Department of Botany
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Botany

Course code- BOTACOR01T and BOTACOR01P

Course title- Phycology and Microbiology

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO1-Recall and describe the concept of microbial world including viruses, bacteria and algae (Level 1-Remember)

CO2-Classify, describe and discuss diversity of bacteria, viruses and algae (Level 2 Understand)

CO3-Demonstration of the preparation of media, sterilization and subculturing, Practice the procedure of endospore staining and illustrate the structure of viruses. (Level 3-Apply)

CO4-Illustrate, magnify and study of the characteristic features of algal specimen using drawing prism technique (Level 4-Analyze)

Course code- BOTACOR02T and BOTACOR02P

Course title- Biomolecules and Cell Biology

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO 1- Recall the chemical bonds, structure and properties of water, structure and function of prokaryotic and eukayotic cells (Level 1-Remember)

CO 2 – Describe and discuss different biomolecules, enzymes: and chemical structure and function of cell wall and cell organelles (Level 2 Understand)

CO 3 - Demonstrate the qualitative analysis of biomolecules (Level 3-Apply)

Co 4 – Estimation and evaluation of cell size by micrometry and counting of cell by haemocytometer . Interpretation of different stages of mitosis and meiosis. (Level 4-Analyze)

COUSE CODE : BOTACOR03T and BOTACOR03P

COURSE TITLE: Mycology and phytopathology

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO1- Recall and describe general characteristic of fungi,Recognize the biodiversity of fungi, and allied groups (LEVEL 1-REMEMBER)

CO2- Classify and distinguished the fungal world and symbiotic association (lichen and mycorrhiza), Recognize different types of symptoms of plant disease,Explain host pathogen relationships,Classfy geographical distribution of disease.(LEVEL 2-UNDERSTAND)

CO3-. Employment of different control measures of plant diseases, Prepare the slide (LEVEL3-APPLY)
CO4- Analyze economical and ecological imporantce of lichen and mycorrhiza, Identify,illustrate and calculate different reproductive unit of fungi using micrometric technique, Identy few important plant diseases with diagrams. (LEVEL 4-ANALYZE)
CO5-Interpret and value of the fungi in our daily life (food industry,agriculture,pharmaceutical) (LEVEL-5 EVALUATE)

Course code- BOTACOR04T and BOTACOR04P

Course title- Archegoniate

Course Outcome (COs)

After completion of this course successfully, the students will be able to
CO1- Recall the characteristics features of Bryophyte, Pteridophyte and Gymnosperm groups of plant Kingdom and impart knowledge on the classification and stellar evolution in pteridophyte. (Level 1: Remember)
CO2- Describe the life histories of Bryophytes and their role in plant succession and pollution monitoring and understand the role of gymnosperms as a connecting link between pteridophytes and angiosperms. (Level 2: Understand)
CO3: Prepare the slides and identify the specimen of Archegoniate (Level 3- Apply)
CO4: visit and prepare a field report in a place of higher altitude to observe and identify the archegoniate in their natural habitat. (Level 6- create)

Course code- BOTACOR05T and BOTACOR05P

Course title- Morphology and Anatomy of Angiosperms

Course Outcome (COs)

After completion of this course successfully, the students will be able to
CO1- Recall the morphology of flowering plants (Level 1: Remember)
CO2- Understand the internal structural organization of plant organs and learn to differentiate. (Level 2: Understand)
CO3 – Identify the anatomical details of plant tissue and develop knowledge on double staining techniques of dicots and monocots based on their internal structural organization. (Level 3: Apply)
CO4- Differentiate the anatomical details of plant tissue. (Level 4: Analyze)

Department of Botany
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Botany

Course code- BOTACOR06T and BOTACOR06P
Course title- Economic Botany
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Describe and identify the economically rich group of plant crops viz. cereals, legumes, sugar and starches, spices, beverages, drug yielding plants , timber etc (Level 1: Remember)
CO2- Classify the different sources of oil and fat yielding plants and fibers (Level 2: Understand)
CO3- Illustrate the Habit Sketch and identify and characterize different economically rich group of plants. (Level 3: Apply)
CO4- Performing biochemical experiment to identify cereals, legumes, sugar and starch, beverages (Level 4: Analyze).
Course code- BOTACOR07T and BOTACOR07P
Course title- Genetics
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Understand the concept of Mendelian Genetics, genetic variation, its extension and heredity in living organism. (Level 2- Understand)
CO2- Demonstration of extra chromosomal inheritance in different organism. Practiced different mitotic and meiotic phases from living material with proper sketches using drawing prism. (Level 3: Apply)
CO3- Analyze chromosome maps with clear concept of linkage and crossing over. (Level 4- Analyze)
CO4- Description of different types of mutation in chromosomal and genic level along with DNA repair mechanism and fine structure of gene. Evaluation of population and evolutionary genetics. (Level 5: Evaluate)

Department of Botany
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Botany

Course code- BOTACOR08T and BOTACOR08P
Course title- Molecular Biology
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Recall the structure and function of genetic material with proper description and understand the details of it. (Level 1- Remember)
CO2- With proper illustration, demonstrate the detail mechanism of replication , transcription, genetic code and translation. (Level 2-Understand)
CO3- Demonstrate and characterize the different aspects of genetic material through electron micrograph. (Level 3- Apply)
CO4- Evaluate the macromolecular content by isolating and estimating the DNA from living material. (Level 5- Evaluate)
Course code- BOTACOR09T and BOTACOR09P
Course title- Plant Ecology and Phytogeography
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Learning about the interaction between biotic and abiotic components of the ecosystem. Define and describe chemical and biological components of soil profile, etc (Level 1: Remember).
CO2- Describe and discuss the plant communities, population ecology and ecosystem, phytogeography of India according to BSI, theory of tolerance, continental drift theory, etc. Discuss about the concept of energy flow, endemic species (Level 2: Understand)
CO3- Performing specific experiment, analyze and calculate different composition of soil, Quadrat study, and studying the adaptive features of plant, etc (Level 4: Analyze).
CO4- Field visit to different ecology sites and prepare a field report on characteristic flora of that particular phytogeographic region. (Level 6- Create).

