Chapter 36. Practise Questions.

1) The Proton pump functions in the absorption of ……………. and the co transport of ……………….

a) nitrates, potassium

b) anions, neutral solutes

c) sucrose, bicarbonates

d) cations, anions

e) none of the above

2) Osmosis determines the net uptake/loss of water by a cell

a) True

b) False

3)…………………………. Determines the direction of water movement, in respect to solute concerntration and pressure combined.

a) Proton pump

b) vascular cambium

c) wáter potential

d) root architecture

e) leaf orientation

4) Solute potential is more ……………………… in the cells of tracheids and vessel elements.

a) positive

b) negative

c) Neither a or b

5) A U tube contains two solutions separated by a semi permeable membrane. On one side is a solution of sugar has a **ψS = −0.23,** and on the other is a pure solution of **ψS = 0.00.** Adding more solutes to the U-tube….

a) Increase the overall water potential

b) causes a change in the vapor pressure of the water in the U-tube

c) decreases the rate of water movement in the U-tube.

d) decreases the overall water potential

6) An animal cell with a ψS of -0.65 MPa maintains a constant volume when bathed in a solution that has a ψS of -0.42 MPa and is in an open container. The cell has a

A) ψP of +0.65 MPa.

B) ψ of -0.23 MPa.

C) ψP of +0.35 MPa.

D) ψP of +0.23 MPa.

E) ψ of 0 MPa.

7) ……………………… are transport proteins in the cell membrane that allow the passage of water.

A) Plasmodesmata

B) Symplastice route

C) Apoplast

D) Aquoporins

E) Plasma Membrane

8) Which of the following is incorrectly matched with is function?

a) Cytoplasmice channels – connect cytoplasm of neighboring cells

b) bulk flow – long distance transports

c) Casparian strip – lines the endodermal wall.

e) Plasma membrane – controls turgor pressure in the cell wall.

9) 10. In plant roots, the Casparian strip is correctly described by which of the following?

A) It is located in the walls between endodermal cells and cortex cells.

B) It provides energy for the active transport of minerals into the stele from the cortex.

C) It ensures that all minerals are absorbed from the soil in equal amounts.

D) It ensures that all water and dissolved substances must pass through a cell membrane

before entering the stele.

E) It provides increased surface area for the absorption of mineral nutrients.

10) Water flows into the source end of a sieve tube because

A) sucrose has diffused into the sieve tube, making it hypertonic.

B) sucrose has been actively transported into the sieve tube, making it hypertonic.

C) water pressure outside the sieve tube forces in water.

D) the companion cell of a sieve tube actively pumps in water.

E) sucrose has been dumped from the sieve tube by active transport.

11) Which of the following is not part of an older tree's bark?

A) cork

B) cork cambium

C) lenticels

D) secondary xylem

E) secondary phloem

12) Materials cannot be transported into the rest of the plant until they enter the xylem.

a) True

b) False

13) The ………………… are the nonliving parts of the root while the ……………………… are the cytoplasm of root cells.