TDC (CBCS) Odd Semester Exam., 2022

BOTANY

(3rd Semester)

Course No. : BOTDSC/GE–301T

(Plant Anatomy and Embryology)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *three* of the following questions : 1×3=3

(a) What are histogens?

(b) Who proposed Tunica-Corpus theory?

(c) What is the function of chlorenchyma?

(d) Write the name of a plant or family, where bicollateral vascular bundle is present.

2. Answer any *one* of the following questions : 2

(a) What is epidermis? State its function.

(b) Write the distinct anatomical features of a dicot stem.

3. Answer any *one* of the following questions : 5

(a) Write an elaborate note on complex tissues.

(b) Give an account of the anatomy of dicotyledonous roots.

UNIT—II

4. Answer any *three* of the following questions : 1×3=3

(a) State the use of dendrochronology.

(b) What is laburnum?

(c) What is tylosis?

(d) Write the scientific name of the plant from which haematoxylin is obtained.

5. Answer any *one* of the following questions : 2

(a) Write a note on lenticels.

(b) Write the economic importance of secondary phloem.

6. Answer any *one* of the following questions : 5

(a) What is cambium? Write a note on the structure of cambium. State the functions of cambium. 1+2+2=5

(b) What is periderm? Describe the parts of periderm. 2+3=5

UNIT—III

7. Answer any *three* of the following questions : 1×3=3

(a) Write the scientific name of a hydrophyte.

(b) What are trichomes?

(c) What are stinging hairs?

(d) State the functions of aerenchyma.

8. Answer any *one* of the following questions : 2

(a) Draw and describe the structure of stomata.

(b) Write the chemical constituents of epicuticular waxes.

9. Answer any *one* of the following questions : 5

(a) Draw and describe the stem anatomy of a hydrophyte. 2+3=5

(b) What are xerophytes? Write the anatomical characters of xerophytes. 1+4=5

UNIT—IV

10. Answer any *three* of the following questions : 1×3=3

(a) What is pollinium?

(b) State the function of jaculator.

(c) What are the two essential parts of a mature seed?

(d) What do you mean by porogamy?

11. Answer any *one* of the following questions : 2

(a) State the functions of tapetum.

(b) Describe the structure of a mature polygonum type of embryo sac.

12. Answer any *one* of the following questions : 5

(a) Give an account of the pollination mechanism in *Salvia*.

(b) Describe the mechanisms of wind dispersal of seeds.

UNIT—V

13. Answer any *three* of the following questions : 1×3=3

(a) Give an example of nuclear endosperm.

(b) What is epicotyl?

(c) Define embryogeny.

(d) What is metaxenia?

14. Answer any *one* of the following questions : 2

(a) Draw a labelled diagram of the structure of a mature embryo sac.

(b) Draw a labelled diagram of mature dicot embryo.

15. Answer any *one* of the following questions : 5

(a) Define polyembryony. Write the practical applications of polyembryony. 2+3=5

(b) Describe the typical type (crucifer type) of dicot embryo development.

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