2023

(FYUGP)

(3rd Semester)

BOTANY

(Minor)

Paper Code. : BCM–03

(Morphology and Anatomy of Angiosperms)

Full Marks : 75 *Pass Marks* : 40%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

The figures in the margin indicate full marks for the questions

UNIT—I

1. Describe the structure and modification of leaves with examples. 10

Or

2. Give an account on the structure and types of seeds. Add a note on the dispersal of fruits and seeds. 7+3=10

UNIT—II

3. Write short notes on the following : 5×2=10

(a) Structure of flower

(b) Types of aestivation

Or

4. Justify flower as a modified shoot. Explain cohesion of floral parts. 7+3=10

UNIT—III

5. What are secretory tissues? Discuss different types of secretory tissues in plants. 1+9=10

Or

6. Discuss different types of vascular bundles with suitable diagrams. 10

UNIT—IV

7. Describe the arrangement of primary tissues in dicot and monocot stem with suitable diagrams. 5+5=10

Or

8. Briefly explain different theories on apical organization of shoots. 10

UNIT—V

9. Define dendrochronology. Explain the structure, function and seasonal activity of cambium. 1+9=10

Or

10. Write short notes on the following : 5×2=10

(a) Sapwood and heartwood

(b) Secondary growth in stem

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(PART : A—OBJECTIVE)

(*Marks* : 25)

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SECTION—I

(*Marks* : 15)

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×15=15

1. Stem tendrils are not seen in

(a) grapevine ( )

(b) watermelon ( )

(c) citrus ( )

(d) cucumber ( )

2. A drupe develops in

(a) wheat ( )

(b) pea ( )

(c) tomato ( )

(d) mango ( )

3. Scutellum is the first leaf of

(a) monocot ( )

(b) dicot ( )

(c) gymnosperm ( )

(d) pteridophyte ( )

4. Placentation in tomato and lemon is

(a) parietal ( )

(b) free central ( )

(c) marginal ( )

(d) axile ( )

5. The term 'polyadelphous' is related to

(a) gynoecium ( )

(b) androecium ( )

(c) corolla ( )

(d) calyx ( )

6. When margins of sepals or petals overlap one another without any particular direction, the condition is termed as

(a) vexillary ( )

(b) imbricate ( )

(c) twisted ( )

(d) valvate ( )

7. A major characteristic of the monocot root is the presence of

(a) open vascular bundles ( )

(b) scattered vascular bundles ( )

(c) cambium sandwiched between phloem and xylem ( )

(d) vasculature without cambium ( )

8. A common structural feature of vessel elements and sieve tube elements is

(a) thick secondary walls ( )

(b) pores on lateral walls ( )

(c) presence of *P*-protein ( )

(d) enucleate condition ( )

9. The branched sclereids present in hydrophytes are

(a) astrosclereids ( )

(b) osteosclereids ( )

(c) trichosclereids ( )

(d) macrosclereids ( )

10. Which of the following is true for apical meristem?

(a) Responsible for primary growth ( )

(b) Forms primary permanent tissue ( )

(c) Primary meristem ( )

(d) All of the above ( )

11. Korper-Kappe concept of root apex organization was given by

(a) Clowes ( )

(b) Schuepp ( )

(c) Hanstein ( )

(d) Nageli ( )

12. The quiescent centre in root meristem serves as

(a) site of storage of food ( )

(b) reserve for replenishment of damaged cells of the meristem ( )

(c) reservoir of growth hormones ( )

(d) region for absorption of water ( )

13. Bark refers to

(a) phellem + phellogen + phelloderm ( )

(b) periderm + cortex ( )

(c) phellem + phelloderm + secondary phloem ( )

(d) periderm + cortex + pericycle + secondary phloem ( )

14. Which of the following is made up of dead cells?

(a) Xylem parenchyma ( )

(b) Collenchyma ( )

(c) Phellem ( )

(d) Phloem ( )

15. In temperate region plants, the wood with fewer xylary elements and narrow vessels is termed as

(a) autumn wood ( )

(b) spring wood ( )

(c) sapwood ( )

(d) heartwood ( )

SECTION—II

(*Marks* : 10)

Write on the following in few sentences : 2×5=10

1. Composite fruit

2. Placentation

3. Complex tissues

4. Isobilateral leaf

5. Periderm

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