TELANGANA TRIBAL WELFARE RESIDENTIAL DEGREE COLLEGE FOR WOMEN(TTWRDCW),SURYAPET

DEPARTMENT OF BOTANY

COURSE OUTCOME MAPPING 2018-2019

SEMESTER;I

COURSE TITLE: Microbial Diversity and Lower plants

COURSE CODE: BS104

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	To study and understand the microbial flora and identify their roles.	Understand and Apply(II&III)
CO2	Demonstrate the various trends for classification of Algae,	Apply (III)
CO3	To understand the importance of Fungi and to relate the different classification systems to gain knowledge on the lower plants	Analyze(IV)
CO4	Classify and compare the structure and life cycle of Bryophytes	Remember (I)
CO5	Classify and compare the structure and life cycle of Pteridophytes	Remember (I)

SEMESTER:II

COURSE TITLE: Bryophytes Pteridophytes, Gymnosperms and Palaeobotany

COURSE CODE: BS204

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Classify and compare the structure and life cycle of Bryophytes	Remember(I) &Analyze
CO2	Classify and compare the structure and life cycle of Pteridophytes	Remembe(I) & Analyze

CO3	Classify and compare the structure and life cycle of Gymnosperms	Remembe(I) &Analyze
CO4	Students will gain Understanding the meaning of fossil and its use in the determination of age of plant materials, Understanding the applied knowledge and different aspects of Paleobotany	Understand(II)

SEMESTER:III

COURSE TITLE: Taxonomy of Angiosperms and Medicinal Botany

COURSE CODE: BS304

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Explain the Morphology of leaves	Remember(I)
CO2	Students will know the interesting features & systematic position of cucurbitaceae, Lamiaceae,fabaceae,asteraceae,poaceae, orchidaceae, etc	Understand (II)
CO3	Apply the Morphological concepts in the identification of plants and assign them to under appropriate families	Understand (II)
CO4	Students will learn new skills to conserve and propagate medicinal plants used in traditional medicine.	Apply (III)
CO5	Students will get an insight about ethnobotany and folk medicine.	Understand (II)

SEMESTER :IV

COURSE TITLE: Plant Anatomy, Embryology and Palynology

COURSE CODE: BS404

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Demonstrate the various types of cells and classification. Explain the complex tissues and leaf	Remember(I)& Understand (II)
CO2	Distinguish between primary and secondary structure of stem and root	Analyze (IV)

CO3	Familiarize with basic information in Structure and development of anther and Microsporangium	Remembe(I)& Analyze (IV)
CO4	Familiarize with basic information in Structure and development of Megasporangium and Types of ovules	Remember (I)& Analyze (IV)
CO5	Compare the pollination, pollen morphology	Analyze (IV)

COURSE OUTCOME MAPPING 2019-2020

SEMESTER;I

COURSE TITLE: Microbial Diversity and Lower plants

COURSE CODE: BS104

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To study and understand the microbial flora and identify their roles.	Understand and Apply(II&III)
CO2	Demonstrate the various trends for classification of Algae,	Apply (III)
CO3	To understand the importance of Fungi and to relate the different classification systems to gain knowledge on the lower plants	Analyze(IV)
CO4	Classify and compare the structure and life cycle of Bryophytes	Remember (I)&Apply
CO5	Classify and compare the structure and life cycle of Pteridophytes	Remember (I)&Apply

SEMESTER :II

COURSE TITLE: Gymnosperms, Taxonomy of Angiosperms & Ecology

COURSE CODE: BS204

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Classify and compare the structure and life cycle of Gymnosperms	Remember(I) & Understand(II)
CO2	Explain the Morphology of leaves	Remembe(I)& Understand(II)
CO3	Explain the Morphology of Flowers	Remembe(I)& Understand(II)
CO4	Apply the Morphological concepts in the identification of plants and assign them to under appropriate families	Understand(II)
CO5	Assess various factors affecting the growth of vegetation	Apply(III)&Evaluate (V)

