

# SYLLABUS

*For*

## 2 YEARS MA ECONOMICS PROGRAMME

*(Revised Syllabus Approved by Academic Council)*



*Dept. of  
Economics*

**JUNE, 2019**

**UNIVERSITY OF SCIENCE & TECHNOLOGY, MEGHALAYA**

Techno City, 9<sup>th</sup> Mile, Baridua, Ri-Bhoi, Meghalaya, 793101

**MEC-101**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**MICRO ECONOMIC ANALYSIS – I**  
**SEMESTER-I**

**CO1.** By the end of the course, students will have some idea to apply supply and demand analysis to examine the impact of government regulation.

**CO2.** Students will be able to explain and calculate price elasticity of demand and other elasticity.

**CO3.** By the end of the course, students will be able to demonstrate an understanding of producer choice, including cost and break-even analysis.

**CO4.** Students will be able to understand the concepts of opportunity cost, trade-offs, and the benefits of exchange.

**CO5:** The students will be able to understand the concept of risk, and decision making process of producer and consumer under uncertainty.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Demand Analysis**

Cardinal Utility Approach- Law of Diminishing Marginal Utility, Consumer's equilibrium, Derivation of Demand Curve, Law of Demand, Ordinal Utility Approach:- Indifference curve, Properties: Consumer's equilibrium, Price, income & substitution effects, Derivation of Demand Curve, Revealed Preference Theory of Demand, Recent Development in Demand Theory:- Hicksian Revised Theory – Neumann – Morgenstern Statistical Utility Theory, Armstrong's Marginal Preference Theory .

**Unit 2: Consumer Surplus and Elasticity of Demand:-**

Consumer Surplus:- Meaning, Marshall's Measurement of Consumer Surplus, Measurement of Consumer Surplus through indifference Curve analysis, Critical Evaluation, Elasticity of Demand:-Meaning, Price Elasticity of Demand, Measurement of Price elasticity, Income Elasticity of Demand, Cross Elasticity of Demand, Numerical Problems .

**Unit 3: Theory of Production:**

Supply Analysis: Economies of Scale:- Internal Economies and Diseconomies, External Economies and Diseconomies, Production Possibility Curve, Production Function :- Law of Variable Proportions, Returns to Scale, Isoquants:-Properties, Producer's equilibrium, Linear Homogenous Production Function, Cobb -Douglas Production Function and CES Production Function

**Unit 4: Cost and Revenue**

Cost Concepts: - Accounting and Economic Cost, Private Cost and Social Cost,

Opportunity Cost, Fixed and Variable Cost, Average, Marginal and Total Cost, Numerical Problems, Short Run and Long Run Cost Curves, Revenue Concepts: - Average, Marginal and Total Revenue, Numerical Problems.

**Recommended Readings:**

1. Stigler G., *Theory of Price*, Prentice Hall of India, New Delhi. Latest edition
2. Sen A., *Microeconomics: Theory and Application*, Oxford University Press, New Delhi. Latest edition
3. Kreps David M., *A Course in Microeconomic Theory*, Princeton University Press, Princeton. Latest edition
4. Samuelson, P.A. and W.O. Nordhaus, *Economics*, Tata McGraw Hill, New Delhi. Latest edition
5. Verian H., *Microeconomic Analysis*, W.W Norton New York. Latest edition
6. Koutsoyiannis, A., *Modern Microeconomics*, Macmillan Press, London. Latest edition
7. Madalla and Miller, *Microeconomics*, Tata McGraw Hill. Latest edition
8. Salvatore, D. *Micro economics Microeconomics: Theory and Applications*, OUP, New Delhi. Latest edition

**MEC- 102**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**MACRO ECONOMIC ANALYSIS-I**  
**SEMESTER-I**

**CO1.** After study of this unit students will understand the flow of income in different macroeconomic sector of the nation i.e. flow of income from house hold to farm, from household to government or to foreign sector. It analysis how national income is calculate, i.e. what to include and exclude to determine the national income (GDP, GNP etc.). How to make the social accounting to get benefit of increase in national income.

**CO2.** This unit include the famous “Keynes psychological law of consumption” indicating the relation between consumption and income. It also tries to make a relation between the consumption, income and investment through investment multiplier theory.

**CO3.** This unit introduces the students about the sources and controller of money supply. The theory of high powered money shows, how the money supply can influence the economy and how the apex monetary authority measure the supply of money.

**CO4.** This unit analysis the different classical and modern concept of demand for money. The land mark definitions of fisher and other Cambridge economist and Keynes also discussed here.

**CO5.** Keynes liquidity preference theory of money, which shows in which motive people demand for money. How liquidity trap happens and how it destroys the economic growth.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: National Income and Accounts:**

Key concepts in Macro Economics, Circular flow of income: two three and four sector economy – different forms of national income accounting, flow of funds accounting and balance of payment accounting, Social Accounting

**Unit 2: Consumption Function**

Keynes Psychological law of consumption – Implications of the law of consumption – short run and long run consumption function ; Empirical evidence of consumption function, Consumption theories, Investment functions, Investment Multiplier, The accelerator and investment behavior.

