

**PAPER - I**

**Reasoning:** The questions in this test will be from various topics like puzzles (seating arrangement, linear seating arrangement, floor based), syllogism, data sufficiency, statement based questions, Inequality, Miscellaneous Questions, Input Output etc.

**Quantitative Aptitude:** The questions in this test will be from Data Interpretation, Quadratic Equations, Number Series, Data Sufficiency and Some Miscellaneous questions. The miscellaneous questions have questions from profit and loss, age, average, simple and compound interest, boat and stream, time and work, area.

**English Language:** The questions in this test will be from reading comprehension cloze test, sentence improvement, spotting the errors and sentence rearrangement.

**General Awareness:** The questions in this test will be from Current Affairs and Banking and Economy, Insurance. In the current affairs, questions can be asked from recent appointments, awards and honours, sports, new schemes, national and international news, latest developments in science and technology.

**Computer Knowledge:** This section covers topics from various topics like Networking, Input output devices, DBMS, MS Office, Internet, History of computer & generations, Shortcuts.

**PAPER – II****Paper II - Economic & Social Issues and Agriculture & Rural Development (For General Posts) Economic & Social Issues**

**Nature of Indian Economy** - Structural and Institutional features - Economic underdevelopment - Opening up the Indian Economy - Globalization - Economic Reforms in India - Privatization. Inflation - Trends in Inflation & their Impact on National Economy and Individual Income. Employment Generation in India - Rural and Urban - Measurement of Poverty - Poverty Alleviation Programmes of the Government. Population Trends - Population Growth and Economic Development

- Population Policy in India. Agriculture - Characteristics / Status - Technical and Institutional changes in Indian Agriculture - Agricultural performance - Issues in Food Security in India - Non Institutional and Institutional Agencies in rural credit. Industry - Industrial and Labour Policy - Industrial performance - Regional Imbalance in India's Industrial Development - Public Sector Enterprises. Rural banking and financial institutions in India - Reforms in Banking/ Financial sector. Globalisation of Economy - Role of International Funding Institutions - IMF & World Bank - WTO - Regional Economic Co-operation. Social Structure in India - Multiculturalism - Demographic trends - Urbanisation and Migration - Gender Issues Joint family system - Social Infrastructure - Education - Health and Environment. Education - Status & System of Education - Socio -Economic Problems associated with Illiteracy - Educational relevance and educational wastage - Educational Policy for India. Social Justice: Problems of scheduled castes and scheduled tribes - socio-economic programmes for scheduled castes and scheduled tribes and other backward classes. Positive Discrimination in favour of the under privileged - Social Movements - Indian Political Systems - Human Development. Current Economic & Social Issues.

**Agriculture and Rural Development:**

Agriculture: definition, meaning and its branches, Agronomy: definition, meaning and scope of agronomy. Classification of field crops. Factors affecting on crop production, Agro Climatic Zones; Cropping Systems: Definition and types of cropping systems. Problems of dry land agriculture; Seed production, seed processing, seed village; Meteorology: weather parameters, crop-weather advisory; Precision Farming, System of Crop Intensification, organic farming;

a) Soil and Water Conservation : Major soil types, soil fertility, fertilisers, soil erosion, soil conservation, watershed management;

b) Water Resource: Irrigation Management: types of irrigation, sources of irrigation, crop-water requirement, command area development, water conservation techniques, micro-irrigation, irrigation-pumps, major, medium and minor irrigation.

c) Farm and Agri Engineering : Farm Machinery and Power, Sources of power on the farm- human, animal, mechanical, electrical, wind, solar and biomass, bio

fuels, water harvesting structures, farm ponds, watershed management, Agro Processing, Controlled and modified storage, perishable food storage, godowns, bins and grain silos.

d) Plantation & Horticulture : Definition, meaning and its branches. Agronomic practices and production technology of various plantation and horticulture crops. Post-harvest management, value and supply chain management of Plantation and Horticulture crops.

e) Animal Husbandry : Farm animals and their role in Indian economy, Animal husbandry methods in India, common terms pertaining to different species of livestock, Utility classification of breeds of cattle. Introduction to common feeds and fodders, their classification and utility. Introduction to poultry industry in India (past, present and future status ), Common terms pertaining to poultry production and management. Concept of mixed farming and its relevance to socio-economic conditions of farmers in India. Complimentary and obligatory nature of livestock and poultry production with that of agricultural farming.

f) Fisheries: Fisheries resources, management and exploitation - freshwater, brackish water and marine; Aquaculture- Inland and marine; biotechnology; post-harvest technology. Importance of fisheries in India. Common terms pertaining to fish production.

g) Forestry: Basic concepts of Forest and Forestry. Principles of silviculture, forest mensuration, forest management and forest economics. Concepts of social forestry, agroforestry, joint forest management. Forest policy and legislation in India, India State of Forest Report 2015. Recent developments under Ministry of Environment, Forest and Climate Change.

h) Agriculture Extension: Its importance and role, methods of evaluation of extension programmes, Role of Krishi Vigyan Kendra's (KVK) in dissemination of Agricultural technologies.

i) Ecology and Climate Change: Ecology and its relevance to man, natural resources, their sustainable management and conservation. Causes of climate change, Green House Gases (GHG), major GHG emitting countries, climate analysis, distinguish between adaptation and mitigation, climate change impact to

agriculture and rural livelihood, carbon credit, IPCC, UNFCCC, CoP meetings, funding mechanisms for climate change projects, initiatives by Govt of India, NAPCC, SAPCC, INDC

j) Present Scenario of Indian Agriculture and Allied activities; recent trends, major challenges in agriculture measures to enhance viability of agriculture. Factors of Production in agriculture; Agricultural Finance and Marketing; Impact of Globalization on Indian Agriculture and issues of Food Security; Concept and Types of Farm Management.

