cross-pollinated ( )  
 (c) wind-pollinated ( ) (d) insect-pollinated ( )

**( SECTION : B—SHORT ANSWERS )**

( Marks : 15 )

Write notes on the following in brief :

3×5=15

**UNIT—I**

1. Merits of Bentham and Hooker's system of classification

**OR**

2. Numerical taxonomy

UNIT—II

3. Isotype

**OR**

4. Functions of botanical garden

UNIT—III

5. Primitive characters of Magnoliaceae

**OR**

6. Economic importance of Rutaceae

UNIT—IV

7. Anomalous secondary growth

**OR**

8. Cambium activity

UNIT—V

9. True polyembryony

**OR**

10. Bisporic type of embryo sac

**( SECTION : C—DESCRIPTIVE )**

( Marks : 50 )

Answer the following questions :

10×5=50

UNIT—I

1. What is the difference among artificial, natural and phylogenetic systems of classification? 10

**OR**

2. Write notes on the following :

5+5=10

(a) Chemotaxonomy

(b) Outline of the system of classification proposed by Engler and Prantl

UNIT—II

3. What do you mean by herbarium? Describe briefly the method of preparation and management of herbarium. 2+4+4=10

**OR**

4. Give brief accounts on the following : 5+5=10  
(a) Evolution of angiosperms  
(b) ICBN

UNIT—III

5. Describe the distinguishing characters of Zingiberaceae giving floral formula and floral diagram. 7+1+2=10

**OR**

6. Describe the floral characters of the following : 5+5=10  
(a) Scrophulariaceae  
(b) Cyperaceae

UNIT—IV

7. What is root-stem transition? Describe its different types with the help of diagram. 2+8=10

**OR**

8. Write notes on the following : 5+5=10  
(a) Anatomical features of xerophytes  
(b) Secondary growth in roots

UNIT—V

9. What is endosperm? Describe its various types with the help of neat labelled diagram. Add a note on the function of endosperm. 2+6+2=10

**OR**

10. Write notes on the following : 5+5=10  
(a) Different types of embryo  
(b) Cross-pollination

\*\*\*