**Unit 3: Supply of Money**

Financial intermediation — a mechanistic model of bank deposit determination; A behavioural model of money supply determination, a demand determined money supply process; RBI approach to money supply; High powered money and money multiplier; budget deficits and money supply;

**Unit 4: Demand for Money**

Classical approach to demand for money, Quantity theory approach, Fisher's equation, Cambridge quantity theory, Keynes's liquidity preference approach, transaction, precautionary and speculative demand for money, Liquidity trap — aggregate demand for money; Derivation of LM curve.

**Recommended Readings:**

1. Ackley, G., *Macroeconomics : Theory and Policy*, Macmillan, New York. Latest edition
2. Dornbusch, R. and F. Stanley, *Macroeconomics*, McGraw Hill, Inc., New York. Latest edition
3. Hall, R.E. and J.B. Taylor, *Macroeconomics*, W.W. Norton, New York. Latest edition
4. Heijdra, B.J. and V.P. Fredericck, *Foundations of Modern Macroeconomics*, Oxford University Press, New Delhi. Latest edition
5. Jha, R., *Contemporary Macroeconomic Theory and Policy*, Wiley Eastern Ltd., New Delhi. Latest edition
6. Soderstein, B., *International Economics*, Tata McGraw Hill. Latest edition

**MEC- 103**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**ECONOMICS OF GROWTH AND DEVELOPMENT-I**  
**SEMESTER-I**

**CO1.** By end of this course, student will get essential concepts of growth as well as Development.

**CO2.** By end of this course, student will understand the diverse dimension and measures of development.

**CO3.** By end of this course, student will learn about the distributional issues of growth and development.

**CO4.** By end of this course, student will explore the developmental theories that help to address the current challenges of development.

**CO5 :** It will enable the applicability of various development theories and index in real life situation

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Development and its Measurement**

Problems in Defining Economic Development — Per Capita Income as an Index of Development— Alternative Measures of Development Gap: HDI, GDI and related indices.

**Unit 2: Economic Growth**

Meaning and Sources of Economic Growth: Population Growth, Capital Accumulation and Technical Progress; the Notion of Capital-Output ratio;

**Unit 3: Poverty, Inequality and Growth**

Poverty: Concepts and Measurement - Income Inequality and Growth – Redistribution with Growth.

**Unit 4: Development Theories**

Theories of Evolution of a Capitalist Economy: Classical, Marx and Schumpeter - Theories of persistence of Underdevelopment: The Vicious Circle Theory, The Process of Cumulative Causation: Myrdal, Neo-Colonial Dependence Model - The Stages of Growth: Rostow.

**Recommended Readings:**

1. Meier, G.M., *Leading Issues in Economic Development*, Latest Edition
2. Todaro, M.P., *Development Economics, Latest Edition*
3. Thirlwal, A. P. *Growth and Development, latest Edition*
4. Basu, K., *Analytical Development Economics*; Latest Edition
5. UNDP, *Human Development Reports*, Latest Edition
6. World Bank, *World Development Reports*, Latest Edition

**MEC- 104**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**MATHEMATICAL METHODS FOR ECONOMIC ANALYSIS**  
**SEMESTER-I**

**CO1:** Develop different tools and techniques of integration and its application in different areas of economics particularly in Consumer's surplus and producer's surplus.

**CO2:** It gives an idea about different techniques of game theory and its use in different areas of practical life.

**CO3:** To develop different technique and tools to address the long term dynamic variables.

**CO4.** Develop linear programming (LP) models and solve the problems using graphic method and simplex method.

**CO5.** The students gets an idea of applicability of mathematics in Economics, mathematical derivation of various economics theories.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Integration**

Applications relating to derivation of total functions from marginal functions, estimation of consumer's surplus, producer's surplus, problems relating to investment, capital formation and derivation of simple growth process (Domar).

**Unit 3: Game Theory**

Two-person Zero sum game – pure strategies with saddle point, games without saddle point – the rules of dominance – solution of games without saddle point – mixed strategies, Basic ideas and examples of no zero sum games – Nash equilibrium, Prisoner's dilemma and Repeated games.

**Unit 2: Calculus for Dynamic Analysis**

First order differential equation and its solutions – application to dynamic stability of market and simple growth process (Harrod-Domar), First order difference equation and its solution application of difference equation – lagged market model (Cobweb) and Harrod's model of growth.

**Unit 4: Linear Programming and Input Output Analysis**

Linear programming: Concept and formulation of LP problems, Solutions: Graphical and Simplex methods, Dual formulation and interpretation, Duality theorems, Shadow prices and their uses; Static Input-Output Analysis: Open and closed models.

**Recommended Readings:**

1. Chiang A. C., *Fundamental Methods of Mathematical Economics*, Latest Edition
2. Baruah S., *Basic Mathematics and its Economics Applications*, Latest Edition
3. Henderson J. M. and Quandt R. E. *Micro-economic Theory – A Mathematical Treatment*, Latest Edition

4. Allen R. G. D. *Mathematical Analysis for Economists*, Latest Edition
5. Yamane T., *Mathematics for Economists*, Latest Edition
6. Dowling E. T., *Theory and Problems of Mathematical Methods for Business and Economics*, Latest Edition
7. Mouhammed, *Introduction to Mathematical Economics*, Latest Edition



**MEC-105**

**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA  
M.A ECONOMICS SYLLABUS  
POLITICAL ECONOMY  
SEMESTER -I**

**CO1.** Enable to realize the context of Economic Theories and Ideas.

**CO2.** Help to have a holistic understanding of history of Economic thoughts.

**CO3.** Inculcate the sense of critical thinking about the economic ideas and find ways to build new.

**CO4.** Realization of how economic system works under different political theories.

**CO5.** The students will get idea on the present conflict of world relating them to various schools of thoughts of economics.

