



Registration No:
Total Number of Pages : 2 AR-2018 B.Sc (Ag)
2nd SEMESTER REGULAR EXAMINATIONS, SEPT/OCT 2019-20

CP-121

Fundamental of Crop Physiology

Time : 2 Hours

Maximum : 50 Marks

(Answer **all** questions of Section – A)

SECTION – A

1. Short type answer [1x5 = 5]
 - a. Necrosis
 - b. Substrate level phosphorylation
 - c. Dark acidification
 - d. Guttation
 - e. Photorespiration
2. **Please underline the appropriate answer?** [10x0.5 = 5]
 - a) Water imbibitions by germinating seeds is an example of adsorption/absorption.
 - b) Stomata open during night in C3/CAM plants.
 - c) Interveinal chlorosis of young leaves is due to sulphur/manganese deficiency.
 - d) Kranz anatomy is absent in C4/CAM plants.
 - e) GA can substitute for long day/short day requirement.
 - f) Phosphorus deficiency leads to yellowing/dark green leaves.
 - g) Nutrient element that is part of carbon compounds is nitrogen/potassium
 - h) Potassium ions accumulation in guard cells decrease its water/solute potential.
 - i) Stomata open when guard cells become turgid/flaccid.
 - j) Anaerobic respiration takes place in mitochondria/cytosol of plant cells.
3. Fill up the blanks. [10x0.5 = 5]
 - a. Flowering of pine apple is promoted by the hormone_____.
 - b. Photorespiration occurs in plants due to the bi-functional nature of _____.
 - c. Molecular formula of chlorophyll b is_____.
 - d. Fatty acids are metabolized in glyoxysomes of germinating seeds via_____.
 - e. Water is lost in liquid form through pores present in leaves called_____.
 - f. The effects of added solutes on water potential is known as_____.
 - g. In plants,_____hormone is involved in phototropism.
 - h. In gymnosperms, the xylem elements_____constitute the principal water conducting tissues.
 - i. Magnesium deficiency in leaves is visible as_____chlorosis.
 - j. Harvest index is the ratio between biological yield and_____.



4. Define or Explain the following in one or two sentences:

[5x1 = 5]

- a. Explain nutrient uptake.
- b. Enumerate the agricultural uses of auxins.
- c. Write any two parameters that determine crop growth and yield.
- d. Explain ribosome synthesis in a plant cell.
- e. Define Climacteric fruit ripening.

SECTION – B

(Attempt any **five** questions. Each question carries equal marks)

5x6=30

- 5) What are source and sinks in plants? How assimilate partitioning is important in determining productivity?
- 6) What is ascent of sap? Describe briefly the theory that explains it.
- 7) Explain the process of electron transport chain in thylakoids during light reactions.
- 8) Explain the process of carbon dioxide fixation by C3 pathway.
- 9) Explain the feature of C4 plants that helps to avoid photorespiration.
- 10) Explain the function and deficiency symptoms of magnesium in plants.

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