VEERASHAIV VIDYAVARDHAK SANGHA'S

# SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE AND SCIENCE, TALIKOTI

## DEPARTMENT OF BOTANY

## REPORT ON

## PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME AND COURSE OUTCOMRE

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## PROGRAMME OUTCOME

| PROGRAMME | OBECTIVES |
|---|---|
| PO1:Understanding of fundamental knowledge | Definition, concept, principles, types, methods, etc. |
| PO2: Experimental learning methods | Sectioning, mounting, instrument handling, demonstration, analysis. |
| PO3: Opportunities | Higher education, competitive exams, self business and job career. |

## PROGRAMME SPECIFIC OUTCOME

| PROGRAMME | OBECTIVES |
|---|---|
| PSO1: Acquiring basic knowledge. | Definition, concept, types, principles, functions, life cycle. |
| PSO2: Interdisciplinary courses. | Biotechnology, molecular biology, pharmacognosy, biochemistry, harvest technology, horticulture. |
| PSO3: Building eco-friendly environment. | Plantation, awareness of campus cleaning. |
| PSO4: Field visit. | Taxonomical, survey of plants, onsite visits. |
| PSO5: Ability to enhance skills. | Bonsai technique, crude drug evaluation microtomy, organic farming and garden management. |
| PSO6: Development of designing skills. | Flow charts, diagrams, biological models. |
| PSO7: Approach of scientific temper. | Tissue culture, biochemical tests, working mechanism of ecological instruments. |
| PSO8: Building applied skills in environmental science. | Bio-conservation, forest management. |
| PSO9: Building methods of technique. | Post-harvest technology, green house technique, propagation of plants weeds control. |
| PSO10: Self employment | Nursery, preparation of permanent slides, soil-testing, farming. |

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**B.Sc 2nd semester (Plant Physiology and Biochemistry-THEORY)**

CO1-Students will learn about the plants and plant cells in relation to water.

CO2- Students will learn knowledge about the process of photosynthesis in plants with particular emphasis.

CO3-Students will learn about the process of respiration in higher plants with particular emphasis.

CO4-Students will learn about the how the atmospheric nitrogen will fix in plant roots and growth regulators.

CO5-They will learn the structure and function of biomolecules.

CO5-Students will learn about the pharmacognosy& drug evaluation.

**B.SC 2nd semester (Plant Physiology and Biochemistry-PRACTICAL)**

PCO1-Students will learn about the permeability of membrane.

PCO2-Students will estimate the presence of proteins in pulses& cereals by using biochemical test.

PCO3-Students will learn about chlorophyll pigment.

PCO4-Students will learn about osmotic potential of cell sap and rate of respiration by using physiological instruments.

PCO5-They will learn about photosynthesis at different wavelength of light.

PCO6-Students will get the knowledge of plant drug evaluation.

PCO7-They will learn about inorganic elements in plants.

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PCO7-They will learn about the paleobotany.

**B.Sc 4th semester (Diversity of Angiosperms and their systemic, Economic Botany and Medicinal Botany-THEORY)**

CO1-Students will learn about the morphological characteristics features and modifications of angiosperm plants.

CO2-Students will earn knowledge about ICBN rules for Taxonomical ranks.

CO3-Students will learn about the diversity of angiosperms.

CO4-Students will learn about the economic importance of plants.

CO5-They will learn the medicinal usage from plant sources.

B.Sc 4th semester (Diversity of Angiosperms and their systemic, Economic Botany and Medicinal Botany-PRACTICAL)

PCO1-Students will learn about the morphology and modification of plants.

PCO2-Students will learn about reproductive structures of plants and their special modifications.

PCO3-Students will learn about the biodiversity and they will get the knowledge of identification of plant families.

PCO4-Students will learn about the economical and medicinal uses of plants.

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**B.Sc 5th Semester (Paper1: Plant breeding, Tissue culture and Horticultural practices-THEORY)**

CO1-Students will study the plant breeding methods.

CO2-Students will get the knowledge about Tissue culture techniques.

CO3-Students will learn about the methods of propagation, plant irrigation and Nursery management.

CO4-Students will learn about the construction of green house.

CO5-They will learn the harvest Technology and weed management.

**B.Sc 5th Semester (Paper1: Plant breeding, Tissue culture and Horticultural Practices-PRACTICAL)**

PCO1- Students will learn about the natural methods of propagation in plants.

PCO2-Students will learn about the artificial methods of propagation.

PCO3-Students will learn about the hybridization technique.

PCO4-Students will learn about the types of stigma, external and internal structure of style.

PCO5-Students will learn about the tissue culture techniques.

PCO6-Students will learn about the types of pollination.

PCO7-Students will learn about the Bonsai technique.

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**B.Sc 5th Semester (Paper 2: Ecology, Environmental biology and phytogeography - THEORY)**

CO1-Students will study about the plant its surrounding environment.

