AG 100: Introductory Agriculture

History of Agricultural Development; Ancient India Agriculture in Civilization Era, Chronological Agricultural Technology development in India. Art, Science and business of crop production, Basic elements of crop production; Factors affecting crop production; Indian Agriculture, balance sheet, liabilities; Assets and Contrasting trends (DATA), Agrl. growth, contrasting food chains, Diversity in physiography, Soil groups, marine, livestock and water; Liabilities: Soil factors, weather factors, Economic ecology, dry and irrigation agriculture, Farming Systems approach, value addition, requirements in new technology; Women in Agriculture: multifaceted roles and tasks, work stress factors, Nutritional and rural life standards, role in house hold design making, drudgery reduction for farm women, women friendly agricultural technology; Empowerment of women; Group dynamics for farm women, rural women; The nucleus of Agricultural Extension and Training.

AGR 101: Principles of Agronomy

Theory: Meaning and scope of Agronomy: National and International Agricultural Research Institutes in India, Agro-climatic zones of India. Tillage, crops stand establishment, Planting geometry and its effect on growth and yield cropping systems.

AGR 151: Water Management of field crops: Principle and Practices

Theory: Definition and objectives, Water Resources Development and Management in India; Irrigation potential created and utilization; Soil plant water relationships; Methods of scheduling irrigation with particular reference to surface irrigation; ET, and consumptive use, water use efficiency; Water management of different field crops (rice, wheat, maize, groundnut and sugarcane).

AGR 152: Crop Production Technology I

Theory: Origin, geographic distribution, economics importance, soil and climatic requirement, varieties, cultural practices and yield of rabi crops,

Cereals: Wheat and Barley

Pulses: Chick pea; Lentil, Peas, French bean, Pigeon pea, Mungbean and Urdbean; Oilseeds: Rape seed and Mustard; Groundnut, Sunflower Linseed;

Commercial crop: Tobacco

AGR 201: Crop Production Technology II

Theory: Origin, geographic distribution, economic importance, soil and climatic requirement, varieties, cultural practices and yield of kharif crops, Cereals: rice, maize, sorghum, pearl millet and minor millets; Pulses: pigeon pea, mungbean and urd bean; and Forage crops: sorghum, maize, cowpea, cluster bean and napier.

AGR 251: Weed Management

Theory: Weeds: Introduction, harmful and beneficial effects, classification, propagation and dissemination; Weed biology and
ecology, crop weed association, crop weed competition and allelopathy concepts of weed prevention, control and eradication; Methods of weed control: physical, cultural, chemical and biological methods. Integrated weed management; Herbicides: advantages and limitation of herbicide usage in India, Herbicide classification, formulations, methods of application; Introduction to Adjuvants and their use in herbicides; Introduction to selectivity of herbicides; Compatibility of herbicides with other agro chemicals; Weed management in major field and horticultural crops, shift of weed flora in cropping systems, aquatic and problematic weeds and their control.

**AGR 301: Farming Systems and Sustainable Agriculture**

**Theory**: Sustainable agriculture: Introduction, definition, goal and current concepts, factors affecting ecological balance and ameliorative measures; Land degradation and conservators of natural resources, LEIA & HEIA; Irrigation problems, waste lands and their development; Organic farming: definition, principles and components; Farming systems: definition, principles and components, IFS models for wetland, irrigated dryland and dryland situations.

**AGR 302: Crop Production Technology III**

**Theory**: Origin, geographical distribution, economic importance, soil and climatic requirements, varieties, cultural practices and yield of fibre crops; commercial crops, medicinal and aromatic crops;

Fibre Crops: Jute, Cotton and Sun hemp;

Commercial Crops: Sugarcane and Sugar beet;

Medicinal and Aromatic: Mentha, Lemon grass, Citronella, Palm rasa, Isabgul, Posta

**AGR 351: Crop Production Technology IV**

**Theory**: Origin, geographic distribution, economic importance, soil and climatic requirement, varieties, cultural practices and yield of rabi and summer crops.

Tuber crop: Potato

Oil seed crops: Sesame, Soybean, Safflower

Forage crops: Berseem, Lucern, Oat, Cowpea, Napier and Cluster bean

**AGR 352: Organic Farming**

**Theory**: Introduction, concept, relevance in present context; Organic production requirements; Biological intensive nutrient management-organic manures, vermicomposting, green manuring, recycling of organic residues, biofertilizers; Soil improvement and amendments; use of biocontrol agents, biopesticides; Weed management; Quality considerations, certification, labeling and accreditation processors, marketing, exports.

**Practical**: Raising of vegetable crops organically through nutrient, diseases and pest management; vermi-composting; vegetable and ornamental nursery raising; macro quality analysis, grading, packaging, post harvest management.
AGR451: Water management

Theory: Introduction to water resources and watershed hydrology, Micro irrigation and problematic water: Definition, Significance, Principles and Objectives; Watershed characteristics. Principal factors of influencing watershed operations.

AGR 452: Advance techniques of weed management using bio-herbicides

Theory: Role of IWM in IPM; democratization of bio-herbicides—Resurrection; Use of botanical like Precocenes, Phytoecdsones, Ryanoding, Rotenone, Mamnein, Pyrethus, Withanolised, Pacthoulence, Semiochemicals like Ectohormones, Pheromones, or Allelochemical like Marasmin, Phenolics.

AGR 453: Surveillance, biology and management of invasive weed

Theory: Survey and surveillance of Invasive weeds; Type of invasive weed species; their origin; Estimation of harmful effect from these invaded weeds, management of invaded weeds and measures for preventing of their invasion.