SEMESTER:III

COURSE TITLE: Taxonomy of Angiosperms and Medicinal BotanY

COURSE CODE: BS304

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Explain the Morphology of leaves	Remember(I)&Apply
CO2	Students will know the interesting features & systematic position of cucurbitaceae, Lamiaceae,fabaceae,asteraceae,poaceae, orchidaceae, etc	Understand (II)
CO3	Apply the Morphological concepts in the identification of plants and assign them to under appropriate families	Understand (II)
CO4	Students will learn new skills to conserve and propagate medicinal plants used in traditional medicine.	Apply (III)
CO5	Students will get an insight about ethnobotany and folk medicine.	Understand (II)

SEMESTER :IV

COURSE TITLE: Plant Anatomy, Embryology and Palynology

COURSE CODE: BS404

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Demonstrate the various types of cells and classification. Explain the complex tissues and leaf	Remember(I)& Understand (II)
CO2	Distinguish between primary and secondary structure of stem and root	Analyze (IV)
CO3	Familiarize with basic information in Structure and development of anther and Microsporangium	Remembe(I) & Understand (II)
CO4	Familiarize with basic information in Structure and development of Megasporangium and Types of ovules	Remember (I) & Understand (II)
CO5	Compare the pollination, pollen morphology	Apply(III)&Analyze (IV)

SEMESTER:V

COURSE TITLE: Cell Biology and Genetics

COURSE CODE: BS503

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Understand the types of cell organelles. Compare the Structure of chromosomes and cell divisions	Understand (I)Remember(I)& Evaluate (V)
CO2	Students will learn about genetic material DNA its structure, function and the process of replication	Understand (I)
CO3	Understand the Mendel's Laws, Multiple alleles, Polygenic inheritance	Understand (I)Remembe(I)
CO4	Different laws of Genetics will be correctly understood by students alongwith transfer of characters from parents to offspring, interaction of genes & structure of chromosome	Understand (I)

CO5	Students will be introduced to concepts such as mutations and sex linked inheritance	Understand (I)

SEMESTER :VI

COURSE TITLE: Plant Physiology

COURSE CODE: BS603

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	understand the various physiological processes such as Ascent of Sap, Transpiration and Transport of ions	Understand (II))&Remember(I)
CO2	Understand the process of Photosynthesis, Respiration	Understand(II)&Remember(I)
CO3	Students will understand the role of various phytohormones & their applications in agriculture, horticulture, etc.	Understand (II))&Remember(I)
CO4	Students will be able to understand the various physiological life processes in plants and factors affecting these processes	Understand (II))&Remember(I)
CO5	During the course, students will gain knowledge about nitrogen fixation, seed dormancy and their applications in agriculture	Apply(III)&Analyze(IV)

SEMESTER :VI

COURSE TITLE: Tissue Culture and Biotechnology

COURSE CODE: BS606

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Learn the tissue culture techniques	Understand (II)
CO2	perform the Micropropagation, Haploid culture and sysnthetic seed production	Remember(I)&Apply (III)

CO3	understand the genetic engineering, gene cloning	Understand(II)&Analyze IV)
CO4	Understand the gene cloning enzymes and cloning vectors	Understand(II)
CO5	Understand the gene transfer methods and BT applications	Understand(II)Analyze (IV)

COURSE OUTCOME MAPPING 2020-2021

SEMESTER;I

COURSE TITLE: Microbial Diversity and Lower plants

COURSE CODE: BS104

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To study and understand the microbial flora and identify their roles.	Understand and Apply(II&III)
CO2	Demonstrate the various trends for classification of Algae,	Apply (III)
CO3	To understand the importance of Fungi and to relate the different classification systems to gain knowledge on the lower plants	Understand(II)&Analyze(IV)
CO4	Classify and compare the structure and life cycle of Bryophytes	Remember (I)&Understand(II)
CO5	Classify and compare the structure and life cycle of Pteridophytes	Remember (I)&Understand(II)

