BLDEA's

S.B.ARTS AND K.C.P.SCIENCE COLLEGE, VIJAYAPUR.

DEPARTMENT OF BOTANY

REPORT

ON

PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME AND COURSE OUTCOME MAPPING AND EVALUATION.

Head of the Department
HEAD
Department of Botany
SB Arts & KCP Science College
VIJAYAPUR-586103.

Principal
Principal,
S.B. Arts and KCP Science College
VIJAYAPUR

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IQAC, Co-ordinator
S.B.Arts & K.C.P.Science College,
Vijayapur.

PROGRAMME OUTCOME

PROGRAMME	OBJECTIVES
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	OBJECTIVES
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.

Continued...

B.Sc I Semester (Plant Anatomy and Embryology-THEORY)

CO1- Students will learn concept of tissue Systems in plants.
CO2- Students will learn knowledge about differentiation between plants.
CO3- Students will get the knowledge of wood anatomy.
CO4- Student will learn and understand reproductive organs of plants.
CO5- They will understand about seed development.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	-	-	-	-	-	-	3	-	-
Co2	3	3	3	3	1	-	2	-	3	3	3	1	-
Co3	3	1	2	3	-	-	1	-	-	3	3	1	-
CO4	3	3	1	-	-	-	3	-	-	2	-	-	-
CO5	3	3	2	3	-	2	-	-	1	3	2	2	1

Continued...

B.Sc I Semester (Plant Anatomy and Embryology-PRACTICAL)

PCO1- Students will learn about non-living cell inclusions.
PCO2- Students will learn about Double staining technique.
PCO3- Students will get the knowledge in tissue organization in root & stem.
PCO4- Student will learn and understand simple tissues.
PCO5- They will learn about Complex tissues.
PCO6- Students will get the knowledge of primary internal structure of root, stem.
PCO7- They will learn the Normal secondary growth.
PCO8- Students will learn about abnormal secondary growth in plants.
PCO9- Students get the knowledge of Microtomy.
PCO10- They will learn about microsporogenesis & megasporogenesis.
PCO11- They will get the knowledge about structure of pollen grains.
PCO12- Students will learn to mount the endosperm & embryo.

MAPPING of PCos with Pos and PSO's on **B.Sc I Semester (Plant Anatomy and Embryology-PRACTICAL)**

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	3	3	2	-	2	-	-	3	2	-	2
PCo2	3	3	3	3	-	-	1	-	3	3	3	1	-
PCo3	3	3	2	3	-	-	-	2	3	2	-	-	-
PCO4	3	3	-	3	-	-	-	-	2	-	-	-	-
PCO5	3	3	-	3	-	-	-	-	2	-	-	-	-
PCO6	3	3	2	3	-	-	-	-	2	-	-	-	2
PCO7	3	3	2	3	2	-	-	-	2	-	-	-	2
PCO8	3	3	2	3	2	-	-	-	2	-	-	-	2
PCO9	3	3	3	3	2	-	-	-	-	-	-	-	3
PCO10	3	3	2	3	3	-	-	-	-	-	-	-	-
PCO11	3	3	2	3	-	-	-	-	-	2	-	-	-
PCO12	3	3	-	3	-	-	-	-	-	-	-	-	-

Continued...

B.Sc II 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.
CO6- Students will learn about the Pharmacognosy & Drug evaluation.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	-	3	-	-	-	1	2	-	-
Co2	3	3	2	3	-	3	-	-	-	1	-	-	-
Co3	3	3	2	3	-	3	-	-	-	1	-	-	-
CO4	3	3	2	3	-	-	-	-	-	1	-	-	-
CO5	3	3	3	3	3	1	-	-	-	2	-	-	-
CO6	3	3	3	3	3	3	2	-	1	3	3	-	3

Continued...

B.Sc II 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 instrument.
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.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	3	3	-	-	-	-	-	2	-	-	-
PCO2	3	3	3	3	3	-	-	-	-	3	-	-	2
PCO3	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO4	3	3	-	3	-	-	-	-	-	2	-	-	-
PCO5	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO6	3	3	3	3	3	3	3	-	3	3	3	-	3
PCO7	3	3	2	3	2	-	-	-	-	-	-	-	2

Continued...

