

2023

Time - 3 hours

Full Marks - 60

Answer all groups as per instructions.

Figures in the right hand margin indicate marks.

Candidates are required to answer

in their own words as far as practicable.

Draw labelled diagrams wherever necessary.

GROUP - A

1. Fill in the blanks. (all)

[1 × 8

- (a) The latent heat of vaporization of water is _____.
- (b) The role of potassium ion in stomatal movement was first discovered by _____.
- (c) The gradient produced between the source and sink in pressure flow model is _____.
- (d) The triose phosphate translocator in chloroplast membrane exchange equal amount of triose phosphate for _____.
- (e) Calcium, magnesium and potassium counteract the toxic effect of other minerals are called _____.

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- (f) _____ is known as fruit ripening hormone.
- (g) Biochemically Phytochrome is a protein with a _____.
- (h) _____ is the primary precursor of IAA.

GROUP - B

2. Write notes on any eight of the following within two or three sentences each. [1½ × 8]

- (a) Water potential
- (b) Anti-transpirants
- (c) Aquaporins
- (d) Macronutrient
- (e) Antiport
- (f) Ion flux
- (g) Short day plant
- (h) Florigen
- (i) Jasmonic acid
- (j) Bolting

[3]

GROUP - C

3. Explain any eight of the following within 75 words each. [2 × 8]

- (a) Symplast
- (b) Guttation
- (c) Biosynthesis of Cytokinins
- (d) Proton ATPase Pump
- (e) Vernalization
- (f) Role of Phytochrome in Photomorphogenesis
- (g) Seed dormancy
- (h) Senescence type
- (i) Role of essential elements
- (j) Chelating agents

GROUP - D

4. Answer any four of the following within 500 words each. [6 × 4]

- (a) Explain the mechanism of stomatal movement.
- (b) What is phloem loading and unloading ? Write an explanatory note on it.

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- (c) Give a brief note on solute transport across cell membrane in plant.
- (d) Describe physiological roles of Auxin.
- (e) Discuss role of macronutrient and their deficiency symptoms in plant.
- (f) What is seed dormancy ? Discuss causes and methods of breaking seed dormancy.
- (g) What is Phytochrome ? Describe chemical nature and role of Phytochrome.