Course Code: 16AG717 **R16**

SIDDHARTH GROUP OF INSTITUTIONS: PUTTUR
(AUTONOMOUS)
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QUESTION BANK (DESCRIPTIVE)

Subject with Code: GHT (16AG717) **Course & Branch**: B.Tech -AGE

Year & Sem: IV-B.Tech & I-Sem **Regulation:** R16

UNIT –I
INTRODUCTION TO GREENHOUSE

1	**a.** Define greenhouse and list the classification of greenhouse?	[L1][CO1]	[3M]
	b. Write brief note on controlled environment agriculture (CAE)?	[L2][CO1]	[3M]
	c. Write the difference between CAE & OFA?	[L2][CO1]	[6M]
2	**a.** Write the brief history of greenhouse and greenhouse effect?	[L3][CO1]	[6M]
	b. Write advantages of greenhouse?	[L3][CO1]	[6M]
3	**a.** Briefly describe the types of greenhouse?	[L2][CO1]	[6M]
	b. Explain greenhouse based on shape?	[L3][CO1]	[6M]
4	**a**. Write about Shade nets?	[L2][CO1]	[6M]
	b. Explain greenhouse based on utility and construction?	[L3][CO1]	[6M]
5	**a.** Explain greenhouse based on covering materials?	[L3][CO1]	[6M]
	b. Write brief notes on cost deviations of greenhouse?	[L2][CO1]	[6M]
6	**a.** Write short note on glass type of greenhouse.	[L2][CO1]	[2M]
	b. Explain briefly about the classification of greenhouse.	[L3][CO1]	[7M]
	c. Write short note on ridge and furrow type of greenhouse?	[L2][CO1]	[3M]
7	**a.** Explain the crop requirements for plant growth in greenhouse environment?	[L3][CO1]	[8M]
	b. Briefly explain about the light?	[L3][CO1]	[4M]
8	**a.** Explain about temperature, ventilation and carbon dioxide?	[L3][CO1]	[6M]
	b. Write about the carbon dioxide requirement to the crop.	[L3][CO1]	[6M]
9	**a.** Write about the wavelength property used for crop growth.	[L3][CO1]	[6M]
	b. Explain about photosynthesis reaction in light	[L2][CO1]	[6M]
10	**a.** Briefly explain about the relative humidity?	[L2][CO1]	[6M]
	b. Write about the utility and covering material of greenhouse.	[L3][CO1]	[6M]

Course Code: 16AG717 **R16**

UNIT –II
ENVIRONMENTAL REQUIREMENT FOR CROPS AND CONTROL INSIDE GREENHOUSE

1	Explain about the environment requirement of agricultural crops inside greenhouse?	[L3][CO2]	[12M]
2	a. Write about the classification of vegetable crops based on temperature? b. What is DIF and write the role of DIF in plant growth? c. Explain briefly about temperature requirements of horticulture crops?	[L2][CO2] [L2][CO2] [L3][CO2]	[2M] [5M] [5M]
3	a. Write about the light requirement of horticulture crops. b. Write about the shading methods of horticulture crops.	[L2][CO2] [L3][CO2]	[6M] [6M]
4	Write about the greenhouse supplemental lighting systems and its use.	[L3][CO2]	[12M]
5	a. Explain about the active summer cooling systems with neat diagram? b. Briefly explain about the carbon dioxide enrichment methods?	[L3][CO2] [L3][CO2]	[7M] [5M]
6	Write about the active winter cooling systems with neat diagram.	[L3][CO2]	[12M]
7	**a.** What is greenhouse ventilation and write in detail on natural ventilation? **b.** List the equipment required for controlling greenhouse environment?	[L2][CO2] [L2][CO2]	[10M] [2M]
8	**a.** Explain about forced ventilation and equipment used? **b.** Write environment requirements for some horticultural and agricultural crops?	[L3][CO2] [L2][CO2]	[10M] [2M]
9	**a.** Write in detail about microprocessor with neat diagram? **b.** Write the methods used for enrichment of carbon dioxide?	[L2][CO2] [L2][CO2]	[6M] [6M]
10	a. Write about the role of computers and thermostats in greenhouse environment control with neat diagram. b. Write the advantages and disadvantages of computers.	[L2][CO2] [L2][CO2]	[7M] [5M]

