AGRI 323(ELECTIVE-VI) GREENHOUSE TECHNOLOGY 3(2+1)

Objective(s)

To impart knowledge about green house engineering and maintenance of environmental parameter and its effect in protected cultivation; Use of micro irrigation technology in protected cultivation.

UNIT I

World scenario, Indian situation: present and future, Different agro-climatic zones in India, Basics of greenhouse design, different types of structures – study of greenhouse based on covering material, Design of greenhouse.

UNIT II

Environmental Interaction of light, temperature, humidity, CO2, water on crop regulation – Greenhouse heating, cooling, ventilation and shading, fogging

UNIT III

Natural ventilation- Heating, Cooling, Fan and pad system, Greenhouse Irrigation system, Micro irrigation and Fertigation system

UNIT IV

Automated greenhouses, micro controllers, waste water recycling, Management of pest and diseases – IPM. Media –Types, uses and characteristics. Instruments used to measure the various parameters in G.H.

UNIT V

Micro irrigation system used in green house; Drip, Sprinkler system- Definition, components, Use, Efficiency, Automation and its application

Reference Book(s):

1. Green House Technology - by G. N. Tiwari and R. K. Goyal
2. Green House – by K. Radha Manohar and C. Igadinathane. B.S. Publications, Hyderabad
3. Principles of Agricultural Engineering – by Michel and Ojha. Vol. I. Jain Brothers, New Delhi
4. Post Harvest Technology of Cereal, Pulse and Oil seeds – by Chakarvarthy A. (1988)
5. Processing Equipment for Agricultural Products – by Hall C. W. and Davis C. V. (1979). AVI Publishing Inc. West Port, Connecticut

Practical(s):

1. Different type/ structure of green houses
2. Design and classification of Greenhouse
3. Orientation of green house
4. Components of green house and covering materials
5. Low cost poly tunnels, net house for agricultural production
6. Regulation of light, temperature, humidity in greenhouses
7. Media preparation and fumigation
8. Micro irrigation systems in green house
9. Environmental factor influencing green house material
10. Automation and monitoring systems in green house
11. Demonstration of automation system in Green house
12. Visit to commercial green house and poly house unit

13. Visit to industries involved in manufacturing green house
14. Project preparation for commercial green house.
15. Selection of various artificial sources in the G.H.