

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory.

2. Figures to the right indicate full marks.

3. Draw neat and labelled diagrams wherever necessary.

Q.1 A) Choose the correct option from the following:

10 M

- a. \_\_\_\_\_ Shape of stomata found in Dicotyledonous plants.  
a. Kidney                      b. Dumbbell                      c. Circular                      d. Square
- b. A branch of botany deals with the internal structure and organization of the plants parts.  
a. Physiology                      b. Anatomy                      c. Taxonomy                      d. Mycology
- c. Cotton fibre is the part of \_\_\_\_\_.  
a. Epidermal tissue system                      b. Ground tissue system                      c. Vascular tissue system                      d. Meristematic tissue system
- d. Light and Dark Reaction takes place \_\_\_\_\_ cell organelle.  
a. Nucleus                      b. Chloroplast                      c. Mitochondria                      d. Ribosome
- e. \_\_\_\_\_ pigment is also known as Essential Pigment.  
a. Xanthophyll                      b. Carotene                      c. Chl. b                      d. Chl. a
- f. Which plant belongs to CAM plant from the following?  
a. Pineapple                      b. Sugar Cane                      c. Catharanthus                      d. Rice
- g. In C<sub>4</sub> plant, the vascular bundles are surrounded by \_\_\_\_\_ cells.  
a. Mesophyll                      b. Bundle sheath                      c. Epidermis                      d. Xylem
- h. \_\_\_\_\_ are the constituents of the basic molecular structure of the cell  
a. Primary metabolites                      b. Secondary metabolites                      c. Alkaloids                      d. Lectins
- i. Tulsi plant belongs to family \_\_\_\_\_.  
a. Santalaceae                      b. Acanthaceae                      c. Lamiaceae                      d. Liliaceae
- j. Find the odd man out.  
a. Alkaloid                      b. Carbohydrate                      c. Fats                      d. Proteins

Q.1 B) Answer the following in one sentence:

10 M

- a) Function of Cuticle
- b) Components of Phloem tissue
- c) What is the full form of RuBisCO, give its function.
- d) Full form of CAM. Give 1 example of Plant exhibiting CAM.
- e) Give two functions of primary metabolites.

**Q. 2 Answer any two from the following:**

20 M

- Write a note on the T.S of Dicot stem with help of a neat labelled diagram.
- Describe the anatomical characters of monocot root.
- Give detailed account of epidermal appendages of plants.
- What are complex tissues? Give an account of any one complex tissue.

**Q. 3 Answer any two from the following:**

20 M

- Describe various pigments involved in the process of photosynthesis in green plants.
- Schematically represent the process of cyclic and non-cyclic photophosphorylation. Also add a note on their significance.
- Write all reactions of carboxylation and reduction steps of Calvin cycle.
- "The  $C_4$  plants have a selective advantage over  $C_3$  plants". Explain.

**Q. 4 Answer any two from the following:**

20 M

- What are secondary metabolites? Give an account of groups of secondary metabolites and its functions.
- What are the contents of Grandma's pouch? Give botanical name, family, active constituents and uses of Tulsi.
- What is medicinal botany? Give botanical name, family, active constituents and uses of Turmeric and Ginger.
- Give botanical name, active constituents and uses of Sandal wood.

**Q. 5 Write Short Note (any four)**

20 M

- Hydathodes
- Sclereids
- Photolysis of Water
- Ultrastructure of chloroplast
- Components of grandma's pouch
- Medicinal uses *Aloe vera*

--X--X--X--X--X--