3/12/18 (M)

[This question paper contains 4 printed pages.]

**Your Roll No.....**

**Sr. No. of Question Paper : 34** **I**

Unique Paper Code : 32161301

Name of the Paper : Anatomy of Angiosperms

Name of the Course : **B.Sc. (Hons.) Botany**

Semester : III

Duration : 3 Hours Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all including Question No. **1** which is compulsory.
3. All parts of a question must be attempted together.

1. (a) Define the following (any **five**) : (5×2=10)

   (i) Casparian strips

   (ii) Aerenchyma

   (iii) Bulliform Cells

P.T.O.

(iv) Dendrochronology

(v) Cystolith

(vi) Phellem

(vii) Plasmodesmata

(b) Fill in the blanks (any **five**) : (5×1=5)

(i) Calcium carbonate crystals found in leaves of *Ficuselastica* are called .....

(ii) Concentric vascular bundle in which phloem surrounds xylem is called as .....

(iii) In wood, elements of xylem are often blocked by balloon-like ingrowths known as .....

(iv) Sclereids with dilated ends resembling bones are called as .....

(v) Histogen theory was given by .....

(vi) Sugarcane leaves show special type of anatomy known as .....

(vii) Water secretion from margins of leaves occurs through pores called .....





2. Write short notes on the following (any **three**) : (5×3=15)

(i) Applications of Plant Anatomy in pharmacognosy

(ii) Types of trichomes in plants

(iii) Kranz anatomy

(iv) Tunica Corpus Theory

(v) Laticifers

3. Differentiate between (any **five**) : (5×3=15)

(i) Primary and secondary xylem

(ii) Cork cambium and vascular cambium

(iii) Lenticels and stomata

(iv) Ring porous and diffuse porous wood

(v) Fibers and sclereids

(vi) Tracheids and vessels

(vii) Amphivasal and amphicribal vascular bundles

4. Draw well labelled diagrams of (any **three**) : (5×3=15)

(i) T.S. monocot stem

(ii) V.S. *Zea mays* leaf

(iii) T.S. dicot stem with secondary growth

(iv) T.S. *Nymphaea* petiole

(v) V.S. lenticel

5. (i) Discuss secondary growth in dicot root along with suitable diagrams. (7.5)

(ii) Describe the structure and function of sieve elements. (7.5)

6. (i) Describe the structure and function of simple tissues with well labelled diagram. (7.5)

(ii) Give a brief illustrated account of anatomical adaptations of xerophytic plants. (7.5)

7. (i) Discuss the organization of root apex with suitable theories. Illustrate with diagrams. (7.5)

(ii) What is wood? Discuss different types of wood: Reaction wood, tension wood, early and late wood, heart wood and sap wood. (7.5)