

SYLLABUS: DEPARTMENT OF AGRICULTURAL ECONOMICS

Courses Offered by Department of Agricultural Economics in M.Sc (Ag.) programme

| Course No. | Name of the Course | Credit Hours | Semester |
|------------|-------------------------------------------|--------------|----------|
| AEC 501 | Agricultural Production Economics | 2+1 | I |
| AEC 502 | Agricultural Marketing & Price Analysis | 2+1 | II |
| AEC 503 | Agricultural Finance & Project Management | 2+1 | III |
| AEC 504 | Globalization and Agricultural Policy | 2+1 | III |
| AEC 505 | Benefit-Cost Analysis | 2+1 | I |

AEC 501 Agricultural production economics 2+1

Objectives:

To develop the understanding of production process and the guiding economic principle for agricultural production; to apply the appropriate economic principle under different production scenario to optimize the production process

Syllabus:

Theory

UNIT I

Nature, scope and significance of agricultural production economics- concept of production in economic sense. Factors of production-classification, interdependence and factor substitution.

UNIT II

Production functions - assumptions of production functions, commonly used forms and their properties, limitations, specification, estimation and interpretation. Determination of optimal levels of production and factor application-Law of diminishing returns. Optimal factor combination and least cost combination of production' application of Law of technical substitution. Production possibility curve-theory of product choice, and selection of optimal product combination.

UNIT III

Cost functions and cost curves, components, and cost minimization. Cost function and its applications. Derivation of firm's input demand and output supply functions. Shut Down and Break-Even Analysis. Returns to scale- economies and diseconomies of scale.

UNIT IV

Technology in agricultural production, nature and effects and measurement- Measuring efficiency in agricultural production; technical, allocative and economic efficiencies. Yield gap

analysis-concepts-types and measurement. Nature and sources of risk, modeling and coping strategies.

Practical

Different forms of production functions - specification, estimation and interpretation of production functions - returns to scale, factor shares, elasticity of production - physical optima-economic optima-least cost combination- optimal product choice- cost function estimation, interpretation-estimation of yield gap - incorporation of technology in production functions-measuring returns to scale-risk analysis through linear programming.

Learning Outcome:

Students will be able to acquire necessary theoretical and analytical skills to optimise the agricultural production and analyse the financial health of any farm for possible progress towards maximisation of profit.

AEC 502

Agricultural marketing and price analysis

2+1

Objectives:

Agricultural marketing in a broader sense is concerned with the marketing of farm products produced by farmers and of farm inputs and services required by them in the production of these farm products. Thus, the learning Objectives of agricultural marketing is to study both product marketing as well as input marketing.

Syllabus:

Theory

UNIT I

Concepts and definition of Agricultural Marketing- its new role. Market and market structure. Problems in Agricultural Marketing. Characteristic of agricultural product and production-factors affecting demand for and supply of farm products. Market intermediaries and their role - Need for regulation in the present context. Marketing Integration- efficiency, costs, margins and price spread.

UNIT II

Marketing Co-operatives - APMC Regulated Markets - Direct marketing, Contract farming, contract marketing and retailing - Supply Chain Management. State trading, Warehousing and other Government agencies -Performance and Strategies - Market infrastructure needs, performance and Government role - Value Chain Finance. Market information.

UNIT III

Spatial and temporal price relationship - price forecasting - time series analysis - time series models - spectral analysis. Market segmentation, measurement and forecasting.

UNIT IV

Introduction to commodities markets and future trading - Basics of commodity futures - Operation Mechanism of Commodity markets - Price discovery - Hedging and Basis - Fundamental analysis - Technical Analysis. Trade policy for agriculture-International trade agreements. Marketing research.

Practical

Price spread and marketing efficiency analysis. Marketable & Marketed surplus estimation. Marketing structure analysis through concentration ratios. Performance analysis of Regulated market and marketing societies. Analysis on contract farming/marketing and supply chain management of different agricultural commodities, milk and poultry products. Online searches for market information sources and interpretation of market intelligence reports - commodity outlook - Technical Analysis for important agricultural commodities - Fundamental Analysis for important agricultural commodities - Presentation of the survey results and wrap-up discussion.

Learning Outcome:

After studying this course, students will have an understanding on structure of Agriculture marketing in India, agriculture cooperatives, future trading, critical appraisal of agriculture marketing, major Objectives and instruments of agriculture price policy, buffer stock, appraisal of agriculture pricing policy.

