



PSC & KVSC Government College
(Affiliated to Rayalaseema University, Kurnool)
Bommalasatram, Nandyal, Nandyal District
Andhra Pradesh - 518502



DEPARTMENT OF BOTANY

ATTAINMENT OF COURSE OUTCOMES

**Programme Outcomes (POs),
Programme Specific Outcomes (PSOs)
&
Course Outcomes (COs)**

COs, PSOs and POs Mapping

PROGRAMME OUTCOMES (POs)

On successful completion of Graduate Program, Graduating Students/ Graduates will be able to:

PO 1	Domain Expertise: Able to demonstrate a thorough understanding and grasp more academic subjects that are part of an undergraduate program of study.
PO 2	Effective Communication Skills: Effectively convey thoughts and ideas. Enhance the ability to present noteworthy information in a clear and concise manner to various groups.
PO 3	Critical Thinking: Evaluating and analyzing arguments, assertions, and opinions using empirical data. The ability to identify relevant assumptions or implications and construct logical arguments. Critically analyse practices, policies, and theories by utilizing a scientific approach to knowledge acquisition.
PO 4	Critical Problem Identification & Solving: The ability to apply one's competences to solve unfamiliar challenges based on what has been learned Apply one's learning to real-life scenarios.
PO 5	Teamwork / Coordination: Being able to facilitate a group's cooperative effort and act together as a group or team to achieve a common goal. Work effectively as an individual as well as a member of the team.
PO 6	IT literacy skills: The ability to utilize ICT in various learning situations. Using ICT tools to access, retrieve, and modify authenticated data using data analysis
PO 7	Life-long learning and Research related skills: Ability to habitualize self-learning and self-motivation Acclimate to the ever-increasing demands of the workplace and life. Skill in planning, conducting, and reporting the outcomes of an experiment or investigation. Ability to define a problem, test the problem, pose appropriate questions, and synthesize and articulate the problem
PO 8	Environmental Longevity: Get environmental awareness and follow eco-friendly practices to create a clean environment.
PO 9	Moral and Ethical Consciousness: Ability to live moral and ethical ideals and to use ethical practices in all aspects of one's job. Capable of demonstrating the ability to recognize ethical issues relevant to one's work, abstain from unethical behavior, show respect for environmental and sustainability issues, and act impartially and truthfully in all aspects of one's work.
PO 10	Effective Project Management: Determine the project's goals, objectives, and components, as well as the appropriate completion date. Plan and organize in such a way as to meet the targets on time. Be capable of recognizing opportunities and developing contingency plans.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

The Department of Botany, PSC & KVSC Government Degree College, Nandyal, offers Three Year (comprising 6 semesters) Undergraduate Programme in Botany with objective of empowering students to acquire comprehensive understanding of Botany as an academic discipline. Upon completion of B.Sc. Botany Degree Programme successfully, the students shall acquire the following skills and competencies.

PSO 1	Understand the importance of plants, their diversity and its conservation. students will be able to identify, compare and distinguish various groups of microbes and primitive plants based on their characteristics.
PSO 2	Achieve knowledge of pure and applied botany. Students acquire fundamental Botanical knowledge through theory and practicals. students will be able to explain the evolution of tracheophytes and also distribution of plants on globe
PSO 3	Student will be able to discuss on internal structure, embryology and ecological adaptations of plants, and want of conserving biodiversity.
PSO 4	Students will be able to interpret life process in plants in relation to physiology and metabolism.
PSO 5	students will be able to describe ultrastructure of plant cells inheritance and crop improvement methods. Understand knowledge of botany is an essential pre-requisite for the pursuit of many applied sciences like Agriculture, Horticulture, Sericulture, Forestry, Pharmacology and Medicine.
PSO 6	To know advance techniques in plant sciences like tissue culture, Phytoremediation, plant disease management, formulation of new herbal drugs. Understand to care Nature.
PSO 7	To create awareness about cultivation, conservation and sustainable utilization of biodiversity
PSO 8	Students able to start nursery, Plant propagation, biofertilizer production, fruit preservation and horticultural practices.
PSO 9	Students able to know seed technology, Seed processing, Seed storage, Seed certification
PSO 10	Student will independently design and conduct simple experiments based on the knowledge acquired in theory and practicals of the different sub-courses in Botany.

