



राष्ट्रीय कृषि विस्तार प्रबंध संस्थान (मैनेज)

(कृषि एवं किसान कल्याण मंत्रालय, भारत सरकार का स्वायत्त संगठन)

राजेन्द्रनगर, हैदराबाद – 500 030 तेलंगाना, भारत.

National Institute of Agricultural Extension Management (MANAGE)

(An Autonomous Organization of Ministry of Agriculture & Farmers Welfare, Government of India)

Rajendranagar, Hyderabad - 500 030, Telangana, India

F. No. MNG-01/Admn-537/2025

Dated: 23<sup>rd</sup> January, 2026

### EMPLOYMENT NOTICE – Advt. No.01/2026

National Institute of Agricultural Extension Management (MANAGE) is an Autonomous Organization under the Department of Agriculture and Farmers Welfare (DA&FW), Ministry of Agriculture and Farmers Welfare, Govt. of India.

MANAGE invites applications in the prescribed format for filling-up of Assistant Director (Group-A) positions on Direct Recruitment basis under various categories:

Sl. No.	Post Code	Name of the post	No. of Posts	Pay Matrix Level	Category
1.	AD01	Assistant Director	01	Pay Matrix Level-10 (UGC Scale) (Rs.57,700/- to Rs.1,82,400/-)	ST-1 No.
2.	AD02	Assistant Director	01		UR-1 No.
3.	AD03	Assistant Director	01		UR-1 No.

#### Qualifications:

Assistant Director (Post Code – AD01)	<p><b><u>Essential:</u></b></p> <ol style="list-style-type: none"><li>1. A First Class (60% marks or above) Master's degree in Agricultural Extension/ Agricultural Economics from any recognized University.</li><li>2. Three years' experience in Training / Teaching / Research in concerned field from Central / State Govt. / Universities / Recognized Research Institutions / PSUs / Statutory, Semi Govt. or Autonomous organizations.</li></ol> <p><b><u>Desirable:</u></b></p> <p>Ph.D in the above relevant subjects from any recognized University.</p>
Assistant Director (Post Code – AD02)	<p><b><u>Essential:</u></b></p> <ol style="list-style-type: none"><li>1. A First Class (60% marks or above) Master's degree in Agri-Business Management/ Human Resource Management from any recognized University.</li><li>2. Three years' experience in Training / Teaching / Research in concerned field under Central / State Govt. / Universities / Recognized Research Institutions / PSUs / Statutory, Semi Govt. or Autonomous organizations.</li></ol> <p><b><u>Desirable:</u></b></p> <p>Ph.D in the above relevant subjects from any recognized University.</p>



Assistant Director (Post Code – AD03)	<p><b>Essential:</b></p> <ol style="list-style-type: none"> <li>1. A First Class (60% marks or above) Master's degree in Agricultural Extension from any recognized University.</li> <li>2. Three years' experience in Training / Teaching / Research in concerned field from Central / State Govt. / Universities / Recognized Research Institutions / PSUs / Statutory, Semi Govt. or Autonomous organizations.</li> </ol> <p><b>Desirable:</b></p> <p>Ph.D in the above relevant subjects from any recognized University.</p>
--	--

### 1. Method of Recruitment:

<b>Method of Recruitment</b>	<ol style="list-style-type: none"> <li>1. Written Examination: 100 Marks (100 questions) (Part-A: 50 Marks &amp; Part-B: 50 Marks)</li> <li>2. Essay writing: 20 Marks</li> <li>3. Presentation: 10 Marks</li> <li>4. Interview: 20 Marks</li> </ol> <p><b>Total Marks: 150 Marks</b></p>
<b>Stage - I</b>	<p>Written Examination: 100 Marks (100 questions) – Objective type consisting of</p> <ol style="list-style-type: none"> <li>i) Part A – General Agriculture – 50 Marks</li> <li>ii) Part B – Subject specialization – 50 Marks</li> <li>iii) Each question carries 1 mark and there will be <b>0.25 negative marking</b> for wrong answers.</li> </ol>
<b>Stage - II</b>	<p><b>Top 5 (1:5)</b> candidates in Stage-I will be called for Stage-II exam consisting of</p> <ol style="list-style-type: none"> <li>i) Essay writing: 20 Marks</li> <li>ii) Presentation: 10 Marks</li> <li>iii) Personal interview: 20 Marks</li> </ol>
<b>Selection Methodology</b>	<p>Final Merit list will be prepared based on the combined marks secured by the candidates in the Stage-I &amp; Stage-II</p>
<b>Minimum qualifying Marks (Stage-I)</b>	<p>For the post under Un-reserved (UR) – 45%  For the post reserved for ST – 40%  For PwBD candidates – 40%  Note: The Director General may relax the minimum qualifying marks in case of insufficient number of qualified candidates.</p>