AEC 503**Agricultural finance and project management****2+1****Objectives:**

To understand the role of agriculture in the economic development of India, to assess the impact of agriculture on the macroeconomic indicators, Nature and scope of financial management in agri-business, to understand the functions of agricultural lending products, to assess investment analysis and projections, to understand the level and type of risk analysis a bank must perform while evaluating agri-business financing, to understand agri-value chain finance, to understand the factors a bank must keep in mind when marketing agricultural banking products, to understand the role of the regulator in agricultural financing

Syllabus:**Theory**UNIT I

Role and Importance of Agricultural Finance. Basic economic principles involved in finance. Financial Institutions and credit flow to rural/priority sector. Agricultural lending - Financing through Co-operatives, NABARD and Commercial Banks and RRBs. Micro-Financing and Role of MFI's - NGO's, and SHG's.

UNIT II

The concept of 3 C's, 7 P's and 3 R's of credit. Estimation of Technical feasibility, Economic viability and repaying capacity of borrowers and appraisal of credit proposals. Credit inclusions - credit widening and credit deepening.

UNIT III

Financial Decisions - Investment, Financing, Liquidity and Solvency. Preparation of financial statements - Balance Sheet, Cash Flow Statement and Profit and Loss Account. Ratio Analysis.

UNIT IV

Project Approach in financing agriculture. Financial, economic and environmental appraisal of investment projects. Identification, preparation, appraisal, financing and implementation of projects. Project Appraisal techniques - Undiscounted measures. Time value of money - Use of discounted measures - B-C ratio, NPV and IRR. Agreements, supervision, monitoring and evaluation phases in appraising agricultural investment projects.

UNIT V

Risks in financing agriculture. Crop Insurance programmes – review of different crop insurance schemes - yield loss and weather based insurance and their applications.

Practical

Estimation of Demand and supply of agricultural credit and over dues. Assessment of Rural Lending Programmes of Commercial Banks. Preparation of District Credit Plan. Preparation of financial statements using farm/firm level data. Performance of Micro Financing Institutions - NGO's and Self-Help Groups. Identification and formulation of investment projects, Project appraisal techniques – Undiscounted Measures and their limitations. Case Study Analysis of an Agricultural project, Financial Risk and risk management strategies – crop insurance schemes.

Learning Outcome:

On the completion of the course, students will be able to learn sources of agricultural micro-macro financing and credit systems, understand the history of financing agriculture in India, significance and limitations of crop insurance, significance of farming cooperatives, acquire knowledge of successful cooperative systems in India and newly launched crop insurance schemes, estimation of credit requirement of farm business, preparation and analysis of project reports and balance sheet, analysis and performance of commercial banks, cooperative banks to acquire first-hand knowledge of their management, schemes and procedures.

AEC 504 Globalization and agricultural policy

2+1

Objectives:

To understand the concept of globalization and agricultural policy and their implication on the society as a whole.

Syllabus:

Theory

UNIT I

Concept of globalization and the relevance of agricultural policies in India. Role of agriculture in economic development. Development Issues – Population, Food Security, Rural Poverty, Inequality and Environmental Concerns.

UNIT II

International Trade- The role of trade. Free trade versus Protectionism, Tariff, Producer Subsidy, Export Subsidy, Import Quota, Exchange Rate, Terms of Trade and Trade Blocks. Trade Models- Ricardian Model of Trade- Comparative Advantage and Absolute Advantage.

UNIT III

International Trade agreements – Uruguay Round – GATT – WTO – Agreement on Agriculture and Lessons for developing countries. International co-operation in agriculture-IMF, World Bank, IDA, IFC, ADB, CGIAR.

UNIT IV

Agricultural Policies- National Agriculture Policy, National Water Policy, National Seed Policy, National Fertilizer Policy, Credit Policy, Price Policy, Crop Insurance Policy, etc.

Practical

Estimation of Trade Gains- Estimation of competitive and comparative measures like NPC, EPC, ERP and DRC. Estimation of Effect of Tariff, Export Subsidy, Producer Subsidy, Import Quota

and Export Voluntary Restraints on National Welfare. Estimation of Ricardian Model, Terms of Trade and Exchange rate. Gini-coefficient and Lorenz Curve.

Learning Outcome:

Students will understand the concept of globalisation and agricultural policy and will be enabled with necessary skills to analyse the impacts of changing agricultural policies and international trade.

