Pradeep Eshwar

PARISHRAMA NEET ACADEMY

TARGET NEET - 2022

BIOLOGY

TOPIC: TRANSPORT IN PLANTS

81. (1)

The opening and closing of stomata are caused by influx and efflux of potassium ions (K^+). The increase of K^+ results in opening of stoma and decrease of K^+ causes closing of stoma. The turgidity of guard cells induces the opening of the pores of stomata found on the surface of leaves.

82. (3)

Movement of water will be from low DPD to high DPD i.e., from A to B

83. (2)

Water potential is regarded as the tendency of water to leave a system. Pure water has the highest possible water potential which is zero. All solutions have a water potential lower than that of pure water.

84. (4)

Pure water has maximum water potential. Water potential in the leaf tissue becomes greater than pure water under conditions of excessive humidity when the leaves cannot lose water by transpiration. Hence, water is lost as droplets via hydathodes by the process of guttation.

85. (2)

Imbibition pressures developed during germination of seeds and spores are of higher magnitude.

Note: Imbibition is the first step in germination of seeds. When the seeds are soaked in water, they imbibe water and swell. The water is imbibed by the seed coat and then by other tissues of embryo and endosperm. Thus, the process of imbibition initiates the seed germination

86. (1)

Due to tensile strength of water, a column of water within xylem vessels of all trees does not break under its weight.

87. (1)

Pistia is a hydrophyte plant where absorption of water by root is not important.

88. (2)

Rupture and fractionation do not usually occur in the water column in vessel/ tracheids during the ascent of sap because of cohesion and tension.

89. (2)

After rain a portion of water percolates downward under the influence of gravity.

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It is available to plants. Hygroscopic water also not available for plants because soil particles hold water by strong attractive forces. Chemically bound water is water combined with chemicals. Capillary water is present in narrow spaces of soil and is held in soil by capillary forces and is absorbed by root.

90. (3)

Water is absorbed by a system having higher DPD from another system with lower DPD. The net force with which water is drawn into a cell is equal to the difference of osmotic pressure (OP) and turgor pressure known as diffusion pressure deficit (DPD). DPD = OP – TP