S.R.R. & C.V.R. GOVT DEGREE COLLEGE(A)

VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH

DEPARTMENT OF BOTANY

BZC-Programme outcomes (POs)

PO1: To Provide the domain Knowledge to progress academically or for making the students employable/ entrepreneur/ Skilled Professionals in plant science areas

BZC-Programme specific outcomes (PSOs)

PSO1: Able to gain sufficient domain knowledge in various branches of Botany

PSO2 :Students can become competent enough in various analytical and technical skills Related to toplant sciences.

PSO3:Able to identify various life forms of plants, design and execute experiments

PSO4: Able to develop scientific temperament and research attitude capable to do small research projects in plant sciences

PSO5: Able to explicate the ecological interconnectedness of life on earth and related environment features to population, community, and ecosystem

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DEPARTMENT OF BOTANY

I B.Sc - SEMESTER- I: BOTANY :BOT-1321

Paper- DSC IA : Microbial Diversity, Algae and Fungi

Course Outcomes :

CO1 Students will be able to acquire, articulate, retain and apply specialized skills and knowledge relevant to Microbiology
CO2: Able to explore the diversity of microorganisms and microbial communities as well as their significance to humans and nature.
CO3:To Understand the classification,Structure , reproduction and Life History of Algae and Fungi
CO4: To understand history, relevance of microbiology and classification of Microorganisms and special groups of Bacteria
CO5 To understand bacterial cell structure, Nutrition,Reproduction and Economic importance,Virus structure,Replication , Viral diseases

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DEPARTMENT OF BOTANY

I B. Sc - SEMESTER- II: BOTANY THEORY : BOT-2321

Paper –DSC IB : Diversity of Archegoniates & Plant Anatomy

Course Outcomes :

CO1: able to realize the economic importance and significance of local Timbers
CO2: gain knowledge about Classification, General Characters of Archegoniates and gymnosperms
CO3: know about Structure, Reproduction and Life History of Archegoniates
CO4: gain knowledge about , Tissues and Tissue Systems, Anomalous Secondary Growth
CO5: gain knowledge about Evolution of Sporophytes in Bryophytes, Heterospory and seed habit , Stelar Evolution in pteridophytes.

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
II B. Sc - SEMESTER- III: BOTANY:BOT-3321

Paper –DSC IIA : Plant Taxonomy and Embryology

Course Outcomes : Students will be able to

CO1 gain knowledge and understanding about Systematic study economic importance of 8 families

CO2 :get detailed understanding about development of male and female gametophyte and embryo sacs

CO3 : get Clear Understanding about Pollination and Fertilization mechanism and Endosperms, embryos and Polyembryony.

CO4 : gain knowledge about Taxonomic Components , Taxonomic Resources and Botanical Nomenclature

CO5 : know about Types of Classifications and Phylogeny.

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
II B. Sc - SEMESTER- IV: BOTANY :BOT 4321

Paper –DSC IIB : Plant Physiology and Metabolism

Course Outcomes : Students will be able to

CO1 gain knowledge about various types of Plant water relationships
CO2 gain knowledge about Mechanism and Significance of Nitrogen Fixation , Major and Minor elements and Enzymes
CO3 : get thorough understanding on Photosynthesis, Photorespiration and Translocation in Plant Metabolism.
CO4 : understand Respiration and Lipid Metabolism processes
CO5: Understand the processes of Plant Growth, Phytohormones, flowering senescence and aging

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
III B. Sc - SEMESTER- V: BOTANY

Paper –DSC IIIA :Cell Biology, Genetics and Plant Breeding

Course Outcomes :

CO1 : gain knowledge about Structure and functions of cell , cell Organelles and Chromosomes.
CO2 : gain knowledge about Structure,functions and Replication of DNA, RNA
CO3 : understand about mendel's laws,chromosome theory of inheritance , Linkage and Crossing over.
CO4 : clear understanding about objectives of plant Breeding and Crop improvement methods
CO5: clear understanding about Breeding , Crop improvement , Biotechnology , Mutations ,Somaclonal variations and Molecular Breeding

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
III B. Sc - SEMESTER- VI: BOTANY

Paper – PLANT ECOLOGY & PHYTOGEOGRAPHY

Course Outcomes :

CO1: gain knowledge about Ecology ,Climatic, Edaphic and Biotic factors .
CO2: gain knowledge about Concepts and Components of Ecosystem and Bio geo chemical cycles.
CO3 : clear understanding about Population characteristics,Ecotypes,.Plant communities and Interaction between plant communities.
CO4 : clear understanding about Phytogeography and Endemism
CO5: clear understanding about levels and loss of Biodiversity, hotspots,Seedbanks