### 2. Tie Breaking Methodology (in order of preference)

- i) Candidates having desirable qualification i.e., Ph.D in the relevant subject will be placed higher.
- ii) Candidates who score highest marks in the subject specialization i.e., in Part-B of stage-I will be placed higher.
- iii) Date of birth, with older candidates.

Even if the qualifications/experience and date of birth of tied candidates are same, a re-test for the tied candidates will be conducted.



### **3. Age Limit: (As on 01/01/2026)**

Assistant Director	a) Not exceeding 35 years. b) For the post reserved for ST (AD01) up to 40 years. c) For Govt. servants up to 40 years in accordance with the instructions of Govt. of India.
--------------------	---

- PwBD (40% or more)/ Ex-Servicemen (ESM)/ Widows/ Divorced Women/ Women judicially separated and who are not remarried are eligible for age relaxation as per GoI rules.
- There is no age restriction for the regular employees of MANAGE.

### **4. Application Fee:**

1. Applicants / Candidates shall be required to pay application fee of **Rs.1000/- including GST (Non-Refundable) in the form of Demand Draft** from any nationalized banks in favour of "MANAGE" payable at Hyderabad. The candidates who are willing to apply for more than one post, should submit separate application along with application fees for each post.
2. Persons with Benchmark Disabilities (PwBD), Women, SC & ST are required to pay **Rs.500/-**. These candidates must produce relevant documents in support of their category.

### **5. General Conditions:**

1. **Last date for receipt of applications along with demand draft is thirty (30) days** from the date of Publication of this notice in Employment News.
2. **Experience, age and qualification will be reckoned as on 01<sup>st</sup> January 2026.**
3. A separate application with prescribed fee should be submitted by the candidates for each post, if they are applying for more than one post mentioning the post code.
4. Those who are in Govt. Service should forward their application through proper channel. Applications routed through proper channel should reach at MANAGE, Hyderabad within 10 days after the last date. However, an advance copy of the application must be submitted on or before the last date failing which the application will be disqualified.
5. In-service candidates should enclose Vigilance Clearance Certificate, No Objection Certificate, Experience Certificate and certified copies of last 5 years APARs while forwarding their applications through proper channel.
6. Clear quality **self-attested** Photostat copies of Educational & Technical Qualifications, Experience, Caste Certificate, PwBD (40% or more), Aadhaar Card and any other relevant certificates must be enclosed with the application.
7. Applications received without complete information or without requisite fees shall be liable to be rejected. Fees once paid shall not be refunded under any circumstances.
8. In case of large number of applications received, the Institute may shortlist the candidates as it deems fit.