Department of Botany
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Botany

Course code- BOTACOR10T and BOTACOR10P
Course title- Plant Systematics
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Recall and describe the significance and conceptual development in plant systematic (Level 1- Remember)
CO2- Classify the different system of classification in plant systematic and developing a concept on taxonomic hierarchy and botanical nomenclature (Level 2 – Understand).
CO3- Analyze and understand the concept of biometrics and phylogeny of angiosperm. Differentiate between phenogram and cladogram. (Level 4- Analyse)
CO4- Collecting angiospermic plant specimens from different sites and arrange them according to Bentham and Hooker system of classification and preparing field report after field visit. (Level 6- Create)
Course code- BOTACOR11T and BOTACOR11P

Course title- Reproductive Biology of Angiosperms

Course Outcome (COs)

After completion of this course successfully, the students will be able to
CO1-Remember and recall the concept of Reproductive structure of angiosperm (Level1 Remember)
CO2-Describe the embryology of angiosperm (Level 2-Understand)
CO3-Illustrate and identify the pollen grain ornamentation, aperture and ultrastructure of pollen wall (Level 3-Apply)
CO4- Calculate the percentage of pollen germination by hanging drop method (Level-4 Analyze)

Course code- BOTACOR12T and BOTACOR12P
Course title- Plant Physiology
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Understand the concept in plant and its water relations and gain knowledge on the role of micronutrients in plant growth. (Level 2- Understand)
CO2- They acquire and employ their knowledge on various physiological processes, e.g. phytomorphogenesis, plant growth regulators, phytochrome etc. (Level 3- Apply)
CO3- The students calculate and determine the data from various experiments, example- osmotic potential, study of transpiration amylase activity in seed germination etc. (Level 4- Analyze)
CO4- The students set up the experiments and collect the data and interpret the results. (Level 6- Create.

Department of Botany
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Botany

Course code- BOTACOR13T and BOTACOR13P
Course title- Plant physiology and metabolism
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- The students categorize different metabolic pathways with proper illustration and diagram of the various primary and secondary metabolic pathways such as photosynthesis, respiration , nitrogen and lipid metabolism etc. (Level 4 Analyse)
CO2- The students are also explained the mechanism of ATP synthesis and signal transduction. (Level 5 Evaluate)
CO3- The students also set up experiments to study the light intensity on the rate of photosynthesis and rate of respiration in different parts of a plant. (Level 6 Create)
CO4- Students also develop hands on training on different physiological techniques. (Level-6 Create)
Course code- BOTACOR014T and BOTACOR014P
Course title- Plant Biotechnology
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO 1 – Describe the concepts, methods of plant tissue culture (Level 1: Remember)
CO 2 – Discuss the application of plant tissue culture and the fundamental aspects of Recombinant DNA Technology (Level 2: understand)
CO 3- Illustrate the different gene cloning methods and gene transfer methods in genetic engineering (Level 3: Apply)
CO 4 – Summerize the techniques of plant biotechnology with figures, sketches, photographs (Level 6- Create)
Course code- BOTADSE02T and BOTADSE02P
Course title- Horticultural Practices and Post harvest technology
Course Outcome (COs)
After completion of this course successfully, the students will be able to
CO1- Understand and describe the concept of horticulture and its branches along with its importance and scope in urban horticulture. Classify and identify the different ornamental and horticultural crops (Level 2- Understand).
CO2- Application of manure, fertilizer and nutrients and various other horticultural techniques and post harvest technology (Level 3- Apply)
CO3- Analyzing the planning and layout of parks and avenues and learning the designs of different gardening traditions (Level 4- Analyze)
CO4- Field visit to Agri-horticultural society and prepare a field report on ornamental and horticultural plants. (Level 6- Create)

Department of Botany
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Botany

Course code- BOTDSE03T and BOTDSE03P

Course title- Industrial and environmental Microbiology

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO 1- State the scope of microbes in industry and environment (Level 1 Remember)

Co 2 – Describe and discuss different fermentation processes and fermenters (Level 2 Understand level)

CO 3 – Demonstrate the procedure of immobilization and uses of different enzyme (Level 3 Apply level)

CO 4 –Illustrate different measurement techniques of water pollutants ((Level 4 Analyze)

Course code- BOTADSE04T and BOTADSE04P

Course title- Analytical techniques in Plant sciences

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO1- Understand, discuss and describe various analytical techniques in plant science (Level 2 Understand)

CO2- The concept of different analytical technique such as cell fractionation, radioisotopes etc was cleared with proper illustration and application (Level 3 Apply)

CO3- Estimate various biomolecules-DNA, nitrogenous base, Protein etc using different analytical technique (Level 4 Analyze)

CO4- Evaluate by estimating different statistical methods with proper justification (Level 5- Evaluate)

Course code- BOTADSE06T and BOTADSE06P

Course title- Biostatistics

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO1- Understand the different statistical methods (Level 2- Understand)

CO2- Calculate and estimate with proper explanation of different formula of biostatistics viz. correlation coefficient values and 'F' value etc. (Level 4- Analyze, Level 5- Evaluate, Level 6- Create)