

# ALLIED BOTANY

Syllabus

AFFILIATED COLLEGES

Program Code :

**2026–2027 onwards**



## BHARATHIAR UNIVERSITY

(A State University, Accredited with “A++” Grade by NAAC,  
Ranked 21<sup>st</sup> among Indian Universities by MHRD - NIRF)

Coimbatore- 641 046, Tamil Nadu, India

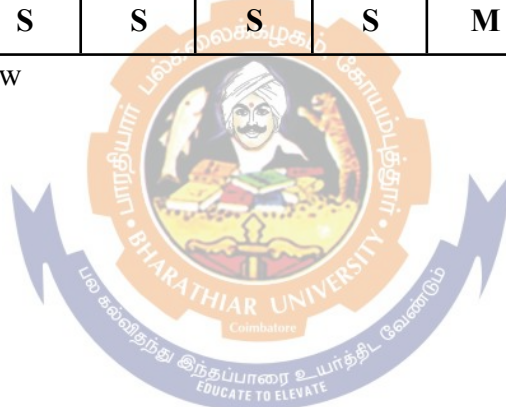
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                         |                     |   |               |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---------------|----------|
| Course code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1AJ / 3AJ                                                                                                                                                               | L                   | T | P             | C        |
| Course/Elective/<br>Supportive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ALLIED BOTANY PAPER I                                                                                                                                                   | 60                  |   |               | 3        |
| Pre-requisite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Knowledge on classification of plants, basic understanding of Plant kingdom, its morphology and usefulness of the plants acquired from previous higher secondary level. | Syllabus<br>Version |   | 2025-<br>2026 |          |
| <b>Course Objective:</b><br>The main objectives of this course are to:<br><br>1. Understand thallus structure, reproduction and lifecycle of Algae, Fungi, Bryophytes, Pteridophytes and Gymnosperms.<br>2. Learn morphology and classification of Angiosperms.<br>3. Describe the characters of dicot and monocot families and know about their economic uses.<br>4. Study the role of plants used for biofertilizers, biopesticide and biodiesel and also learn about mushroom cultivation and applications of plant tissue culture. |                                                                                                                                                                         |                     |   |               |          |
| <b>Expected course outcome:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                         |                     |   |               |          |
| On the successful completion of the course, students are able to:                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                         |                     |   |               |          |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Get an overview about the Algae, Fungi, Bryophytes, Pteridophytes and Gymnosperms.                                                                                      |                     |   |               | K1       |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Know about the plant diseases                                                                                                                                           |                     |   |               | K2       |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Get a good knowledge about descriptive terms used in Taxonomy and classification                                                                                        |                     |   |               | K2       |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Describe the characters of families with their economic importance                                                                                                      |                     |   |               | K3       |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Understand the importance of Bio resources                                                                                                                              |                     |   |               | K2       |
| K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                         |                     |   |               |          |
| Unit:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | THALLOPHYTA                                                                                                                                                             |                     |   |               | 12 Hours |
| Structure and reproduction and lifecycle of <i>Chlamydomonas</i> , and <i>Spirulina</i> . Structure and reproduction and lifecycle of <i>Saccharomyces</i> and <i>Polyporus</i> . Symptoms, causative organisms and control measures of Red rot of Sugarcane.                                                                                                                                                                                                                                                                          |                                                                                                                                                                         |                     |   |               |          |

