



PARISHRAMA NEET ACADEMY

TARGET NEET - 2022

BIOLOGY

TOPIC: TRANSPORT IN PLANTS

61. (4)
Active absorption creates root pressure. In this process, the expenditure of energy takes place for the movement of substances against concentration gradient.
62. (1)
Mineral absorbed by roots move to the leaf through xylem. Xylem plays an important role in conduction of water. Hence, when water moves upward through xylem, minerals are also absorbed by the roots and move towards leaves through xylem only. This is known as ascent of sap.
63. (3)
Pitcher plant is an insectivorous plant which catches insects. The paratonic movements are induced in response to an external stimulus caused by insects due to which lids close and the insects are trapped inside the pitcher.
64. (4)
Transpiration pull and cohesion theory was put forward by Dixon and Jolly in 1894. According to this theory water rises due to the transpiration pull, continuity of water column and the cohesive power of water molecules from the lower part of the roots to the higher peaks of the trees.
65. (4)
Light, temperature and concentration of CO_2 affect opening and closing of stomata. They are not affected by O_2 concentration.
66. (1)
Transpiration creates pulling (Negative pressure) force. Root pressure creates positive pressure developed in xylem. It is measured by manometer.
67. (2)
Potometer: It is an apparatus for measuring the rate of transpiration.
68. (1)
Nerium is a xerophytic plant and has sunken stomata, confined to lower epidermis to reduce the rate of transpiration.
Nerium Oleander L (Apocynaceae), the only species currently classified in the genus *Nerium*, is an evergreen shrub or small tree with all parts of the plant being toxic. It is cultivated worldwide and is one of the most poisonous of commonly grown garden plants.

69. (2)

During scarcity of water in the soil, stress hormone abscisic acid is produced which brings about stomatal closure. ABA inhibits the uptake of K^+ by the guard cells and promotes leakage of malic acid from guard cell. This results in loss of water from guard cell due to its lower osmotic potential. Guard cell becomes flaccid leading to closure of stomatal aperture. ABA also causes stomatal closure under high concentration of CO_2 in the guard cells.

70. (2)

Potometer is an apparatus used for measuring the rate of transpiration.

Note: The potometer does not measure the rate of transpiration accurately because not all of the water that is taken by the plant is used for transpiration (water taken might be used for photosynthesis or by the cells to maintain turgidity). The potometer measures the rate of uptake of water. To measure transpiration rate directly, rather than the rate of water uptake, utilize a scientific instrument which quantifies water transfer at the leaves.

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