

SRM VALLIAMMAI ENGINEERING COLLEGE
(An Autonomous Institution)

SRM Nagar, Kattankulathur-603203

DEPARTMENT OF AGRICULTURAL ENGINEERING

QUESTION BANK



VI SEMESTER

1902603 PROTECTED CULTIVATION

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Prepared by

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SUBJECT: PROTECTED CULTIVATION

SEM / YEAR: 06 /III

UNIT-I: PROTECTED CULTIVATION AND ITS TYPES

Importance and methods of protected culture in horticultural crops - Importance and scope of protected cultivation – different growing structures of protected culture viz., green house, poly house, net house, poly tunnels, screen house, protected nursery house - study of environmental factors influencing greenhouse production – cladding / glazing / covering material – ventilation systems – cultivation systems including nutrient film technique / hydroponics / aeroponic culture – growing media and nutrients – canopy management – micro irrigation and fertigation systems.

PART - A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Define Protected cultivation.	BT-2	Understanding
2.	Write any 4 merits of greenhouses.	BT-1	Remembering
3.	Define Glazing.	BT-2	Understanding
4.	What are the objectives of protected cultivation?	BT-1	Remembering
5.	Classify greenhouse based on frame.	BT-1	Remembering
6.	Explain low tunnel technology in protected cultivation?	BT-2	Understanding
7.	List greenhouse types based on covering materials.	BT-1	Remembering
8.	Define the term greenhouse.	BT-1	Remembering
9.	Define cladding?	BT-2	Understanding
10.	What is Gutter?	BT-1	Remembering
11.	List the merits of ventilation system.	BT-2	Understanding
12.	Classify the greenhouse based on the spans.	BT-2	Understanding
13.	What are the institutions involved in Protected Cultivation?	BT-1	Remembering
14.	Where is the Centre of Excellence for vegetables located in Tamil Nadu under which project it was started?	BT-1	Remembering
15.	What is Nutrient film technique?	BT-2	Understanding
16.	List out the limitations of protected cultivation.	BT-1	Remembering
17.	Explain about hydroponics?	BT-2	Understanding
18.	What are the different types of cladding materials?	BT-1	Remembering
19.	Explain the key points of National Horticulture Board and National Horticulture Mission.	BT-2	Understanding
20.	Compare Gothic arch type and Gutter type greenhouse.	BT-2	Understanding
21.	Illustrate the environmental factors influencing	BT-2	Understanding

	microclimate?		
22.	Why insect proof net house is used in protected cultivation?	BT-1	Remembering
23.	Explain the role of Centre for Protected Cultivation Technology.	BT-1	Remembering
24.	Differentiate hydroponics and aeroponics.	BT-2	Understanding
25.	What is canopy management?	BT-1	Remembering

PART – B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Differentiate walk in tunnel and low tunnel technology.	BT-4	Analysing
2.	Explain plant responses to various greenhouse Environmental factors.	BT-4	Analysing
3.	Explain the nutrient film technique with neat sketch.	BT-3	Applying
4.	Discuss the components of micro-irrigation.	BT-3	Applying
5.	Detail about the low tunnel technology with neat diagram.	BT-3	Applying
6.	Write about the classification of Greenhouse based on various factors with suitable diagram.	BT-4	Analysing
7.	Classify the different types of media.	BT-4	Analysing
8.	Brief about high-cost greenhouse technology.	BT-3	Applying
9.	Explain about canopy management.	BT-4	Analysing
10.	Describe about types of greenhouse ventilation.	BT-4	Analysing
11.	Discuss about fertigation in green house.	BT-4	Analysing
12.	Brief notes on poly house.	BT-3	Applying
13.	Describe the components of greenhouse.	BT-4	Analysing
14.	Categorize different cladding materials.	BT-4	Analysing
15.	Write the important criteria for site selection in protected cultivation.	BT-3	Applying
16.	Illustrate the factors influencing microclimate?	BT-3	Applying
17.	Elaborate the heating and lighting system in greenhouse.	BT-4	Analysing