|                                                                                                                                                                                                                   |                                                                                                                                                                                   |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>Unit:2</b>                                                                                                                                                                                                     | <b>BRYOPHYTES, PTERIDOPHYTES AND GYMNOSPERMS</b>                                                                                                                                  | <b>12 Hours</b> |
| Bryophytes, Pteridophytes and Gymnosperms – General characters – Structure, reproduction and lifecycle of <i>Riccia</i> , <i>Lycopodium</i> and <i>Cycas</i> (Development details are not required)               |                                                                                                                                                                                   |                 |
| <b>Unit:3</b>                                                                                                                                                                                                     | <b>PLANT MORPHOLOGY</b>                                                                                                                                                           | <b>12 Hours</b> |
| Morphology of Angiosperms: Parts of plant, Phyllotaxy, Stem and Root modifications, Inflorescence, Floral parts and arrangement, Types of Fruits..                                                                |                                                                                                                                                                                   |                 |
| <b>Unit:4</b>                                                                                                                                                                                                     | <b>PLANT TAXONOMY</b>                                                                                                                                                             | <b>12 Hours</b> |
| Outline of Bentham and Hooker's system of classification Study of the following families with their economic importance – Annonaceae, Cucurbitaceae, Acanthaceae, Amaranthaceae and Poaceae.                      |                                                                                                                                                                                   |                 |
| <b>Unit:5</b>                                                                                                                                                                                                     | <b>ECONOMIC BOTANY</b>                                                                                                                                                            | <b>12 Hours</b> |
| Biofertilizer, (General account), Cultivation of Azolla. Cultivation of <i>Jatropha</i> , -- Extraction of oil and production of Biodiesel. Oyster Mushroom cultivation. Plant tissue culture and its application |                                                                                                                                                                                   |                 |
| <b>Total Lecture hours</b>                                                                                                                                                                                        |                                                                                                                                                                                   | <b>60 Hours</b> |
|                                                                                                                                                                                                                   | <b>Text Books</b>                                                                                                                                                                 |                 |
| 1                                                                                                                                                                                                                 | Vashishta, B.R., Sinha, A.K. and Singh, V.P. (2008) Botany for Degree Students: Algae. S. Chand & Company Ltd., New Delhi.                                                        |                 |
| 2                                                                                                                                                                                                                 | Vashishta, B.R. (1990). Botany for Degree Students: Fungi. S. Chand & Company Ltd., New Delhi.                                                                                    |                 |
| 3                                                                                                                                                                                                                 | Pandey, B.P. (2001). College Botany Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant Pathology, Industrial Microbiology and Bryophyta. S. Chand & Company Ltd., New Delhi. |                 |
| 4                                                                                                                                                                                                                 | Pandey et al., 1998. A Text Book of Botany Vol. II. S. Chand & Co. Ltd. 1980.                                                                                                     |                 |
| 5                                                                                                                                                                                                                 | Pandey, B.P. 1999. Taxonomy of Angiosperms, S. Chand, New Delhi                                                                                                                   |                 |
| 6                                                                                                                                                                                                                 | Verma, V. (1974). A Text Book of Economic Botany. Emkay Publications, New Delhi.                                                                                                  |                 |
|                                                                                                                                                                                                                   | <b>Reference books</b>                                                                                                                                                            |                 |
| 1                                                                                                                                                                                                                 | Mehrotra, RS & Aneja, KR. 1999. An Introduction to Mycology, 2nd Ed. New Age International Publishers, New Delhi.                                                                 |                 |
| 2                                                                                                                                                                                                                 | Sharma OP. 1989. Text Book of fungi. Tata McGraw Hill, New York.                                                                                                                  |                 |
| 3                                                                                                                                                                                                                 | Smith, G.M. (1955). Cryptogamic Botany Vol. II Bryophytes and Pteridophytes (2nd edn.). Tata McGraw Hill Publishing Co., New Delhi.                                               |                 |
| 4                                                                                                                                                                                                                 | Srivastava, H.N. (1998). Gymnosperms. Pradeep Publications, Jalandhar.                                                                                                            |                 |
| 5                                                                                                                                                                                                                 | Hill, A.W. (1952). Economic Botany. Tata McGraw–Hill Publishing Co., New Delhi.                                                                                                   |                 |
| 6                                                                                                                                                                                                                 | Narayanaswamy, R.V. and Rao, K.N. (1976). Outlines of Botany. S. Viswanathan Printers & Publishers, Chennai.                                                                      |                 |

| Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]                      |                                                                                                                                       |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                 | <a href="https://swayam.gov.in/nd2_cec20_bt11/preview">https://swayam.gov.in/nd2_cec20_bt11/preview</a>                               |
| 2                                                                                 | <a href="https://www.swayamprabha.gov.in/index.php/program/archive/9">https://www.swayamprabha.gov.in/index.php/program/archive/9</a> |
| 3                                                                                 | <a href="https://swayam.gov.in/NPTEL">https://swayam.gov.in/NPTEL</a>                                                                 |
| 4                                                                                 | <a href="https://swayam.gov.in/nc_details/NPTEL">https://swayam.gov.in/nc_details/NPTEL</a>                                           |
| Course designed by: <b>Dr.M.C.NISHA</b> Verified by : <b>Dr. T. Balasaravanan</b> |                                                                                                                                       |

| Mapping with Programme Outcomes |     |     |     |     |     |     |     |     |     |      |
|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| COs                             | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 |
| CO1                             | M   | M   | S   | M   | M   | S   | M   | S   | M   | M    |
| CO2                             | S   | S   | M   | M   | M   | S   | S   | S   | S   | M    |
| CO3                             | S   | S   | S   | S   | S   | S   | S   | S   | S   | S    |
| CO4                             | S   | S   | S   | S   | S   | S   | S   | S   | S   | S    |
| CO5                             | S   | S   | S   | S   | S   | S   | M   | M   | S   | M    |

\*S-Strong; M-Medium; L-Low



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                 |                  |   |            |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---|------------|----|
| Course code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2AJ / 4AJ                                                                                                                                                       | L                | T | P          | C  |
| Course/Elective/<br>Supportive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ALLIED BOTANY PAPER II                                                                                                                                          | 60               | - |            | 3  |
| Pre-requisite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Knowledge on tissues, adaptations of plants, functional aspects of plants and its applications acquired from a previous higher secondary level.                 | Syllabus Version |   | 2025- 2026 |    |
| <b>Course Objective:</b><br>The main objectives of this course are to:<br>1. Learn about plant tissue, anatomy of stem, leaf and root<br>2. Understand ecological adaptations, forests types, agroforestry, soil erosion and its conservation<br>3. Overview plant physiology concepts, osmosis, transpiration, photosynthesis and growth regulators.<br>4 Know about basic horticulture methods propagation, garden type and fruit preservation.<br>5. Understand pharmacognosy, Indian system of medicine and pharmacognosy of Ginger, Vasaka, <i>Curcuma</i> and <i>Centella</i> . |                                                                                                                                                                 |                  |   |            |    |
| <b>Expected course outcome:</b><br>On the successful completion of the course, students are able to:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                 |                  |   |            |    |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Gain knowledge about meristem, tissue types and internal structure of stem , leaf and root                                                                      |                  |   |            | K2 |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Learn about adaptations of plants according to their habitats. Appreciate agroforestry concepts, forest types of Tamil Nadu, soil erosion and its conservation. |                  |   |            | K3 |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Get knowledge about water relationship of plants, transpiration, photosynthesis and plant hormones.                                                             |                  |   |            | K2 |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Understand horticulture, propagation methods and garden types.                                                                                                  |                  |   |            | K2 |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Study about pharmacognosy, various system of medicine and details of some medicinal plants.                                                                     |                  |   |            | K3 |
| K1 – Remember; K2 – Understanding; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                 |                  |   |            |    |
| Unit:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANATOMY                                                                                                                                                         |                  |   | 12 Hours   |    |
| Anatomy: Meristem – Structure and classification. Brief account on Simple tissues and Complex tissues. Internal structure of dicot stem (young), dicot root (young), monocot stem, Dicot leaf, Normal secondary thickening in the dicot stem..                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                 |                  |   |            |    |

