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NEET TRANSPORT IN PLANTS — TRANSPIRATION AND STOMATAL MOVEMENT — PYQS

Max. Marks: 40 **Questions:** 10

Section A (MCQ) — 10 questions

Q.1 Given below are two statements :
Statement-I: The forces generated by transpiration can lift a xylem-sized column of water over 130 meters height.
Statement-II: Transpiration cools leaf surfaces, sometimes 10 to 15 degrees, by evaporative cooling.

In the light of the above statements, choose the most appropriate answer from the options given below : [NEET (UG) 2023]

(1) Both Statement-I and Statement-II are incorrect
(2) Statement-I is correct but Statement-II is incorrect
(3) Statement-I is incorrect but Statement-II is correct
(4) Both Statement-I and Statement-II are correct

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Q.2 Stomatal movement is not affected by [NEET 2018]
(1) O_2 concentration (2) temperature
(3) CO_2 concentration (4) light

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Q.3 Which of the following facilitates opening of stomatal aperture? [NEET 2017]
(1) Decrease in turgidity of guard cells
(2) Radial orientation of cellulose microfibrils in the cell wall of guard cells
(3) Longitudinal orientation of cellulose microfibrils in the cell wall of guard cells
(4) Contraction of outer wall of guard cells

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Q.4 Water vapour comes out from the plant leaf through the stomatal opening. Through the same stomatal opening carbon dioxide diffuses into the plant during photosynthesis. Reason out the above statements using one of following options. [NEET 2016 (Phase 1)]

(1) The above processes happen only during night time.
(2) One process occurs during day time and the other at night.
(3) Both processes cannot happen simultaneously.
(4) Both processes can happen together because the diffusion coefficient of water and CO_2 is different.

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Q.5 Which one gives the most valid and recent explanation for stomatal movement? [AIPMT 2015 (Cancelled)]
(1) Starch hydrolysis
(2) Guard cell photosynthesis
(3) Transpiration
(4) Potassium influx and efflux

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Q.6 Guard cells help in [AIPMT 2009]
(1) transpiration
(2) guttation
(3) fighting against infection
(4) protection against grazing

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Q.7 Potometer works on the principle of [AIPMT 2005]
(1) osmotic pressure
(2) amount of water absorbed equals the amount transpired
(3) root pressure
(4) potential difference between the tip of the tube and that of the plant.

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Q.8 Glycolate induces opening of stomata in [AIPMT 2001]
(1) presence of oxygen (2) low CO_2 concentration
(3) high CO_2 (4) CO_2 absent

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Q.9 Stomata of a plant open due to [AIPMT 2003]

(1) influx of potassium ions

(2) efflux of potassium ions

(3) influx of hydrogen ions

(4) influx of calcium ions

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Q.10 Opening and closing of stomata is due to the [AIPMT 2002]

(1) hormonal change in guard cells

(2) change in turgor pressure of guard cells

(3) gaseous exchange

(4) respiration.

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	
Ans.	**4**	**1**	**2**	**4**	**4**	**1**	**2**	**2**	**1**	**2**	