

**SRM VALLIAMMAI ENGINEERING COLLEGE**  
(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

**DEPARTMENT OF AGRICULTURE ENGINEERING**

**QUESTION BANK**



**VI SEMESTER**

**1902603 PROTECTED CULTIVATION**

**Regulation – 2019**

**Academic Year 2021 – 2022**

*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.	List greenhouse types based on covering materials	BT-1	Remembering
2.	State the term protected cultivation.	BT-2	Understanding
3.	Based on frame how will you classify green house?	BT-1	Remembering
4.	Write any 4 merits of greenhouses.	BT-3	Applying
5.	What are the objectives of protected cultivation?	BT-1	Remembering
6.	What is the purpose of poly tunnels?	BT-3	Applying
7.	Write the technologies involved in protected cultivation?	BT-2	Understanding
8.	What do you mean by protected nursery house?	BT-2	Understanding
9.	Define greenhouse.	BT-1	Remembering
10.	Write short notes on cladding.	BT-2	Understanding
11.	What do you know about Hydroponics?	BT-1	Remembering
12.	List the merits of ventilation system.	BT-2	Understanding
13.	State the scope of protected cultivation.	BT-3	Applying
14.	List out the different types of surface cultivation farming.	BT-2	Understanding
15.	Write the various methods of protected culture in horticultural crops.	BT-1	Remembering
16.	Define the term protected cultivation.	BT-4	Analysing
17.	List out the merits of protected cultivation.	BT-3	Applying
18.	What are the different types of cladding materials?	BT-1	Remembering
19.	Write the role of sensors in greenhouse.	BT-3	Applying
20.	State the term vigour.	BT-4	Analysing

## PART – B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Describe the components of greenhouse.	BT-4	Analysing
2.	Detail the advantages of greenhouse.	BT-2	Understanding
3.	What are requirements of good storage structure?	BT-3	Applying
4.	Explain shade house requirement for various vegetables.	BT-2	Understanding
5.	Elaborate micro-irrigation components.	BT-1	Remembering
6.	Elaborate the factors that are affecting crop productivity.	BT-5	Evaluating
7.	What are the advantages of green house? What is criteria for selection of crops for green houses?	BT-4	Analysing
8.	Brief about high-cost greenhouse technology.	BT-1	Remembering
9.	Write short notes on canopy management.	BT-5	Evaluating
10.	How will you increase green house system economy in relation to increasing size?	BT-5	Evaluating
11.	Discuss about fertigation in green house.	BT-6	Creating
12.	Detail about poly house.	BT-1	Remembering
13.	Compare and contrast different cladding materials.	BT-5	Evaluating
14.	Elaborate general crop requirements in greenhouse.	BT-4	Analysing

## PART-C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Explain about cultivation systems including nutrient film technique hydroponics and aeroponic culture.	BT-1	Remembering
2.	Compare micro irrigation and fertigation system.	BT-2	Understanding
3.	Elaborate different types of growing media and its importance.	BT-4	Analysing
4.	Detail the environmental factors that are influencing greenhouse production.	BT-3	Applying

## 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-2	Understanding

	more prominently?		
2.	Brief about selection of vegetable in greenhouse.	BT-4	Analysing
3.	What are the diseases occurring in tomato?	BT-1	Remembering
4.	Differentiate pest and disease in crops.	BT-4	Analysing
5.	What is post- harvest handling?	BT-2	Understanding
6.	Write short notes on fruit borer.	BT-5	Evaluating
7.	State the term "Metaxania".	BT-2	Understanding
8.	Demonstrate the importance of pest and disease management.	BT-3	Applying
9.	What are the factors to be considered during post-harvest handling?	BT-3	Applying
10.	Demonstrate strawberry runners.	BT-3	Applying
11.	How will you manage Early blight?	BT-2	Understanding
12.	Explain about tomato production status.	BT-1	Remembering
13.	Differentiate Gherkin and cucumber.	BT-1	Remembering
14.	How will you manage root-knot nematode?	BT-3	Applying
15.	Give any two examples of disease with respect to vegetables.	BT-2	Understanding
16.	Give the varieties of strawberry.	BT-1	Remembering
17.	List out the pests occurs in capsicum.	BT-1	Remembering
18.	Write short notes on Integrated Pest Management.	BT-4	Analysing
19.	Define the term post - harvest handling.	BT-2	Understanding
20.	List the varieties of cucumber.	BT-1	Remembering

