

GOVERNMENT COLLEGE FOR WOMEN(AUTONOMOUS), MANDYA

Department of Botany

Academic Year-2020-21

(Revised CBCS Scheme 2018-19 Onwards)

Criterion –II- Teaching - Learning and Evaluation

2.6 Teaching – Learning Process

2.6. Student Performance and Learning Outcomes

2.6.1 Programme outcomes, programme Specific outcomes and Course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide web link)

Programme code	Programme Name	Department
BOT	B.Sc. Botany	Undergraduate- Botany

Programme Outcome (POs) : As per Syllabus(BOS, Botany)-(Common for both CBZ & BBM)

The B.Sc. - Botany curriculum is designed to equip students with subject domain knowledge and technical skills pertaining to plants in a holistic manner. It aims to train the students in all the areas of plant sciences with a unique combination of core and elective papers with significant interdisciplinary components as per CBCS. Students have exposure to cutting-edge technologies that are currently used in the subject. They are made aware about the social and environmental issues, significance of plants and their relevance to the national economy.

Programme Specific Outcomes (PSOs): As per Syllabus(BOS, Botany):-

Course Outcomes (COs): As per Syllabus (BOS, Botany): (Common for both CBZ & BBM)

PSO1. A student completing the course is able to understand different branches of Botany such as systematics, evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics and molecular biology of various life-forms.

PSO2. They become competent enough in various analytical and technical skills related to plant sciences.

PSO3. The student completing the course is able to identify various life forms of plants, design and execute experiments related to basic studies on evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics, microbiology, molecular biology, recombinant DNA technology, proteomics and transgenic technology. Students are also familiarized with the use of bioinformatics tools and databases and in the application of statistics to biological data.

PSO4. The student completing the course is capable to perform short research projects using various tools and techniques in plant sciences and develop scientific temperament and research attitude.

SLNo	NAME OF THE COURSE (PAPER)	COURSE CODE and SEM	COURSE OUTCOME
1	DIVERSITY OF MICROBES ,ALGAE, FUNGI, PLANT PATHOLOGY AND BRYOPHYTES	I SEM DSE-1.1	<p>Course Objectives: This course aims to increase the understanding of the students about the diversity of microorganisms including fungi, their classification, structure and growth. The students will be introduced to some plant diseases and Bryophytes.</p> <p>Course Learning Outcomes: 1.The course will increase the understanding of the students about the classification, structure, role and infectious cycle of microbes and Fungi , bryophytes and some plant diseases.</p>
2	PTERIDOPHYTES,GYMNOSPERMS,MORPHOLOGY OF ANGIOSPERMS AND PLANT TAXONOMY	II SEM DSE-1.2	<p>Course Objectives: The course focuses on morphology, anatomy, reproduction and evolution in Pteridophytes and Gymnosperms and the course aims at introducing students to basic morphological and taxonomical aspects of angiosperms.</p> <p>Course Learning Outcomes: 1.The students develop the basic understanding of important characteristics, anatomy, reproduction and evolution along with economic importance of these plant groups along with knowledge of plant morphology and taxonomy.</p>
3	PLANT ANATOMY, ECOLOGY, PLANT PHYSIOLOGY	III SEM DSE-1.3	<p>Course Objectives: This course aims to introduce the concepts and principles of ecology and ecosystem structure and function, application of these concepts to solve environmental problems.</p> <p>Course Learning Outcomes: 1. Students will be able to understand the various physiological life processes in plants 2. Students will be able to appreciate the anatomy of different plant organs 3. Students will understand the concept, types, components and functions of various ecosystems and their communication. The various environmental factors governing these ecosystems are also clearly</p>
4	CELL AND MOLECULAR BIOLOGY, GENETICS , REPRODUCTIVE BIOLOGY AND PLANT BREEDING	IV SEM DSE-1.4	<p>Course Objectives: The objective of the present course content is to provide a foundation and background in cell structure in relation to functions, eukaryotic genome structure (including nuclear and organellar), and regulatory mechanisms The paper deals with Mendelian and non-Mendelian</p>