9. No correspondence will be entertained from the candidates regarding postal delays, short-listing, and reasons for not being called for Written Examination, Presentation or Interview.
10. MANAGE will retain data of applications received from non-shortlisted candidates only for a period of six months after completion of recruitment process i.e. the issuance of offer letter to the selected candidates.
11. In case of any inadvertent mistake in the process of selection which may be detected at any stage even after the issue of appointment letter, the Institute reserves the right to modify/withdraw/cancel any communication made to the candidates.
12. The recruitment process can be cancelled/terminated/suspended without assigning any reasons. The decision of Director General, MANAGE in all matters will be final and no appeal will be entertained.
13. MANAGE reserves all rights to Add or Delete number of posts at any stage of the recruitment process.
14. In case of any ambiguity/ dispute that may occur in the process of selection, the decision of the Institute shall be final.
15. In case of any dispute which may arise out of or in connection with this advertisement/notification, Hyderabad City Civil Courts have jurisdiction to decide or adjudicate.
16. Director General can relax any of the above conditions in case of exceptional or meritorious candidates.
17. Candidates are advised to visit MANAGE website:  
**<https://www.manage.gov.in/vacancies/vacancies.asp>** regularly for updates. Further correspondences or any updates pertain to this recruitment, if any, will be communicated through MANAGE website only.
18. The filled-in application forms should be sent to **The Deputy Director (Administration), National Institute of Agricultural Extension Management (MANAGE), Rajendranagar, Hyderabad – 500 030, Telangana.** Applications through email shall not be entertained.
19. Applications received after closing date or incomplete applications in any respect and not accompanied by relevant certificates /documents/Demand Draft/ photograph or not in the prescribed format will be summarily rejected.
20. The envelope containing application should be superscripted as **"Application for the Post of Assistant Director"** along with Post Code.
21. MANAGE possess all the discretionary powers to relax any of the above conditions at the shortlisting stage due to all sort of exigencies, if any.

**Sd/-**  
**Deputy Director (Administration)**



## **Syllabus (Stage-I)**

### **1. Assistant Director (Post Code – AD01)**

Part-A: [General Agriculture](#) (50 Marks)

Part-B: [Agricultural Extension](#) (50 Marks)

**or**

[Agricultural Economics](#) (50 Marks)

### **2. Assistant Director (Post Code – AD02)**

Part-A: [General Agriculture](#) (50 Marks)

Part-B: [Agri-Business Management & Human Resource Management](#) (50 Marks)

### **3. Assistant Director (Post Code – AD03)**

Part-A: [General Agriculture](#) (50 Marks)

Part-B: [Agricultural Extension](#) (50 Marks)



## **Syllabus**

### **Subject (Part-A): GENERAL AGRICULTURE**

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.

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.

Agro forestry and value addition.

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.

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.

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.



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.

Enzymes and plant pigments; photosynthesis- modern concepts and factors affecting the process, aerobic and anaerobic respiration; C<sub>3</sub>, C<sub>4</sub> and CAM mechanisms. Carbohydrate, 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.

Major fruits, plantation crops, vegetables, spices and flower crops. Package 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.

Food production and consumption trends in India. Food security and growing population. National and international food policies. Production, procurement, distribution constraints.



## **Subject (Part-B): Agricultural Extension (For Post Code: AD01 & AD03)**

### **Unit 1: Introduction to Agricultural Extension and Extension Management Agricultural Extension**

Meaning (embracing pluralism and new functions) - **New Challenges** before farmers and extension professionals: **Natural Resource Management**-Supporting farmers to manage the declining/deteriorating water and soil for farming; **Gender Mainstreaming**- How extension can enhance access to new knowledge among women farmers; **Nutrition- Role of** extension in supporting communities with growing nutritious crop and eating healthy food; **Linking farmers to markets**- Value chain extension including organizing farmers, strengthen value chain and supporting farmers to respond to new standards and regulations in agri-food systems; **Adaptation to climate changes**-How extension can contribute to upscaling Climate Smart Agriculture; **Attracting and Retaining Youth in Agriculture** including promotion of agri-preneurship and agri-tourism; **Urban and peri-urban farming**- How to support and address issues associated with urban and peri-urban agriculture; **Farmer distress, suicides**- Supporting farmers in tackling farm distress.

**Extension management** in the **public sector**, Department of Agriculture, Agricultural Technology Management Agency (ATMA), Krishi Vigyan Kendra (KVK), SAUs, ICAR Institutes, **Private sector, Cooperatives, NGOs , FPOs** etc. **Extension Approaches Tools and Methods.** Public-private partnership and linkages, Organisational Structure, Relations between different units- Challenges in management.

### **Unit 2: Capacity Development - Approaches and Strategies**

**Training, capacity building, capacity development and HRD**-Meaning and differences; **Need and principles of capacity development; Types and levels of capacities** - Institutional capacities (include the rules, regulations and practices that set the overarching contextual environment), Organisational capacities (how various actors come together to perform given tasks), Individual capacities (technical, functional and leadership skills). **Types of capacity building** - Based on structure (structured, semi-structured & unstructured), Based on context (orientation, induction and refresher), and other categories (online, Webinar, distance etc.).

