

IV Year II - Semester

L	T	P	To	C
3	1	-	4	4

AG406 Design and Maintenance of Greenhouse

Course Description & Objectives:

To expose the student to the fundamental knowledge of greenhouse and their design and maintenance.

Course Outcomes:

The student will gain the knowledge of:

1. importance of greenhouse with respect to different climate and crop.
2. design of greenhouse according the climate and requirements of the crop.
3. climate control inside greenhouse.
4. economics of greenhouse and selection criteria for efficient management

Unit 1: Introduction to Greenhouse :

History and types of greenhouses; importance, function and features of green house; scope and development of green house technology.

Unit II: Design of Greenhouse:

Location, Planning and various component of greenhouse; design criteria and calculation; constructional material and methods of construction; covering materials and its characteristics,

Unit III: Heating and Cooling System of Greenhouse:

Solar heat transfer, solar fraction for green house, steady state analysis of green house, Greenhouse heating, cooling, shedding and ventilation systems;

Unit IV: Environment inside Greenhouse:

Carbon Dioxide generation and monitoring and lighting systems, instrumentation & computerized environmental Control Systems. Watering, fertilization, root substrata and its pasteurization, containers and benches, plant nutrition.

Unit V: Economy and application of Greenhouse:

Alternative cropping systems; plant tissue culture, chemical growth regulation; disease control; integrated pest management;

Postproduction quality and handling Cost analysis of greenhouse production;

Applications of green house & its repair & maintenance.

TEXT BOOKS:

1. Manohar, K.R. and Iga Thinathane. C.(2007). *Green House Technology and Management*. B.S.Publications, Hyderabad.

REFERENCES:

1. http://ecourses.iasri.res.in/e-Learningdownload3_new.aspx?Degree_Id=04

IV Year I - Semester

L	T	P	To	C
3	1	-	4	4

AG415 Micro Irrigation System Design**Course Description & Objectives:**

To expose the student to the fundamental knowledge in micro irrigation systems used in irrigation of crops with the design concepts of micro-irrigation systems likes drip irrigation, Sprinkler irrigation with fertilization application.

Course Outcomes:

On completion of course the student will:

1. *get the knowledge on micro irrigation concepts.*
2. *be able to understand the design concepts related to sprinkler irrigation and drip irrigation.*
3. *be able to suitably select and adopt different irrigation systems according to water requirement.*

Unit 1: Introduction to Micro Irrigation:

Past, present and future need of micro irrigation systems, Role of Govt. for the promotion of micro irrigation in India, Merits and demerits of micro irrigation system,