B.Sc III Semester (Diversity of Cryptogams-THEORY)

CO1- Students will learn about the Algal characteristics and study of some species.

CO2- Students will learn knowledge about fungal cells, characters and about the species.

CO3- Students will learn about the pathologies of species.

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.

CO7- Students will learn about the Fossils.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	2	3	-	2	1	-	-	2	-	-	-
CO2	3	3	2	3	-	2	1	-	-	2	-	-	-
CO3	3	3	-	3	-	1	-	-	-	1	-	-	2
CO4	3	3	-	3	-	1	-	-	-	1	-	-	2
CO5	3	3	1	3	-	1	-	-	-	1	-	-	-
CO6	3	3	1	3	-	1	-	-	-	1	-	-	-
CO7	3	2	-	3	-	-	-	-	-	-	-	-	-

Continued...

B.Sc III Semester (Diversity of Cryptogams-PRACTICAL)

PCO1- Students will learn about the vegetative and reproductive structures of algae.
PCO2- Students will get the knowledge of vegetative and reproductive structures of fungi and symbiotic association of algae and fungi.
PCO3- Students will learn about the life cycle of bryophytes includes vegetative and reproductive structures
PCO4- Students will learn about the life cycle of Pteridophytes.
PCO5- They will learn about the vegetative and reproductive structures of Gymnosperms.
PCO6- Students will get the knowledge of Plant pathology.
PCO7- They will learn about the Paleobotany.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	3	3	-	-	-	-	-	2	-	-	-
PCO2	3	3	3	3	3	-	-	-	-	3	-	-	2
PCO3	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO4	3	3	-	3	-	-	-	-	-	2	-	-	-
PCO5	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO6	3	3	3	3	3	3	3	-	3	3	3	-	3
PCO7	3	3	2	3	2	-	-	-	-	-	-	-	2

Continued...

B.Sc IV 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 Angipspermic plants.
CO2- Students will learn 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.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	3	3	3	-	2	3	3	3	3
CO2	3	3	3	3	3	-	-	-	3	-	-	-	1
CO3	3	3	3	3	3	3	3	-	-	2	3	3	3
CO4	3	3	3	3	3	3	3	-	3	3	3	3	3
CO5	3	3	3	3	3	3	3	-	3	3	3	3	3

Continued...

B.Sc IV Semester (Diversity of Angiosperms and their Systemic, Economic Botany and Medicinal Botany -PRACTICAL)

PCO1- Student will learn about the morphology and modification of plants.
PCO2- Student 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- Student will learn about the economical and medicinal uses of plants.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	3	3	3	3	3	-	2	3	3	3	3
PCO2	3	3	3	3	3	2	3	-	-	2	3	3	3
PCO3	3	3	3	3	3	3	3	-	-	2	3	3	3
PCO4	3	3	3	3	3	3	3	-	3	3	3	3	3

Continued...

B.Sc V Semester (Paper I: 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.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	2	2	-	-	-	2	2	-	2
CO2	3	3	3	3	3	1	-	-	-	-	3	-	3
CO3	3	3	3	3	3	3	-	3	-	3	2	3	3
CO4	3	3	3	3	1	2	1	3	-	1	2	3	3
CO5	3	3	3	3	3	3	-	-	-	2	2	3	3

Continued...

B.Sc V Semester (Paper I: 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- Student 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.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	3	3	3	1	-	-	-	-	-	3	1
PCO2	3	3	3	3	3	3	2	3	-	-	-	3	3
PCO3	3	3	3	3	3	3	-	-	-	3	-	-	2
PCO4	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO5	3	3	3	3	3	3	-	-	-	3	2	3	3
PCO6	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO7	3	3	3	3	-	-	-	3	-	-	-	-	3

Continued...