### **Unit 3: ICTs for Agricultural Extension**

Knowledge centres (tele centres), digital kiosks, websites and web portals, community radio, farmers call centres, mobile phone-based advisory services and mobile applications (mExtension, mLearning), Self-learning CDs on Package of practices, social media, digital videos, **Market Intelligence and Information Systems**- ICT enabled Supply-Chains & Value-Chains/ e-Marketing (e-NAM, Agmarknet etc.). **Global and regional knowledge networks**, international information management systems, e-Learning platforms (MOOCS, Course CERA, EduEx, etc), **types and functions** of social media applications, **guidelines** for preparing social media content, **engaging audience** and **data- analytics. disruptive technologies**- Analysis; Internet of Things (IoTs), Drones, Artificial Intelligence (AI), blockchain technology, social media and Big Data analytics for extension.





## **Unit 4: Gender Mainstreaming**

**Gender mainstreaming and women empowerment:** Importance of gender mainstreaming in agriculture, **Extension strategies to address gender issues** such as gender and health, nutrition, gender in agricultural value chains, gender and climate change adaptation, gender and globalization & liberalization for **mainstreaming gender concerns** into the national programmes and policies. Importance of women empowerment, Current national women empowerment and **gender indices**. Women **empowerment approaches** (technological, organizational, political, financial, social, legal and psychological), **Case studies** based on experiences and learning from various development and rural development programmes. Gender mainstreaming and special women focused programmes in agriculture and rural development.

## **Unit 5: Research Methodology in Extension Education**

Types and stages of social research; Research problems and problem statements, hypothesis; Variables-concept and types; Research design- Types of research designs- experimental, quasi-experimental, cross-sectional, longitudinal, case study, comparative; Mixed methods designs; Threats to internal and external validity; Measurement, Sampling designs- probability and non-probability sampling; Methods of observation -interviews and interviews schedules, semi-structured interviews, - Focus group discussion; Participant and non-participant observation; Parametric and nonparametric statistics for data analysis in social research  
Program Evaluation- concept, objectives, principles, criteria, and theories; Difference between monitoring and evaluation; Evaluation process; Steps in programme evaluation; Types of Evaluation Impact assessment vs impact evaluation; Social impact assessment –stages and approaches; Theories of change; Criteria and indicators; Quantitative and qualitative techniques for impact assessment.

## **Unit 6: Organizational behavior**

Concept and principles of administration and management, classical and modern theories, schools of management thought; Functions of management- planning, organizing, staffing, directing and leading, controlling, coordinating, reporting and budgeting; Leadership styles and theories; Decision-making in organization; Organizational effectiveness, organizational climate, organizational development, job satisfaction and morale; Time management; Performance appraisal; Coordination at different levels of extension management, methods of coordination; Power and Conflicts in Organizations; Organizational Communication-concepts, channels; Organizational climate, Organizational culture vs. climate; Characteristics of organizational culture, creating and maintaining organizational culture; Organizational change, individual and group behaviour in organization; Team building process; Problem solving techniques, & negotiation, motivational theories & techniques, work motivation; Transactional analysis; Managing Stress, conflict and Emotions; Creativity-concept and process; Interventions for organizational development-interpersonal interventions, team interventions, structural interventions, comprehensive interventions, mobilization and empowerment skills.



## **Unit 7: Technology, Innovation and Incubation**

**Technology** - Definition, functions, process of technological advancement – invention, discovery, innovation and technology; **types of innovation** - Basic research, Breakthrough innovation, **Disruptive Innovation and Sustaining Innovation**; Technology transfer and commercialisation. **Agricultural technology** – meaning, types; technology generation system; technology life cycle. Approaches for technology commercialisation – technology scaling up, technology licensing, handholding, agripreneur development, and technology business incubation. Meaning, types and stages of technology scaling up; mechanisms.