**CREDIT-4**

**TOTAL MARKS -100**

**Unit 1: Classical Political Economy**

Political Economy- Concept and Subject matter: Economic Theory and the class Question, Class conflict and Classical Political Economy. The Rise of Classical Political Economy: The Institutional and Historical Background. Predecessors of Classical School (Basic Doctrines of Mercantilists and Physiocrats)

**Unit 2: Classical Factor Classification (in retrospect): The Major Questions**

The Classical Theories of Value (including Labour Theory of Value): Smith and Ricardo. Classical Theories of Distribution: Smith, Ricardo, Malthus and Mill. Classical theories of Development: Smith and Mill.

**Unit 3: Classical School and Its relevance to Modern Economic Problems and Recent Resurgence**

Classical Theories: Their relevance to Contemporary conditions (with special reference to developing economies). Neoclassical Economics: Marginalist Economics- Marginalism and Classical Political Economy. Marxian Political Economy: A synoptic View. Sraffa Revolution and Neo- supply side Economics, Club of Rome Model.

**Unit 4: Schematics of Class Relations**

Centerist Politics, Class politics and Indian states: Class politics, Confessional Politics, Minority Politics, Bullock Capitalists and Backward Classes, The constraints of Social Pluralism and Federalism. Types of Politics and Economic Performance: Demand Polity and Command Polity.

**Recommended Readings**

1. Blaug, Mark (1978): Economic Theory in Retrospect, Cambridge University Press, U.K. (Latest Edition)

2. Bhardwaj, Krishna (1979): Classical Political Economy and Rise to Dominance of Supply and Demand Theories, Centre for Studies in Social Sciences, Bangalore. (Latest Edition)
3. Perelman, Michael (2013) : Classical Political Economy, Bloomsbury Academic, London Perelman, (Latest Edition)
4. Michael (2010): The Intervention of Capitalism: Classical Political Economy and the secret History of Primitive Accumulation, Duke University Press, London. (Latest Edition)
5. Roll Eric (1956): A History of Economic Thought, Prentice Hall, Englewood Cliffs, NJ, (Latest Edition)
6. Rudolph, L.I. and Rudolph, S. H. (1987): In Pursuit of Lakshmi, Orient Longman Limited, Hyderabad. (Latest Edition)
7. Sraffa, Piero (1975): Production of Commodities by means of commodities: Prelude to a critique of Economic Theory, Cambridge University Press, U.K (Latest Edition)
8. Mitra, Ashok, Terms of Trade and Class relations. Rupa Publications

**MEC- 201**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**MICRO ECONOMIC ANALYSIS – II**  
**SEMESTER-II**

**CO1** Students will be able to demonstrate knowledge of the laws of supply and demand and equilibrium; and apply the supply and demand model to analyze responses of markets to external events

**CO2** By the end of the course, students will be able to demonstrate an understanding of producer choice, including cost and break-even analysis

**CO3** By the end of the course, students will be able to compare and contrast common market structures, including perfect competition and monopoly

**CO4.** By the end of the course, students will be able to apply microeconomic principles and models to define and address market failures; and to describe issues such as wage inequality, environmental protection or other policy matters.

**CO5.** Gives a complete knowledge of various market concentration and competitive level

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Price & output Determination**

Perfect Competition - Features, Price Determination, Equilibrium of the Firm and Industry. Monopoly: - Price and Output Determination.-Comparison between Monopoly equilibrium in and perfect Competition Equilibrium- Discriminating Monopoly – Price Discrimination, Equilibrium under Discriminating Monopoly, Regulation of Monopoly – Through Taxation, and Price Regulation.

**Unit 2: Price & output Determination**

Monopolistic Competition – Price and Output Determination.-Critique of Chamberlin’s Theory of Monopolistic Competition-Excess Capacity under Monopolistic Competition- Selling Cost.- Oligopoly – Price and Output Determination.- Cournot’s Model and Chamberlin’s Model of Oligopoly.- Kinked Demand Curve in Oligopoly- Duopoly – Price and Output Determination.

**Unit 3: Alternative Theories of the Firm –**

A critique of the Traditional Theories of Firm – Managerial Theories of Firm: Contributions of Baumol, Morris and Williamson – Pricing Policies and Tactics: Target Return Pricing, Cost Plus Pricing, Product Line Pricing, Price Skimming and Penetration Pricing.

**Unit 4: Risk and Uncertainty-**

Individual behaviour towards risk, expected utility and uncertainty equivalence approaches; Risk and risk aversion – gambling and insurance, the economics of insurance, cost of risk, risk

pooling and risk spreading, mean-variance analysis and portfolio selection; efficient market hypothesis; Economics of information.

