647510 **MSC3BotC314x** **Seat No :_____**

M.Sc. (Botany) Semester - 3 (*CBCS*) Examination
Nov/Dec-2023 (NEW COURSE)
Plant Physiology (Core (New))

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

SECTION - I

Q.1 Answer the following
(a) Write a short note on Water potential (07)
(b) Explain in detail the types of Carbohydrates in the context to plants (07)

OR

Q.1 Elaborate the term 'Mineral nutrition'. State the deficiency symptoms of some of the mineral nutrients. (14)

Q.2 Answer the following
(a) Electron Transport - Describe (07)
(b) Explain glycolysis pathway (07)

OR

Q.2 Write a note on Non-cyclic and Cyclic photophosphorylation (14)

Q.3 Answer the following (any seven) (07)

(1) State the difference between adsorption and absorption.
(2) Explain – Water deficit
(3) What is photorespiration?
(4) Explain the importance of lipids in Plants cells.
(5) State major factors affecting rate of photosynthesis
(6) Give any two examples each of C3 and C4 plants
(7) Define the term 'trace elements'
(8) Name any four key enzymes in the TCA cycle.

SECTION - II

Q.1 What is Seed dormancy? Explain in detail the mechanism of breaking seed dormancy (14)

OR

Q.1 Write short notes on the following hormones
(a) Cytokinin (07)
(b) Gibberellic acid (07)

Q.2 Describe the process of photomorphogenesis and photoperiodism (14)

OR

Q.2 Write short note on:
(a) Vernalization (07)
(b) Heat and salinity stress (07)

Q.3 Answer the following (any seven) (07)

(1) When a seed is called to be germinated?
(2) What is stress physiology?
(3) Explain the importance of Jasmonic acid
(4) State the significance of auxin hormone in plants
(5) How can we observe 'Growth and development in plants?
(6) What are growth regulators in plants?
(7) What is ABA?
(8) Define the term vulnerability with reference to plant stress.

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