Course Code: 16AG717 **R16**

UNIT –III
PLANNING OF GREENHOUSE FACILITY AND GREENHOUSE COVERING MATERIAL

1	**a.** Write about site selection and orientation of greenhouse. **b.** Explain about structural design of greenhouse with suitable diagram.	[L2][CO3] [L3][CO3]	[4M] [8M]
2	**a.** Write about the selection of covering materials for greenhouse. **b.** Briefly explain about the materials used for construction of greenhouse.	[L3][CO3] [L3][CO3]	[6M] [6M]
3	Explain about the wood, galvanized iron and glass	[L3][CO3]	[12M]
4	Explain about the polyethylene covering material.	[L3][CO3]	[12M]
5	Explain about the fiberglass reinforced plastic rigid-panel covering material.	[L3][CO3]	[12M]
6	**a.** Briefly explain about tefzal T^2 film **b.** Explain about acrylic and polycarbonate rigid panel.	[L3][CO3] [L2][CO3]	[6M] [6M]
7	Explain briefly about the covering materials used for greenhouse?	[L2][CO3]	[12M]
8	a. Write about the polyvinyl chloride film b. Write about polyvinyl chloride rigid film.	[L2][CO3] [L2][CO3]	[6M] [6M]
9	Write about the types of construction and materials used for construction.	[L3][CO3]	[12M]
10	Explain about selective covering material properties and write planning steps of greenhouse facility?	[L3][CO3]	[12M]

Course Code: 16AG717 **R16**

UNIT –IV

GREENHOUSE HEATING AND ENERGY STORAGE AND IRRIGATION SYSTEMS

1	**a.** Explain the design criteria of construction of greenhouse. **b.** Write about the construction details of glass greenhouse.	[L3][CO4] [L2][CO4]	[4M] [8M]
2	Write about the construction of pipe framed greenhouse in detail with neat diagram.	[L3][CO4]	[12M]
3	**a.** Explain the need of heating in greenhouse **b.** Explain about the modes of heat loss?	[L3][CO4] [L2][CO4]	[6M] [6M]
4	Write about the heating systems and explain about heat distribution system.	[L3][CO4]	[12M]
5	**a.** Explain solar heating system with neat diagram **b.** Enlist the procedure of erection of pipe framed greenhouse	[L3][CO4] [L1][CO4]	[6M] [6M]
6	Write about water and rock storage with neat diagram?	[L2][CO4]	[12M]
7	**a.** Write the rules of application of greenhouse? **b.** Briefly explain about the hand watering and boom watering.	[L3][CO4] [L1][CO4]	[6M] [6M]
8	**a.** Explain about drip irrigation. **b.** Explain about overhead sprinklers	[L3][CO4] [L3][CO4]	[6M] [6M]
9	What is irrigation and explain about the different methods of irrigation in greenhouse.	[L2][CO4]	[12M]
10	Briefly explain about heating systems and modes of heating.	[L2][CO4]	[12M]

Course Code: 16AG717 **R16**

UNIT –V
GREENHOUSE UTILIZATION IN OFF SEASON AND ECONOMICS OF GREENHOUSE PRODUCTION

1	Explain briefly about greenhouse utilization in off-season.	[L3][CO5]	[12M]
2	Write in detail about drying of agriculture and curing of tobacco with suitable sketch.	[L2][CO5]	[12M]
3	a. Write in detail about use of simplified protected agriculture techniques. b. Enlist the types of row covers and explain about perforated plastic tunnels with sketch.	[L2][CO5] [L1][CO5]	[6M] [6M]
4	Write about the air supported row crops with neat sketch.	[L2][CO5]	[12M]
5	a. Write about silted row crops with neat sketch. b. Explain briefly the economic analysis of greenhouse production.	[L2][CO5] [L3][CO5]	[6M] [6M]
6	a. Explain the capital requirements followed for protected agriculture. b. Explain how the greenhouse economy be improved.	[L3][CO5] [L3][CO5]	[6M] [6M]
7	Explain about the floating row covers with neat sketch	[L3][CO5]	[12M]
8	a. Draw flowchart of capital requirements of production and explain b. Explain about the different advanced protected agriculture systems.	[L1][CO5] [L3][CO5]	[6M] [6M]
9	a. Explain about the hydroponic system. b. Write about the nutrient film technique.	[L3][CO5] [L2][CO5]	[6M] [6M]
10	Explain the conditions influencing returns in protected agriculture.	[L3][CO5]	[12M]

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