2025

BOTANY

Paper : BOT0400204

(Morphology and Anatomy of Angiosperms)

Full Marks : 45

Time : 2 hours

The figures in the margin indicate full marks for the questions

1. Answer the following questions : 1×5=5

(a) In which type of inflorescence a thick spathe is found?

(b) Which is the only living component of xylem?

(c) What type of stomata is found in xerophytic plants?

(d) What is a leaf primordium?

(e) What is tylosis in plants?

2. Explain the following (any *five*) : 2×5=10

(a) Differences between dry dehiscent and dry indehiscent fruit

(b) Differences between heartwood and sapwood

(c) Differences between simple pits and bordered pits

(d) Differences between root hairs and stem hairs

(e) Differences between rhytidome and lenticels

(f) Kranz anatomy

(g) Dendrochronology

(h) Epicuticular waxes

(i) Cyathium inflorescence

(j) Exodermis

3. Answer any *four* of the following : 5×4=20

(a) Write how morphological characters are helpful in classification of plants.

(b) Discuss about the different types of epidermal outgrowth.

(c) What is pharmacognosy? Discuss the application of anatomy in pharmacognosy.

(d) What is meristematic tissue? How are they classified?

(e) Discuss the anatomy of dicot stem. How is it different from that of a monocot?

(f) Describe the role of polarity in plant development.

(g) Give an account of anatomical adaptation of hydrophytes.

(h) Give an account of the tunica-corpus theory of shoot apex.

4. Answer any *one* of the following questions : 10

(a) What is Telome theory? Explain the theory with suitable diagram. Mention its significance. 2+6+2=10

(b) What is cambium? How is it involved in seasonal activity and secondary growth in dicot plants? Explain. 2+8=10

(c) What is vascular bundle? Describe the different types of vascular bundle with diagram. 2+8=10

(d) What are Ergastic substances? Give an account of various Ergastic substances found in plants. 2+8=10

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