

**Q1/ Multiple choice (Choose the appropriate answer for the following):**

1- Which of the following is NOT a component of the xylem?

- a) Tracheids
- b) Vessels
- c) Sieve tube elements**
- d) Wood fibers

2- What is the function of companion cells in the phloem?

- a) Water transport
- b) Nutrient provision to sieve tube cells**
- c) Mechanical support
- d) Gas exchange

3- What type of tissue replaces the epidermis during secondary growth in stems and roots?

- a) Xylem
- b) Phloem
- c) Periderm**
- d) Vascular cambium

4- Lenticels are primarily involved in:

- a) Gas exchange**
- b) Water absorption
- c) Photosynthesis
- d) Mechanical support

5- Which of the following is NOT a function of the epidermis?

- a) Water retention
- b) Gas exchange regulation
- c) Nutrient absorption**
- d) Mechanical protection

6- Which of the following is a function of epidermal trichomes in plants?

- a) Water transport
- b) Increased reflection of solar radiation**
- c) Nutrient absorption
- d) Gas exchange regulation

7- What is the primary function of the periderm in plants?

- a) Gas exchange
- b) Water absorption
- c) Protection during secondary growth**
- d) Photosynthesis

8- What type of tissue forms the bulk of the periderm?

- a) Phellogen
- b) Phelloderm
- c) Cork (phellem)**
- d) Parenchyma

9- Lenticels primarily allow for the diffusion of which gas?

- a) Carbon dioxide
- b) Oxygen**
- c) Nitrogen
- d) Hydrogen

10 - Which of the following is NOT a type of secretory tissue found in plants?

- a) Nectar
- b) Oils
- c) Stomata**
- d) Latex

## Q2/ Enumerate Questions:

1- Enumerate the components of the xylem.

**Answer:** Xylem consists of:

1. Parenchyma
2. Tracheids
3. vessel elements
4. wood fibers.

2- List the functions of the epidermis in plants.

**Answer:** The functions of the epidermis include:

1. protection against water loss
2. regulation of gas exchange
3. secretion of metabolic compounds
4. absorption of water and mineral nutrients.

3- Enumerate the types of secretory tissues found in plants.

**Answer:** Secretory tissues in plants include:

1. nectar from nectaries
2. oils from glands and elaioplasts
3. resins from resin canals
4. latex from laticifers
5. hydathodes for water secretion
6. digestive glands of carnivorous plants
7. salt glands for shedding salt.

4- Enumerate the functions of the epidermal trichomes.

**Answer:** Epidermal trichomes function in

1. facilitating water and mineral absorption in roots
2. increasing reflection of solar radiation in aerial parts.

5- List the components of the periderm.

**Answer:** The periderm includes:

1. cork (phellem)
2. cork cambium (phellogen)
3. phelloderm.

**Q3/ Match the following components of plant tissues with their functions:**

- |                |  |
|----------------|--|
| 1- Xylem       | A. Secondary growth and protection Phloem                    |
| 2- Phloem      | B. Gas exchange facilitation in woody stems and roots        |
| 3- - Epidermis | C. Water and mineral transport                               |
| 4- - Periderm  | D. Protection against water loss and gas exchange regulation |
| 5-- Lenticels  | E. Food (sucrose) transport                                  |

**Answers:**

- |                    |  |
|--------------------|--|
| 1. Xylem - - -     | C. Water and mineral transport                               |
| 2. Phloem - - -    | E. Food (sucrose) transport                                  |
| 3. Epidermis - - - | D. Protection against water loss and gas exchange regulation |
| 4. Periderm - - -  | A. Secondary growth and protection                           |
| 5. Lenticels - - - | B. Gas exchange facilitation in woody stems and roots        |