

WSU BIOLOGY 106 FINAL EXAM ACTUAL EXAM 2 LATEST VERSIONS (VERSION A & B) 2023-2024 ACTUAL EXAM 400 QUESTIONS AND CORRECT DETAILED ANSWERS WITH RATIONALES | ALREADY GRADED A+

VERSION A

Which of the following groups is developed in response to low oxygen -
ANSWER- **Pneumatophores**

True or false? Route skin length primarily through elongation growth -
ANSWER- **True**

ATP in sugar transport is mainly needed for what - ANSWER- **To generate a proton gradient to allow co-transport of a sugar across the membrane**

What would you normally not find in the root - ANSWER- **Trichomes**

Lateral meristems? - ANSWER- **Are responsible for secondary growth**

Xylem sap mainly contains - ANSWER- **Water and minerals**

What is not a plant hormone - ANSWER- **Secretin**

What does the term Circadian rhythm mean - ANSWER- **Circadian rhythm refers to any biological process that displays an endogenous, entrainable oscillation of about 24 hours**

What is the name of the particles in the root tip that are critical for sensing gravity - ANSWER- **Statoliths**

To transport water from the root into the shoot does the water potential in the xylem need to become more positive or negative - ANSWER- **More negative**

Which route to deliver molecules is most likely not energy (ATP) dependent - ANSWER- **Apoplastic route**

Leaves are normally photosynthetically active. As a consequence they - ANSWER- **Show a net uptake of carbon dioxide**

Which of the following processes depending on the activity of a proton pump - ANSWER- **Two of the above (sugar transport, osmosis, uptake of nitrate)**

Which of the following statements is true about tracheids, but not phloem cells - ANSWER- **They are dead cells**

Which of the enzymes listed below is able to convert atmospheric nitrogen into NH_3 - ANSWER- **Nitrogenase**

Ion allocation from the soil into the vascular system most likely -

ANSWER- **Requires high levels of ATP**

What is the difference between a dependent and independent variable -

ANSWER- **An independent variable is the variable that is changed or controlled in a scientific experiment to test the effects on the dependent variable. A dependant variable is the variable being tested and measured in a scientific experiment**

Which of the following is the primary difference between

ectomyorrhizae and endomyorrhizae - ANSWER-

Ectomyorrhizae do not penetrate the root cortex, whereas endomyorrhizae grow into invaginations of the root cell membranes

True or False? Guttation helps small herbaceous plants to transport water and minerals in the xylem through root pressure - ANSWER- **True**

Xerophytes are - ANSWER- **Plants that are adapted to and tolerate a dry climate with a little water availability**

Cation exchange describes - ANSWER- **The way how plants can take up cations tightly bound to negatively charged soil particles by secreting other cations from the root into the soil**

What is most likely a good source of phosphorus - ANSWER- **Animal excrement**

If you provide a highly concentrated sugar solution to the outside of a cell that is filled with only a few solutes. What happens most likely? - ANSWER- **Water will diffuse out of the cell**

True or false? Rhizobacteria are soil bacteria that fix atmospheric nitrogen in root like structures called nodules - ANSWER- **True**

What is the cohesion tension hypothesis - ANSWER- **A theory of intermolecular attraction that explains the process of waterflow upward through the xylem of plants**

What is the difference between heartwood and sapwood - ANSWER- **In contrast to sapwood, heartwood has lost its ability to transport water and minerals**

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True or false? Water flows into the direction of the lowest water potential - ANSWER- **True**

Which of the following statements is correct for stomata opening - ANSWER- **Stomata take up K plus into their guard cells which attracts water to enforce their opening**

True or false? Phloem transports organic material only to the roots (top to bottom) - ANSWER- **False**