

COURSE-ECONOMIC BOTANY, GENETICS AND PLANT BREEDING **(BSCBO-302)**

SYLLABUS

BLOCK-1-ECONOMIC BOTANY

Unit-1 -Cereals, Millets and Legumes: Cultivation, production and uses of Cereals and Millets- Wheat, paddy, maize, bajra and jowar; and Legumes-Pea, Gram, Lentil, Pigeon pea, Black gram, Green gram, Rajmash

Unit-2-Fruits, Vegetables, Fibre-yielding and Timber-yielding forest species: General account of Fruits- Mango, apple, banana, citrus and litchi, Vegetables: Root vegetables, stem vegetables, leafy vegetables and fruit vegetables, Fibres- Cotton, jute and coir, Timber- Teak, Shisham, Sal, Chir-pine, Deodar

Unit-3-Medicinal plants, Oils and Beverages: Medicinal plants- *Aconitum*, *Atropa*, *Cinchona*, *Rauwolfia* and *Ephedra*, Oil- Castor, coconut, linseed, groundnut and mustard, and Beverages- Tea, coffee, cocoa

Unit-4- Ethnobotany: Concept and history of ethnobotany, Ethnic groups of India, their food and food products, Ethnobotany and conservation of natural resources, Plants of ethnobotanical importance, Ethnomedicinal plants, Narcotic plants

BLOCK-2-GENETICS

Unit-5-Genetic Inheritance: Mendel's experiment and Law of inheritance- Principal of segregation, Principal of independent assortment, Incomplete dominance

Unit-6- Linkage and Crossing over: Complete and incomplete linkage, Linkage group

Unit-7- Polyploidy and Mutations: Spontaneous, Induced

Unit-8-Sex determination and Sex-linked inheritance

BLOCK-3- PLANT BREEDING

Unit-9- Aims, Objectives and Basic techniques of plant breeding

Unit-10-Crop improvement

Unit-11-Mutational Breeding: Mutational breeding and Breeding for disease resistance

Unit-12-Centres of Origin of crop plants: Centres of Origin of important crop plants, Domestication and introduction of crops