			<p>inheritance, quantitative genetics, molecular markers and linkage mapping, prokaryotic and eukaryotic genome-structure, gene function and regulation, epigenetics, cytogenetics and evolution. The course also introduces basic plant embryological aspects.</p> <p>Course Learning Outcomes:</p> <p>The students will be learning</p> <ol style="list-style-type: none"> 1.About the plant cell structure and their turn over, starting from cell wall to chromatin, in relation to their functions. 2.Students will understand the role of plant cytoskeleton and accessory proteins in major cellular processes of plants. 3. Student will focus on various components of the eukaryotic nuclear and organellar genome, with special reference to their regulatory role1.They understand the pattern of inheritance in various life forms. 4. They develop a strong fundamental basics for further molecular studies. <p>The paper contains structure and function of reproductive organs and their significance in plant reproduction. Pollination, Fertilization.</p> <ol style="list-style-type: none"> 5.Students will able to understand the concept and techniques of plant breeding and This knowledge will be applied in agriculture for production of hybrids.
5	TAXONOMY OF FLOWERING PLANTS	V SEM	<p>Course Objectives:</p> <p>This course aims to add to understanding of the students about the diversity of plants, their Description, Identification, Nomenclature and their classification including recent advances in the field</p> <p>Course Learning Outcomes: The students will be learning</p> <ol style="list-style-type: none"> 1.The students will know about the systematic position of Genera, Species and , Families. 2.The students develop knowledge about plant nomenclature 3. The students will be familiar with salient features and systematic position and economic importance of the families included in the syllabus
6	MEDICINAL AND ORNAMENTAL PLANTS	V SEM SEC-	<p>Course Objectives:</p> <p>The course aims at introducing the medicinal and ornamental plants to students along with the brief account of different medicine systems and types of drugs</p> <p>The course aims at the study of ornamental plants and the floriculture and its application along with techniques like terrarium and bonsai.</p> <p>Course Learning Outcomes:</p> <p>The students will be able to identify different medicinal</p>

			and ornamental plants and mention their importance and cultivation of ornamentals.
7	CROP DISEASES AND THEIR MANAGEMENT	VI SEM DSE-1.5	<p>Course Objectives:</p> <p>The course aims at introducing history of plant pathology and study of plant diseases caused by different pathogens and their management.</p> <p>Course Learning Outcomes:</p> <p>The students will be able to identify the plant diseases mentioned in the syllabus and understand the etiology, causal agent and management of the diseases mentioned in the syllabus.</p>
8	NURSERY AND GARDENING TECHNIQUES	VI SEM SEC-1.3	<p>Course Objectives:</p> <p>The course aims at teaching the students some basic and essential skills and techniques in nursery and gardening techniques.</p> <p>Course Learning Outcomes:</p> <p>The students will be able to understand and maintain nursery and garden by the skills and techniques learnt in the course.</p>
9	PRACTICALS	I Sem	<p>Students will be able to identify the different microbes like viruses, bacteria, algae, fungi, bryophytes.</p> <p>Students will be able to know the disease cycle and their management.</p>
10	PRACTICALS	II Sem	<p>The students will be able to identify the different bryophytes and know the morphological aspects and will study the plant families included in the syllabus.</p>
11	PRACTICALS	II Sem	<p>The students will be able to conduct the physiological experiments and will learn the ecological and anatomical aspects as per the syllabus.</p>
12	PRACTICALS	IV Sem	<p>The students will be able to understand the mechanism of inheritance and will study the embryological aspects including morphology and anatomy of reproductive structures.</p>
13	PRACTICALS	V Sem	<p>The students will study the angiosperm families included in the syllabus and will be able to identify them and describe them using the technical terms and write floral diagrams and floral formulas.</p>
14	PRACTICALS	VI Sem	<p>The students will be able to identify the diseased plants and identify the pathogen and also will be able to write measures to manage the diseases mentioned in the syllabus.</p>