SEMESTER :II

COURSE TITLE: Gymnosperms, Taxonomy of Angiosperms & Ecology

COURSE CODE: BS204

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Classify and compare the structure and life cycle of Gymnosperms	Remember(I)&Apply(III)
CO2	Explain the Morphology of leaves	Remembe(I)&Apply(III)
CO3	Explain the Morphology of Flowers	Remembe(I)&Apply(III)
CO4	Apply the Morphological concepts in the identification of plants and assign them to under appropriate families	Understand(II)
CO5	Assess various factors affecting the growth of vegetation	Evaluate (V)&Create(VI)

SEMESTER:III

COURSE TITLE: Plant Anotomy & Embryology

COURSE CODE: BS304

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Demonstrate the various types of cells and classification. Explain the complex tissues and leaf	Remember(I) & Understand (II)
CO2	Distinguish between primary and secondary structure of stem and root	Analyze (IV)
CO3	Familiarize with basic information in Structure and development of anther and Microsporangium	Remembe(I) & Understand (II)
CO4	Familiarize with basic information in Structure and development of Megasporangium and Types of ovules	Remember (I) & Understand (II)
CO5	Compare the pollination, fertilization and embryo	Apply(III)&Analyze (IV)

SEMESTER :IV

COURSE TITLE: Plant Anotomy & Embryology

COURSE CODE: BS304

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Demonstrate the various types of cells and classification. Explain the complex tissues and leaf	Remember(I) & Understand (II)
CO2	Distinguish between primary and secondary structure of stem and root	Apply(III)& Analyze (IV)
CO3	Familiarize with basic information in Structure and development of anther and Microsporangium	Remembe(I) & Understand (II)
CO4	Familiarize with basic information in Structure and development of Megasporangium and Types of ovules	Remember (I) & Understand (II)
CO5	Compare the pollination, fertilization and embryo	Apply(III)& Analyze (IV)

SEMESTER:V

COURSE TITLE: Cell Biology and Genetics

COURSE CODE: BS503

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Understand the types of cell organelles. Compare the Structure of chromosomes and cell divisions	Remember(I)& Evaluate (V)
CO2	Students will learn about genetic material DNA its structure, function and the process of replication	Understand (II)
CO3	Understand the Mendel's Laws, Multiple alleles, Polygenic inheritance	Remembe(I)& Understand (II)
CO4	Different laws of Genetics will be correctly understood by students alongwith transfer of characters from parents to offspring, interaction of genes & structure of chromosome	Understand (II)
CO5	Students will be introduced to concepts such as mutations and sex linked inheritance	Understand (II)

SEMESTER:V

COURSE TITLE: Ecology and Biodiversity

COURSE CODE: BS506

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Students will get well versed with interrelationships between the living world and the environment, homeostasis and plant indicators.	Understand (II)
CO2	Concepts of population & community ecology will be understood	Understand (II)&Apply (III)
CO3	The course is intended to impart to students essential knowledge pertaining to uses of biodiversity	Understand (II)&Create (VI)
CO4	The course is intended to impart to students essential knowledge pertaining to loss of biodiversity and threats it faces	Understand (II)&Create(VI)
CO5	Explain the consequences of human activity (current economic and social issues) on the loss of biodiversity	Apply(III)&Evoluate(V)

SEMESTER :VI

COURSE TITLE: Plant Physiology

COURSE CODE: BS603

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	understand the various physiological processes such as Ascent of Sap, Transpiration and Transport of ions	Understand (II)
CO2	Understand the process of Photosynthesis, Respiration	Understand(II)
CO3	Students will understand the role of various phytohormones & their applications in agriculture, horticulture, etc.	Understand (II)
CO4	Students will be able to understand the various physiological life processes in plants and factors affecting these processes	Understand (II)

CO5	During the course, students will gain knowledge about nitrogen fixation, seed dormancy and their applications in agriculture	Apply(III)&Evoluate(v)