PSO – PO MAPPING

POs											
PSOs		1	2	3	4	5	6	7	8	9	10
	1	❖	❖	❖		❖	❖			❖	
	2	❖	❖			❖	❖	❖		❖	
	3						❖	❖		❖	
	4		❖	❖	❖		❖		❖	❖	❖
	5	❖	❖			❖	❖	❖	❖	❖	
	6		❖		❖	❖	❖		❖	❖	❖
	7	❖	❖	❖	❖	❖		❖	❖	❖	❖
	8	❖	❖			❖	❖	❖	❖	❖	
	9		❖	❖		❖	❖	❖	❖	❖	
	10	❖	❖			❖	❖			❖	

COURSE OUTCOMES (COs)

Course Code: 20C1306A

Course Name: Fundamentals of Microbes and Non-vascular Plants.
(Viruses, Bacteria, Fungi, Lichens, Algae and Bryophytes)

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Explain origin of life on the earth.	1	1,2
CO 2	Illustrate diversity among the viruses and prokaryotic organisms and can categorize them	6	5,3
CO 3	Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles.	2	5,9
CO 4	Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi.	3	9
CO 5	Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat.	1	5,9
CO 6	Evaluate the ecological and economic value of microbes, thallophytes and bryophytes.	2	5,9

Course Code: 20C2306A

Course Name: Basics of Vascular plants and Phytogeography
(Pteridophytes, Gymnosperms, Taxonomy of Angiosperms and Phytogeography)

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Demonstrate the techniques of section cutting, preparing slides, identifying of the Material and drawing exact figures.	1	1,2
CO 2	Compare and contrast the morphological, anatomical and reproductive features of vascular plants.	2	2
CO 3	Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.	1,4	9
CO 4	Exhibit skills of preparing slides, identifying the given twigs in the lab and drawing figures of plant twigs, flowers and floral diagrams as they are.	9,10	8
CO 5	Prepare and preserve specimens of local wild plants using herbarium techniques.	2,10	5,8

Course Code: 20C3306A

Course Name: Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Understand on the organization of tissues and tissue systems in plants.	1	1,2
CO 2	Illustrate and interpret various aspects of embryology Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities.	3,6	5,3
CO 3	Appraise various qualitative and quantitative parameters to study the population and community ecology.	4	2,9
CO 4	Correlate the importance of biodiversity and consequences due to its loss.	2,6	9
CO 5	Enlist the endemic/endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation.	1,7	8,10

Course Code: 20C4306A

Course Name: Plant Physiology and Metabolism

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.	1	2,6
CO 2	Evaluate the role of minerals in plant nutrition and their deficiency symptoms. Interpret the role of enzymes in plant metabolism.	6	2,3
CO 3	Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.	1,2	2,9
CO 4	Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms. Evaluate the physiological factors that regulate growth and development in plants.	3,4	2,9
CO 5	Examine the role of light on flowering and explain physiology of plants under stress conditions	1,9	2,5

Course Code: 20C4306B

Course Name: Cell Biology, Genetics and Plant Breeding

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Distinguish prokaryotic and eukaryotic cells and design the model of a cell.	4	1,2
CO 2	Demonstrate techniques to observe the cell and its components under microscope.	2,5	5,3
CO 3	Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.	3	5,9
CO 4	Elucidate the role of extra-chromosomal genetic material for inheritance of characters. Evaluate the structure, function and regulation of genetic material.	2,4	9
CO 5	Understand the application of principles and modern techniques in plant breeding.	1	5,9
CO 6	Explain the organization of a eukaryotic chromosome and the structure of genetic material Explain the procedures of selection and hybridization for improvement of crops.	2	6,8

Course Code: 20C53066A

Course Name: Plant Propagation

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Explain various plant propagation structures and their utilization.	2	1,2
CO 2	Understand advantages and disadvantages of vegetative, asexual and sexual plant propagation methods.	1	5,3
CO 3	Assess the benefits of asexual propagation of certain economically valuable plants using apomixis and adventitious polyembryony	4	6
CO 4	Demonstrate skills related to vegetative plant propagation techniques such as cuttings, layering, grafting and budding.	2,5	9
CO 5	Apply a specific macro-propagation technique for a given plant species.	6	8,9

Course Code: 20C53067A

Course Name: Seed Technology

On successful completion of this course, the students will be able to:		PSO	PO
CO 1	Explain the causes for seed dormancy and methods to break dormancy.	1,2	1,2
CO 2	Understand critical concepts of seed processing and seed storage procedures.	1	5,3
CO 3	Acquire skills related to various seed testing methods.	8,9	8,9
CO 4	Identify seed borne pathogens and prescribe methods to control them.	1,2	3,9
CO 5	Understand the legislations on seed production and procedure of seed certification.	1	5,9