INSTITUTE	**FACULTY OF AGRICULTURE**
PROGRAM	**BACHELOR OF SCIENCE (Hons.) AGRICULTURE**
SEMESTER	**4**
COURSE TITLE	**WEED MANAGEMENT**
COURSE CODE	**16AS0402**
COURSE CREDITS	**3**

Objective:

1 To develop skill to know different weed species in agriculture and relevant herbicide and other management practices.

Course Outcomes: After completion of this course, student will be able to:

1 Students will be able to identify the various weed species.

2 Students will be able to know different weed control techniques.

3 Students will be able to find problems of weed infestation on farmers field to solve their problems to decrease weed efficiency.

4 Students will also be know the interaction effect with various field crops.

Pre-requisite of course: To aware the students about weed and its management techniques.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	**1** Introduction, definition, losses, utilization, characteristics of weeds	1
2	**2** Classification, reproduction and dissemination of weeds	1
3	**3** Weed persistency and biology	1
4	**4** Herbicide classification, concept of adjuvant, surfactant, herbicide formulation and their use	1
5	**5** Introduction to mode of action of herbicides and selectivity	1
6	**6** Allelopathy and its application for weed management	1

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Contents : Unit	Topics	Contact Hours
7	**7** Bio-herbicides and their application in agriculture	1
8	**8** Concept of herbicide mixture and utility in agriculture	1
9	**9** Integration of herbicides with non-chemical methods of weed management	1
10	**10** Herbicide resistance and its management	1
Total Hours		**10**

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	**1** Weed identification and their losses study	2
2	**2** Biology of important weeds	2
3	**3** Techniques of weed preservation	2
4	**4** Herbicide label information and precautions in use of herbicides	2
5	**5** Study of herbicide formulations and mixture of herbicide	2
6	**6** Shifting of weed flora study in long term experiments	2
7	**7** Study of methods of herbicide application and spraying equipments	2
8	**8** Calculations of herbicide doses, weed control efficiency and weed index	2
9	**9** Weed control in non-cropped areas	2
10	**10** Study of aquatic and parasitic weeds	2
11	**11** Bio assay study for detection of herbicide residues in succeeding crops	2
Total Hours		**22**

Textbook :

1 NA, NA, NA, NA

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References:

1 Weed Management, Weed Management, V. N. Saraswat, V. M. Bhan, and N. T. Yaduraju, ICAR, New-Delhi, 2003

2 Weed Management: Principles and Practices, Weed Management: Principles and Practices, O. P. Gupta, Agrobios (India), 2005

3 Modern Weed Management, Modern Weed Management, O. P. Gupta, Agrobios (India), 2008

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking**
25.00	25.00	20.00	10.00	10.00	10.00

Instructional Method:

1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board may also use any of tools such as demonstration, role play, quiz, brainstorming, MOOCs etc.

2 The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.

3 Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

4 Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.

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