CO2-Students will get the knowledge about different types of ecosystem on the earth.

CO3-Students will learn about the phytogeography and botanical regions of the world.

CO4-Students will learn about the conservation of natural resources.

CO5-They will learn about the types of pollution.

**B.Sc 5th Semester (Paper 2: Ecology, Environmental biology and phytogeography-PRACTICAL)**

PCO1-Students will learn about the Quadrant method to calculate the density of flora.

PCO2-Students will learn about the physical properties of soil.

PCO3-Students will analyze the alkalinity of waste water.

PCO4-Students will learn about the applications of ecological instruments.

PCO5-Students will study the ecological adaptations in plants.

PCO6-Students will learn about the physical-chemical parameters of water.

PCO7-Students will know the scope and importance of industries by visiting industries.

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**B.Sc 6th Semester (Paper1: Cell biology, genetics and Evolution-THEORY)**

CO1-Students will get the knowledge of cell organelles.

CO2-Students will learn the knowledge on morphology of chromosomes.

CO3-Students will understand the cell division and regulation of cell cycle in molecular level.

CO4-Students will learn about the genetics.

CO5-They will learn about the evolution.

**B.Sc 6th Semester (Paper1: Cell biology, genetics and Evolution-PRACTICAL)**

PCO1-Students will learn about the different types of microscope.

PCO2-Students will learn about the cytological techniques.

PCO3-Students will get the knowledge of mitosis, meiosis by squash and smear method.

PCO4-Students will learn about the micrometry technique.

PCO5-Students will get the basic knowledge of karyotype and idiogram.

PCO6-Students will learn to solve the genetic problems.

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**B.Sc 6th Semester (Paper 2: Molecular biology, Biotechnology and Immunology-THEORY)**

CO1-Students will understand the biochemical nature of nucleic acid.

CO2-Students will learn the knowledge of regulation of gene expression in prokaryotes and eukaryotes.

CO3-Students will understand the fundamentals of recombinant DNA field.

CO4-Students will learn about the scope of biotechnology in recent technical field.

CO5-They will learn about the microbial genetic manipulation and immunology.

**B.Sc 6th Semester (Paper 2: Molecular biology, Biotechnology and Immunology-PRACTICAL)**

PCO1-Students will learn to estimate the quantity of DNA, RNA in a given sources.

PCO2-Students will learn about the extraction and estimation of protein from plant source.

PCO3-Students will get the knowledge of culturing of different bacteria's

PCO4-Students will learn about the gel electrophoresis technique.

PCO5-Students will get the basic knowledge of genetically crop plants.

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**B.Sc 1st Semester (Biodiversity, Microbes-Algae, Fungi and Archegoniate-THEORY)**

CBCS Based:

CO1: Student will learn about the structure of bacteria, viruses and their diseases.

CO2: Students will learn knowledge about algae, fungi characteristics and their economic importance.

CO3: Students will learn about the fungal diseases and symbiotic association of lichens.

CO4: Students will learn about the bryophytes, its characteristics and some species.

CO5: They will acquire the knowledge of pteridophytes, its characters and study of some species.

CO6: Students will learn about the Gymnosperms, its characteristics and some species.

**B.Sc 1st Semester (Biodiversity, Microbes-Algae, Fungi and Archegoniate-PRACTIACL)**

PCO1: Students will learn about the types of bacteria, binary fission and conjugation.

PCO2: Students will get the knowledge of vegetative and reproductive structures

PCO3: Students will get the knowledge of symbiotic association of algae and fungi.

PCO4: Students will learn about the life cycle of bryophytes includes vegetative and reproductive structures.

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PCO5: Students will learn about the life cycle of pteridophytes.

PCO6: Students will learn about the vegetative and reproductive structures of Gymnosperms.

**B.Sc 2nd Semester (Plant Ecology and Diversity of angiosperms-THEORY)**

CO1: Student will learn about the atmosphere and ecological factor.

CO2: Student will learn about the characters and structures of plant succession, ecosystem and principle of phytogeography.

CO3: Students will learn about the morphology of angiosperms.

CO4: Students will learn about the plant taxanomy and types of classification.

CO5: Students will learn about the ranks, categories and taxonomic groups, taxanomic evidence from palynology and botanical nomenclature.

**B.Sc 2nd Semester (Plant Ecology and Diversity of angiosperms-PRACTICAL)**

PCO1: Students will learn about the study of instruments used to measure microclimatic variables.

PCO2: Student will learn about the study of determination of pH and analysis of two fertile soil samples.

PCO3: Student will learn about the study of morphological adaptation of hydrophytes, xerophytes and epiphytes.

PCO4: Student will learn about the study of morphology of angiosperm.

PCO5: Student will learn about the study of systematic position according to Bentham and Hooker's system of classification.

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