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**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) :  $2 \times 5 = 10$

- (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 :  $5 \times 4 = 20$

- (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-corpora 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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