**Recommended Readings:**

1. Dewett K.K., *Modern Economic Theory*, S. Chand & Company Ltd. Latest edition
2. Koutsoyiannis A., *Modern Microeconomics*, Macmillan Press, London. Latest edition
3. Henderson, A.M. and R.E. Quandt, *Microeconomic Theory. A Mathematical Approach*, McGraw Hill, New Delhi. Latest edition
4. Sen, A., *Microeconomics: Theory and Applications*, OUP, New Delhi. Latest edition
5. Madalla and Miller, *Microeconomics*, Tata McGraw Hill. Latest edition
6. Salvatore, D. Micro economics *Microeconomics: Theory and Applications*, OUP, New Delhi. Latest edition
7. Pindyck, R. & Rubinfeld, D.L., *Microeconomics*, Prentice Hall of India. Latest edition

**MEC-202**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**MACRO ECONOMIC ANALYSIS-II**  
**SEMESTER-II**

**CO1.** This unit makes a comparative study between classical and modern thought about macroeconomic issues and how macroeconomics got change overtime.

**CO2.** This unit discuss about the general equilibrium in the economy through product market and commodity market equilibrium. It also discusses how the general equilibrium get disturb by change in fiscal and monetary policy.

**CO3.** This unit analyzes the demand for money in modern sense, where a number of economists has given a number of views regarding the demand for money. Majority of the followers of Keynes has interacted with new issues about the demand for money. It throws light on the prospects how demand for money got changed over time.

**CO4.** This unit analyze about the inflation and general price level. Different theories of inflation, its causes and effects and remedies .the relations between the price rise and unemployment and how many times we have to compromise with the high price to ensure the unemployment level low.

**CO5.**It makes aware about the business cycles, how and what situation it happens and the balance of payment of the country , in fact shows the economic status of the country.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Current issue and controversy in Macro Economics:**

The school of thoughts: Classical, neo classical, Keynesian and post Keynesian.

**Unit 2: Neo-classical and Keynesian Synthesis:**

Neo-classical and Keynesian views on interest; -The IS-LM model; Extension of IS LM model with government sector; Relative effectiveness of monetary and fiscal policies; -Extension of IS-LM models with labour market and flexible prices.

**Unit 3: Post-Keynesian Demand for Money:**

Post-Keynesian approaches to demand for money — Patinkin and the Real Balance Effect, Approaches of Baumol and Tobin; Friedman and the modern quantity theory;- Crisis in Keynesian economics and the revival of monetarism.

**Unit 4: Theory of Inflation and Business Cycles:**

Classical, Keynesian and Monetarist approaches to inflation; -Structuralist theory of inflation;- Philips curve analysis — Short run and long run Philip curve;-Samuelson and Solow — the natural rate of unemployment hypothesis -Tobin's modified Philips curve; Policies to control inflation.- Theories of Schumpeter, Keynes, Kaldor, Samuelson and Hicks, Goodwin's model;- Control of Business Cycles — relative efficacy of monetary and fiscal policies. Balance of Payments- relationship between the Current Account and the Capital and Financial Account

**Recommended Readings:**

1. Ackley,G., *Macroeconomics : Theory and Policy*, Macmillan, New York. Latest edition
2. Dornbusch, R. and F. Stanley, *Macroeconomics*, McGraw Hill, Inc., New York. Latest edition
3. Hall, R.E. and J.B. Taylor, *Macroeconomics*, W.W. Norton, New York. Latest edition
4. Heijdra, B.J. and V.P. Fredericck, *Foundations of Modern Macroeconomics*, OxfordUniversity Press, New Delhi. Latest edition
5. Jha, R., *Contemporary Macroeconomic Theory and Policy*, Wiley Eastern Ltd., NewDelhi. Latest edition
6. Soderstein, B., *International Economics*, Tata McGraw Hill. Latest edition

**MEC- 203**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**STATISTICS**  
**SEMESTER-II**

**CO1.** Students who successfully complete this course should be comfortable with basic statistics and probability. Students learn to understand different data types and their organization, management and presentation.

**CO2.** Analyze statistical data graphically using frequency distributions and cumulative frequency distributions. And to analyze and apply statistical data using various measures of central tendency and dispersion.

**CO3.** Use and apply the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events

**CO4.** Student learns to calculate and interpret the correlation between two variables, to calculate simple linear regression equation for a set of data and to evaluate the properties of estimators.

**CO5.** Given a problem situation be able to state appropriate null and alternative hypotheses and appropriate means that whether it should be one or two sided and be able to calculate a p-value and be able to interpret a p-value. Based on the results students will be able to state the relationship between population and statistics (one or two sided and perform a hypothesis test and state the conclusion with a sentence.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Probability Theory**

Axiomatic Definition and derivation of Basic Probability Rules – Conditional Probability, Baye's Theorem (Concept only) – Random variable – Mathematical Expectation and Moments relating to both Discrete and Continuous random variables.

**Unit 2: Sampling and Estimation**

Concept of Sampling Distribution and Standard Error of a Statistic – Methods of Estimation Principles of Moments, Least Square and Maximum Likelihood (Concept only)- Characteristics of a Good Estimator

**Unit 3: Correlation and Regression**

Correlation and Regression analysis: Simple, multiple and partial correlations, Rank correlation, Least squares estimation; Coefficient of determination; Standard error of estimate; Sampling: Concepts and types.

**Unit 4: Statistical Inference**

Formulation of statistical hypotheses- Null and alternative; Goodness of fit; Confidence interval and level of significance; Errors of types II and I, Hypothesis testing: Z, t, F tests, and chi-square test.

