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SARDAR PATEL UNIVERSITY

M. Sc Integrated Biotechnology (IGBT) - Vth (05) Semester

Subject & Code: PS05CIGB06- PLANT PHYSIOLOGY

Date: 29-04-2015, Wednesday Time: 02: 30 P.M. TO 05: 30 P.M Total Marks: 70

Note: (1) All questions are compulsory. (2) Figure to right indicate marks.

Q-1. Answer the following objective questions. 1x8= 08

1. Absorption of water by hydrophilic colloids is known as
(A) Imbibitions (B) Osmosis (C) Both and A and B (D) None of them
2. Main force for ascent of sap in higher plant is
(A) root pressure (B) transpiration pull (C) atmospheric pressure (D) capillary force
3.in green plants constitute the photosynthetic apparatus.
(A) Grana (B) Stroma (C) Chloroplasts (D) None of them
4. Photosynthetic pigments absorb light energy of the spectrum ranging of
(A) 100 -700 nm (B) 200 -700 nm (C) 300 -700 nm (D) 400 -700 nm
5. Apical meristems are responsible for the increase in
(A) length (B) diameter (C) Both A and B (D) None of them
6. Ethylene is the only plant hormone which occur in the form of a.....
(A) Solid (B) Gas (C) Semisolid (D) None of them
7. Movement take place due to the presence of flagella is
(A) Paratonic movement (B) Amoeboid movement (C) Ciliary movement (D) Cyclosis
8. Telegraph plant is an excellent example ofmovements.
(A) Hyponastic (B) Epinastic (C) Nutational (D) Autonomic

Q-2. Answer the following (Any Seven). 02X07=14

1. Write the significance of osmosis in plants.
2. Define Plasmolysis and Transpiration.
3. Enlist the different types of photosynthetic pigments in plant kingdom.
4. What is quantum requirement and quantum yield?
5. What are the different phases of Growth?
6. Define AGR and RGR.
7. Write the chemical structure of ethylene.
8. Define cyclosis with suitable example.
9. Give brief note on hygroscopic movements.

P.T.O

Q-3 (A) What are the factors affecting rate of transpiration. Discuss the external factors affecting rate of transpiration. (06)

(B) Enlist the different theory of ascent of sap. Discuss any two theories. (06)

OR

(B) Write the structure, physical properties and significance to plant life of water. (06)

Q-4 (A). Write a short note on photosynthetic apparatus. (06)

(B) What are the factors affecting photosynthesis? Discuss any three factors. (06)

OR

(B) Write a short note on Dark and light reaction in photosynthesis. (06)

Q-5 (A). Write the physiological effect of ethylene. (06)

(B) Write a short not on Kinetin. (06)

OR

(B) Define Photoperiodism and Vernalization. Give the classification of plants on the basis of photoperiods. Discuss and two types. (06)

Q-6 (A). Write a short note on low temperature stress. (06)

(B) Define the drought stress. Discuss the effect of water deficit on growth and metabolism. (06)

OR

(B) Give brief account of paratonic growth movement. (06)

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