OPTIONAL SYLLABUS

AGRICULTURE
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Paper I


- Cropping patterns in different agro-climatic zones of the country. Impact of high-yielding and short-duration varieties on shifts in cropping patterns. Concepts of various cropping and farming systems. Organic and Precision farming. Package of practices for production of important cereals, pulses, oilseeds, fibres, sugar, commercial and fodder crops.

- Important features and scope of various types of forestry plantations such as social forestry, agroforestry, and natural forests. Propagation of forest plants. Forest products. Agroforestry and value addition. Conservation of forest flora and fauna.


- Farm management, scope, importance and characteristics, farm planning. Optimum resource use and budgeting. Economics of different types of farming systems. Marketing management – strategies for development, market intelligence. Price fluctuations and their cost; role of cooperatives in agricultural economy; types and systems of farming and factors affecting them. Agricultural price policy. Crop Insurance.

- Agricultural extension, its importance and role, methods of evaluation of extension programmes, socio-economic survey and status of big, small and marginal farmers and landless agricultural labourers. Training programmes for extension workers. Role of Krishi Vigyan Kendra’s (KVK) in dissemination of Agricultural technologies. Non-Government Organization (NGO) and self-help group approach for rural development.
Paper II


- Seed production and processing technologies. Seed certification, seed testing and storage. DNA fingerprinting and seed registration. Role of public and private sectors in seed production and marketing. Intellectual Property Rights (IPR) issues, WTO issues and its impact on Agriculture.

- Principles of Plant Physiology with reference to plant nutrition, absorption, translocation and metabolism of nutrients. Soil – water-plant relationship.

- Enzymes and plant pigments; photosynthesis- modern concepts and factors affecting the process, aerobic and anaerobic respiration; C3, C4 and CAM mechanisms. Carbohydrates, protein and fat metabolism. Growth and development; photoperiodism and vernalization. Plant growth substances and their role in crop production. Physiology of seed development and germination; dormancy. Stress physiology – draught, salt and water stress.


Malnutrition (PEM or PCM), Micro nutrient deficiency and HRD in context of work capacity of women and children. Food grain productivity and food security.
Click Here for

**Agriculture: OPTIONAL SUBJECTS PROGRAMME**

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