

Syllabus for Bachelor of Agriculture

GENETICS AND PLANT BREEDING

Subject code: 16AS0106

Subject Name: **Introductory Botany**

B. Sc. (Hons.) Agri., **First Year (Sem.-I)**

Objective:

To acquire the knowledge of fundamentals of botany.

Credit Earned: 1+1= 2 Credits

Course Outcomes:

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

1. Procure knowledge about plants, their characteristics and Plant habits
2. Gain the information of plant morphology, taxonomy and the structure of plant cell.

Teaching and Evaluation Scheme

| Teaching Scheme (hours) | | Credits | Theory Marks | | | Practical Marks | | Total Marks |
|-------------------------|-----------|---------|--------------|----|-----|-----------------|----------------|-------------|
| Theory | Practical | | ESE (E) | IA | CSE | Viva (V) | Term Work (TW) | |
| 1 | 2 | 2 | 50 | 30 | 20 | 25 | 25 | 150 |

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Contents:

| Unit | Topics | Contact Hours |
|---------------|---|---------------|
| Theory | | |
| 1. | Introduction and characteristics of plant | 1 |
| 2. | Concept of plant cells, plant tissue and plant organs | 2 |
| 3. | Plant habits: annuals, biennials and perennials | 1 |
| 4. | Seed and seed germination | 2 |
| 5. | Morphology and Micro-morphology of flowering plants | 2 |
| 6. | Binomial nomenclature and classification of plants | 2 |
| 7. | Introduction to plant taxonomy and plant systematic | 2 |

| Unit | Topics | Contact Hours |
|------------------|---|---------------|
| Practical | | |
| 1. | Study of flowering plants | 1 |
| 2. | Root, stem and leaf and their modifications | 1 |
| 3. | Inflorescence, flower and fruits | 1 |
| 4. | Internal structure of root, stem and leaf | 1 |
| 5. | Description of plants: Malvaceae, Cucurbitaceae | 1 |
| 6. | Brassicaceae, Euphorbiaceae | 1 |
| 7. | Apiaceae, Solanaceae | 1 |
| 8. | Asteraceae, Poaceae and Liliaceae | 1 |

Reference Books:

1. Taxonomy of Angiosperms
Pandey, S. N., Mishra, S. P. Publisher: Ane Books Pvt. Ltd New Delhi.
2. Plant Taxonomy
Sharma, O. P. Publisher: McGraw-Hill Education, New Delhi
3. Plant Physiology
Pandey, S. N. and Sinha, B. K. Publisher: Vikas Publication

4. Botany in Forestry and Environment
Ashok Kumar, Kumar Media Pvt. Ltd., Gandhinagar
5. Plant Anatomy
Pandey B. P., S. Chand and Company Ltd.
6. Introduction to Taxonomy of Angiosperms
Verma B. K., PHI Learning Pvt. Ltd., New Delhi.

Instructional Method:

- a. 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.*
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.