**Recommended Readings:**

1. Yamane, Taro, "Statistics – An Introductory Analysis".
2. Hooda, P.R., "Statistics for Business and Economics", Macmillan.
3. Gupta, S.C. and Kapoor, U.K., "Fundamentals of Mathematical Statistics"
4. Nagar, A.L. and Das, R.K., "Basic Statistics", Oxford.
5. Agarwala, B.L., "Basic Statistics", New Age International.
6. Salvatore, Dominick and Reagle, Darrick, "Statistics and Econometrics", TMH
7. Goon Gupta, Das Gupta, "Fundamental of Statistics, Vol. II"



**MEC- 204**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**BASIC ECONOMETRICS**  
**SEMESTER-II**

**CO1.** Enables the skill to fill the gap between being “a student of economics” and being “ a practicing economist”

**CO2.** Develops the institution about how the systems work in real world.

**CO3.** Generates the technique and skill of analyzing data and creating economic models for development and wellbeing.

**CO4.** Technical and analytical knowledge to provide specialist advice to people from various disciplines of knowledge.

**CO5.** To solve a variety of economic problems of day to day life. Understand the subject of econometrics and its applications.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Nature, meaning and scope of Econometrics**

Simple and linear regression model- Standard Assumptions– Quantitative and Qualitative Explanatory Factors - OLS Estimators and their Properties- The Coefficient of Determination. The Coefficient of Determination – Some Results of Two and Three Variable Regression Models - Test of Hypothesis about Regression Coefficients – Prediction with the Linear Regression Equation.

**Unit 2: Further Topics in Linear Regression Model-**

Consequences of Omission of Relevant Regressors and Inclusion of Irrelevant Regressors; Multicollinearity: Effects, Detection and Remedies, Dummy Variable Trap; Heteroscedasticity: Consequences, Tests and Remedy, Auto-correlated Disturbances: Consequences, Detection and Remedy.

**Unit 3: Simultaneous Equations–**

Structural and Reduced Forms, Simultaneity Bias – Informal Introduction to Identification Problem. Instrumental variables, Methods of Estimation: ILS, 2SLS, IV

**Unit 4: Time series analysis–**

The Idea of a Stochastic Time Series - Stationary and Non-stationary –Simple Random Walk and Random Walk with a Drift–Unit Root: Dickey Fuller Tests –Spurious Regression– Integrated Series and Simple Co-integration

**Recommended Readings:**

1. Maddala G.S. - *Econometric methods and Application* - Alderson U.K.
2. Theil H. *Introduction to Econometrics* - Prentice Hall of India, New Delhi
3. Koutsoyiannis A. *Theory of Econometrics* - The Mac Millon press Ltd. London
4. Krishna K. L. *Econometric Applications in India*, Oxford University Press New Delhi.
5. Damodar Gujrati, Sangeetha - *Basic Econometrics* Tata Mc Graw Hill, New Delhi.
6. Christopher Daugherty, *Introduction to Econometrics*, OUP.
7. Johnston and Dinardo, *Econometric Methods*, McGraw Hill.

**MEC- 205**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**WELFARE ECONOMICS**  
**SEMESTER-II**

**CO1:** It tries to give an idea about the labour market and how price of labour is determined in different forms of market has been captured. Student will be able to know easily why and to what extent labours are exploited in different market structure and its remedy measure.

**CO2:** It focuses to understand the general equilibrium concept as well as critiques of welfare economics. It also tries to provide contribution of welfare economist for further development of welfare economics.

**CO3:** It basically highlights the different views and approaches of welfare economics. Students will be able to understand how and to what extent the policy change in government level will affect the overall welfare of the society and how can we maximize social welfare through our activities.

**CO4:** The end of the course the student will learn concept of new welfare economics. Student will be able to learn different economist about new welfare economics.

**CO5.** Understand the concept of externality, type of externality and how to solve the problem of externality.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit – 1: Determination of Factor Prices**

Pricing of Factors under Perfect Competition – Factor Share and Technical Progress – Backward Bending Supply Curve of Labour – Monopsony.

**Unit –2: General Equilibrium**

Partial Versus General Equilibrium Approaches – Meaning of General Equilibrium – Walrasian General Equilibrium System: Tatonnement; Existence, Stability and Uniqueness of the Equilibrium Introductions to the Contributions of Arrow and Debreu – Critique of General Equilibrium Theory – Non-tatonnement Process.

**Unit – 3: Welfare Economics**

Basic issues of Welfare Economics; Old Welfare Economics (Pigouvian), Pareto Optimality – The Fundamental Theorems of Welfare Economics – Market Failure: Externality and Public Good – Welfare Effects of Non-price Allocations and Price Control

**Unit- 4: New Welfare Economics**

Problem of Welfare Maximization: Compensation Principle, Scitovsky Paradox; Social Welfare Function  
– Social Choice: Contributions of Arrow and Sen., Arrow's Impossibility Theorem.

**Recommended Readings:**

1. Koutsoyiannis A., *Modern Microeconomics*, Latest Edition
2. Madalla and Miller, *Microeconomics*, Latest Edition
3. Layard and Walters, *Microeconomic Theory*, Latest Edition
4. Gravelle and Rees, *Microeconomics*, Latest Edition
5. Baumol, W.J., *Economic Theory and Operations Research*, Latest Edition
6. Varian, Hall, *Intermediate Microeconomics*, Latest Edition
7. Sen, Amarty., *On Economic Inequality*, Latest Edition

**MEC- 301**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**PUBLIC ECONOMICS**  
**SEMESTER-III**

**CO1.** To understand the role of government and the different ways in which government policies affect economy.

**CO2.** Develops analytical framework that facilitates the evaluation of public policy and subsequently inform the public debate.