PART-C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Elaborate different types of growing media and its importance.	BT-4	Analyzing
2.	Differentiate micro irrigation and fertigation system.	BT-4	Analyzing
3.	Explain about cultivation systems including nutrient film technique, hydroponics and aeroponic culture.	BT-3	Applying
4.	Detail the environmental factors that are influencing greenhouse production.	BT-3	Applying
5.	Evaluate economic analysis and cost estimation of greenhouse of 80meter square floor area.	BT-5	Evaluating

UNIT-II: PROTECTED CULTIVATION OF VEGETABLE CROPS

Protected cultivation technology for vegetable crops - Hi-tech protected cultivation techniques for tomato, capsicum nursery, cucumber, gherkins, strawberry and melons – integrated pest and disease management – post harvest handling.

PART - A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	List out the crops that can be grown under protected cultivation.	BT-1	Remembering
2.	How the crops selected to be grown in greenhouse?	BT-2	Understanding
3.	What are the two types of training in tomato?	BT-1	Remembering
4.	What are the common pests observed in Greenhouse?	BT-1	Remembering
5.	Define the term post - harvest handling.	BT-2	Understanding
6.	What are the symptoms of fruit borer?	BT-1	Remembering
7.	What is Gherkin?	BT-1	Remembering
8.	Illustrate the importance of pest and disease management.	BT-2	Understanding
9.	Write about the viral diseases in cucumber.	BT-1	Remembering
10.	Illustrate the maturity indices of cucumber	BT-2	Understanding
11.	How will you manage late blight?	BT-1	Remembering
12.	Give two examples of varieties of melons and strawberry.	BT-1	Remembering
13.	Define the term Metaxenia.	BT-1	Remembering
14.	How will you manage Greenhouse aphids?	BT-1	Remembering
15.	Give any two examples of disease with respect to tomato.	BT-2	Understanding
16.	Give the varieties and hybrids of cucumber.	BT-1	Remembering
17.	List out the pests of greenhouse capsicum .	BT-1	Remembering
18.	Define deleaving? Why it is followed in capsicum?	BT-1	Remembering
19.	When the greenhouse tomato is harvested?	BT-1	Remembering
20.	List out the varieties of capsicum.	BT-1	Remembering
21.	List out the institutions involving in research on Horticulture crops.	BT-1	Remembering
22.	State the term Crooking physiological disorder in cucumber.	BT-2	Understanding
23.	Differentiate training and trellising.	BT-2	Understanding
24.	Why the soil solarization should be done in greenhouse?	BT-1	Remembering
25.	Compare topping and trimming.	BT-2	Understanding

PART - B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Explain the need for protected cultivation of tomato.	BT-3	Applying
2.	Elaborate the post-harvest handling of greenhouse crops.	BT-4	Analysing
3.	Enumerate about the viral disease management in melons.	BT-4	Analysing
4.	Describe about capsicum cultivation.	BT-3	Applying
5.	Detail note on important physiological disorders in gherkins and their management.	BT-3	Applying
6.	Compare yield and fertilizer application of tomato, capsicum and strawberry.	BT-4	Analysing

7.	Brief about integrated pest and disease management in tomato.	BT-3	Applying
8.	Describe about the disease management in Tomato.	BT-4	Analysing
9.	Criticize on the pest and disease management in cucumber.	BT-4	Analysing
10.	Briefly criticize the harvesting and post harvest techniques for Tomato.	BT-4	Analysing
11.	Discuss about the drawbacks of protected cultivation of vegetable crops.	BT-3	Applying
12.	List out the varieties and hybrids in Cucumber, Capsicum and Tomato.	BT-4	Analysing
13.	Discuss about the fertigation system to be followed in Melon.	BT-3	Applying
14.	Differentiate nutrient requirement for different crops.	BT-3	Applying
15.	What are the post harvest handling techniques to be followed in Strawberry?	BT-4	Analysing
16.	Brief about nursery management in strawberry.	BT-3	Applying
17.	Compare the protected cultivation practices of gherkin and cucumber	BT-4	Analysing

