

**Skill enhancement (lecture 30%, practical 70%) 2 credits**

Course I	Flower arrangement : Course Code RJC1
Unit 1	Flower and plant identification, care and handling of cut flowers: Origin of flower designing,
Unit 2	Types and Choice of flower <ul style="list-style-type: none"><li>➤ Floral bouquets, baskets, wreaths</li><li>➤ Table centerpiece</li><li>➤ Ikebana</li></ul>
Unit 3	Different styles of flower arrangements <ul style="list-style-type: none"><li>➤ Oriental flower arrangements</li><li>➤ Traditional/ western flower arrangements</li><li>➤ Modern flower design</li><li>➤ Current trends in floral design</li></ul>
Unit 4	Principles of flower arrangements <ul style="list-style-type: none"><li>➤ Design and balance</li><li>➤ Arrangement, scale and rhythm</li><li>➤ Emphasis (focal point), harmony and unity</li></ul>

Course II	Mushroom cultivation
Unit 1	Introduction, history, Nutritional and medicinal value of edible mushrooms
Unit 2	Cultivation Technology and factors affecting the mushroom bed preparation
Unit 3	Storage and nutrition
Unit 4	Preparation of food and flavours from mushroom

Course III	Miniature gardens
Unit 1	Scope and objectives of gardening and Style of gardens: Formal, Informal
Unit 2	Principles and making of Terrarium and Cokidama
Unit 3	Importance of layout and principles in kitchen and balcony garden, composting and microgreens
Unit 4	Gardening management operations: - soil laying, manuring, watering, management of pests and diseases with complete cure.



Course IV	Post-harvest technology
Unit 1	Introduction to post harvest technology of agricultural produce, Status of Production, Losses, Need, Scope and Importance
Unit 2	Introduction, importance of drying, principles of drying and factors affecting drying, types of drying methods i.e. sun drying & artificial drying
Unit 3	Introduction, need and importance, general principles of storage. Temperature and moisture changes during storage i.e. influence of moisture content, relative humidity, temperature, fungi etc. on stored product.
Unit 4	Introduction to the storage of fruits and vegetables. Need and importance of storage. Principle of storage of fruits and vegetables. Recommended storage operation conditions for some important fruits and vegetables and their storage life. Use of preservative MIC analysis.

Course V	Preservation techniques for plants
Unit 1	Introduction of specimens, targeting collection locations and date with permits, study of types of pressed, dried and wet plant
Unit 2	Herbarium for algae with collection, cleaning, pressing, mounting, storage and conservation with all details
Unit 3	Herbarium for Pteridophytes and Flowering plant with collection, cleaning, pressing, mounting, drying, storage and conservation with all details
Unit 4	Key to use of Herbarium details; operation and maintenance importance

Course VI	Plant tissue culture
Unit 1	History, types of tissue culture, sterilization techniques, media preparation
Unit 2	Seed: Structure and types - Seed dormancy; causes and methods of breaking dormancy
Unit 3	Micropropagation of explant and study of hardening stages
Unit 4	Lab visit and report writing

Course VII	Separation techniques for phytochemicals and others
Unit 1	Centrifugation : importance of centrifugal force and gravity, gradient solution making, high speed refrigerated centrifugation for denaturing entity
Unit 2	Column chromatography: importance of porosity, mass and charge of matrix, affinity and retention time, study of its applications in purification and HPLC
Unit 3	Paper and Thin Layer Chromatography techniques :- mobile and stationary phase importance, preliminary screening of secondary metabolites in class of alkaloids, glycosides, polyphenols, terpenoids and steroids with Rf value calculation
Unit 4	Electrophoresis techniques: principles of electrophoresis, native and SDS importance, study of gel matrix for targeted specific mass and charge compounds with troubleshooting and interpretation of bands.

Course VIII	Intellectual Property Right
Unit 1	Introduction to intellectual property right (IPR)  Concept and kinds. Economic importance. IPR in India and world
Unit 2	Patents Objectives, Rights, Patent Act 1970 and its amendments.
Unit 3	Information Technology Related Intellectual Property Rights;  Computer Software and Intellectual Property
Unit 4	Protection of traditional knowledge and objective.

Course IX	Research methodology
Unit 1	Hypothesis making with detailed literature work and formation of header  best suited for hypothesis
Unit 2	Preplan and conduct of experiment with all ethical standards
Unit 3	Data collection and analysis (record keeping, application of biostats and  graphical representation)
Unit 4	Data interpretation and expected outcome with application and use