

Anatomy of Flowering Plants — Assignment 1

Class 11 Biology · Topic-wise question bank covering every concept of the chapter · Narayan Gurukul Academy

Instructions: (1) Attempt all questions. This worksheet walks through every concept of the chapter, topic by topic.
(2) The interactive MCQ version of these questions (with instant answer reveal) is available on the notes page.
(3) Universal values: $g = 10 \text{ m/s}^2$ unless stated. Give answers with correct SI units.

Meristematic Tissues

MCQ Questions (choose the correct option)

- Meristematic tissues are made of cells that are
 - actively dividing
 - dead
 - fully differentiated
 - always lignified
- Apical meristem is responsible for
 - primary growth
 - secondary growth
 - wound healing
 - thickening
- Intercalary meristem is found at the
 - base of the internode
 - root apex
 - shoot apex
 - cambium
- Lateral meristem is responsible for
 - secondary growth
 - primary growth
 - elongation only
 - photosynthesis

1 Mark Questions

- What is a meristem?
- Which meristem causes secondary growth?
- Name the meristem found at the base of the internode.

2 Mark Questions

- Distinguish between apical and lateral meristems.
- State two characteristics of meristematic cells.

3 Mark Questions

- Describe the types of meristematic tissues based on position.
- Explain the classification of meristems.

Simple Permanent Tissues

MCQ Questions (choose the correct option)

1. Parenchyma cells are
 - (A) living and thin-walled
 - (B) dead
 - (C) thick-walled
 - (D) lignified
2. Collenchyma provides
 - (A) mechanical support to growing parts
 - (B) storage
 - (C) conduction
 - (D) protection
3. Sclerenchyma cells are
 - (A) dead and lignified
 - (B) living
 - (C) thin-walled
 - (D) always green
4. The epidermis is covered by a waxy layer called the
 - (A) cuticle
 - (B) cortex
 - (C) pith
 - (D) pericycle

1 Mark Questions

1. What is parenchyma?
2. Which tissue provides flexibility to growing parts?
3. What is the role of the cuticle?

2 Mark Questions

1. Distinguish between parenchyma and sclerenchyma.
2. State the functions of the epidermis.

3 Mark Questions

1. Describe the structure and functions of simple permanent tissues.
2. Explain the types of sclerenchyma and their functions.

Complex Permanent Tissues — Xylem and Phloem

MCQ Questions (choose the correct option)

1. Xylem is a
 - (A) complex permanent tissue
 - (B) simple tissue
 - (C) meristem
 - (D) protective tissue
2. Xylem conducts

- (A) water and minerals
 - (B) food
 - (C) proteins only
 - (D) gases
3. The conducting elements of phloem are
- (A) sieve tubes
 - (B) tracheids
 - (C) vessels
 - (D) xylem fibres
4. Tracheids and vessels are the conducting elements of
- (A) xylem
 - (B) phloem
 - (C) epidermis
 - (D) cortex

1 Mark Questions

1. Name the four elements of xylem.
2. What does phloem transport?
3. What are sieve tubes?

2 Mark Questions

1. Distinguish between xylem and phloem.
2. Name the four elements of phloem.

3 Mark Questions

1. Describe the elements of xylem and their functions.
2. Describe the elements of phloem and their functions.

Tissue Systems and Dicot vs Monocot Roots

MCQ Questions (choose the correct option)

1. The three tissue systems of a plant are
 - (A) epidermal, ground and vascular
 - (B) xylem, phloem and cortex
 - (C) dermal, pith and cortex
 - (D) apical, lateral and intercalary
2. In a dicot root, the vascular bundles are
 - (A) radial
 - (B) conjoint
 - (C) bicollateral
 - (D) concentric
3. The number of xylem bundles in a dicot root is usually
 - (A) 2 to 4
 - (B) many (more than 6)
 - (C) 1

- (D) none
4. In a monocot root, the pith is
- (A) large and well developed
 - (B) absent
 - (C) small
 - (D) always lignified

1 Mark Questions

1. Name the three tissue systems.
2. How many xylem bundles are usually present in a dicot root?
3. What is the pericycle?

2 Mark Questions

1. Distinguish between dicot and monocot roots.
2. What are radial vascular bundles?

3 Mark Questions

1. Describe the internal structure of a dicot root.
2. Compare the internal structure of a dicot root and a monocot root.

Dicot vs Monocot Stem Anatomy

MCQ Questions (choose the correct option)

1. In a dicot stem, vascular bundles are arranged in
 - (A) a ring
 - (B) scattered manner
 - (C) a single file
 - (D) radial rows
2. In a monocot stem, vascular bundles are
 - (A) scattered
 - (B) in a ring
 - (C) absent
 - (D) radial
3. The hypodermis of a dicot stem is made of
 - (A) collenchyma
 - (B) sclerenchyma
 - (C) parenchyma
 - (D) chlorenchyma
4. Dicot stems have a distinct
 - (A) pith
 - (B) no pith
 - (C) hollow centre only
 - (D) no cortex

1 Mark Questions

1. How are vascular bundles arranged in a dicot stem?
2. How are vascular bundles arranged in a monocot stem?
3. What is the hypodermis of a dicot stem made of?

2 Mark Questions

1. Distinguish between dicot and monocot stems.
2. What is a conjoint vascular bundle?

3 Mark Questions

1. Describe the internal structure of a dicot stem.
2. Describe the internal structure of a monocot stem.

Leaf Anatomy — Dorsiventral vs Isobilateral

MCQ Questions (choose the correct option)

1. A dorsiventral leaf has
 - (A) distinct upper and lower surfaces
 - (B) identical surfaces
 - (C) no mesophyll
 - (D) only spongy mesophyll
2. Palisade mesophyll is rich in
 - (A) chloroplasts
 - (B) starch
 - (C) lignin
 - (D) water
3. Isobilateral leaves are typical of
 - (A) monocots
 - (B) dicots
 - (C) gymnosperms
 - (D) ferns
4. The stomata in a dorsiventral leaf are mainly on the
 - (A) lower surface
 - (B) upper surface
 - (C) both equally
 - (D) margin

1 Mark Questions

1. What is a dorsiventral leaf?
2. Which mesophyll is rich in chloroplasts?
3. Where are stomata mainly found in a dicot leaf?

2 Mark Questions

1. Distinguish between palisade and spongy mesophyll.
2. Distinguish between dorsiventral and isobilateral leaves.

3 Mark Questions

1. Describe the internal structure of a dorsiventral leaf.
2. Compare dicot and monocot leaf anatomy.

Secondary Growth

MCQ Questions (choose the correct option)

1. Secondary growth is caused by
 - (A) vascular cambium and cork cambium
 - (B) apical meristem
 - (C) intercalary meristem
 - (D) epidermis
2. The activity of vascular cambium produces
 - (A) secondary xylem and phloem
 - (B) primary xylem
 - (C) cortex
 - (D) pith
3. Cork cambium produces
 - (A) cork (phellem)
 - (B) xylem
 - (C) phloem
 - (D) pith
4. Annual rings are formed due to
 - (A) seasonal activity of cambium
 - (B) apical growth
 - (C) leaf fall
 - (D) grafting

1 Mark Questions

1. What causes secondary growth?
2. What is cork cambium?
3. What are annual rings?

2 Mark Questions

1. Distinguish between vascular cambium and cork cambium.
2. What is the role of the periderm?

3 Mark Questions

1. Describe the process of secondary growth in a dicot stem.
2. Explain the formation of annual rings and their significance.