**CO3.** Enables to understand the policy design on economy and their efficiency.

**CO4.** Develop administrative skill with the knowledge of government taxation and expenditure mechanisms.

**CO5.** Understand the different types of budgets and their implications.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Government and the Markets**

The need of government intervention in the markets; Market Failures, Externalities and efficiencies, positive and negative externalities, Large and small number externalities. Government Intervention; corrective taxes and corrective subsidies, Coase's theorem, public economic policies; Allocation, distribution and stabilization:- Government intervention there too.

**Unit 2: Theory of Public Goods**

Provision of Public goods, Characteristics and classification of private goods, partial social goods and Merit goods. Efficiency conditions for the production of public goods (Partial Equilibrium Analysis). Efficient allocation of resources between pure Public Goods & pure Private goods (General Equilibrium Analysis). Public Goods and market failure. Supply of Public goods:- Industrial Production, corporative supply of Public goods, Voting model for the supply of public goods

**Unit 3: Theories of Public Expenditure**

Pure Theories of Public Expenditure:- Samuelson, Buchanan and Tiebout. Evaluation of Public expenditure:- cost-benefit analysis; Market Price, Shadow Price, Theory of Discounting, Alternative Criteria to evaluation a project in the context a budget constraint and without budget constraint.

**Unit 4: Public Revenue, Public Debt and Public Budget**

Theory of Taxation:- Taxation and Economic Efficiency, Allocative effect and distribution effect of Taxation, Measurement of Elasticity and Buoyancy of Taxation( Tax responsiveness), Tax

Neutrality. Theories of Public debt, Public debt as an instrument of Fiscal Policy measures. Public Budget:- Structure of Public Budget:-Incremental Budget, Zero based Budget and planned programming Budget. Budget Deficit, fiscal deficit and primary deficit:- Fiscal Policies:- definition, the role of Fiscal policy in Economic development, Interaction between fiscal policies and monetary policies. Pay-As-You-Use and Pay-As-You-Go Finance. The Ricardian Equivalence Theorem. Impact of deficit finance on the capital market: The *Crowding-Out* Effect.

**Recommended Readings:**

1. Browning E.K. & Browning J.M., *Public Finance and the Price System*, Pearson Education, Singapore.
2. Hyman D N, *Public Finance: A Contemporary application of Theory to Policy*, Thomson South Western.
3. Ulbrich H *Public Finance in Theory and Practice*, Thompson South Western.
4. Musgrave & Musgrave., *Public Finance in Theory and Practice*, McGraw Hill, Singapore.
5. Cullis, John & Jones, Philip, *Public Finance and Public Choice*, McGraw Hill.
6. Mishra, B. *Public Economics* Macallen Publication
7. Mishra, B. *Economics of Taxation: Theory of Application*, Anakhaya Publication New Delhi

**MEC- 302**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**ECONOMICS OF SOCIAL SECTOR**  
**SEMESTER-III**

**CO1.** This course tries to understand the concept of Economics of education that will focus on importance of investment in education to increase human capital. It also gives lights on direct and indirect benefits of education in development of society.

**CO2.** Student will understand the educational financing from the point of view of Economics

**CO3.** Student will explore approaches of economic theory to health sector.

**CO4.** Policy level understanding for improvement of health sector from economics prospective.

**CO5.** Get an idea on various scopes to do research on education and health sector by applying the different economics theories.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Economics of Education**

Concept and scope of Economics of Education; Education as consumption and investment goods; Human capital-concept and components of human capital; Education and economic growth; Cost of education- Expenditure on education, private costs and social cost, direct and indirect cost; Benefits of education-Direct and indirect benefits, private and social benefits; Cost-Benefit analysis in education.

## **Unit 2: Educational Planning and Financing**

Approaches to educational planning- Production function models; Manpower Requirement Approach, Input-Output model, Gender based Approach; Educational planning in developing countries with special reference to India, Role of financing in educational development, educational financing in India- equity and efficiency effects of financing education in India.

## **Unit 3: Health Economics**

Concepts, definition and components, Measures of health status; Economic Evaluation of Health care; Health care markets, Demand for Health care, Supply side considerations, Market for health insurance.

## **Unit 4: Public Policy on Health and Development Dimensions**

Public policy in health care delivery- role of state; Hale and DALY, Health dimension of development – Poverty and Malnutrition; Inequalities in health – Class and gender perspectives, Health care in India: Post Reform Scenario.

### **Recommended Readings:**

1. Berman, P. (Ed.) (1995): Health Sector Reform in Developing Countries: Making Health Development Sustainable, Boston: Harvard series on population and International Health.
2. Blaug, M. (1972): Introduction to Economics of Education, Latest Edition
3. Cohen, E. and T. Gaske (1989): Economics of Education, Latest Edition
4. Henderson, J. W. (2007): Health Economics & Policy, (3e), Thomson South-Western, Latest Edition
5. Klarman, H.E. (1965): The Economics of Health, Latest Edition

**MEC- 303**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**ECONOMICS OF GROWTH AND DEVELOPMENT-II**  
**SEMESTER-III**

**CO1.** Understand and describe the important features of less developed economies and their development challenges.

**CO2.** Understand and apply key development economic growth theories, international trade development theories, and related economic development theories.