AEC 505

Benefit-cost analysis

2+1

Objectives:

The learning Objectives of Benefit-Cost Analysis is to provide decision-makers with information about the social value of government-sponsored programs, projects and policies, so that they can allocate resources in a way that improves the well-being of society as a whole. The course covers the key concepts and tools that are essential for the evaluation of government activity by applying cost-benefit techniques, including under conditions of uncertainty. Case studies are employed to give students the confidence and insights required to undertake their individual assignment. Alternative decision-making approaches will also be presented to provide a perspective on the advantages and disadvantages of cost-benefit analysis.

Syllabus:

Theory

UNIT I

Concept and background of Benefit-Cost Analysis. Fundamental Principles of Benefit-Cost Analysis.

UNIT II

Agricultural Development Projects and their Characteristics- Formulation of Agricultural Development Projects.

UNIT III

Identification and selection of Agricultural Development Projects. Efficiency criterion- Benefit-Cost Ratio (BCR), Net Present Value (NPV), Internal Rate of Return (IRR) and Pay Back Period (PBP). Benefit-Cost Analysis from private and social point of view-Types and measurement of Benefits and Costs at farm level and at aggregate level. Approaches of Benefit-Cost Analysis- with (treatment) and without (control) approach; and Before and after approach. Equity criterion- Subsistence criterion and Contributing criterion. Employment criterion. Physical environment criterion.

UNIT IV

Application of Benefit-Cost Analysis in selection of development schemes- irrigation projects and systems; purchase of farm assets like tractors and farm buildings; establishment of crop, dairy, fishery and poultry farms; selection of agronomic practices; establishment of horticultural projects and schemes like plantation, orchards, etc; selection of plant protection practices and schemes like IPM; extension programmes; etc

Practical

Identification and formulation of investment projects, Project appraisal techniques – Discounted and undiscounted measures of project evaluation and their limitations. Estimation of BCR, IRR, NPV and PBP.

Learning Outcome:

Upon successful completion, students will have the knowledge and skills to a solid understanding of the basic rationale and techniques for applying cost-benefit analysis to government-sponsored programs, policies and projects, the ability to plan and implement a cost-benefit study and the ability to understand and critique a cost-benefit study prepared by someone else.

- Have a deep mastery of the subject area in two fields of concentration.
- Be able to conduct scholarly research.
- Be able to describe and critique economic research to both technical and non-technical audiences.
- Be able to explain economic principles, models and methods to others.
- Be prepared for employment in academic and/or non-academic institutions.

Syllabus:

UNIT I

Definition, nature and scope of agricultural economics. Role of agriculture in economic development. Problems of agriculture in India.

UNIT II

Theory of Consumer Behaviour – Utility, Law of Diminishing Marginal Utility. Applications of Indifference curve approach - Income effect and substitution effect. Revealed Preference Hypothesis. Theory of Demand – Determinants of Demand, Elasticity of Demand and Consumer surplus.

UNIT III

Theory of Production - Production functions, Returns to scale and economies of scale. Theory of Costs – Cost curves. Law of Supply – Determinants of Supply, Elasticity of Supply and Producers’ surplus.

UNIT IV

Market- Meaning, concepts and types. Behavior of Firms – Perfect Competition and Monopoly.

UNIT V

National Income - Concepts and measurement. Classical theory of Employment and Say’s Law. Modern theory of Employment and Effective Demand.

UNIT VI

Consumption function- Investment and savings. Concept of Multiplier and Accelerator. Output and Employment - Classical theory Vs Keynesian theory.

UNIT VII

Money and classical theories of Money and Price. Keynesian theory of money and Friedman Restatement theory of money. Supply of Money and Demand for Money. Inflation- Nature, Effects and control.

UNIT VIII

Business cycles. Foreign Trade – Balance of Payment, Free trade versus Protectionism, Tariff, Producer Subsidy, Export Subsidy, Import Quota, Exchange Rate, Terms of Trade and Trade Blocks.

Learning outcome

Develop the ability to explain core economic terms, concepts, and theories.

- Explain the function of market and prices as allocative mechanisms.
- Apply the concept of equilibrium to both microeconomics and macroeconomics.
- Identify key macroeconomic indicators and measures of economics change, growth, and development.
- Identify and discuss the key concepts underlying comparative advantage.
- Identify and explain major types of market failures.

Demonstrate the ability to employ the “economic way of thinking.”

- Discuss the application of marginal analysis.

- Explain the use of benefit/cost analysis.
- Explain the contribution of economics to the analysis of non-market social issues. Demonstrate awareness of global, historical, and institutional forces.
- Assess the role of domestic and international institutions and norms in shaping economies.