|                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                    |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>Unit:2</b>                                                                                                                                                                                                                                                                                                                                                      | <b>ECOLOGY</b>                                                                                                                                                     | <b>12 Hours</b> |
| Ecology – Adaptations in Hydrophytes, Xerophytes, Halophytes, Types of Forest in Tamilnadu (occurrence, climatic conditions, nature of soil and plants present in the forest) Agroforestry. Soil erosion – types, methods to prevent soil erosion.                                                                                                                 |                                                                                                                                                                    |                 |
| <b>Unit:3</b>                                                                                                                                                                                                                                                                                                                                                      | <b>PLANT PHYSIOLOGY</b>                                                                                                                                            | <b>12 Hours</b> |
| Plant Physiology – Osmosis, Absorption of water –Active and Passive absorption of water. Transpiration. Photosynthesis, light and dark reactions (Calvin cycle). Phytohormones – Auxin, and Cytokinin.                                                                                                                                                             |                                                                                                                                                                    |                 |
| <b>Unit:4</b>                                                                                                                                                                                                                                                                                                                                                      | <b>HORTICULTURE</b>                                                                                                                                                | <b>12 Hours</b> |
| Importance of Horticulture, propagating methods of horticultural plants – cutting. Layering and grafting. Cultivation of Papaya. Preservation of Fruits. Indoor and terrace gardening, Lawn making.                                                                                                                                                                |                                                                                                                                                                    |                 |
| <b>Unit:5</b>                                                                                                                                                                                                                                                                                                                                                      | <b>PHARMACOGNOSY</b>                                                                                                                                               | <b>12 Hours</b> |
| Scope of Pharmacognosy. Types – Ayurveda, Unani, Siddha. A brief account on identification, medicinal properties and active principles of the following. Carminatives and Gastrointestinal Regulators – Zingiber officinale (Ginger), Antitussives – Justicia adhatoda (Vasaka), Antiseptic – Curcuma longa (Turmeric), Brain Tonic - Centella asiatica (Vallarai) |                                                                                                                                                                    |                 |
| <b>Total Lecture hours</b>                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                    | <b>60 Hours</b> |
| <b>Text books</b>                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                    |                 |
| 1                                                                                                                                                                                                                                                                                                                                                                  | Vasishta, P.C. (1977). A Text Book of Plant Anatomy. S. Nagin and Co., New Delhi                                                                                   |                 |
| 2                                                                                                                                                                                                                                                                                                                                                                  | Arumugam, N. (1994). Concepts of Ecology (Environmental Biology). Saras Publications, Nagercoil, Tamilnadu. Odum, E.P. 1983. Basic Ecology, Saunders, Philadelphia |                 |
| 3                                                                                                                                                                                                                                                                                                                                                                  | Verma V. 2007. Text book of Plant Physiology, Ane Books India, New Delhi.                                                                                          |                 |
| 4                                                                                                                                                                                                                                                                                                                                                                  | Kumar, N. (1999). An introduction to horticulture. Rajalakshmi Publication, Nagercoil.                                                                             |                 |
| 5                                                                                                                                                                                                                                                                                                                                                                  | Kokate, C.K., Purokit A.P and Gokahale, 2008. Pharmacognosy, Nirali Prakashan, Pune                                                                                |                 |
| <b>Reference books</b>                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                    |                 |
| 1                                                                                                                                                                                                                                                                                                                                                                  | Esau, K. (1991). Plant Anatomy. Wiley Eastern Ltd. New Delhi. 7th Edition                                                                                          |                 |
| 2                                                                                                                                                                                                                                                                                                                                                                  | Odum, E.P. 1983. Basic Ecology, Saunders, Philadelphia                                                                                                             |                 |
| 3                                                                                                                                                                                                                                                                                                                                                                  | Jain V.K. 2006. Fundamentals of Plant Physiology, S. Chand & Co, New Delhi.                                                                                        |                 |
| 4                                                                                                                                                                                                                                                                                                                                                                  | Manibhusan Rao K (2005) Text book of Horticulture., Macmillan india ltd.                                                                                           |                 |
| 5                                                                                                                                                                                                                                                                                                                                                                  | D.J. Deshpande (2006) A Handbook of Medicinal Herbs, Agrobios (India)                                                                                              |                 |

| Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]                      |                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                 | <a href="https://swayam.gov.in/nd2_cec20_bt11/preview">https://swayam.gov.in/nd2_cec20_bt11/preview</a>                                                                                                                     |
| 2                                                                                 | <a href="https://www.google.com/search?q=neela+bakore+reproduction+in+flowering+plants">https://www.google.com/search?q=neela+bakore+reproduction+in+flowering+plants</a>                                                   |
| 3                                                                                 | <a href="http://virtualplant.ru.ac.za/Main/ANATOMY/prac5.htm">http://virtualplant.ru.ac.za/Main/ANATOMY/prac5.htm</a>                                                                                                       |
| 4                                                                                 | <a href="https://www.biologydiscussion.com/stems-2/dicot-stem/secondary-growth-in-dicot-stem-with-diagram/70397">https://www.biologydiscussion.com/stems-2/dicot-stem/secondary-growth-in-dicot-stem-with-diagram/70397</a> |
| Course designed by: <b>Dr.M.C.NISHA</b> Verified by : <b>Dr. T. Balasaravanan</b> |                                                                                                                                                                                                                             |

| Mapping with Programme Outcomes |     |     |     |     |     |     |     |     |     |      |
|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| COs                             | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 |
| CO1                             | S   | M   | M   | M   | S   | S   | M   | M   | M   | M    |
| CO2                             | S   | S   | S   | M   | M   | S   | S   | M   | S   | S    |
| CO3                             | S   | S   | S   | M   | M   | S   | S   | M   | S   | M    |
| CO4                             | S   | S   | S   | M   | M   | S   | S   | S   | S   | S    |
| CO5                             | S   | S   | M   | S   | S   | M   | S   | S   | S   | S    |

\*S-Strong; M-Medium; L-Low

### ALLIED BOTANY PRACTICAL

#### I. Study of the following genera through slides and specimen

1. Chlamydomonas, Spirulina, Saccharomyces, Polyporus, Red Rot of Sugarcane.
2. Riccia, Lycopodium, Cycas
3. Simple and Complex tissues.
4. Hydrophyte, Xerophyte, Halophyte

#### II. Identification and technical description of the plants belonging to families Annonaceae, Cucurbitaceae, Acanthaceae, Amaranthaceae and Poaceae.

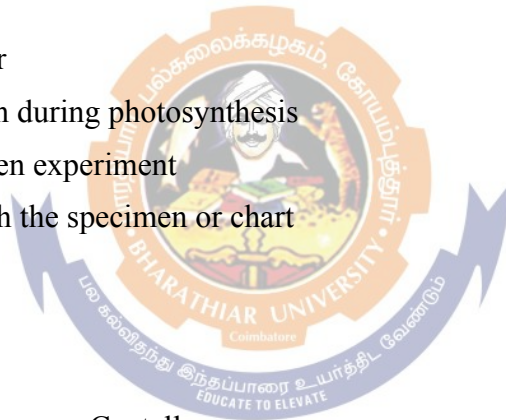
#### III. Sectioning of the following materials Lycopodium stem, Cycas leaf let Young Dicot Stem, Monocot stem, Dicot leaf. Dicot stem with normal secondary thickening

#### IV Experiments to demonstrate

1. Potato Osmoscope
2. Ganong's potometer
3. Evolution of oxygen during photosynthesis
4. Ganong's light screen experiment

#### V. Study of the following with the specimen or chart

1. Cutting
2. Simple Layering
3. Grafting
4. Ginger, Vasaka, Curcuma, Centella



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                          |  |                  |   |           |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|---|-----------|---|
| Course code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2PJ/4PJ                                                                                                                                  |  | L                | T | P         | C |
| Core/Elective/Supportive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ALLIED BOTANY PRACTICAL                                                                                                                  |  |                  |   | 30        | 2 |
| Pre-requisite                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Basic knowledge of the type specimens studied, Adaptations of plants, Taxonomy, Anatomy, Physiology and Horticulture.                    |  | Syllabus Version |   | 2025-2026 |   |
| <b>Course Objective:</b><br>The main objectives of this course are to:<br><br>1. Understand the characters of monocot and dicot families.<br>2. Gain knowledge on the internal structure of various plant parts.<br>3. Educate the cultural methods and uses of medicinal plants.<br>4. Learn about the structure and reproduction of Algae, Fungi, Bryophytes, Pteridophytes and Gymnosperms, ecological adaptation and propagating methods.<br>5. Make them understand the various physiological processes taking place in the plants. |                                                                                                                                          |  |                  |   |           |   |
| <b>Expected course outcome:</b><br>On the successful completion of the course, students are able to:                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                          |  |                  |   |           |   |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Get a good knowledge about the characteristics of plants and their classification.                                                       |  |                  |   | K2        |   |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Differentiate the plant parts based on the anatomical studies.                                                                           |  |                  |   | K3        |   |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Acquire knowledge on uses of native medicinal plants.                                                                                    |  |                  |   | K2        |   |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Describe the structure and reproduction of various plant groups, ecological adaptation of the plants and vegetative propagation methods. |  |                  |   | K3        |   |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Know about various requirements and processes involved in photosynthesis and respiration.                                                |  |                  |   | K4        |   |
| K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                          |  |                  |   |           |   |