**Types of entrepreneurship** - agri-preneurs, startups, small businesses, Producer Organizations, Self Help Groups, Clusters, and other forms of entrepreneurship. **Policy support for entrepreneurship development in India.**

Stakeholder-oriented **incubation process** – Livelihood incubation, village incubators. **System of technology incubation**- incubation process; its effectiveness; managing profit-oriented and non-profit incubators; Schemes for promoting incubators in India.

\*\*\*



## **Subject (Part-B): Agricultural Economics (For Post Code: AD01)**

### **1. Agricultural Production Economics**

Nature, scope and significance of agricultural production economics. Agricultural production processes, character and dimensions and assumptions of production functions. Properties, limitations, specification, estimation and interpretation of commonly used production functions. Factors of production, their classification and interdependence, and factor substitution. Determination of optimal levels of production and factor application covering optimal factor combination and least cost combination of production. Theory of product choice and selection of optimal product combination. Cost functions and cost curves, components, and cost minimization. Duality theory – cost and production functions and its applications. Derivation of firm's input demand and output supply functions. Economies and diseconomies of scale. Measuring efficiency in agricultural production, technical, allocative and economic efficiencies. Yield gap analysis covering concepts, types and measurement.

### **2. Agricultural marketing**

Concepts in agricultural marketing, problems in agricultural marketing from demand and supply and institutions sides, market intermediaries and their role and need for regulation and reforms in the present context, marketable and marketed surplus, marketing efficiency, structure and performance analysis, vertical and horizontal integration, integration over space, time and form. Different forms of marketing, cooperatives marketing, APMC regulated marketing, direct marketing, farmer producer companies, e-NAM and marketing under e-NAM, e-marketing, contract farming and retailing, organized retailing, supply chain management, warehousing, market infrastructure needs and role of government. Advances in agricultural marketing. Market and its structure, marketing functions, institutional arrangement to support markets, reforms in agricultural marketing and major policies and marketing of farm inputs and market integration, efficiency, marketing and price spread.

### **3. Micro economics**

Scarcity and choice, positive and normative economics, concepts of opportunity cost, demand and supply, cardinal utility approach, ordinal utility approach, Hicks and Slutsky income and substitution effects, applications of indifference curve approach, revealed preference hypothesis, consumer surplus, elasticity of demand, production functions- single variable and double variables, cost minimization and output maximization, elasticity of substitution, expansion path and the cost function, concept of economic cost, short run and long run cost curves, envelope curve, L-shaped cost curves, economies of scale, revenue and expenditure, elasticity and marginal revenue, firm equilibrium and profit, market forms, perfect competition, monopoly covering monopoly power, deadweight loss, price discrimination, monopolistic competition covering product differentiation, equilibrium of the firm in the industry-with entry of new firms and with price competition, comparison with pure competition, duopoly and oligopoly with focus on Cournot model and reaction curves, Stackelberg's model and Bertrand model.



#### **4. Macro economics**

Basic concepts and scope of macro-economics, national income accounting, methods of measurement of key macro-economic aggregates, relationship of national income and other aggregates, real and nominal income, Say's law, quantity theory of money, aggregate labour supply and demand of labour and classical theory of determining output, wages and prices. Keynesian model of income determination, Keynesian multiplier, aggregate spending, balanced budget and budget surplus. Goods market equilibrium and assets market equilibrium, IS-LM curve. Inflation covering nature, effects and control, types of inflation covering demand pull, cost push stagflation, core inflation and hyperinflation and Phillips curve.

#### **5. Econometrics**

Relationship between economic theory, mathematical economics, models and econometrics. Basic two variable regression, assumptions estimation and interpretation approaches to estimation, OLS and their properties, extensions to multi-variable models, multiple regression estimation and interpretation. Identification, consequences and remedies for multicollinearity, heteroscedasticity, autocorrelation. Use of dummy variables.

#### **6. Agricultural Development**

Role of agriculture in economic/ rural development, evolution of thinking on agriculture and development, agricultural development covering meaning, stages and determinants. Resource exploitation model, conservation model, location (urban impact) model, diffusion model, high pay-off input model, induced innovation model and agricultural research and development and linkages. Agrarian structure and land relations, agrarian structure and technology, credit, commerce and technology, capital formation, subsidies, pricing and procurement. Production and productivity challenges in agriculture, regional differences, food security, PDS system and poverty. Instruments of agricultural policy, process of agricultural policy formulation, implementation, monitoring and evaluation in India, global experiences in participatory approach to agricultural policy process.

