

**K-355**

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# **MSCBOT-508**

## **Plant Development**

M.Sc. Botany (MSCBOT)

2nd Semester Examination, 2023 (Dec.)

**Time : 2 Hours]**

**Max. Marks : 70**

**Note :** This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

### **SECTION–A**

#### **(Long Answer Type Questions)**

**Note :** Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. What do you understand by a tissue system? Describe origin, development and functions of tissue.
2. Explain about xylem and phloem of the plants with their functions.
3. What do you understand by wood? Briefly classify the wood on the basis of seasons, location and type of plants.
4. Explain in detail about the internal structure of dicotyledonous leaf with its various tissues.
5. Discuss about the different theories associated with shoot development with suitable diagram.

**SECTION-B**  
**(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)

1. Write a short note on complex tissue of plant.
2. Differentiate the following (Any *two*) :
  - (a) Monocotyledonous and Dicotyledonous roots.
  - (b) Tracheids and vessels.
  - (c) Heartwood and Sapwood.

3. What are trichomes? Describe its types, structure and functions.
  4. Write a short note on types of stomata.
  5. Write a short note on the following :
    - (a) Branch traces and branch gaps.
    - (b) Properties of wood.
    - (c) Types of roots in plants.
    - (d) Apical cell theory.
  6. Differentiate the following :
    - (a) Monocotyledonous and Dicotyledonous stem.
    - (b) Anatomical difference between Monocotyledonous and Dicotyledonous leaves.
  7. Write a short note on the following :
    - (a) Phyllode.
    - (b) Velamen.
    - (c) Mesophyll.
    - (d) Transfusion tissue.
  8. Discuss how C3 and C4 plants differ in their anatomy.
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