

M.Sc. BOTANY
SEMESTER II EXAMINATION –2023
PAPER CODE: MBO-CC202
PAPER TITLE: PLANT PHYSIOLOGY

Time: 2½ Hours

Maximum Marks: 60

NOTE: Attempt ALL questions. All parts of a question must be attempted in continuation. Start answering each question on a new page. Draw neat and well-labelled diagrams wherever necessary.

Q 1. Write the correct answer of the following [1x12= 12]

- (a) Define water potential.
- (b) Write expression to show relation between water potential and osmotic potential.
- (c) What is the Emerson Enhancement effect?
- (d) Expand PEPC.
- (e) Write reactions catalyzed by Rubisco.
- (f) Define P-protein.
- (g) Who introduced the concept of the 'Mass flow hypothesis'?
- (h) Define Critical day length.
- (i) The term 'Florigen' was proposed by.....
- (j) Define 'Bound auxins'.
- (k) The principal naturally occurring auxin is.....
- (l) Expand SOD.

Q. 2. Write active absorption mechanism of water absorption in plants. [12]

OR

Mention the criteria of essentiality of mineral nutrients. Write deficiency symptoms of any THREE micronutrients. [12]

Q. 3. Explain photosynthetic pigments and non-cyclic electron transport in photosynthetic system in plants. [12]

OR

Differentiate between C3, C4 and CAM plants with suitable illustrations. [12]

Q. 4. Explain the concept of 'Florigen' and its regulations in flowering plants. [12]

OR

Discuss how cryptochrome regulate photomorphogenesis, and growth and development in plants. [12]

Q. 5. (a). Write the physiological effects of gibberellic acid in plants. [6]

(b). Write the mechanisms of action of auxins. [6]

OR

Define secondary metabolites. Give classification and importance of secondary metabolites in human welfare. [12]