PART-C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Compare various protected cultivation technology.	BT-4	Analysing
2.	Write in detail about the post harvest handling in Cucumber, Gherkins and Melons.	BT-3	Applying
3.	Discuss in detail about Strawberry hitech protected cultivation.	BT-4	Analysing
4.	Explain about gherkin under protected cultivation.	BT-4	Analysing
5.	Elaborate Tomato cultivation under greenhouse technology.	BT-3	Applying

UNIT-III: PROTECTED CULTIVATION OF FLOWER CROPS

Protected cultivation technology for flower crops - Hi-tech protected cultivation of cut roses, cut chrysanthemum, carnation, gerbera, asiatic lilies, anthurium, orchids, cut foliage and fillers – integrated pest and disease management – postharvest handling.

PART - A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	What are the various growing systems of flower crops?	BT-1	Remembering
2.	Explain staking of chrysanthamum.	BT-2	Understanding
3.	What are the advantages of growing flower crops in greenhouse?	BT-1	Remembering
4.	Describe post harvest handling of orchid.	BT-1	Remembering
5.	Explain the term Arka and Pusa.	BT-2	Understanding
6.	List out varieties and hybrids of cut rose.	BT-1	Remembering
7.	Compare the asiatic lilies and oriental lilies.	BT-2	Understanding
8.	What is filler material in cut foliage?	BT-1	Remembering
9.	What are the soil requirement for cutrose cultivation?	BT-1	Remembering

10.	What is deshooting?	BT-2	Understanding
11.	List out the countries involved in cutflower production.	BT-1	Remembering
12.	Define the term disbudding.	BT-1	Remembering
13.	List out the institutions involved in cutflowers production.	BT-1	Remembering
14.	Explain about the package of carnations.	BT-2	Understanding
15.	State the term deflowering.	BT-1	Remembering
16.	How the beds are fumigated?	BT-1	Remembering
17.	What are the harvesting indices of anthurium?	BT-1	Remembering
18.	How the Gerbera cutflower is propagated?	BT-1	Remembering
19.	Differentiate standard and spray type carnations?	BT-2	Understanding
20.	Compare deflowering and deshooting.	BT-2	Understanding
21.	List out the preservatives used in flower crops.	BT-1	Remembering
22.	How the cutflowers will be preserved?	BT-1	Remembering
23.	Define the term pinching.	BT-1	Remembering
24.	Distinguish single pinching and double pinching.	BT-2	Understanding
25.	What are the types of Pinching?	BT-2	Understanding

PART - B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Brief about Protected cultivation of flower crops in Tamil Nadu.	BT-4	Analysing
2.	Elaborate the desirable characters for the cutflower production?	BT-3	Applying
3.	Write short notes on packaging of Anthurium.	BT-4	Analysing
4.	What are the major pests of Gerbera under protected cultivation and discuss about the pest management?	BT-4	Analysing
5.	Detail about soil, spacing, nutrition, irrigation and propagation methods of Chrysanthamum.	BT-3	Applying
6.	Write short notes on Integrated pest management for Cutflowers.	BT-4	Analysing
7.	Elaborate the post harvest handling of cut flowers	BT-3	Applying
8.	Explain about soil, spacing, irrigation and propagation methods of Orchids.	BT-4	Analysing
9.	Compare and contrast oriental and Asiatic lillies.	BT-4	Analysing
10.	Describe pest management in cutflowers.	BT-4	Analysing
11.	Describe about mother shoot bending.	BT-3	Applying
12.	Explain growing medium requirement for flower crops under protected cultivation.	BT-4	Analysing
13.	Discuss the special horticultural practices followed in rose.	BT-3	Applying
14.	Explain about soil, spacing, irrigation and propagation methods of Carnations.	BT-4	Analysing
15.	Write about the post harvest handling of anthurium and orchids.	BT-3	Applying
16.	List out the physiological disorders for cutflowers and explain about the bushiness and stem break.	BT-3	Applying
17.	Explain in detail about the nutrient deficiency in cut flowers.	BT-4	Analysing

