Exam.code: 210004
Subject code: 4231

Sr. No. 7057

M.Sc. Botany - 4th Sem.

(2519)

Paper: BOTC-622

Structure & Metabolism of Plant Harmones

Time allowed: 3 hrs. **Max. Marks: 50**

SECTION – A

1. Give short answers to each of the following questions not exceeding 4 lines. (8x1= 8 marks)

i) Synthetic auxins.
ii) Name the disease and its causal organism with which the discovery of gibberellins is associated.
iii) Bioassay of cytokinin.
iv) How the brassinosteroids are synthesized?
v) Give the major pathway of abscisic acid synthesis.
vi) How the endogenous levels of jasmonates are regulated in plants?
vi) What is triple response?
vii) How the tumour is induced by *Agrobacterium* in host plants?
viii) What is apical dominance?

SECTION – B

2. Give answers to any *seven* of the following questions. Your answer should not exceed two pages. (7x3 = 21 marks)

i) What are growth regulators? Give their characteristic features?
ii) Write short note on bioassay of auxins.
iii) Explain the biosynthesis of gibberellins.
iv) Describe the mechanism of cytokinin action.
v) How the biosynthesis of brassinosteroids is inhibited?
vi) Explain the role of mutants in elucidation of abscisic acid biosynthesis.
vii) Describe briefly the physiological effects of ethylene?
viii) Which microbial genes are involved in the biosynthesis of IAA and cytokinins?
ix) Explain the discovery and distribution of auxins in plants.
x) Write briefly on plant-microbe interactions.

SECTION – C

3. Give detailed answers to any *three* of the following questions. Your answer should not exceed four pages. (3x 7 = 21 marks)

i) What are the various methods of extraction and quantitative analysis of plant hormones?
ii) a) Describe the physiological roles of gibberellins in plants. (5marks)
b) Discuss the role of cytokinins in delaying of senescence in plants. (2 marks)
iii) What are brassinosteroids? Describe their structure, distribution and physiological roles in plant growth and development.
iv) a) How the levels of ethylene are regulated in plants? (4 marks)
b) Explain the role of abscisic acid in drought resistance. (3 marks)
v) a) Describe the jasmonic acid synthesis pathway. Why jasmonates are called defense hormones?

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