

- (a) What are the common pests in hydroponic farming? What methods can be employed to manage them effectively?
- (b) What are plant growth regulators? What role do they play in plant development?
- (c) What is the purpose of growth media in hydroponic systems? How do they assist in plant development in soilless farming?
- (d) What are biofertilizers? How do they enhance soil fertility and promote plant growth?
5. Answer **any two** of the following: (7.5 x 2=15)
- (a) What is your understanding of protected agriculture? In what ways does it differ from traditional agricultural practices? What are the advantages and disadvantages of protected agriculture systems?
- (b) How do marketing challenges and government policies influence the implementation and success of protected agriculture practices?
- (c) Explain the different types of hydroponic systems. What are the advantages and disadvantages of each system?

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 4632

J

Unique Paper Code : 2164001003

Name of the Paper : Protected Agriculture–
Hydroponics And Organic
Cultivation

Name of the Course : Botany- General Elective

Semester : IV

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. All questions carry equal marks.
3. Attempt four questions in all, including Question Number 1, which is compulsory.
4. All parts of a question must be answered together
5. Draw neat and well labelled diagrams wherever required

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1. (a) Expand the following (any five): (1x5=5)

(i) DO

(ii) NFT

(iii) GAP

(iv) SDP

(v) TDS

(vi) ABA

(b) Explain briefly: (1x5=5)

(i) Protected Agriculture

(ii) Gibberellin

(iii) Biocontrol agents

(iv) Pheromone trapping

(v) Aeroponics

(c) Fill in the blanks: (1x5=5)

(i) is a plant hormone that primarily promotes cell elongation in plant shoots and roots.

(ii) An air pump in hydroponic systems is used to circulate into the nutrient solution.

(iii) The unit of measurement for light is.....

(iv) In, plants are grown with their roots exposed to a thin film of nutrient solution that

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continuously supplies essential nutrients.

(v)is a method of pest management that uses natural enemies, pathogens, or other organisms to suppress or reduce pest populations.

2. Write short notes on **any five** of the following :

(3x5=15)

(a) Role of cytokinin in plant growth

(b) Integrated Pest Management

(c) Government policies related to protected agriculture

(d) *Pseudomonas*

(e) Biopesticides

(f) Nutrient film technique, with its advantages and limitations.

3. Differentiate between **any three** of the following:

(5x3=15)

(a) Physical parameters and Chemical Parameters for Plant Growth

(b) Deep Water Culture and Dutch Bucket System

(c) Organic farming and Natural farming

(d) Biopesticides and Biocontrol agents

4. Answer the following (**any three**): (5x3=15)

P.T.O.