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(CBCS)

(6th Semester)

BOTANY

TENTH PAPER

(Angiosperm Taxonomy, Anatomy and Embryology)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(*Marks : 25*)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks : 10*)

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

1×10=10

1. Which of the following is natural system of classification?

- (a) Engler and Prantl ()
- (b) Bentham and Hooker ()
- (c) Carolus Linnaeus ()
- (d) John Hutchinson ()

2. Numerical taxonomy is otherwise called

- (a) cladistics ()
- (b) phenetics ()
- (c) dendrometrics ()
- (d) taximetrics ()

3. Which family is thought to be the most primitive type?
- (a) Ranunculaceae ()
 - (b) Lamiaceae ()
 - (c) Asteraceae ()
 - (d) Orchidaceae ()
4. The first and the oldest Botanical Garden established in 1545 is
- (a) Botanical Garden of Heidelberg ()
 - (b) Missouri Botanical Garden ()
 - (c) Botanical Garden of Padua ()
 - (d) Royal Botanical Garden ()
5. Which of the following is the only tree species found in the family Polygonaceae?
- (a) *Coccoloba uvifera* ()
 - (b) *Corculum leptopus* ()
 - (c) *Fagopyrum esculentum* ()
 - (d) *Oxyria digyna* ()
6. Which family is the second largest member of Phanerogams?
- (a) Convolvulaceae ()
 - (b) Zingiberaceae ()
 - (c) Fabaceae ()
 - (d) Orchidaceae ()
7. Cork cells are otherwise called
- (a) periderm ()
 - (b) phelloderm ()
 - (c) phellem ()
 - (d) phellogen ()
8. Beneath which region the cells become meristematic in dicot root?
- (a) Xylem ()
 - (b) Phloem ()
 - (c) Pith ()
 - (d) Endodermis ()

9. The cross-pollination taking place between two different species is called
- (a) xenogamy ()
 - (b) hybridism ()
 - (c) heterogamy ()
 - (d) geitonogamy ()
10. The egg apparatus is characterized by a single synergid in which type of embryo sac development?
- (a) *Peperomia* type ()
 - (b) *Penaea* type ()
 - (c) *Drusa* type ()
 - (d) *Fritillaria* type ()

SECTION—B

(Marks : 15)

Write notes on the following :

3×5=15

1. Polypetalae

OR

Merits of Hutchinson's classification

2. Effective and valid publication

OR

Functions of Botanical Gardens

3. Inflorescence of Liliaceae

OR

Economic importance of Verbenaceae

4. Aerenchyma

OR

Conjunctive tissues

5. Monocot embryo

OR

Cellular endosperm

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Give a comparative account on Hutchinson and Bentham and Hooker's systems of classification. 10
2. Write notes on any *two* of the following : 5×2=10
 - (a) Chemotaxonomy
 - (b) Numerical taxonomy
 - (c) Merits and demerits of Engler and Prantl's classification

UNIT—II

3. Write a note on the evolution of Angiosperms. 10
4. Write accounts on any *two* of the following : 5×2=10
 - (a) Herbarium
 - (b) ICBN
 - (c) Botanical Gardens of India

UNIT—III

5. Describe the economic importances of Magnoliaceae and Orchidaceae. 5+5=10
6. Write notes on any *two* of the following : 5×2=10
 - (a) Rutaceae
 - (b) Cyperaceae
 - (c) Zingiberaceae

UNIT—IV

7. What is root-stem transition? Describe the different types of root-stem transition with suitable diagram. 2+8=10
8. Write notes on any *two* of the following : 5×2=10
 - (a) Xerophytic characters of grasses
 - (b) Intrastelar secondary growth on dicot stem
 - (c) Periderm

UNIT—V

9. Discuss the development of nuclear endosperm with suitable diagram. Add a note on the endosperm haustoria. 8+2=10
10. Write notes on any *two* of the following : 5×2=10
 - (a) Advantages of self-pollination
 - (b) Bisporic type of embryo sac
 - (c) Polyembryony

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