Apply economic theories and concepts to contemporary social issues, as well as formulation and analysis of policy.

- Describe how economic trade-offs and social values impact public/private social policy, and the success or failure of policies to achieve intended outcomes.

Recognize the role of ethical values in economic decisions.

- Distinguish between normative and positive economics.
- Identify the limits of economic analysis.
- Compare and contrast efficiency and equity.

Skill Areas

Apply both oral and written communication skills within the discipline.

- Present economic arguments in non-quantitative form.
- Synthesize the arguments found in both academic and popular economic media.
- Discuss economic concepts in an articulate manner in a classroom.

Demonstrate quantitative reasoning skills.

- Present an economic argument in quantitative terms.
- Demonstrate ability to solve systems of equations.
- Be able to conduct economic analysis using equations and graphs.

Demonstrate the ability to collect, process, and interpret data, including statistical inference.

- Recognize how to use scientific method in economics.
- Formulate empirically testable hypotheses.
- Construct a data set of economic variables.
- Calculate, present, and discuss descriptive statistics.
- Conduct a regression analysis.
- Critically assess the statistical analysis of other researchers.

Demonstrate computer proficiency within economics.

- Access, download, and use electronic databases.
- Use standard software packages.

Be able to use critical thinking skills within the discipline of economics about economic matters.

- Present viewpoints and alternative hypothesis on economic issues.
- Recognize underlying assumptions in economic models.
- Demonstrate ability to use the economic tools of analysis.

AEC 603

Advanced course on agricultural economics

4+0

Objectives

Various economic principles and business management concepts which are involved in the decision-making process when organizing and operating a farming/ranching operation. Includes production economics, record keeping systems, financial budgets and analysis, crop and livestock enterprise analysis, leasing arrangements, depreciation, farm business organizations, farm investment analysis, pasture/rangeland management, and production efficiency indicators.

Syllabus

UNIT I

Theory of consumer behaviour –Measurement of Income Effect and Substitution Effects. Applications of consumer theory. Demand- demand functions and demand models – Linear Expenditure System, Almost Ideal Demand System.

UNIT II

Market- Perfect competition, Monopoly, Monopolistic competition and Oligopoly. Models- collusive and non-collusive models of oligopoly; Cournot model, Chamberlin model, Stackleberg solution.

UNIT III

Welfare Economics - Concepts, problems, approaches and limitations of Welfare Economics, Pareto conditions of maximum welfare and Pareto Optimality – Criteria for social welfare - Social Welfare functions, Social versus Private costs and benefits.

UNIT IV

Review of Macro Economics concepts. Keynesian versus Classical theory. Consumption Function and Theories of Consumption. Saving Function and Theories of Saving.

UNIT V

IS & LM frame work. General Equilibrium of product and money markets. Monetary policy and Fiscal policy- Effectiveness of Monetary and Fiscal policy. Central banking.

UNIT VI

Unemployment-Theory of Unemployment, Phillips Curve controversy. Inflation-Meaning, causes and theories.

UNIT VII

Social Accounting Matrix Framework. General Equilibrium Analysis. Concept of Multiplier and Acceleration.

UNIT VIII

Balance of Payment & Adjustment Policies. Foreign Exchange Policy. Capital and Current Account. Impact of WTO on Indian Economy.

Learning outcome

After completion of this course students may have the skills to succeed in a business, agency, or academic environment and use agricultural economic concepts to quantify and analyze issues as directed by their employer.

AEC 604

Courses on thesis writing

4+0

Objectives

1. Learn the structure of paragraph.
2. Use various strategies to write the lead-in and introduction.
3. Write a clear thesis statement and essay map
4. Write an essay that demonstrates unity, coherence, and completeness.
5. Support general statements with effective examples.
6. Develop examples with specific details to illustrate a point.
7. Proofread for minor/major grammar and mechanical errors.

Syllabus:

Unit I

Meaning of Thesis –Some basic dimensions and formality of submission-Components of thesis and their importance

Unit II

Presentation and writing of synopsis

Unit III

Developing Seminar presentation

Unit IV

Writing the introduction-Conducting review of literature - Developing theoretical orientation and framing conceptual model-Organizing research methodology chapter-writing the findings and discussion chapter- drawing the summary and conclusion - writing implications and framing empirical model-citing the references and appendices

Learning Outcome

Student may develop knowledge about the art of thesis writing after completion of this course.