

MSc Sem.-2 Examination**407****Biochemistry****May-2025****Time : 2-30 Hours]****[Max. Marks : 70****Instructions:** Illustrate your answers with neat diagrams wherever necessary.**Question 1 Write the following**

- (i) Write a short note on structure, composition and types of plasmodesmata. (7 Marks)
- (ii) Write a short note on cpDNA and its packaging and role. (7 Marks)

OR

- (i) Explain each type of plastid in detail. (7 Marks)
- (ii) Write a short note on structure, composition and types of plant cell wall. (7 Marks)

Question 2 Write the following

- (i) Enlist and explain various roles of gibberellic acid in plant science. (7 Marks)
- (ii) What are the various applications of jasmonic acid and salicylic acid. (7 Marks)

OR

- (i) Write a short note on mode of action and role of auxin hormone. (7 Marks)
- (ii) Write a short note on the phases of plant growth. (7 Marks)

Question 3 Write the following

- (i) Write a short note on plant genetic resources and their conservation methods. (7 Marks)
- (ii) Explain pureline cultivars and hybrid cultivars in detail. (7 Marks)

OR

- (i) Write a short note on nitrogen fixation in plants. (7 Marks)
- (ii) Explain objectives of plant breeding. (7 Marks)

Question 4 Write the following

- (i) Write a short note on the types of ecological pyramids. (7 Marks)
- (ii) Explain various characteristics of population. (7 Marks)

OR*(P.T.O)*

- (i) Write a short note on the types of ecological succession. (7 Marks)
- (ii) Write a short note on the carbon cycle in the ecosystem. (7 Marks)

Question 5 Attempt any seven out of twelve (14 Marks)

- (i) Define: Growth and Development.
 - (ii) How does a plant use a vacuole to produce large cells cheaply?
 - (iii) What are the different types of pits? Explain each.
 - (iv) Write the chemical process of photosynthesis and explain.
 - (v) What is cytoplasmic inheritance? Explain with an example.
 - (vi) What are various role of polyamines in plants?
 - (vii) What are various types of plant stress? give examples.
 - (viii) Explain mortality and natality.
 - (ix) Explain cutivar development procedure by PGR.
 - (x) What are different types of natural ecosystem.
 - (xi) Explain plant growth curve.
 - (xii) What is plant tissue culture and explain its types.
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