B.Sc V Semester (Paper II: Ecology, Environmental biology and Phytogeography -THEORY)

CO1- Students will study about the plant and 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.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	2	3	-	3	3	-	2	2	2	-	1
CO2	3	3	3	3	-	3	2	-	2	-	3	-	-
CO3	3	3	3	3	-	3	3	-	2	-	3	-	1
CO4	3	3	3	3	-	3	3	-	-	-	3	-	-
CO5	3	3	-	3	-	3	-	-	-	-	2	-	-

Continued...

B.Sc V Semester (Paper II: 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 physic-chemical parameters of water.
PCO7- Students will know the scope & importance of Industries by visiting Industries.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	1	3	-	-	-	-	-	-	-	-	1
PCO2	3	3	3	3	-	3	-	-	-	2	-	-	3
PCO3	3	3	3	3	-	3	-	-	-	2	-	-	3
PCO4	3	3	3	3	-	3	-	-	-	3	-	-	3
PCO5	3	3	3	3	-	3	-	-	-	2	-	-	-
PCO6	3	3	3	3	-	3	-	-	-	2	-	-	3
PCO7	3	3	3	3	-	3	3	-	-	-	-	-	3

Continued...

B.Sc VI Semester (Paper I: Cell Biology, genetics and Evolution-THEORY)

CO1- Students will get the knowledge of cell organelles.
CO2- Students will earn 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.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	3	-	-	-	-	3	-	-	-
CO2	3	3	3	3	3	-	-	-	-	3	-	-	2
CO3	3	3	3	3	3	-	-	-	-	3	-	-	-
CO4	3	3	-	3	3	-	-	-	-	3	2	1	1
CO5	3	3	-	3	-	-	-	-	-	-	-	-	-

Continued...

B.Sc VI Semester (Paper I: Cell Biology, genetics and Evolution - PRACTICAL)

PCO1- Students will learn about the different types of Microscopes.
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 & Idiogram analysis, polytene chromosome in Drosophila.
PCO6- Students will learn to solve the genetic problems.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	-	3	-	-	-	-	-	-	-	-	-
PCO2	3	3	-	3	-	-	-	-	-	2	-	-	-
PCO3	3	3	-	3	-	-	-	-	-	1	-	-	-
PCO4	3	3	-	3	-	-	-	-	-	1	-	-	-
PCO5	3	3	-	3	-	-	-	-	-	1	-	-	-
PCO6	3	3	2	3	-	-	-	-	-	2	-	-	3

Continued...

B.Sc VI Semester (Paper II: Molecular biology, Biotechnology and Immunology-THEORY)

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

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

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

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

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

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
CO1	3	3	3	3	3	-	-	-	-	2	-	-	-
CO2	3	3	3	3	3	-	-	-	-	2	-	-	-
CO3	3	3	3	3	3	-	-	-	-	3	-	-	2
CO4	3	3	3	3	3	-	-	-	-	3	-	-	3
CO5	3	3	2	3	-	-	-	-	-	2	-	-	3

Continued...

B.Sc VI Semester (Paper II: Molecular biology, Biotechnology and Immunology - PRACTICAL)

PCO1- Students will lean 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 modified crop plants.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	Po1	Po2	Po3	Pso1	Pso2	PSo3	PSo4	PSo5	PSo6	PSo7	PSo8	PSo9	PSo10
PCO1	3	3	3	3	3	2	-	-	-	3	2	-	3
PCO2	3	3	3	3	3	2	-	-	-	3	2	-	2
PCO3	3	3	3	3	3	2	-	-	-	3	2	-	3
PCO4	3	3	3	3	3	2	-	-	-	3	2	-	1
PCO5	3	3	3	3	3	3	1	-	-	3	2	3	3

Continued...

EVALUATION MAPPING:

Allotment of Marks in Each Question Paper:-

- 2 Marks - Objective Type.
- 5 Marks - Descriptive Type.
- 10 Marks – Essay/Descriptive/Diagrammatic type.

Framing Questions:-

- Skill Based.
- Understanding.
- Descriptive.
- Analytical.
- Evaluated.

Sl.No	Parameters	Percentage
1	Skill Based	15 %
2	Understanding	15 %
3	Descriptive	30 %
4	Analytical	20 %
5	Evaluated	20 %
		100 %

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