

A.S.D.GOVERNMENT DEGREE COLLEGE FOR (W),(A), KAKINADA

DEPARTMENT OF BOTANY

2020-2021

Course outcomes

Semester – I - Paper- I Fundamentals of Microbes and Non-vascular Plants

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

1. Explain origin of life on the earth.
2. Illustrate diversity among the viruses and prokaryotic organisms and can categorize them
3. Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles.
4. Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi.
5. Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat.
6. Evaluate the ecological and economic value of microbes, thallophytes and Bryophytes

Semester – II- Paper-2 : Basics of Vascular plants and Phylogeography

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

1. Classify and compare Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycles.
2. Justify evolutionary trends in tracheophytes to adapt for land habitat.
3. Explain the process of fossilization and compare the characteristics of extinct and extant plants.
4. Critically understand various taxonomical aids for identification of Angiosperms.
5. Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families.
6. Evaluate the ecological, ethnic and economic value of different tracheophytes and summarize their goods and services for human welfare.
7. Locate different phytogeographical regions of the world and India and can analyze their floristic wealth.

Semester – III- Paper-3 Plant Taxonomy and Embryology

1. Critically understand various taxonomical aids for identification of Angiosperms.
2. Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families
3. Illustrate and interpret various aspects of Embryology

4. Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.
5. Understand about the principles and applications of palynology

Semester – IV Paper-4 -Plant Physiology and Metabolism

1. Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
2. Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
3. Interpret the role of enzymes in plant metabolism.
4. Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.
5. Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.
6. Evaluate the physiological factors that regulate growth and development in plants.
7. Examine the role of light on flowering and explain physiology of plants under stress conditions

Semester – V - Paper-V- Cell biology , Genetics & Plant Breeding

1. Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
2. Explain the organization of a eukaryotic chromosome and the structure of genetic material.
3. Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
4. Elucidate the role of extra-chromosomal genetic material for inheritance of characters.
5. Understand the application of principles and modern techniques in plant breeding

Semester – V - Paper-VI - Plant Ecology & phytogeography

1. Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities.
2. Appraise various qualitative and quantitative parameters to study the population and community ecology.
3. Correlate the importance of biodiversity and consequences due to its loss.
4. Enlist the endemic/endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation
5. Locate different phytogeographical regions of the world and India and can analyze their floristic wealth

Semester VI -Paper VII-(A) Elective : Nursery Gardening & Floriculture

1. Understand about Nursery Management and landscaping and different gardening styles
2. Make use of different plant propagation structures for plant multiplication.
3. Explore the specialized organs or asexual propagules in some plants for their proliferation.
4. Demonstrate skills on micropropagation of plants through vegetative propagation techniques.
5. Understand about the cultivation practices of various Ornamental Plants

Paper VIII,-A-1 : Plant Diversity And Human Welfare

1. Understand the concept and levels of biodiversity
2. Correlate the importance of biodiversity and consequences due to its loss.
3. Enlist the endemic/endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation
4. Understand about the various organizations involved in the conservation of Biodiversity
5. Elucidate the utilization and commercial aspects of Forestry

Paper VIII-A-2 Ethnobotany And Medicinal Botany :

1. Understand about the study of relationship between Plants and Humans
2. Learn about Phyto chemical significance of various Medicinal plant products
3. Elucidate the importance of Indigenous Medicinal sciences
4. Understand about the conservation strategies of Endangered and endemic medicinal plants
5. Emphasize the importance of Biopiracy and the value of various plants useful; for the mankind

Paper VIII-A-3 Pharmacognosy and Phytochemistry

1. Understand about different medicinal drugs obtained from Natural resources
2. Analyze Cultivation collection Extraction Isolation Bioassaying of Crude drugs of Natural origin
3. Understand about the Pharmacological actions of various drugs and drug Evaluation methods
4. Analyze the extraction of Alkaloids , Terpenoids , Phenolics etc.
5. Elucidate the significance of Aromatherapy and volatile oils