



PARISHRAMA NEET ACADEMY

TARGET NEET - 2022

BIOLOGY

TOPIC: TRANSPORT IN PLANTS

91. (1)

Loss of water from margins of leaves is called guttation. Guttation occurs when transpiration rate is very low as compared to rate of water absorption. Thus root pressure is developed and water is pushed out through stomata like pores called hydathodes. It occurs in more saturated atmosphere.

92. (3)

Translocation is the movement of solutes from the leaf to various parts of the body. Sucrose is actively participated from the sources to the sink. As the sucrose moves down from the source the water potential decreases and thus water from the xylem enters the phloem. The movement of water in the xylem is mainly carried by xylem vessels. Xylem vessels are long hollow chains of tough long dead xylem cells. The main function of xylem vessel is to conduct water and minerals from one part to another.

93. (1)

Two shapes of stomata have been observed in plants such as kidney-shaped and dumbbell shaped. Narrow-leaf blade

has dumb-bell shaped guard cells or dumb-bell shaped stomata such as in grasses and wheat plant. It is more efficient as it requires less water and solutes for opening. Whereas broad leaf blade has kidney-shaped guard cells or kidney-shaped stomata.

94. (1)

Guard cells help in transpiration. Transpiration is the evaporation of water from the aerial parts of plants, especially leaves but also stems, flowers and roots. Stomatal opening allows the diffusion of carbon dioxide and oxygen during photosynthesis.

95. (2)

During day time, due to photosynthesis. malic acid forms, which breaks into H^+ and malate. H^+ ions move out of guard cells and K^+ ions enter forming potassium malate which makes guard cells turgid and stomata opens.

96. (2)

Under water logged conditions, roots die due to lack of air for respiration.

97. (4)

Stomata present on lower surface of plant leaves effectively exchange gases without allowing much loss of water from the leaves.

98. (2)

In terrestrial habitat transpiration is responsible for increase in water vapour concentration in atmosphere. Water vapour acts as an important green-house gas and increased concentration of water vapour leads to maintenance of temperature due to green house effect. Also loss of during transpiration leads water vapour during transpiration leads to cloud formation.

99. (1)

Starch is converted to malic acid (organic acid) through the action of an enzyme phosphoenol pyruvate carboxylase (PEPC) under condition of high pH when most of the CO_2 is utilized due to high photosynthetic rate during day time.

100. (1)

When sugar is converted into starch, the osmotic concentration of guard cells fall and they lose water to adjacent cells and stomata closes.

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