PART-C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Describe in detail about Cut Rose cultivation.	BT-3	Applying
2.	Enumerate about the integrated pest and disease management in Chrysanthamum cultivation?	BT-4	Analysing
3.	Elaborate carnation cultivation under Greenhouses.	BT-4	Analysing
4.	Explain the post harvest handling of cutflowers.	BT-3	Applying
5.	Detail the special horticultural practices of cutflowers to grow under greenhouse.	BT-3	Applying

UNIT-IV: PRECISION FARMING TECHNIQUES

Concept and introduction of precision farming – Importance, definition, principles and concepts – Role of GIS and GPS - Mobile mapping system and its application in precision farming – design, layout and installation of drip and fertigation – georeferencing and photometric correction – Sensors for information gathering – UAV - geostatistics – robotics in horticulture - postharvest process management (PPM) – remote sensing

PART – A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Define precision farming.	BT-1	Remembering
2	State the term geostatistics.	BT-1	Remembering
3	List out the sensors used for information gathering.	BT-1	Remembering
4	What are the merits of precision farming?	BT-2	Understanding
5	Give the components of mobile mapping.	BT-2	Understanding
6	What are the types of remote sensing in agriculture?	BT-1	Remembering
7	List out the tools of precision farming.	BT-1	Remembering
8	What is mobile mapping?	BT-2	Understanding
9	Define GPS and its purpose in precision farming.	BT-2	Understanding
10	Write the role of Unmanned Aerial Vehicle in Precision farming.	BT-2	Understanding
11	Define Robotics.	BT-1	Remembering
12	List the types of robots used in agriculture.	BT-1	Remembering
13	Write the merits of robotics in agriculture.	BT-1	Remembering
14	How the robotics can be applied for harvesting crops?	BT-1	Remembering
15	List out the various technologies used in precision farming.	BT-1	Remembering
16	Define geostatistics?	BT-1	Remembering
17	What is the role of georeferencing in agriculture?	BT-2	Understanding
18	Differentiate Drip irrigation and Sprinkler irrigation.	BT-2	Understanding
19	Describe the types of Unmanned Aerial Vehicle.	BT-1	Remembering
20	Give the importance of georeferencing.	BT-2	Understanding
21	Define remote sensing.	BT-1	Remembering
22	What are the components of mobile mapping system?	BT-1	Remembering

23	Differentiate GIS and GPS	BT-2	Understanding
24	What are role of Drones in agriculture?	BT-1	Remembering
25	List the institutions with its location involved in remote sensing	BT-1	Remembering

PART B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Detail role GIS and GPS in Precision farming.	BT-4	Analysing
2	Elaborate about the tools of precision farming.	BT-3	Applying
3	What is UAV? Explain it types with its advantages and disadvantages.	BT-3	Applying
4	Give detail about different robots used in agriculture purposes.	BT-3	Applying
5	Distinguish GIS and GPS system.	BT-4	Analysing
6	Elaborate Remote Sensing application in Precision farming.	BT-3	Applying
7	Brief about Post harvest Process Management (PPM).	BT-4	Analysing
8	What is mobile mapping? How it is applied in the field of agriculture?	BT-3	Applying
9	Illustrate the various sensors application in precision farming.	BT-3	Applying
10	Enumerate the advantages and disadvantages of photometric correction.	BT-4	Analysing
11	Criticize the process of information gathering by using sensors?	BT-4	Analysing
12	What is UAV? How it will make difference in traditional agriculture?	BT-3	Applying
13	Distinguish Geostatistics and Georeferencing	BT-4	Analysing
14	How the robotics changed conventional farming?	BT-3	Applying
15	Brief about advantages of geostatistics.	BT-4	Analysing
16	Define microirrigation and explain it with advantages and disadvantages.	BT-3	Applying
17	Discuss the role of IIRS in remote sensing in agriculture	BT-4	Analysing

PART – C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Detail precision farming importance, principle and concepts.	BT-3	Applying
2	Elaborate the role of robotics in agriculture with merits and demerits.	BT-3	Applying
3	Explain in detail about Drone technology in precision farming.	BT-4	Analysing
4.	Brief about sensors used for various agriculture operations.	BT-3	Applying
5.	Define Geostatistics with its advantages and disadvantages.	BT-4	Analysing

UNIT-V: PRECISION FARMING OF HORTICULTURAL CROPS

Precision farming techniques for horticultural crops - Precision farming techniques for tomato, chilli, bhendi, bitter gourd, bottle gourd, cauliflower, cabbage, grapes, banana, rose, jasmine, chrysanthemum, marigold, tuberose, china aster, turmeric, coriander, coleus and gloriosa.

