# 21ELCT306 WEED MANAGEMENT

Hours Per Week :

| L | T | P | C |
|---|---|---|---|
| 2 | - | 2 | 3 |

Total Hours :

| L | T | P |
|---|---|---|
| 30 | - | 30 |

## COURSE DESCRIPTION AND OBJECTIVES:

Main objective of is to let learn the student about the management of weeds with different techniques

## COURSE OUTCOMES:

Upon completion of the course, the student will be able to achieve the following outcomes:

| COs | Course Outcomes |
|---|---|
| 1 | Students will be able to identify different weeds, learn the cycle of weeds and crop- weed competition |
| 2 | Students will understand different methods of weed control, integrated weed ma agement, classification and formulations of herbicides |
| 3 | Students will identify aquatic and problematic weed and their management |

## SKILLS:

✓ *Familiarize with identification of weeds in crop ecosystem*

✓ *Depth understanding of biology, modifications of different plant parts and dispersal mechanisms of weeds*

✓ *Knowledge on different methods of weed management, herbicides and their selectivity*

## UNIT - 1

Theory Introduction to weeds, characteristics of weeds their harmful and beneficial effects on ecosystem

## UNIT - 2

Classification, reproduction and dissemination of weeds. Herbicide classification, concept of adjuvant, surfactant, herbicide formulations and their use

## UNIT - 3

Introduction to mode of action of herbicides and selectivity. Allelopathy and its application in weed management. Bio-herbicides and their application in agriculture

## UNIT - 4

Concept of herbicide mixture and utility in agriculture. Herbicide compatibility with nutrients and their application

## UNIT - 5

Integration of herbicides with non chemical methods of weed management. Herbicide resistance and its management

# LABORATORY EXPERIMENTS

## LIST OF EXPERIMENTS

1. Techniques of weed preservation
2. Weed identification
3. Survey of weeds in different crop ecosystems
4. Field study of crop-weed association and determination of critical period of crop weed competition
5. Estimation of weed flora in different crops
6. Estimation of yield losses due to weeds in ongoing field experiments
7. Biology of important weeds in different ecosystems
8. Herbicide label information for different herbicides and mixtures
9. Study of herbicide and nutrient compatibility
10. Shift in weed flora in long term field experiments
11. Participation in different methods of herbicide application and precautionary measures
12. Spraying equipment and their calibration for herbicide application,  calculations of herbicide doses
13. Study of phytotoxicity symptoms of herbicides in different crops
14. Calculations of weed control efficiency and weed index
15. Economic analysis of weed control practices in crops and cropping systems

## REFERENCES:

1. Gupta, O.P. 2012. *Modern Weed Management* (4th edition), Agrobios (India) Ltd, Jodhpur
2. Rao, V.S. 1992. *Principles of Weed Science* (2nd edition), Oxford & IBH Publishing Co.Pvt Ltd, New Delhi
3. Ross, M.A and Lembi, C.A. 1999. *Applied Weed Science.* (2nd edition), Prentice Hall of India Pvt Ltd, New Delhi
4. Saraswat, V.N., Bhan, V.M. and Yaduraju, N.T. (eds.) 1998. *Weed management* – ICAR Publication