#### **7. Agricultural Finance and Project Management**

Role and importance of agricultural finance, financial institutions and credit flow to rural/priority sector, agricultural lending, direct and indirect lending, financing through co-operatives, NABARD and commercial banks and RRBs. Micro-financing and role of MFIs covering NGOs and SHGs. The concept of 3 Cs, 7 Ps and 3 Rs of credit. Estimation of technical feasibility, economic viability and repaying capacity of borrowers and appraisal of credit proposals. Understanding lenders and developing better working relationship and supervisory credit system. Risks in financing agriculture covering risk management strategies. Crop insurance programs covering different crop insurance schemes/programs, yield loss and weather based insurance and their applications.

Project approach covering financial, economic and environmental appraisal of investment projects. Identification, preparation, appraisal, financing and implementation of projects. Project appraisal techniques covering undiscounted measures and discounted measures taking time value of money into consideration like B-C ratio, NPV and IRR. Network techniques – PERT and CPM.



## **8. International Economics**

The concept of globalization, liberalization and privatization, equilibrium in a closed economy (Autarky Equilibrium), equilibrium in a simple open economy, possibility of world trade, barriers to trade – tariff, producer subsidy, export subsidy, import quota and export voluntary restraints, the case of small country viz-a-viz large country. Models of trade – Ricardian model of trade, specific factors model, Heckscher - Ohlin model. Trade creation and trade diversion, export supply elasticity and import demand elasticity, comparative advantage and absolute advantage. Trade Institutions – IMF, World Bank, IDA, IFC, ADB and WTO.

## **9. Natural Resource and Environmental Economics**

Concepts, classification and problems of natural resource economics, material balance principle, measuring and mitigating natural resource scarcity, Malthusian and Ricardian scarcity, scarcity indices, resource scarcity and technical change. Theories and economics of natural resources. Regulations and sustainability aspects.

## **10. Commodity Future Trading Credits**

Concepts of commodity future trading, transaction and settlement, delivery mechanism, role of different agents, risk in commodity trading, importance and need for risk management measures, managing market price risk using hedging, speculation, arbitrage and swaps. Commodity exchanges covering important global and Indian commodity exchanges and institutional arrangement for smooth functioning of commodity exchanges.

\*\*\*



## **Subject (Part-B): Agri-Business Management & Human Resource Management (For Post Code: AD02)**

### **1. Demand and Supply Analysis**

- Concept of Demand, Determinates of Demand, Law of Demand, Types Of Demand, Expansion/ Contraction of demand vs Increase / Decrease in Demand
- Elasticity of Demand – Price, Income, and Cross Elasticity- advertising elasticity of demand measurement of Elasticity, Factors determining Elasticity, Practical application of the concept of Elasticity
- Demand Forecasting, Methods
- Law of Supply, determinants of supply, Movement along and off the supply Curve – Elasticity of Supply
- Equilibrium Price – Shifts in Demand and Supply Curves

### **2. Theory of the Firm**

Perfect Competition:

- Features
- Equilibrium of the Firm and Industry in the Short run and Long run
- Dynamic Changes and Industry Equilibrium

Monopoly:

- Definition, Types
- Equilibrium of the Monopolist in the short run and long run
- Price Discrimination under Monopoly

Monopolistic Competition:

- Meaning and Characteristics,
- Equilibrium in short run and in long run,
- The concepts of the Group and Industry,
- Comparison with the perfect competition

Oligopoly:

- Meaning and Characteristics,
- Kinked demand curve model
- Price Leadership Model
- Cartel Model
- Game theory treatment of Oligopoly – Zero Sum Game, Non- zero Sum Game

### **3. Marketing and economic development**

- Meaning of Producers surplus
- Marketed Surplus and marketable surplus
- Marketing Cost and Margin
- Marketing Pricing and operational efficiency
- Identifying marketing cost and margins
- Calculating Cost and Margin (product losses, Handling cost, packaging cost, storage cost, processing cost, capital cost)
- Empirical assessment of marketing efficiency