### PART – B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Explain disease management in tomato.	BT-2	Understanding
2.	Detail about viral disease in melons.	BT-5	Evaluating
3.	Elaborate post harvest handling.	BT-2	Understanding
4.	How is cucumber cultivated under protected cultivation?	BT-2	Understanding
5.	Brief about integrated pest and disease management.	BT-5	Evaluating
6.	Compare yield and fertilizer application of tomato, capsicum and strawberry.	BT-2	Understanding
7.	Explain the parameters that to be considered for greenhouse site selection.	BT-5	Evaluating
8.	Demonstrate pest and disease management in capsicum.	BT-2	Understanding
9.	Elaborate capsicum nursery process.	BT-2	Understanding
10.	Explain the high-tech cultivation practices for strawberry.	BT-5	Evaluating
11.	Brief about nursery management in melon process.	BT-2	Understanding
12.	Detail commonly occurring disease management in vegetables.	BT-2	Understanding
13.	Compare weed control methods.	BT-3	Applying
14.	Differentiate nutrient requirement for different crops.	BT-3	Applying

### PART-C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Compare various protected cultivation technology.	BT-4	Analysing
2.	Elaborate Tomato cultivation under greenhouse technology.	BT-2	Understanding
3.	Explain melon growing under protected cultivation.	BT-1	Remembering
4.	Detail gherkins nursery preparation, fertilizer application, and management of diseases.	BT-1	Remembering

### 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.	List out growing media properties.	BT-2	Understanding
2.	Write short notes on protected cultivation of ornamentals in India.	BT-1	Remembering
3.	What are the advantages of growing flower crops in greenhouse?	BT-2	Understanding
4.	Describe advantage of protected cultivation under Indian context.	BT-1	Remembering
5.	List the basic considerations for flower cultivation in greenhouse.	BT-4	Analysing
6.	What are the various growing systems of flower crops?	BT-1	Remembering
7.	Brief about decontamination of growing medium.	BT-3	Applying
8.	Write the commercially grown flowers in greenhouse.	BT-4	Analysing
9.	What is the soil requirement for rose under protected cultivation?	BT-2	Understanding
10.	Describe deshooting.	BT-1	Remembering
11.	How will you manage high temperature in greenhouse?	BT-1	Remembering
12.	Brief about disbudding.	BT-4	Analysing
13.	Explain staking of chrysanthemum.	BT-2	Understanding
14.	Write short notes on package of carnations.	BT-2	Understanding
15.	What do you mean by pinching?	BT-1	Remembering
16.	How the bulb of Lilium is treated?	BT-2	Understanding
17.	Write the propagation methods of Lilium.	BT-4	Analysing
18.	Write short notes on deflowering.	BT-1	Remembering
19.	Brief about Gerbera.	BT-3	Applying
20.	How will you make tinting process?	BT-3	Applying

#### PART - B

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Brief about Protected cultivation of flower crops under Indian context.	BT-2	Understanding
2.	Detail about protected cultivation requirement for flower crops.	BT-1	Remembering
3.	Write short notes on disease, pest, weed control and packaging of Rose.	BT-4	Analysing
4.	How will you grow Alstroemeria under protected cultivation?	BT-1	Remembering
5.	Detail about soil, spacing, nutrition, irrigation, and propagation methods of Crysanthamum.	BT-3	Applying
6.	Write short notes on IPM/IDM.	BT-4	Analysing
7.	Demonstrate post harvest handling of flowers.	BT-2	Understanding
8.	Explain about soil, spacing, irrigation and propagation methods of rose.	BT-1	Remembering
9.	Compare and contrast oriental and Asiatic lillies.	BT-4	Analysing
10.	Elaborate about Gerbera growing under protected cultivation.	BT-4	Analysing
11.	Differentiate oriental and Asiatic lillies.	BT-2	Understanding
12.	Explain growing medium requirement for flower crops under protected cultivation.	BT-4	Analysing
13.	Brief about disease, pest, weed control and packaging of carnations.	BT-3	Applying
14.	Explain about soil, spacing, irrigation and propagation methods of Carnations.	BT-2	Understanding

### PART-C

Q.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Explain in detail about Rose cultivation under Greenhouses.	BT-2	Understanding
2.	How will you grow Crysanthamum under protected cultivation?	BT-4	Analysing
3.	Detail the requirements of Alstroemeria to grow under greenhouse.	BT-3	Applying
4.	Elaborate Lillium cultivation under Greenhouses.	BT-1	Remembering

