

Kline Memorial School of UBS

Biology Worksheet-6

Chapter 5-Absorption by Roots

Class X- A,B

I. Give technical term for the following:

- i) A cell in fully distended condition.
- ii) Phenomenon by absorption of water by surface attraction.
- iii) A solution whose concentration is equal to the cell sap.
- iv) The pressure which is responsible for the movement of water molecules across the cortical cells of the root.
- v) A solution whose concentration is greater than that of cell sap.
- vi) The tissue responsible for the ascent of sap in plants.

II. Select the correct answer out of the four choices given:

- i) Osmosis involves:
 - a) Cell to cell movement of water.
 - b) Movement of water through cortical cells.
 - c) Active absorption of water through roots.
 - d) All the above.

- ii) Water will be absorbed by the root hairs when:
 - a) Concentration of solutes in the cell sap is high.
 - b) Concentration of solutes in the soil is high.
 - c) The plant is rapidly respiring.
 - d) None of the above

iii) Absorption of water in plants takes place through the roots by the process of:

- a) Diffusion
- b) Osmosis
- c) Imbibition
- d) Root pressure

iv) what is responsible for guttation?

- a) Osmotic pressure
- b) Root pressure
- c) Suction pressure
- d) Capillarity

v) Osmosis and diffusion are the same except that in osmosis there is:

- a) A freely permeable membrane
- b) A cell wall in between
- c) A selectively permeable membrane in between
- d) An endless inflow of water into a cell

III) Short questions:

i) How is root hair structurally adapted for absorption of water from the soil.

ii) Root hair becomes flaccid when fertilizers are added to the moist soil around it. Explain.

iii) What do you mean by transpiration pull?

iv) Define cohesive and adhesive forces.

v) A few RBC's were kept in 3 test tubes containing isotonic, hypotonic and hypertonic solutions. What will be the expected observation after a few hours . Explain.
