

## WSU BIOLOGY 106 EXAM 1 ACTUAL EXAM 2 LATEST VERSIONS (VERSION A & B) 2023-2024 ACTUAL EXAM 250 QUESTIONS AND CORRECT DETAILED ANSWERS WITH RATIONALES | ALREADY GRADED A+

### VERSION A

What are two components of the dermal tissue system? - ANSWER- **The epidermis and the periderm.**

What is the epidermis? - ANSWER- **An outer layer of tightly packed cells.**

What is the periderm? - ANSWER- **A layer that replaces the epidermis in old, woody plants.**

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What is the purpose of the vascular system and what are the two main components? - ANSWER- **To transport materials between roots and shoots; xylem and phloem.**

What is xylem? - ANSWER- **Vascular tissue that conducts water and dissolved minerals upwards from the root to the shoot.**

What is phloem? - ANSWER- **Vascular tissue that conducts sugars and other metabolic products; can transport in any direction.**

What is the purpose of ground tissue? What are the three main components? - ANSWER- **To perform metabolic functions. Parenchyma, collenchyma, and sclerenchyma.**

What are qualities of parenchyma tissue? - ANSWER- **Responsible for metabolism, contains plastids, is typically soft and lacks secondary walls.**

What are qualities of collenchyma tissue? - ANSWER- **Provides structural support in shoots, does not have a secondary wall.**

What are qualities of sclerenchyma? - ANSWER- **The strengthening, structural tissue of a plant; contains a thick second wall.**

What is determinant growth? - ANSWER- **The growth of a plant that halts when a genetically pre-determined size or age is reached.**

What is indeterminate growth? - ANSWER- **The growth of a plant that continues throughout its life.**

What is a meristem? - ANSWER- **A tissue found at the tips of roots and shoots that generates cells for primary and secondary growth.**

What is the apical meristem? - ANSWER- **A meristem located at the tips of roots and the buds of shoots to promote primary growth.**

What are lateral meristems? - ANSWER- Meristems that add thickness to woody plants through secondary growth.

What are lateral roots? - ANSWER- Roots that arise from the pericycle and grow horizontally.

What is primary growth? - ANSWER- Growth of the shoot through the apical meristem; gives rise to nodes and internodes.

What is vascular cambium? - ANSWER- A plant tissue located between the xylem and phloem in the roots and shoots; creates secondary xylem (wood) and secondary phloem.

What is cork cambium? - ANSWER- A plant tissue that replaces the epidermis with a thick layer of periderm.

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What are the stomata? - ANSWER- Minute pores interlaid in the epidermis that are responsible for gas exchange and transpiration.

Where is ground tissue located in leaves? - ANSWER- Between the upper and lower epidermis.

Where is the vascular tissue in leaves? - ANSWER- It remains continuous from the stem and is centered in the petiole.

What is the palisade mesophyll? - ANSWER- Located directly below the epidermis, it is responsible for absorbing light and photosynthesis.

What is the spongy mesophyll? - ANSWER- Lies directly below the palisade layer, it captures light and creates sugar but also allows for gas exchange.

What is secondary growth? - ANSWER- The result of the two lateral meristems, vascular and cork cambium, increasing the girth of the plant; occurs in stem and root, but not leaves.

What vital factors do roots intake? - ANSWER- Water, oxygen, and minerals.

What vital factors do roots expel? - ANSWER- Carbon dioxide.

What vital factors do shoots intake? - ANSWER- Light and carbon dioxide.

What vital factors do shoot expel? - ANSWER- Water and oxygen.

What is the apoplast? - ANSWER- The continuum of cell walls and extracellular spaces on the outer side of the plasma membrane, where substances can diffuse freely.