

**MI-4: Plant Science IV**

**Credits 04 (Full Marks: 75)**

**MI-4T: Plant Science IV**

**Credits 03**

**[45L]**

**Economic Botany and Pharmacognosy**

**Course contents:**

UNIT	Topic	No. of Lectures
1	<b>Origin of Cultivated Plants-</b> Concept of centres of origin, their importance with reference to Vavilov's work.	15
2	<b>Cereals-</b> Wheat -Origin, morphology, uses. <b>Legumes-</b> General account with special reference to Gram and soybean. <b>Spices-</b> General account with special reference to clove and black pepper (Botanical name, family, part used, morphology and uses). <b>Beverages-</b> Tea (morphology, processing, uses). <b>Oils and Fats-</b> General description with special reference to groundnut. <b>Fibre Yielding Plants-</b> General description with special reference to Cotton (Botanical name, family, part used, morphology and uses)	15
3	<b>Pharmacognosy:</b> Definition, Importance, Classification of drug - Chemical and Phannacological, Drug evaluation. Organoleptic and microscopic studies with reference to nature of active principles and common adulterants of <i>Alstonia</i> (bark), <i>Adhatoda</i> (leaf), <i>Strychnos</i> (seed), <i>Rauvolfia</i> (root), and <i>Zinziber</i> (rhizome). Secondary Metabolites: Definition of primary and secondary metabolites and their differences, major types - terpenes, phenolics and alkaloids. A brief idea about extraction of alkaloids.	15

**MI-4P: Plant Science IV (Practical)**

**Credits 01**

**Course Outline:**

1. Study of economically important plant: Wheat, Gram, Soybean, Black pepper, Clove Tea, Cotton, Groundnut through specimens, sections and microchemical tests.
2. Organoleptic and powder microscopy of *Alstoniabark*, *Adhatoda* leaf, *Strychnos* seed and *Zinziber* rhizome.
3. Chemical tests for Tannin (*Terminalia chebula*) and Alkaloid (*Catharanthus roseus*).