**CO3.** Analyze and comment significant policy options available to government and international organization to address economic development challenges.

**CO4.** Develop analytical and critical thinking skills along with model building and use them to judge the appropriateness of economic development policy options.

**CO5.** Identify different problems of policy failures, appraise economic development and suggest alternatives for development.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Economic Growth and Income Inequality**

Measurement of Income Inequality, Economic Growth and Income Inequality – Kuznets Hypothesis – Lorenz Curve – Gini Coefficient; Growth and Distribution.

**Unit 2: Theories of Growth**

Economic growth and development, Classical theory of growth: General, Ricardo and Adam Smith; Harrod-Domar growth model, Instability of growth; Solutions of instability problem; Neo-Classical models of growth: R.M. Solow; Cambridge growth model of Kaldor; Endogenous growth - AK model.

**Unit 3: Development Strategies**

Big Push: Rosenstein-Rodan, Balanced Growth: Nurkse, Unbalanced Growth: Hirschman, Critical Minimum Efforts: Leibenstein.

**Unit 4: Dualistic Pattern of Development**

Unlimited Supply of Labour and the Dual Economy - Models of Arthur Lewis and Fei-Renis, Rural-Urban Migration: The Harris–Todaro Model, Neo-Colonial Dependence Model

**Recommended Readings:**

1. Meier, G.M., *Leading Issues in Economic Development*, Latest Edition
2. Todaro, M.P., *Development Economics, Latest Edition*



3. Thirlwal, A. P. *Growth and Development, Latest Edition*
4. Basu, K., *Analytical Development Economics*; Latest Edition
5. UNDP, *Human Development Reports*, Latest Edition
6. World Bank, *World Development Reports*, Latest Edition
7. Barro&Salai-Martin, *Economic Growth*, Latest Edition

**MEC- 304(A)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**LABOUR ECONOMICS**  
**SEMESTER- III**

**CO1.** Understand the basic concepts of demand and supply of labour, labour market, employment, unemployment, wages and migration.

**CO2.** Be able to combine theoretical models and empirical results to address policy issues related to employment, unemployment, wages and migration and be able to advise on labour market policies from a position of knowledge.

**CO3.** Be able to understand recent research works in empirical labour economics, to assess their relevance, contribution and reliability and to connect them with existing results and open policy questions.

**CO4.** Model and analyze the structure of labour markets and its frictions; analyze the interactions between aggregate economic forces and identify the role of firms, workers and government in the economy especially in India.

**CO5.** Apply advanced econometric tools to analyze labour market related processes and develop practical understanding of statistical inference issues.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit-I: Theoretical Issues in Labour Economics**

Labour supply: Measuring the labour force, Workers preferences, Time and budget constraints, Hours of work decision; Labour demand: Production function, Employment decision in the short run and long run, Long run demand for labour; Labour market equilibrium: Equilibrium in a single competitive labour market, Competitive equilibrium across labour markets, Non-competitive labour markets, Cobweb model.

**Unit-II: Wages, Alternative Pay Schemes and Labour Efficiency**

Wages: Perfect Competition – Homogenous workers and Jobs, Wage Differentials – Heterogeneous Workers and Jobs, The Hedonic Wage Function. Alternative pay schemes and labour efficiency: Economics of fringe benefits, Theory of optimal fringe benefits, Efficiency wage payments, deferred payments schemes, Labour Efficiency: Education in the labour market, Schooling model.

**Unit-III: Labour Productivity, Unemployment and Migration**

Labour productivity: Concept and measurement, Wages, Prices and Employment. Unemployment: Measurement, The Stock–Flow model, Frictional, Structural and Demand–Deficient unemployment, reducing unemployment – Public policies. Labour mobility: Types, Migration as an investment in human capital, Determinants of migration, Consequences of migration, The Economic Benefits of Immigration.

#### **Unit-IV: Labour Market Discrimination, Trade Union and Collective Bargaining**

Labor market discrimination: Race and gender in the labour market, The Crowding Model, Employer and Employee discrimination, measuring discrimination – The Oaxaca Decomposition. Trade Union – Determinants of union membership, Economic Impact of Unions - Union wage advantage, Efficiency and Productivity of Unionism. Collective bargaining: Economic sanctions of collective bargaining, bargaining power in collective bargains, counteracting pressures – Employer’s resistance, Potential impact on union.

#### **Recommended Readings:**

1. Butler, A.D. (1972): Labor Economics and Institutions, New Edition
2. George, J.B. (1996): Labour Economics, New Edition
3. Marshall, F.R., V.M. Briggs, and A.G. King (1984): Labour Economics, Richard D. Irwin Inc. Homewood, Illinois. New edition
4. McConnell, C.R., S.L. Brue and D.A. Macpherson (2009): Contemporary Labour Economics, New Edition
5. Burton, F.J, L.K. Benham, W.W. Vaughn III and R.J. Hanagan (Eds.) (1971): Reading in Labour Market Analysis, New Edition
6. Rees, A. (1973): Economics of Work and Pay, New Edition
7. Sen, A.K. (1975): Employment, Technology and Development, New Edition
8. Solow, R.M. (1990): Labour Market as an Institution, New Edition

**MEC-304B**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**RESEARCH METHODOLOGY AND REPORT WRITING**  
**SEMESTER-III**

CO1. By end of the course student will be able to develop understanding on various kinds of research, objectives of doing research, research process, research designs and sampling.

