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No. of Printed Pages: 02

SARDAR PATEL UNIVERSITY
M. Sc Integrated Biotechnology (IGBT) - Vth (05) Semester
Subject Code & Subject: PS05CIGB06 - PLANT PHYSIOLOGY

Date: 18-04-2016, Monday Time: 10: 30 A.M. TO 01: 30 P.M Total Marks: 70

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

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

1. In water molecules, the hydrogen atoms are joined to oxygen atom by covalent bonds forming an angle of.....
(A) 105° (B) 100° (C) 110° (D) 115°
2. Diffusion of solvent molecules into the solution through semi-permeable molecules is called is.....
(A) Osmosis (B) Imbibitions (C) Diffusion (D) All of above
3. In photosynthesis, light energy is converted into.....
(A) Chemical energy (B) Heat energy (C) O₂ and hexose sugar (D) None of the above
4. Reaction centre of pigment system-I is.....
(A) P-700 (B) P-680 (C) P-690 (D) P-720
5. Richest source of gibberellins in higher plant is.....
(A) Immature seeds (B) Root (C) Stem (D) Leaf
6. Dark period is critical in.....
(A) Short day plants (B) Long day plants (C) Day natural plants (D) None of the above
7. Movements of curvature which occur in response to external stimulus are called is.....
(A) Paratonic (B) Autonomonous (C) Hygroscopic (D) None of the above
8. Which of the following is not vital movement?
(A) Hygroscopic movement (B) Movement of locomotion (C) Movement of curvature (D) All of above

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

1. Define transpiration.
2. Write the advantages of imbibitions.
3. Write the significance of photosynthesis to mankind.
4. Draw the photosynthesis apparatus.
5. Write the application of ethylene.
6. Write the differences between long day plants and short day plants.
7. Define vernalization and photoperiodism.
8. Enlist the based on the available water classified the plants.
9. Write the differences between tatic and trophic movements in plants

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- Q-3 (A). Describe the mechanism of stomatal transpiration and its significance. (06)
- (B). Explain the root pressure theory and physical forces theory. (06)
- OR
- (B). Write short note on plasmolysis. (06)
- Q-4 (A). Give an account of Calvin cycle. (06)
- (B). Give a comparative account of photosynthetic pigments of higher plants. (06)
- OR
- (B). How would you differentiate C_3 and C_4 plants? (06)
- Q-5 (A). Describe the role of auxin in plants. (06)
- (B). Write note on Gibberellins. (06)
- OR
- (B). What are cytokinins? Give their physiological role in higher plants. (06)
- Q-6 (A). Write a note on Phototropic movements. (06)
- (B). What is stress? Give a brief account of salt stress in plants. (06)
- OR
- (B). Write short note on frost injury in plants. (06)