### 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**

<b>Q.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1	Define precision farming.	BT-1	Remembering
2	State the term geostatistics.	BT-3	Applying
3	List out the sensors used for information gathering.	BT-4	Analysing
4	What are the merits of precision farming?	BT-2	Understanding
5	Give the importance of mobile mapping.	BT-4	Analysing
6	Demonstrate the demerits of robotics in agriculture.	BT-1	Remembering
7	Write the objective of GIS usage in agriculture.	BT-4	Analysing
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 UAV in Precision farming.	BT-2	Understanding
11	Why do we need photometric correction?	BT-4	Analysing
12	List the types of robots used in agriculture.	BT-1	Remembering
13	What is PPM?	BT-4	Analysing
14	List out the various technologies used in precision farming.	BT-2	Understanding
15	Write the merits of robotics in agriculture.	BT-1	Remembering
16	What are the estimation methods used in geostatistics?	BT-2	Understanding
17	Write the role of georeferencing in agriculture.	BT-1	Remembering
18	Demonstrate photometric correction.	BT-2	Understanding
19	Define UAV.	BT-1	Remembering
20	Give the importance of georeferencing.	BT-4	Analysing

**PART B**

<b>Q.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1	Detail role GIS and GPS in Precision farming.	BT-1	Remembering
2	What are the steps involved in design and layout of fertigation system?	BT-2	Understanding
3	Detail different robots used in agriculture purposes.	BT-3	Applying
4	Demonstrate the process involved in design and layout of drip irrigation system.	BT-2	Understanding
5	Differentiate GIS and GPS Applications.	BT-4	Analysing
6	Elaborate Remote Sensing application in Precision farming.	BT-1	Remembering
7	Brief about Post harvest Process Management (PPM).	BT-2	Understanding
8	Elaborate the importance of mobile mapping in agriculture.	BT-3	Applying
9	Explain the various sensors application in precision farming.	BT-1	Remembering
10	How will you gather information by using sensors?	BT-4	Analysing
11	Discuss GIS and GPS application in precision farming.	BT-4	Analysing

12	What is UAV? How it will make difference in traditional agriculture?	BT-2	Understanding
13	Brief about remote sensing role in precision farming.	BT-4	Analysing
14	How the robotics changed conventional farming?	BT-3	Applying

### PART – C

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

### 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.	BT-1	Remembering
2	List the steps involved in precision farming of horticultural crops.	BT-3	Applying
3	What are the growth regulators of tomato?	BT-2	Understanding
4	Write different varieties of chilli.	BT-3	Applying
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-4	Analysing
8	Describe micronutrient spray in tomato.	BT-2	Understanding
9	Write the role of protray.	BT-4	Analysing
10	Brief about field preparation of chilli.	BT-4	Analysing
11	Give the soil and spacing requirement of bhendi.	BT-1	Remembering
12	Write short notes on protray in Cauliflower.	BT-2	Understanding
13	List out the various diseases occurring in chilli.	BT-3	Applying
14	How are quality seedlings of bitter gourd produced?	BT-1	Remembering
15	What is diamondback moth?	BT-3	Applying
16	Which is the growing medium used for cabbage?	BT-3	Applying
17	Why pests and diseases need to be teated?	BT-1	Remembering
18	List out the juice varieties of grapes.	BT-3	Applying
19	What do you understand about pretreatment of suckers?	BT-4	Analysing



20	How will you manage weeds in tuberose?	BT-3	Applying
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**PART-B**

<b>Q.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1	Demonstrate nursery preparation and laying of drip and fertigation system in tomato.	BT-2	Understanding
2	Detail the factors that are required to grow chilli.	BT-2	Understanding
3	Write short notes on manuring and IPM of Bhendi.	BT-1	Remembering
4	Elaborate bitter gourd pest and disease management.	BT-2	Applying
5	Brief about nutritional requirement of Cauliflower.	BT-2	Remembering
6.	Detail pruning operation in grapes.	BT-1	Applying
7	Explain precision production technology of jasmine.	BT-1	Understanding
8	Discuss the practices to be carried out for tuberose cultivation.	BT-3	Understanding
9	Demonstrate marigold cultivation process.	BT-3	Remembering
10	List out the various technology requirements for turmeric cultivation.	BT-3	Applying
11	Write short notes on China Aster.	BT-2	Understanding
12	Detail coriander cultivation practices.	BT-2	Understanding
13	What are the requirements that needs to be done for coleus cultivation?	BT-1	Remembering
14	Explain about gloriosa cultivation practices under greenhouse.	BT-3	Applying

**PART – C**

<b>Q.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Brief about precision farming techniques of tomato.	BT-1	Remembering
2.	Detail special viticultural practices of grapes.	BT-2	Understanding
3.	How will you grow banana under protected cultivation?	BT-2	Understanding
4.	Demonstrate the field operations required for turmeric growing.	BT-1	Remembering