PART – A

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Write seed rate requirement for tomato, coriander, and bhendi.	BT-1	Remembering
2	List the steps involved in precision farming.	BT-1	Remembering
3	What are the growth regulators?	BT-1	Remembering
4	Write about the little leaf diseases of chilli.	BT-2	Understanding
5	How yellow vein mosaic in bhendi can be treated?	BT-1	Remembering
6	Brief about sowing and season of bitter gourd.	BT-2	Understanding
7	In what manner, nursery raising can be done in bottle gourd?	BT-1	Remembering
8	Describe micronutrient spray in tomato.	BT-2	Understanding
9	Write the role of protray.	BT-2	Understanding
10	Brief about field preparation of bhendi.	BT-2	Understanding
11	Give the soil and spacing requirement of chilli.	BT-1	Remembering
12	Write short notes on protray in Cauliflower.	BT-2	Understanding
13	List out the various diseases occurring in bittergourd.	BT-1	Remembering
14	How are quality seedlings of bitter gourd produced?	BT-1	Remembering
15	Explain about the diamondback moth in Cauliflower?	BT-2	Understanding
16	Which is the growing medium used for cabbage?	BT-1	Remembering
17	Explain about the propping of banana.	BT-1	Remembering
18	List out the juice varieties of grapes.	BT-1	Remembering
19	What do you understand about pretreatment of suckers?	BT-1	Remembering
20	How will you manage weeds in tuberose?	BT-1	Remembering
21	List out pest and diseases of Gloriosa.	BT-1	Remembering
22	Write about the fertigation system followed in Jasmine.	BT-2	Understanding
23	What are the special horticultural practices in flower crops?	BT-1	Remembering
24	Give some of the varieties in Grapes and Rose.	BT-2	Understanding
25	Explain the rhizome treatment of Turmeric.	BT-2	Understanding

PART-B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Discuss the nursery preparation and fertigation system in tomato.	BT-4	Analysing
2	Detail the factors that are required to grow bhendi.	BT-4	Analysing
3	Write short notes on manuring and IPM of chilli.	BT-4	Analysing
4	Elaborate bottle gourd pest and disease management.	BT-3	Applying
5	Brief about nutritional requirement of Cabbage.	BT-4	Analysing

6	Detail about the training and pruning operation in grapes.	BT-3	Applying
7	Explain precision production technology of jasmine.	BT-3	Applying
8	Discuss the practices to be carried out for rose cultivation.	BT-4	Analysing
9	Detail note on China Aster cultivation process.	BT-4	Analysing
10	Explain the precision cultivation of chrysanthemum and marigold.	BT-3	Applying
11	Write short notes on IPM for cauliflower.	BT-4	Analysing
12	Detail coriander cultivation practices.	BT-3	Applying
13	Describe precision production technology of gloriosa cultivation	BT-4	Analysing
14	Explain about bittergourd cultivation practices under greenhouse.	BT-3	Applying
15	Write in detail about the pest and diseases of chilli and bhendi.	BT-4	Analysing
16	Discuss about the propping and bunching system followed in banana.	BT-3	Applying
17	Elaborate the precision farming of Turmeric.	BT-4	Analysing

PART – C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Brief about precision farming techniques of Chilli.	BT-4	Analysing
2.	Detail special viticultural practices of grapes.	BT-3	Applying
3.	How will you grow cauliflower under protected cultivation?	BT-3	Applying
4.	Explain the field operations required for growing turmeric under precision farming.	BT-4	Analysing
5.	Describe the precision farming techniques to be followed for the cultivation of Banana.	BT-4	Analysing