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
III B. Sc - SEMESTER- VI: BOTANY
(ELECTIVE 3) PAPER – VII(C) (Optional) Paper VII(C)

Plant tissue culture and its biotechnological applications

Course Outcomes :

CO1: gaining overall knowledge about Principles and types of tissue cultures
CO2: understanding the Methodology , sterilization , Culture media, Phytohormones in tissue culture
CO3: able to understand the processes of .Callus culture, Somatic embryogenesis, Endosperm culture , Cryopreservation and embryo rescue techniques
CO4 : know about the concepts of Restriction Endonucleases , Cloning vectors and Gene Cloning , ,gene transfer methods and transgenics
CO5: Students can unravel the applications of biotechnology like genetic engineering , genetic Modifications and Transgenics

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH ,
DEPARTMENT OF BOTANY

III B. Sc - SEMESTER- VI: BOTANY
PAPER – VIII (B-1) (Cluster Elective)

Biological instrumentation and Methodology

Course Outcomes : Students will be able to

CO1 gain knowledge about imaging , principles and applications of microscopy
CO2 comprehend about Principles, Working mechanism and types of PH meter and Centrifugation
CO3 : unravel and understand deeply the Principles and explore the applications of Spectrophotometry
CO4 get knowledge about Chromatography, Electrophoresis and its Principles, techniques and can explore the applications
CO5: get a clear understanding about Preparation of molar, molal and normal solutions, buffers, art of scientific writing, safety measures in handling toxic chemicals

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)
VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
III B. Sc - SEMESTER- VI: BOTANY PAPER – VIII (B-2)
(Cluster Elective) Mushroom Culture and Technology

Course Outcomes : Students will be able to

CO1 gain knowledge about mushroom cultivation aspects and their medicinal and nutritional benefits
CO2 understand about pure culture preparation , spawn preparation
CO3 : unravel about the cultivation and compost technology in mushroom production and infrastructure aspects.
CO4 : get knowledge about storage ,drying, Nutrition factors of mushrooms
CO5: get a clear understanding about types of foods prepared from Mushrooms, Marketing , Export and Research in Mushroom Production.

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VIJAYAWADA:520004:KRISHNA DISTRICT:ANDHRA PRADESH
DEPARTMENT OF BOTANY
III B. Sc - SEMESTER- VI: BOTANY , PAPER – VIII (B-3) (Project Work) Project Work preferably either in an Institute or Industry

Course Outcomes : Students will be able to

CO1 : get the opportunity to bridge the gap between the traditional learning environment and the professional platform to exercise their skills .
CO2: get the perfect working Platform for improving the skills in Mushroom culture and Biological Instrumentation .
CO3 : unravel about the Production , Marketing, Sales aspects in the real world.
CO4: experience the onsite learning process and become skilled professionals which bolster their confidence in their study and also prepares them for Placements in Industries/Jobs.
CO5**:** Can be able to get training and encompass a wide array of skill sets from time Management, team collaboration, oral and presentation skills

New Course Outcomes 2021-2022

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA-52004
(An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.)
I BZC BOTANY -II SEM II 2021-2022 , Course code: BOTN-1321

FUNDAMENTALS OF MICROBES AND NONVASCULAR PLANTS (VIRUSES, BACTERIA, FUNGI, LICHENS, ALGAE AND BRYOPHYTES)

Course Outcomes : On successful completion of this course, the students will be able to:

CO1: Able to explain the origin of life on the earth.
CO2: Able to illustrate diversity among the viruses and prokaryotic organisms and can categorize.
CO3: Able to classify non vascular plants based on their structure, reproduction and life cycles.
CO4: Able to analyze and ascertain the plant disease symptoms due to microbes and fungi.
CO5: Able to evaluate the ecological and economic value of microbes, thallophytes and bryophytes.

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA-52004 An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.
I-BZC BOTANY-II SEM-II Course , code : BOT N-2321

BASICS OF VASCULAR PLANTS AND PHYTOGEOGRAPHY

Course Outcomes : On successful completion of this course, the students will be able to:

CO1: Able to classify & know morphology, anatomy, reproduction, life cycles and evolutionary trends in Pteridophytes
CO2: Able to classify, know morphology, anatomy, reproduction and life cycles of Gymnosperms and fossilization concept .
CO-3: able to recognize the Angiosperm plant families based on morphology of local plants
CO4: Evaluate the ecological, ethnic and economic value of tracheophytes for human welfare.
CO5: Can understand principles and regions of Phytogeography

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)

An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.