### **Rural Development - Concept of Rural Area, Structure of the Indian Rural Economy**

Importance and role of the rural sector in India- Economic, Social and Demographic Characteristics of the Indian rural economy, causes of rural backwardness. Rural population in India; Occupational structure, Farmers, Agricultural Labourers, Artisans, Handicrafts, Traders, Forest dwellers/tribes and others in rural India- Trends of change in rural population and rural work force; problems and conditions of rural labour; Issues and challenges in Handlooms Panchayati Raj Institutions – Functions and Working. MGNREGA, NRLM – Aajeevika, Rural Drinking water Programmes, Swachh Bharat, Rural housing, PURA and other rural development programmes.

### **Paper II - Agriculture (For Agriculture Posts)**

Food production and consumption trends in India. Food security and growing population - Vision 2020. National and international food policies. Production, procurement, distribution constraints. Availability of food grains, per capita expenditure on food. Trends in poverty, Public Distribution System and Below Poverty Line population, Targeted Public Distribution System (PDS), policy implementation in context to globalization. Processing constraints. Relation of food production to National Dietary Guidelines and food consumption pattern. Food based dietary approaches to eliminate hunger. Nutrient deficiency - Micro nutrient deficiency: Protein Energy Malnutrition or Protein Calorie Malnutrition (PEM or PCM), Micro nutrient deficiency and HRD in context of work capacity of women and children. Food grain productivity and food security.

Ecology and its relevance to man, natural resources, their sustainable management and conservation. Physical and social environment as factors of crop distribution and production. Agro ecology; cropping pattern as indicators of environments. Environmental pollution and associated hazards to crops, animals and humans. Climate change - International conventions and global initiatives. Greenhouse effect and global warming. Advance tools for ecosystem analysis - Remote sensing (RS) and Geographic Information Systems (GIS).

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, oil seeds, fibres, sugar, commercial and fodder crops.

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

Weeds, their characteristics, dissemination and association with various crops; their multiplications; cultural, biological, and chemical control of weeds. Soil-physical, chemical and biological properties. Processes and factors of soil formation. Soils of India. Mineral and organic constituents of soils and their role in maintaining soil productivity. Essential plant nutrients and other beneficial elements in soils and plants. Principles of soil fertility, soil testing and fertilizer recommendations, integrated nutrient management, Bio-fertilizers. Losses of nitrogen in soil, nitrogen-use efficiency in submerged rice soils, nitrogen fixation in soils. Efficient phosphorus and potassium use. Problem soils and their reclamation. Soil factors affecting greenhouse gas emission.

Soil conservation, integrated watershed management. Soil erosion and its management. Dry land agriculture and its problems. Technology for stabilizing agriculture production in rain fed areas. Water-use efficiency in relation to crop production, criteria for scheduling irrigations, ways and means of reducing runoff losses of irrigation water. Rainwater harvesting. Drip and sprinkler irrigation. Drainage of waterlogged soils, quality of irrigation water, effect of industrial

effluents on soil and water pollution. Irrigation projects in India.

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.

Cell structure, function and cell cycle. Synthesis, structure and function of genetic material. Laws of heredity. Chromosome structure, chromosomal aberrations, linkage and cross-over, and their significance in recombination breeding. Polyploidy, euploids and aneuploids. Mutations - and their role in crop improvement. Heritability, sterility and incompatibility, classification and their application in crop improvement. Cytoplasmic inheritance, sex-linked, sex-influenced and sex-limited characters.

History of plant breeding. Modes of reproduction, selfing and crossing techniques. Origin, evolution and domestication of crop plants, center of origin, law of homologous series, crop genetic resources conservation and utilization. Application of principles of plant breeding, improvement of crop plants. Molecular markers and their application in plant improvement. Pure-line selection, pedigree, mass and recurrent selections, combining ability, its significance in plant breeding. Heterosis and its exploitation. Somatic hybridization. Breeding for disease and pest resistance. Role of interspecific and intergeneric hybridization. Role of genetic engineering and biotechnology in crop improvement. Genetically modified crop plants.

Seed production and processing technologies. Seed certification, seed testing and storage. DNA finger printing 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.

Major fruits, plantation crops, vegetables, spices and flower crops. Package of practices of major horticultural crops. Protected cultivation and high tech horticulture. Post-harvest technology and value addition of fruits and vegetables. Landscaping and commercial floriculture. Medicinal and aromatic plants. Role of fruits and vegetables in human nutrition. Diagnosis of pests and diseases of field crops, vegetables, orchard and plantation crops and their economic importance. Classification of pests and diseases and their management. Integrated pest and disease management. Storage pests and their management. Biological control of pests and diseases. Epidemiology and forecasting of major crop pests and diseases. Plant quarantine measures. Pesticides, their formulation and modes of action.