#### **4. Agriculture Value chains**

- Understanding Agriculture Value Chains
- Enabling Environment – Standards and Certification,
- Value chain Models
- Producer driven value chains
- Buyer driven value chain
- Integrated value chain Innovations
- Value chain Innovations
- Financial Innovation
- Technological Innovations – Network and exchanges, Mobiles banking

#### **5. Commodity Marketing**

- Stages in Commodity Marketing system
- Grain marketing
- Spice marketing
- Cotton marketing
- Horticulture marketing
- Livestock and livestock product marketing
- Marketing of Fisheries

#### **6. Global Issues and impact on Domestic Agricultural marketing**

- Climate change and impact on food security
- Livelihood and Role of women in producer organization
- Green Marketing – decreasing carbon foot print
- Small holders access to Markets

#### **7. Human Resource Planning (HRP):**

Concept of HRP, Factors affecting HRP, Planning Process, Forecasting the Demand, Human Resource Information System (HRIS), Barriers to HRP.

Training and Development: Difference between andragogy and pedagogy principles, Concept of training, types of training, The training process, Training orientations training methods, coaching, counseling & mentoring, empowering employees: career planning and development: talent management; management Development programmes (MDPs), Evaluation of training and development, Training Policy and Procedure.

Appraising and Managing Performance:

Development oriented performance appraisal system, Major Components of Development Oriented Performance Appraisal System- the appraisal process, the appraisal interview, the feedback interview. Performance Management System, Monitoring & Coaching Counseling.

#### **8. Commodity Derivatives:**

Commodity Derivatives, Commodity Exchanges, and, Commodity Contracts

Agriculture Price Risk Management: Agriculture Markets, Collective Strategies, Farm Risks, Government Policies, Commodity Price Risk Management, Yield Risk, Weather, Risk, Crop Insurance, Loan and Hedging Products.



## **9. Analysis of Financial Statements:**

Interpretation of Financial Statements, Stocks versus Flows, Fund versus Cash, Important Accounting Principles, Methods of Depreciation.

## **10. Management of Working Capital:**

Current Assets and Current Liabilities, Gross and Net Working Capital (NWC), Days Operating Cycle (DOC) & Days Working Capital (DWC), Maximum Permissible Bank Finance (MPBF), Methods of estimating MPBF, Meaning and Significance of Negative Net Working Capital.

## **11. Ratio Analysis:**

Computation and use of different ratios to analyze comparative financial performance of companies with illustrative examples or case problems. Liquidity ratios, Debt ratios, Profitability ratios, Turnover ratios, Market ratios.

## **12. Time Value of Money and Capital Budgeting Techniques:**

Net Present Value (NPV), Internal Rate of Returns (IRR), Payback Period, Profitability Index (PI). Conflict between NPV and IRR ranking, Implicit Assumption in Estimation of IRR, Appropriate Discount Rate, Optimal Choice of Investments or Projects when Projects are Perfectly Divisible and When They are NOT. Application of Linear Programming in Selection of Projects to maximize total net value added.

## **13. Dividend Policy:**

Cash versus Stock Dividend, Dividend Irrelevance, Gordon Model, Walter Model, Litner Model, Bird in Hand Argument, Dividend versus Capital Appreciation, Adjustments for Dividends, Bonus, and Rights. Reason for Positive Stock Price Response to Dividend Initiation (and Increase), and Announcements of Issue of Bonus Shares.

## **14. Trade Theory: Comparative Advantage:**

Indian Export Scenario of Agri Products – Promoting Value added exports – Export opportunities form Agriculture Clusters- infrastructure and Logistic landscape for Agri export – Marketing and Promotion of “Produce of India”  
International Marketing – Basic Concepts

## **15. ICT in Supply Chain Management:**

Measuring Supply Chain Performance – Matrix, Quick Response, ECR  
Sustainable and Green Supply Chain

## **16. Statutory aspects and engagement / commitment of CSR**

Policy Environment for CSR  
CSR as a strategic philanthropy

\*\*\*