SEMESTER :VI

COURSE TITLE: Tissue Culture and Biotechnology

COURSE CODE: BS606

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Learn the tissue culture techniques	Understand (II)
CO2	perform the Micropropagation, Haploid culture and sysnthetic seed production	Apply (III)
CO3	understand the genetic engineering, gene cloning	Understand (II)&Analyze IV)
CO4	Understand the gene cloning enzymes and cloning vectors	Understand (II)&Analyze IV)
CO5	Understand the gene transfer methods and BT applications	Understand (II)&Analyze (IV)

COURSE OUTCOME MAPPING 2021-2022

SEMESTER;I

COURSE TITLE: Microbial Diversity and Lower plants

COURSE CODE: BS104

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	To study and understand the microbial flora and identify their roles.	Understand and Apply(II&III)
CO2	Demonstrate the various trends for classification of Algae,	Apply (III)
CO3	To understand the importance of Fungi and to relate the different classification systems to gain knowledge on the lower plants	Understand (II)&Analyze(IV)

CO4	Classify and compare the structure and life cycle of Bryophytes	Remember (I)&Apply(III)
CO5	Classify and compare the structure and life cycle of Pteridophytes	Remember (I)&Apply(III)

SEMESTER :II

COURSE TITLE: Gymnosperms, Taxonomy of Angiosperms & Ecology

COURSE CODE: BS204

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Classify and compare the structure and life cycle of Gymnosperms	Remember(I)&Apply
CO2	Explain the Morphology of leaves	Remembe(I))&Apply
CO3	Explain the Morphology of Flowers	Remembe(I)&Apply
CO4	Apply the Morphological concepts in the identification of plants and assign them to under appropriate families	Understand(II)
CO5	Assess various factors affecting the growth of vegetation	Evaluate (V)

SEMESTER:III

COURSE TITLE: Plant Anotomy & Embryology

COURSE CODE: BS304

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Demonstrate the various types of cells and classification. Explain the complex tissues and leaf	Remember(I)& Understand (II)
CO2	Distinguish between primary and secondary structure of stem and root	Analyze (IV)
CO3	Familiarize with basic information in Structure and development of anther and Microsporangium	Remembe(I)
CO4	Familiarize with basic information in Structure and development of Megasporangium and Types of ovules	Remember (I)
CO5	Compare the pollination, fertilization and embryo	Analyze (IV)

SEMESTER :IV

COURSE TITLE: Cell biology, Genetics & Plant physiology

COURSE CODE: BS404

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Understand the types of cell organelles. Compare the Structure of chromosomes and cell divisions	Remember(I)& Evaluate (V)
CO2	Understand the Mendel's Laws, Multiple alleles, Polygenic inheritance	Understand (II)&Remembe(I)
CO3	understand the various physiological processes such as Ascent of Sap, Transpiration and Transport of ions	Understand (II)
CO4	Understand the process of Photosynthesis, Respiration	Understand(II)
CO5	Understand the growth regulators	Understand (II)

SEMESTER:V

COURSE TITLE: Biodiversity and conservation

COURSE CODE: BS502

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	The course is intended to impart to students essential knowledge pertaining to uses of biodiversity	Create (VI)
CO2	The course is intended to impart to students essential knowledge pertaining to loss of biodiversity and threats it faces	Create(VI)
CO3	Explain the consequences of human activity (current economic and social issues) on the loss of biodiversity	Apply(III)
CO4	Demonstrate the strategies and measures in place for the conservation of biodiversity.	Understand(II)
CO5	Understand the legislative implications for the conservation and management of biodiversity in India.	Understand (II)

SEMESTER :VI

COURSE TITLE: Tissue culture and biotechnology

COURSE CODE: BS602

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Learn the tissue culture techniques	Understand (II)
CO2	perform the Micropropagation, Haploid culture and sysnthetic seed production	Apply (III)
CO3	understand the genetic engineering, gene cloning	Understand (II)&Analyze IV)
CO4	Understand the gene cloning enzymes and cloning vectors	Understand (II)&Analyze IV)
CO5	Understand the gene transfer methods and BT applications	Understand (II)&Analyze (IV)

