

Roll No.

313161

S-3198

**M. Sc. (Third Semester)
EXAMINATION, 2023-24**

**BOTANY
(Plant Physiology and Biochemistry)
(C-013)**

Time : Two Hours]

[Maximum Marks : 60

Note : Attempt any *four* questions. All questions carry equal marks.

1. What are useful applications of Phytohormones in Agriculture ? Discuss in brief, with specific examples.
2. What are Photo-physiological responses mediated by cryptochromes ? How do they differ from Phytochromes ? Discuss briefly.
3. Why Nitrogen fixation is crucial in nitrogen nutrition of plants in nature ? Discuss the mechanism of Biological Nitrogen fixation in detail.

P. T. O.

4. Write short notes on any *two* of the following :

- (a) Anaerobic respiration
- (b) Oxidative Phosphorylation
- (c) Electron transport chain (ETC)
- (d) Glyoxylate cycle

5. What were experimental supports to suggest that light reaction is a two-step mechanism ? Discuss briefly the outline of the mechanism.

6. What is osmosis ? Explain the phenomenon on the basis of water potential ?

7. Write brief account of any *two* of the following :

- (a) ATP
- (b) Unique properties of water
- (c) Monosaccharides
- (d) Amino acids

8. What are characteristic properties of Enzyme ? Describe in brief the Mode of Enzyme action according to various theories.