**ALLIED BOTANY PRACTICAL (Paper I & II)**

|               |                                                                      |            |
|---------------|----------------------------------------------------------------------|------------|
| Time: 3Hrs    |                                                                      | Max.Marks: |
|               |                                                                      | 30         |
| 1             | Refer Specimen A to the respective family giving reasons             | 2          |
| 2             | Describe the specimen B in technical terms. Draw floral diagrams     | 2          |
| 3             | Cut transverse section of C. Identify giving reasons. Draw diagrams. | 4          |
| 4             | Comment on D with its medicinal value                                | 2          |
| 5             | Identify E, F, G and H giving reasons                                | 4x3=12     |
| 6             | Comment on the set up I. Draw sketches                               | 3          |
| Practical's = |                                                                      | 25         |
| Record =      |                                                                      | 5          |
| Total Marks = |                                                                      | 30         |

**ALLIED BOTANY PRACTICAL (Paper I &****II) KEY**

|                                                                                  |                                                                                                                                                                                                                                                                                                                            |        |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1                                                                                | A - Taxonomy (Identification – 1, Reasons -1)                                                                                                                                                                                                                                                                              | 2      |
| 2                                                                                | B – Taxonomy (Identification & floral diagram - 1, Notes -1)                                                                                                                                                                                                                                                               | 2      |
| 3                                                                                | C – Pteridophyta/Gymnosperms /Anatomy (Identification - 1, Sketch-1, Notes-1 Slide-1)                                                                                                                                                                                                                                      | 4      |
| 4                                                                                | D – Medicinal Botany (Identification -1, Medicinal Value -1)                                                                                                                                                                                                                                                               | 2      |
| 5                                                                                | E Algae/ Fungi (Identification 1, Sketch - 1, Notes -1)<br>F - Bryophytes/ Pteridophytes / Gymnosperms (Identification 1, Sketch - 1, Notes -1)<br>G – Morphology / Horticulture (Identification 1, Sketch - 1, Notes -1)<br>H - Ecology (Identification 1, Sketch - 1, Notes -1) (Identification 1, Sketch - 1, Notes -1) | 4x3=12 |
| 6                                                                                | Physiology (Identification 1, Sketch -1 & Notes -1)                                                                                                                                                                                                                                                                        | 3      |
| Practical's =                                                                    |                                                                                                                                                                                                                                                                                                                            | 25     |
| Record =                                                                         |                                                                                                                                                                                                                                                                                                                            | 5      |
| Total Marks =                                                                    |                                                                                                                                                                                                                                                                                                                            | 30     |
| Course Designed By: <b>Dr.M.C.NISHA</b> Verified by: <b>Dr. T. Balasaravanan</b> |                                                                                                                                                                                                                                                                                                                            |        |

| Mapping with Programme Outcomes |     |     |     |     |     |     |     |     |     |      |
|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| COs                             | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 |
| CO1                             | S   | S   | S   | M   | M   | M   | M   | M   | M   | M    |
| CO2                             | S   | S   | M   | M   | M   | M   | M   | S   | S   | M    |
| CO3                             | S   | S   | S   | S   | M   | M   | M   | S   | S   | S    |
| CO4                             | S   | S   | S   | S   | M   | M   | M   | S   | S   | M    |
| CO5                             | S   | S   | S   | S   | M   | M   | M   | M   | S   | M    |

\*S-Strong; M-Medium; L-Low

