## B.Sc. Botany,Zoology , Chemistry

## BOTANY SUBJECT

## COURSE OUTCOMES

## LECTURER NAME: CH. ABHINAY M.Sc.

## DETAILS OF COURSE TITLES & CREDITS

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| **Sem** | **Course No** | **Course Name** | **Course Type**  **(T/P/L)** | **Hrs/Week** | **Credits** | **Max. Marks** | **Max. Marks** |
| **Science: 4+2** | **Science: 4+2** | **Count/Internal/ Mid Assessment** | **Sem- End Exam** |
| **I** | 1 | Fundamentals of Microbes and Non-vascular Plants | T | 4 | 4 | 25 | 75 |
| Fundamentals of Microbes and Non-vascular Plants | L | 2 | 1 | - | 50 |
| **II** | 2 | Basics of Vascular plants and Phytogeography | T | 4 | 4 | 25 | 75 |
| Basics of Vascular plants and  Phytogeography | L | 2 | 1 | - | 50 |
| **III** | 3 | Anatomy and Embryology of Angiosperms, Plant Ecology and  Biodiversity | T | 4 | 4 | 25 | 75 |
| Anatomy and Embryology of Angiosperms,  Plant Ecology and Biodiversity | L | 2 | 1 | - | 50 |
| **IV** | 4 | Plant Physiology and Metabolism | T | 4 | 4 | 25 | 75 |
| Plant Physiology and Metabolism | L | 2 | 1 | - | 50 |
| 5 | Cell Biology, Genetics and Plant  Breeding | T | 4 | 4 | 25 | 75 |
| Cell Biology, Genetics and Plant  Breeding | L | 2 | 1 | - | 50 |
| **V** | 6A | Plant Propagation | T | 4 | 4 | 25 | 75 |
| Plant Propagation Lab | L | 2 | 1 | - | 50 |
| 7A | Seed Technology | T | 4 | 4 | 25 | 75 |
| Seed Technology Lab | L | 2 | 1 | - | 50 |
| **OR** | | | | | | |
| 6B | Vegetable Crops – Cultivation  Practices | T | 4 | 4 | 25 | 75 |
| Vegetable Crops – Cultivation  Practices Lab | L | 2 | 1 | - | 50 |
| 7B | Vegetable Crops – Post Harvest  Practices | T | 4 | 4 | 25 | 75 |
| Vegetable Crops – Post harvest  Practices Lab | L | 2 | 1 | - | 50 |
| **OR** | | | | | | |
| 6C | Plant Tissue Culture | T | 4 | 4 | 25 | 75 |
| Plant Tissue Culture Lab | L | 2 | 1 | - | 50 |
| 7C | Mushroom Cultivation | T | 4 | 4 | 25 | 75 |
| Mushroom Cultivation Lab | L | 2 | 1 | - | 50 |
| **OR** | | | | | | |
| 6D | Gardening and Landscaping | T | 4 | 4 | 25 | 75 |
| Gardening and Landscaping Lab | L | 2 | 1 | - | 50 |
| 7D | Agro forestry | T | 4 | 4 | 25 | 75 |
| Agro forestry Lab | L | 2 | 1 | - | 50 |

**Note**: \*Course type code: T: Theory, L: Lab, P: Problem solving

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| **B.Sc.** | **Semester - I** | **Credits: 1** |
| **Course: 1(L)** | **Fundamentals of Microbes and Non-vascular Plants Lab** | **Hrs./Wk.: 2** |

**Course Outcomes:** On successful completion of this practical course, student shall be able to.

1. Demonstrate the techniques of use of lab equipment, preparing slides and identify the material and draw diagrams exactly as it appears.
2. Observe and identify microbes and lower groups of plants on their own.
3. Demonstrate the techniques of inoculation, preparation of media etc.
4. Identify the material in the permanent slides etc.

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| **B.Sc.** | **Semester - II** | **Credits: 1** |
| **Course: 2(L)** | **Basics of Vascular plants and Phytogeography Lab** | **Hrs./Wk.: 2** |

**Course Outcomes:** On successful completion of this course students shall be able to:

* Demonstrate the techniques of section cutting, preparing slides, identifying of the material and drawing exact figures.
* Compare and contrast the morphological, anatomical, and reproductive features of vascular plants.
* Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.
* Exhibit skills of preparing slides, identifying the given twigs in the lab, and drawing figures of plant twigs, flowers and floral diagrams as they are.
* Prepare and preserve specimens of local wild plants using herbarium techniques.

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| **B.Sc.** | **Semester - III** | **Credits: 1** |
| **Course: 3(L)** | **Anatomy and Embryology of Angiosperms, Plant Ecology and**  **Biodiversity Lab** | **Hrs./Wk.: 2** |

**Course Outcomes:** On successful completion of this practical course students shall be able to:

* Get familiarized with techniques of section making, staining and microscopic study of vegetative, anatomical, and reproductive structure of plants.
* Observe externally and under microscope, identify and draw exact diagrams of the material in the lab.
* Demonstrate application of methods in plant ecology and conservation of biodiversity and qualitative and quantitative aspects related to populations and communities of plants.

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| **B.Sc.** | **Semester - IV** | **Credits: 1** |
| **Course: 4(L)** | **Plant Physiology and Metabolism Lab** | **Hrs/Wk: 2** |

**Course outcomes:** On successful completion of this practical course, students shall be able to:

* Conduct lab and field experiments pertaining to Plant Physiology, that is, biophysical and biochemical processes using related glassware, equipment, chemicals, and plant material.
* Estimate the quantities and qualitative expressions using experimental results and calculations.
* Demonstrate the factors responsible for growth and development in plants.

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| **B.Sc.** | **Semester - IV** | **Credits: 1** |
| **Course: 5(L)** | **Cell Biology, Genetics and Plant Breeding Lab** | **Hrs./Wk.: 2** |

**Course Outcomes:** After successful completion of this practical course the student shall be able to:

* Show the understanding of techniques of demonstrating Mitosis and Meiosis in the laboratory and identify different stages of cell division.
* Identify and explain with diagram the cellular parts of a cell from a model or picture and prepare models.
* Solve the problems related to crosses and gene interactions.
* Demonstrate plant breeding techniques such as emasculation and bagging.