COURSE OUTCOME MAPPING 2022-2023

SEMESTER;I

COURSE TITLE: Microbial Diversity and Lower plants

COURSE CODE: BS104

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	To study and understand the microbial flora and identify their roles.	Understand and Apply(II&III)
CO2	Demonstrate the various trends for classification of Algae,	Apply (III)
CO3	To understand the importance of Fungi and to relate the different classification systems to gain knowledge on the lower plants	Understand (II)&Analyze(IV)
CO4	Classify and compare the structure and life cycle of Bryophytes	Remember (I)&Apply(III)
CO5	Classify and compare the structure and life cycle of Pteridophytes	Remember (I)&Apply(III)

SEMESTER :II

COURSE TITLE: Gymnosperms, Taxonomy of Angiosperms & Ecology

COURSE CODE: BS204

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Classify and compare the structure and life cycle of Gymnosperms	Remember(I)&Apply
CO2	Explain the Morphology of leaves	Remembe(I))&Apply

CO3	Explain the Morphology of Flowers	Remembe(I)&Apply
CO4	Apply the Morphological concepts in the identification of plants and assign them to under appropriate families	Understand(II)
CO5	Assess various factors affecting the growth of vegetation	Evaluate (V)

SEMESTER:III

COURSE TITLE: Plant Anotomy & Embryology

COURSE CODE: BS304

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Demonstrate the various types of cells and classification. Explain the complex tissues and leaf	Remember(I)& Understand (II)
CO2	Distinguish between primary and secondary structure of stem and root	Analyze (IV)
CO3	Familiarize with basic information in Structure and development of anther and Microsporangium	Remembe(I)
CO4	Familiarize with basic information in Structure and development of Megasporangium and Types of ovules	Remember (I)
CO5	Compare the pollination, fertilization and embryo	Analyze (IV)

SEMESTER :IV

COURSE TITLE: Cell biology, Genetics & Plant physiology

COURSE CODE: BS404

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	Understand the types of cell organelles. Compare the Structure of chromosomes and	Remember(I)& Evaluate (V)

	cell divisions	
CO2	Understand the Mendel's Laws, Multiple alleles, Polygenic inheritance	Understand (II)&Remembe(I)
CO3	understand the various physiological processes such as Ascent of Sap, Transpiration and Transport of ions	Understand (II)
CO4	Understand the process of Photosynthesis, Respiration	Understand(II)
CO5	Understand the growth regulators	Understand (II)

SEMESTER:V

COURSE TITLE: Biodiversity and conservation

COURSE CODE: BS502

CREDITS: 4+2

	COURSE OUTCOMES	**BLOOM'S TAXONOMY LEVEL**
CO1	The course is intended to impart to students essential knowledge pertaining to uses of biodiversity	Create (VI)
CO2	The course is intended to impart to students essential knowledge pertaining to loss of biodiversity and threats it faces	Create(VI)
CO3	Explain the consequences of human activity (current economic and social issues) on the loss of biodiversity	Apply(III)
CO4	Demonstrate the strategies and measures in place for the conservation of biodiversity.	Understand(II)
CO5	Understand the legislative implications for the conservation and management of biodiversity in India.	Understand (II)

SEMESTER :VI

COURSE TITLE: Tissue culture and biotechnology

COURSE CODE: BS602

CREDITS: 4+2

	COURSE OUTCOMES	BLOOM'S TAXONOMY LEVEL
CO1	Learn the tissue culture techniques	Understand (II)
CO2	perform the Micropropagation, Haploid culture and sysnthetic seed production	Apply (III)
CO3	understand the genetic engineering, gene cloning	Understand (II)&Analyze IV)
CO4	Understand the gene cloning enzymes and cloning vectors	Understand (II)&Analyze IV)
CO5	Understand the gene transfer methods and BT applications	Understand (II)&Analyze (IV)