2021-22 ; II - BSC BOTANY -III SEMESTER ; Course Code : BOT N-3321

ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS, PLANT ECOLOGY AND BIODIVERSITY

Course Outcomes : On successful completion of this course, the students will be able to:

CO1: Able to understand the various tissues, tissue systems and secondary growth in plants.
CO2: Able to learn male, female gametophytes, endosperm development and embryogeny
CO3: Able to understand the concept of ecosystem ,succession, role of Abiotic, biotic and edaphic factors on ecosystem,
CO4: Understand the concepts population, community, Production ecology and bio geo chemical cycles
CO5: Learn about the biodiversity , threats Hotspots and conservation

S.R.R. &C.V.R. GOVT DEGREE COLLEGE(A)

An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.

2021-2022 ; II BZC BOTANY-IV , SEMESTER_IV , Code: BOT N-4321

PLANT PHYSIOLOGY AND METABOLISM

Course Outcomes : On successful completion of this course, the students will be able to:

CO1: Understand plant structures in the context of physiological functions of plants in relation to water
CO2: Unravel the concepts of Mineral nutrition , Respiration and Enzymes
CO3: Know the Concepts of Photosynthesis , Photosystems,Photorespiration and Carbon assimilation pathways.
CO4: Learn detailed pathway of Nitrogen and lipid metabolism
CO5: Learn about the growth and development, Physiological changes and effects of plant growth regulators

SRR & CVR GOVERNMENT DEGREE COLLEGE (A), VIJAYAWADA-52004

An autonomous college in the jurisdiction of Krishna University, Machilipatnam. A.P.

II-BZC BOTANY-IV SEM-V Course

CELL BIOLOGY , GENETICS AND PLANT BREEDING

On successful completion of this course, the students will be able to:

CO1: Understand structure and composition of plant cell wall, plasma Membrane, Plastids

CO2: Understand the Morphology of chromosomes, aberrations and organization of DNA in chromosomes.

CO3: Understand Mendel laws , genetic interactions , Linkage and Crossing over and maternal inheritance

CO4: Understand Structure and functions of DNA, RNA , Genetic code , Translation , Regulation of gene expression

CO5: Understand the plant breeding methods and molecular breeding

PO's of SDC/Cluster/ Elective subjects

PO: students will acquire necessary skills along with subject knowledge required for higher education, entrepreneurship and Industry. related to plant sciences

PSO1:Students able to start nursery, mushroom cultivation, biofertilizer production, fruit preservation and horticultural practices.

PSO2: Develop critical thinking , research oriented skills and technical skills to carry out, record and analyze the results of experiments in skill development courses

PSO3: Develop skills in handling equipment along with collection and interpretation of biological materials and data.

PSO4: Can introduce advanced techniques and ideas required in developing areas of Biotechnology and skill development courses

PSO5: Students are exposed to various industrial process by industrial training

PLANT NURSERY ,Code: SDN-1034

Course Outcomes : On successful completion of this course, the students will be able to:

CO1: Understand the importance of a plant nursery and basic infrastructure Propagation structures and Standards to establish.
CO2: Get a clear understanding about nursery beds, growing media, vegetative propagation and seed sowing methods , necessities required for nursery.
CO3: Demonstrate expertise related to Nursery Management operations .
CO4: Get Knowledge on Online sales and Economics of Nursery development
CO5: Comprehend knowledge and skills to get an employment or to become an entrepreneur in the plant nursery sector.

HEALTH AND HYGIENE

Course Outcomes : On successful completion of this course, the students

CO1: Will be able to understand healthy diet and importance of Proteins, carbohydrates,fats,vitamins and minerals, major and micro elements and water
CO2: Will be able to utilize available information to optimize diet
CO3: knowledge on Health Policies,schemes,organizations, key health indicators and assess the impact of policies on health and hygiene and awareness on Health measures
CO4: Knowledge on Disaster management and responsiveness of public in pandemic and epidemic diseases
CO5: create Awareness in public through digital media viz., mobile apps

Fruits and Vegetables Preservation; Code: SDN-2039

Course Outcomes :

CO1: Will be able to Identify various types of fruits and vegetables and explain their nutritive value.
CO2: Will be able to Understand the fragile nature of fruits and vegetables and causes for their damage.
CO3: Knowledge on various methods of preservation of fresh fruits and vegetables
CO4: able to start fruit and vegetables preservation commercial units as a business entity .
CO5: Get to know the value-added products made from fruits and vegetables.