

Nayagarh Autonomous college, Nayagarh

CC:V: Plant anatomy

Unit-1

1. Answer the following questions;(1×8)

- (1) Differentiated and mature cells ____ possess cytoplasm but do not possess nucleus.
- (2) Mechanical tissue consist of ____.
- (3) Companion cells are associated with____.
- (4) A parenchymatous cell which stores ergastic substance is ____.
- (5) Resins are derivatives of _____ formed by oxidation of essential oils.
- (6) When a bordered pit is opposed by a simple pit is known as_____.
- (7) _____ channels that directly connect cytoplasm of neighbouring plant cells.
- (8) The study of plants or other natural resources as a possible source of drug is known as_____.
- (9) _____ is the branch of Botany and deals with study of gross internal structures of plant organs.

2. Answer the following questions:(1.5×8)

- (1) Define complex tissues with examples?
- (2) What is sieve elements?
- (3) What is incrustation?
- (4) what is ergastic substance?
- (5) What are torus and Margo?
- (6) What is function of Plasmodesmata?
- (7) What is floral Anatomy?
- (8) What is Inulin?

3. Answer the following questions: (2×8)

- (1) Differentiate between Xylem and phloem
- (2) Give brief account on excretory materials with examples?
- (3) Define the process of adcrustation with suitable examples?
- (4) Describe the components of Phloem?
- (5) What are sieve elements?
- (6) What is pit and state its function?
- (7) Describe the functions of Plasmodesmata?
- (8) Give two Differentiate point between Simple and bordered pit?

4. Answer the following questions: (6×4)

- (1) How many types of permanent tissues are there? Describe the structure and function of complex tissues?
- (2) What is tissue system? Describe briefly the different types of tissue system found in the plant body?
- (3) Describe the mechanism of cytodifferentiation of tracheary elements?
- (4) Describe types of ergastic substances found in plant cells?
- (5) Describe the mechanism of cytodifferentiation of sieve elements?

Unit-2 and unit-3

1. Answer the following questions: (1x 8 =8)

- i) The scientific method of dating tree growth rings is called -----.
- ii) The balloon like out growths of wood parenchyma into vessels is called -----.
- iii) When bark is removed as a sheet, it is called ----- bark.
- iv) Porous wood are ----- wood.
- v) The bands of suberin found on the radial walls of endodermal cells are called -----.

vi) Lateral roots arise from ----- layer.

vii) Epidermal cells giving rise to root hairs are called-----.

viii)

The concept of quiescent centre was introduced by -----.

Group-B

2. Answer the following questions: (1.5x 8 =12)

i) Describe Bicollateral vascular bundle.

ii) Describe monocot root anatomy.

iii) Write notes on Apical cell theory.

iv) Differentiate between dicot and monocot root.

v) What are annual growth rings?

vi) What are lenticels?

vii) What are tyloses?

viii) What is rhytidome?

Group-C

3. Answer the following questions: (2x 8 =16)

i) What is Kranz anatomy? State its significance.

ii) Distinguish between dicot and monocot stem.

iii) Describe the types of vascular bundles found among angiosperms.

iv) Write notes on Histogen theory.

v) What is seasonal activity of cambium?

vi) Distinguish between heart and sap wood.

vii) What is reaction wood?

viii) Distinguish between ring porous and diffuse porous wood.

Group-D

4. Answer the following questions: (6x4= 24)

- i) Discuss in brief the various theories on organization of shoot apices in angiosperms?
- ii) Discuss the various cytological zonation concepts of shoot apices in plants?
- iii) Write a brief note on vascular cambium?
- iv) Give an account of secondary growth in dicot stem?

Unit-4

1. Answer the following questions: (1×8)

- (1) Dumb-bell shaped guard cells are characteristic of stomata of _____.
- (2) The leaves of psamma grasses roll because of presence of _____.
- (3) All unicellular and multicellular outgrowths of epidermal origin are referred to as _____.
- (4) Stomata are found on lower surface of leaf known as _____ type of stomata.
- (5) Cystolith is composed of _____.
- (6) Sunken stomata are found in the leaves of _____. (Nerium/Neem).
- (7) Hydrilla and Vallisneria are examples of _____.
- (8) Swollen spongy petioles are present in _____.
- (9) _____ are water secreting glands for which they are also called water stomata.
- (10) Resin duct of a gymnospermous stem is an example of _____ cavity.
- (11) Mechanical tissues include _____ tissues.

2. Answer the following questions: (1.5×8)

- (1) Write a brief note on Sclerenchyma?
- (2) What is schizogenous cavity?

(3)What is Hydathodes?

(4)write short notes on root pockets?

(5) Name the plant that has a bulbous petiole which helps the plant to float on water?

(6)Give the structure of stomata?

(7)What is trichome?

(8)Give short notes on cuticle?

3. Answer the following questions:(2×8)

(1) Write notes on glandular trichome?

(2) Brief note on Mechanical tissues?

(3)Give an account of types of stomata on basis of subsidiary cells?

(4)Write brief note on drought escaping plants?

(5) Give an account of epicuticular wax?

(6)What are functions of epidermal appendages?

(7) Describe anatomical adaptation character of Hydrilla stem?

(8)What is articulated ducts and it's function?

4. Answer the following questions:(6×4)

(1) Describe the epidermal tissue system and it's function?

(2) Describe the different types of epidermal appendages with suitable examples?

(3)Give an account of structure and different types of stomata?

(4)Give suitable examples of anatomical adaptation of hydrophytes and their characters?

(5) Describe the secretory systems in plants?

(6) Describe the mechanical tissue system and principles basing on which mechanical tissues have been distributed?

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