

Unit IV

8. (a) What is the function and mechanism of action of phytochromes ? 8
- (b) What do you understand by photoperiodism ? Give its significance also. 8
9. Write short notes on the following : 16
- (i) Cryptochromes
- (ii) Floral evocation



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M.Sc. EXAMINATION, 2025

(Fourth Semester)

(Regular & Re-appear)

BOTANY

Physiology of Plant Growth and Development

Time : 3 Hours]

[Maximum Marks : 80

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

1. Explain the following terms : **2×8=16**

- (i) Growth analysis
- (ii) Dormancy
- (iii) Morphogenesis
- (iv) Absciscic acid
- (v) Receptors
- (vi) Nastism
- (vii) Cryptochromes
- (viii) Florigen concept

Unit I

2. (a) Discuss various factors responsible for seed dormancy. **8**
- (b) Phytohormones have important role to play in regulation of seed dormancy. Discuss. **8**
3. Write short notes on the following : **16**
- (i) Growth curves
 - (ii) Abiotic stress and plant productivity

Unit II

4. (a) Describe the biosynthetic pathway of Gibberellins. **8**
- (b) Discuss the role of auxins in plant growth and development. **8**
5. Write short notes on the mechanism of action of any *two* of the following : **16**
- (i) Cytokinins
 - (ii) Ethylene
 - (iii) Absciscic acid

Unit III

6. Phototropism and geotropism are coordinated process of differential plant growth response to light and gravity, respectively. Discuss in detail. **16**
7. Write short notes on the following : **16**
- (i) Senescence
 - (ii) Abscission