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TDC (CBCS) Odd Semester Exam., 2019

BOTANY

(3rd Semester)

Course No. : BOTDSC/BOTGE–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 : 1×3=3

(a) Define aerenchyma.

(b) Name complex tissues.

(c) Write one character of root hair.

(d) Define meristems.

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

(a) Differentiate between exarch and endarch xylem.

(b) Write a brief note on sclerenchyma.

3. *(a)* Draw and describe the structure of monocot stem as seen in transverse section. 5

Or

(b) Write a note on 'tunica-corpus theory'. 5

UNIT—II

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

(a) Name a plant where vascular bundle is closed.

(b) What is secondary xylem?

(c) What do you mean by open vascular bundle?

(d) What are primary vascular tissues?

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

(a) Write a note on heartwood.

(b) Write a note on sapwood.

6. *(a)* Write in detail the structure and function of vascular cambium. 5

Or

(b) Describe in detail the secondary growth in stem with neat sketches. 5

UNIT—III

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

(a) Name one hydrophyte.

(b) What is guard cell?

(c) What is cuticle?

(d) Give example of a xerophytic plant.

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

(a) Draw and define paracytic stomata.

(b) What do you mean by epidermal outgrowth?

9. *(a)* Write a general account of adaptations of hydrophytic plants. 5

Or

(b) Describe in detail how the xerophytes endure in extreme xeric environment. 5

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UNIT—IV

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

(a) Give an example of anemophilous plant.

(b) What is anatropous ovule?

(c) What is the function of pollen?

(d) Name one insect pollinated plant.

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

(a) Write a note on double fertilization.

(b) Draw and label the structure of a mature embryo sac.

12. *(a)* Write in detail the different types of embryo sacs with neat sketches. 5

Or

(b) Write the role of different types of seed appendages in seed dispersal mechanisms in plants. 5

(Continued)

UNIT—V

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

(a) Name one albuminous seed.

(b) What is the position of plumule in monocot embryo?

(c) What is cleavage polyembryony?

(d) Define adventive polyembryony.

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

(a) Write down the functions of endosperm.

(b) Write a brief note on endosperm-embryo relationship.

15. *(a)* Write a detailed account on the applications of apomixis. 5

Or

(b) Describe general patterns/types of endosperm development in plants. 5

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