

Roll No.

(011/17-I)

5205

B. Sc. EXAMINATION

(Third Semester)

BOTANY

Paper II

Plant Anatomy

Time : Three Hours

Maximum Marks : 40

Note : Q. No. 1 is compulsory. Attempt any *Four* other questions selecting *two* questions from each Unit. All questions carry equal marks.

1. Explain the following : 1×8=8
- (a) Perennial with example
 - (b) Spongy and palisade parenchyma
 - (c) Lenticle with diagram
 - (d) Pneumatophore with example
 - (e) Open and closed vascular bundles

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- (f) Bulliform cells
- (g) Isobilateral leaf
- (h) Amphicribal.

Unit I

- 2. (a) What do you mean by meristem ? Explain the types of meristem based on the position in the plant body. $1+3=4$
- (b) Differentiate between xylem and phloem. 4
- 3. (a) Give the structure of vascular cambium.
- (b) Explain the activity of cambium.
- (c) Differentiate fascicular and interfascicular cambium. $3+3+2=8$

Unit II

- 4. Write notes on the following : $4+4=8$
- (a) Tunica corpus theory
- (b) Cytological zonation in shoot apex.

5. What do you mean by anomalous secondary growth ? Explain the anomalous secondary growth in *Dracaena*. 2+6=8

Unit III

6. (a) What is Venation ? Give it types. 4
(b) Explain the compound leaf in detail. 4
7. (a) Explain the internal structure of a dicot leaf.
(b) Give the functions of epidermis and explain its various appendages. 4+4=8

Unit IV

8. (a) Illustrate with the help of diagram parts of a typical root.
(b) Explain various theories regarding apical meristem of root. 4+4=8

9. (a) Give the structural modification in respiratory root.
- (b) Give a detailed account of structure of a dicot root. $4+4=8$