Govt .Degree College , R.S.Pura **COURSE OUTCOMES : BOTANY** **Semester/ Papers/ Course Content**	**The Course Outcomes(Cos)**
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First Semester, (CORE COURSE) **Title of Paper: Diversity of Microbes and Cryptograms** **Number of Units: 5** **Course Content:** **Unit-1: Microbes and microbiology**	**This paper shall enable the students to understand** ➢ The concept of virus, bacteria, mycobacteria, cyanobacteria and genetic recombination in bacteria is introduced
Unit-2: Algae	➢ Charactersitics and classification of algae with special refferene to important features of Chlorophyceae, xanthphyceae, phaeophyceae and rhodophyceae along with its economic importance
Unit-3: Fungi	➢ Charactersitics and classification of fungi with special refferene to important features of Mastigomycotina, zygomycotina, ascomycotina, basidiomycotina and deuteromycotina along with its economic importance
Unit-4: Bryophytes	➢ Charactersitics and classification of bryophytes. Structure and reproduction in hepaticae, anthcerotae and musci along with importance of bryophytes.

Unit-5: Pteridophytes	➢ Charactersitics and classification of pterodophytes. Structure and reproduction in Psilopsida, lycopsida, sphenopsida, and pteropsida along with origin of pteridophytes.
III Semester, (CORE COURSE) **Title of Paper: Plant Anatomy, Embryology and Ecology** **Number of Units: 5** **Course Content:**	**This paper shall enable the students to understand**
Unit-1: Plant Structure and Organisation	➢ Concept of meristem its types and organisation; vascularisation in monocotyledons and Dicotyledons; Epidermal modifications and their systematic values.
Unit-2: Primary and Secondary Structures	➢ Formation of Vascular and cork cambium; Secondary growth and concepts of heartwood softwood, senescence and abscission. ➢ Process of sporogenesis and gametogenesis in flowering plants; Double fertilization and its significance; seed dispersal strategies in plants.
Unit-3: Embryology	➢ Atmospheric stratification and composition; soil types and its types in India; Community and ecosystems interactions.
Unit-4: Plant and Environment	➢ Plant succession and its process; Understanding of ecotypes, ecads, ecotone and edge effect; study of phytogeographic

Unit-5:Population Community and Resources	zones of India.
III Semester, (SKILL COURSE) **Title of Paper: Nursery Gardening and Floriculture** **Number of Units: 5** **Course Content:** **Unit-1: Introduction to Nursery and Gardening** **Unit-2: Plant Propagation methods** **Unit-3: Plant Nutrition and Protection in Nurseries and Gardens** **Unit-4: Management procedures in Nurseries and Gardens** **Unit-5: Floriculture**	**This paper shall enable the students to understand** ➢ Types and Physical resources of nurseries; Gardens and gardening operation along with the scope and objectives and gardening. ➢ Raising of seeds and seedlings and their transplanting methods; seed dormancy and its breakage; Hydroponics, aeroponics and micro propagation. ➢ Mirco and macronutrients ;Roles of N, P and K along with inorganic fertilizers and bio fertilizers; Biopesticides and weedicides and their usage. ➢ Methods of water management and irrigation system; Understanding of plant growth regulators and their use in Nurseries and Gardens. ➢ Concept and scope of floriculture; factors affecting flower production and methods of prolonging vase life of flowers.

Vth Semester, (CORE COURSE) **Title of Paper: Cell biology and genetics** **Number of Units: 5** **Course Content:**	
Unit-1: Cell structure	Intoduction to the structure and function of cell wall, plasma membrane, cell organelles and ultrastructure of Nuclear membrane.
Unit-2: Chromosome Structure and multiplication	Physical and chemical structure of chromosomes, reductional and equational division and stricture and replication of DNA and extranuclear genome.
Unit-3: Chromosome organisation and function	Organisation of DNA in prokaryotes and eukaryotes, concept of gene, protein synthesis and structure and function of mRNA and tRNA.
Unit-4: Alteration of the genome	Concept of structural alterations, Euploidy, aneuploidy and mechanism of interchromosomal alterations.
Unit-5: Alteration in the basic unit of inheritance and inheritance patterns	Concept of mutations, transposable elements in prokaryotes and eukaryotes, linkage and recombination and concept of mendelism.

V Semester, (SKILL COURSE) **Title of Paper: Mushroom Cultivation technology** **Number of Units: 5** **Course Content:**	
Unit-1: Introduction and types of mushrooms	➢ History and characteristics of mushrooms, structure and life cycle of mushrooms, nutritional and pharmaceutical value of mushrooms.
Unit-2: Cultivation technology	➢ Infrastructure for mushroom cultivation, spawn production technology, mushroom bed preparation and compositing technology.
Unit-3: Cultivation storage and diseases	➢ Cultivation of some important mushrooms like pleurotous, citrinopileatus, and agaricus bisporous, shelf life of mushrooms, diseases, infections and pests of mushrooms.
Unit-4: Nutritional food value and prospects	➢ Composition and nutritional value of mushrooms, types of food, cost benefit ratio and prospects of round the year cultivation.
Unit-5: Research future prospectives and challenges	➢ National and regional research centers, scope and challenges of mushroom cultivation, educational objectives for designing mushroom training programs.