

P P SAVANI UNIVERSITY

First Semester of B.Sc. (Hons.) Agriculture End Semester Examination
July - 2022

SGAG1190-Fundamentals of Crop Physiology

28.07.2022, Thursday Time: 10:00 a.m. to 12:00 noon Maximum Marks: 50

Instruction:

1. Draw a neat and labeled diagram whenever it is required.
2. Start new questions from new page.

Q.1 Multiple choice questions (01 mark each)

(15)

- 1.1 Cell wall is _____ in nature.
- a. Permeable
 - b. Semi-permeable
 - c. Selectively permeable
 - d. All of the above
- 1.2 Process of light reaction takes place in _____.
- a. Stroma
 - b. Nucleus
 - c. Grana
 - d. Matrix
- 1.3 First stable product of C3 cycle is _____.
- a. MNP
 - b. PGA
 - c. OAA
 - d. NADP
- 1.4 Oxygen is evolved in which reaction
- a. PS-I
 - b. PS-II
 - c. Dark Reaction
 - d. None of these
- 1.5 The solution whose OP is higher is known as _____.
- a. Hypotonic
 - b. Isotonic
 - c. Hypertonic
 - d. None of the above
- 1.6 The theory which support the ascent of sap for water movement
- a. Vital theory
 - b. Transpiration pull
 - c. Root pressure theory
 - d. All of these
- 1.7 Death of the plant tissue, tissue browns and dies symptoms are called as
- a. Stunting
 - b. Chlorosis
 - c. Mottling
 - d. Necrosis
- 1.8 Which of the following is micronutrient _____.
- a. Mn
 - b. N
 - c. Ca
 - d. Mg
- 1.9 *Khaira* disease Of Rice is due to _____.
- a. Mn
 - b. N
 - c. Ca
 - d. Zn
- 1.10 Respiration is _____ process.

- a. Anabolic
- b. Catabolic
- c. Diabolic
- d. None of the above

1.11 examples of antitranspirants

- a. plastics
- b. waxes
- c. abscissic acid
- d. All of these

1.12 Which of the following hormones is responsible for cell division.

- a. Auxin
- b. GA
- c. Ethylene
- d. Cytokinin

1.13 Which factor is not affecting transpiration rate?

- a. Temperature
- b. Wind
- c. Carbon
- d. Light

1.14 The unavailable water in the soil is termed as

- a. Holard
- b. Chesard
- c. Echard
- d. None of above

1.15 Which organelle is called as "Protein factory"

- a. Ribosome
- b. Mitochondria
- c. Golgi apparatus
- d. Endoplasmic reticulum

Q.2 Define/ Explain (Attempt any six- 01 marks each)

- 2.1 Plant Physiology
- 2.2 Transpiration
- 2.3 Photosynthesis
- 2.4 Hypertonic solution
- 2.5 Respiration
- 2.6 Growth
- 2.7 Mobile element
- 2.8 Diffusion

(06)

Q.3 True/False or Fill in the blank (01 mark each)

- 3.1 Phosphorus is a precursor of ATP synthesis.
- 3.2 CAM Plants opens stomata at nighttime.
- 3.3 Nucleus is powerhouse of cell.
- 3.4 Whip tail disease in cauliflower is due to Molybdenum deficiency.
- 3.5 Amount of water available to plants is called as Chesard.

(05)

Q.4 Short notes (Attempt any six- 02 marks each)

- 4.1 Importance of crop physiology in Agriculture

(12)

- 4.2 Write down factor affecting rate of transpiration
- 4.3 Draw well labeled diagram of plant cell
- 4.4 Difference between light reaction and dark reaction
- 4.5 Short note on nitrogen element
- 4.6 Photorespiration
- 4.7 Antitranspirants
- 4.8 Role of stomata

Q.5 Answer the following questions in detail (Attempt any three- 04 marks each) (12)

- 5.1 Explain the Calvin cycle with diagram.
- 5.2 Write in details in the mechanism of opening and closing of stomata.
- 5.3 Explain the Glycolysis with diagram.
- 5.4 Detail about noncyclic photophosphorylation
- 5.5 Give the function of Carbon, Magnesium and Phosphorus.
