

<b>INSTITUTE</b>	<b>FACULTY OF AGRICULTURE</b>
<b>PROGRAM</b>	<b>BACHELOR OF SCIENCE (Hons.) AGRICULTURE</b>
<b>SEMESTER</b>	<b>1</b>
<b>COURSE TITLE</b>	<b>INTRODUCTORY BIOLOGY</b>
<b>COURSE CODE</b>	<b>16AS0106</b>
<b>COURSE CREDITS</b>	<b>2</b>

**Objective:**

- 1 To make students aware about basic plant morphology.
- 2 To provide the knowledge about plant classification, plant taxonomy and plant systematics.

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

- 1 Students will be able to procure knowledge about plants, their characteristics and plant habits.
- 2 Students will be able to gain the information of plant morphology, taxonomy and the structure of plant cell.
- 3 Students will be able to explain the micro and macro-morphology of flowering plants.
- 4 Student will know about the seed and its germination procedure and will be able to classify plants according to its life span.
- 5 Students will be able to identify different types of root, stem and leaf and plants families based on morphology.

**Pre-requisite of course:** Requires skills regarding morphology of plants.

**Teaching and Examination Scheme**

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

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
1	<b>Introduction and characteristics of plant</b> Introduction and characteristics of plant	1
2	<b>Concept of plant cells, plant tissue and plant organs</b> Concept of plant cells, plant tissue and plant organs	2
3	<b>Plant habits: annuals, biennials and perennials</b> Plant habits: annuals, biennials and perennials	1
4	<b>Seed and seed germination</b> Seed and seed germination	2
5	<b>Morphology and Micro-morphology of flowering plants</b> Morphology and Micro-morphology of flowering plants	2

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
6	<b>Binomial nomenclature and classification of plants</b> Binomial nomenclature and classification of plants	2
7	<b>Introduction to plant taxonomy and plant systematic</b> Introduction to plant taxonomy and plant systematic	2
<b>Total Hours</b>		<b>12</b>

#### **Suggested List of Experiments:**

<b>Contents : Unit</b>	<b>Topics</b>	<b>Contact Hours</b>
1	<b>Study of flowering plants</b> Study of flowering plants	2
2	<b>Root, stem and leaf and their modifications</b> Root, stem and leaf and their modifications	2
3	<b>Inflorescence, flower and fruits</b> Inflorescence, flower and fruits	2
4	<b>Internal structure of root, stem and leaf</b> Internal structure of root, stem and leaf	2
5	<b>Description of plants: Malvaceae, Cucurbitaceae</b> Description of plants: Malvaceae, Cucurbitaceae	2
6	<b>Brassicaceae, Euphorbiaceae</b> Brassicaceae, Euphorbiaceae	2
7	<b>Apiaceae, Solanaceae</b> Apiaceae, Solanaceae	2
8	<b>Asteraceae, Poaceae and Liliaceae</b> Asteraceae, Poaceae and Liliaceae	2
<b>Total Hours</b>		<b>16</b>

#### **Textbook :**

- 1 NA, NA, NA, NA

#### **References:**

- 1 Taxonomy of Angiosperms, Taxonomy of Angiosperms, Pandey, S. N., Mishra, S. P. , Ane Books Pvt. Ltd New Delhi., 2008
- 2 Plant Taxonomy, Plant Taxonomy, Sharma, O. P., McGraw-Hill Education, New Delhi , 2009
- 3 Plant Physiology, Plant Physiology, Pandey, S. N. and Sinha, B. K., Vikas Publication, 2005
- 4 Plant Anatomy, Plant Anatomy, Pandey B. P., S. Chand and Company Ltd., 2001
- 5 Introduction to Taxonomy of Angiosperms, Introduction to Taxonomy of Angiosperms, Verma B. K., PHI Learning Pvt. Ltd., New Delhi., 2011

#### **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

<b>Remember / Knowledge</b>	<b>Understand</b>	<b>Apply</b>	<b>Analyze</b>	<b>Evaluate</b>	<b>Higher order Thinking</b>
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.