



ADITYA UNIVERSITY

B.Tech – I Semester End Examinations Regular (B.Tech2024)

CROP PRODUCTION AND PROTECTION TECHNOLOGIES (Agricultural Engineering)

Time: 3 hours

Max. Marks: 50

Answer ONE question from each unit

All Questions Carry Equal Marks

All parts of the questions must be answered at one place only

UNIT-I

- 1 a Define agronomy and explain its importance in modern agriculture. L2 CO1 [5M]
b What is tillage and discuss the principles of tillage? L2 CO1 [5M]

(OR)

- 2 a What is fertigation? Explain the different methods of applying manures and fertilizers to field crops. L2 CO1 [5M]
b Explain the basic principles of natural farming, organic farming and sustainable agriculture? L2 CO1 [5M]

UNIT-II

- 3 a Explain the soil-water-plant relationship and its significance in agriculture. L2 CO2 [7M]
b What are crop coefficients, and how are they used in determining the water requirements of crops? L2 CO2 [3M]

(OR)

- 4 a Differentiate between cropping systems and cropping schemes. Give examples of each. L2 CO2 [5M]
b Explain the key parameters used to assess the quality of irrigation water? L2 CO2 [5M]

UNIT-III

- 5 a Explain in brief about soil classification and composition? L2 CO3 [5M]
b Explain the key physical properties of soil and why they are important for plant growth? L2 CO3 [5M]

(OR)

- 6 a What are soil inorganic colloids? Discuss their composition, properties and origin of charge? L2 CO3 [5M]
b Explain the difference between acidic, saline, and sodic soils and what are the common practices for managing acidic, saline and sodic soils? L2 CO3 [5M]

UNIT-IV

- 7 a List the essential plant nutrients and describe their primary functions in plant growth and development? L2 CO4 [5M]
b Explain the important inorganic fertilizers and their reactions in soils? L2 CO4 [5M]

(OR)

- 8 a How to calculate the gypsum requirement for the reclamation of sodic soils, and neutralizing the residual sodium carbonate (RSC)? L3 CO4 [5M]
b What are liquid fertilizers and explain about their solubility and compatibility? L2 CO4 [5M]

UNIT-V

- 9 a List out the types of horticultural crops and discuss the sowing and planting times and methods of horticultural crops? L2 CO5 [5M]
b Explain in brief about macro and micropropagation methods? L2 CO5 [5M]

(OR)

- 10 a Discuss the types of plant growing structures, pruning and training? L2 CO5 [5M]
b What are the major pests and diseases of horticultural crops and how to manage them? L2 CO5 [5M]

MODEL QUESTION PAPER