

INSTITUTE	FACULTY OF AGRICULTURE
PROGRAM	BACHELOR OF SCIENCE (Hons.) AGRICULTURE
SEMESTER	1
COURSE TITLE	FUNDAMENTALS OF HORTICULTURE
COURSE CODE	16AS0107
COURSE CREDITS	2

Objective:

- 1 To acquaint the students with the basic concepts of Horticulture and their application in agriculture.
- 2 To introduce the students to green industry and also encourage to be responsible for environment by demonstrating and valuing sustainable practices.

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

- 1 Students will be able to establish a new orchard, kitchen garden and lawn making.
- 2 Students will be able to select the horticultural crops according to type of soil and climatic conditions of a particular area.
- 3 Student will understand basic principles and methods of plant propagation, training and pruning.
- 4 Student will be able to gain information on fertilizer usage, irrigation methods and hormonal treatment.
- 5 Students will have knowledge about Bahar treatment, fertilization, juvenility, pollination and unfruitfulness.
- 6 Student will have the knowledge about Horticultural crops and its classification.

Pre-requisite of course: Basic knowledge regarding fruit crops, flower crops, medicinal and aromatics crops, plantation crops.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
1	0	2	50	30	20	25	25

Contents : Unit	Topics	Contact Hours
1	Horticulture- its definition and branches, importance and scope Horticulture- its definition and branches, importance and scope	1
2	Horticultural and botanical classification Horticultural and botanical classification	1
3	Climate and soil for horticultural crops Climate and soil for horticultural crops	1

Contents : Unit	Topics	Contact Hours
4	Plant propagation-methods and propagating structures Plant propagation-methods and propagating structures	1
5	Principles of orchard establishment Principles of orchard establishment	1
6	Principles and methods of training and pruning Principles and methods of training and pruning	1
7	Bahar treatment Bahar treatment	1
8	Juvenility and flower bud differentiation Juvenility and flower bud differentiation	1
9	Unfruitfulness Unfruitfulness	1
10	Pollination, pollinizers and pollinators Pollination, pollinizers and pollinators	1
11	Fertilization and parthenocarpy Fertilization and parthenocarpy	1
12	Kitchen gardening, garden types and parts, lawn making Kitchen gardening, garden types and parts, lawn making	1
13	Use of plant bio-regulators in horticulture Use of plant bio-regulators in horticulture	1
14	Irrigation and fertilizers application- method and quantity Irrigation and fertilizers application- method and quantity	1
Total Hours		14

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Identification of garden tools Identification of garden tools	2
2	Identification of horticultural crops Identification of horticultural crops	2
3	Preparation of seed bed/nursery bed Preparation of seed bed/nursery bed	2
4	Practice of sexual and asexual methods of propagation Practice of sexual and asexual methods of propagation	2
5	Layout and planting of orchard plants Layout and planting of orchard plants	2
6	Training and pruning of fruit trees Training and pruning of fruit trees	2
7	Transplanting and care of vegetable seedlings Transplanting and care of vegetable seedlings	2
8	Making of herbaceous and shrubbery borders Making of herbaceous and shrubbery borders	2

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
9	Preparation of potting mixture, potting and repotting Preparation of potting mixture, potting and repotting	2
10	Fertilizer application in different crops Fertilizer application in different crops	2
11	Visits to commercial nurseries/orchard Visits to commercial nurseries/orchard	2
Total Hours		22

Textbook :

- 1 NA, NA, NA, NA

References:

- 1 Basic Horticulture, Basic Horticulture, Jitendra Singh, Kalyani Publication Ltd, New Delhi., 2014
- 2 Fundamentals of Horticulture, Fundamentals of Horticulture, Jitendra Singh, Kalyani Publication Ltd, New Delhi., 2018

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					
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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.