CO2. Student will have basic knowledge on qualitative research techniques

CO3. By end of the course student will have adequate knowledge on measurement & scaling techniques as well as the quantitative data analysis.

CO4. It will provide basic awareness of data analysis and hypothesis testing procedures.

CO5. Develop research skills and skills in persuasive oral and written argument, including data collection, interpretation and demonstrated ability to support analysis through empirical evidence and draw critical conclusions and presentation skills.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Introduction**

Meaning – Purpose of Research- Types of Research – Pure & Applied, Historical & Futuristic, Analytical & Synthetic, Descriptive & Prescriptive, Survey & Experimental and Case & Genetic Researches. - Significance of research in Economics-Process of research- Meaning-Scientific Method- Induction and Deduction - Ethics in Research.

**Unit 2: Planning of Research and Sampling Design**

Research Problem-Identification, Selection and formulation of research Problem. Literature Review and Critical Reading- The importance of Literature Review- Types of Literature Review, Obtaining Literature Sources – Searching the Literature – Assessing the Quality of Literature. Identifying Research Gaps. Hypothesis- Meaning –Sources and Types of Hypothesis- Hypothesis Formulation for testing - Research Design- Factor affecting research design and Evaluation of Research Design- Census method and Sampling Method for investigation.- Principles of sampling-essential of a good sampling.- Method of sampling- probability and non-probability, sampling methods- sampling size- Factors affecting the size of the sample- Based sample- sampling and non-sampling errors

**Unit 3: Sources and collection of Data**

Sources of data- Primary and Secondary data- Modes of data collection- Observation: Types and Techniques-Interview: Types and Conduct- Preparation for an Interview – Effective interview techniques- Limitation of interview.-Schedule: Meaning and Kinds- Essentials of a good Schedule- Procedure for the formulation of a Schedule-Questionnaire: Meaning and Types-Format of a good questionnaire, Schedule Vs Questionnaire- Scaling Technique: Meaning, Importance, Methods of their construction of questionnaire or schedule.- Secondary source of data collection- Induction- WWW search skills- Pre-testing of Data collection tools- Validity and Reliability- Methods

#### **Unit 4: Report Writing:**

Role and types of Reports- Contents of Research Report- Steps involved in drafting reports.- Principles of good report writing- Grammatical Quality- Language flow- Data Support- Diagrammatic Elucidation- References and Annotation- Clarity and Brevity of expressions.- Features of a good Report- Criteria for evaluating research reports/ research findings.

#### **Recommended Readings**

1. Bhandarkar , P.L. and T.S. Wilkinson, *Methodology And Techniques Of Social Research*. Himalaya Publishing (Latest Edition)
2. Kothari, C.R., *Research Methodology: Methods and Techniques*, New Age International
3. Druckman , Daniel, *Doing Research*, Sage. (Latest Edition)
4. Earl R. Babbie Robert, *The Practice of Social Research*, Cengage Learning. (Latest Edition)
5. Krisnaswami and Ranganathan, *Research Methodology in Social Sciences* HPH, Mumbai. (Latest Edition)
6. Pauline V. Young, *Scientific Social Survey and Research*, Prentice-Hill. (Latest Edition)

**MEC- 304-C**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**INDUSTRIAL ECONOMICS**  
**SEMESTER-III**

**CO1:** perform supply and demand analysis in input factor markets with varying market structures.

**CO2:** Define the structure of various organizations relating to trade, like private, public, joint stock company etc.

**CO3.** calculate the minimal cost input factor quantities for a firm and optimal selling prices, supply quantities and resulting profits of firms in different market structures (including perfect competition and various forms of imperfect competition, like monopolies, oligopolies, and monopolistic competition)

**CO4:** analyze the interaction between consumers and firms, apply the concept of market equilibrium. calculate welfare measures such as consumer surplus and social welfare; market concentration.

**CO5.** Calculation welfare measures such as consumer surplus and social welfare; market concentration with different index.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Introduction**

Meaning, Scope, Need & Significance of the Study of Industrial Economics.- Industrial Profile - Private Sector, Large, Medium & Small Scale Industries, -Integration, Industrial Combinations - Causes, Mergers & Amalgamations.

**Unit 2: Theories of Industrial Location**

Factors Influencing Location of Industries.-Theories of Industrial Location, Weber, Sargent Florence-Market concentration, Measurement of market concentration, Aggregate concentration

**Unit 3: Industrial Productivity and Pricing**

Productivity - Norms and Measurement-The Competitive Environment and productivity- Pricing in Practice: Cost-plus pricing, variable cost pricing, target rate of return pricing, the going rate pricing. Transfer pricing.

**Unit 4: Industrial Finance:-**

Sources of Industrial Finance: Private, Public and Co-operative Sector - Shares, Debentures, Bonds, Deposits, Loan etc.-Foreign capital: Need for Foreign Capital, Governments Policy towards Foreign Capital. Direct Investment,- Foreign Institutional Investment, GDR, ADR. Government regulation of Industries: Industrial policy 1991, Trends in Industrial Growth after 1991. The competition Act 2002.

### **Recommended Readings**

1. Alhuwalia I.J., *Industrial Growth in India*, Oxford University Press New Delhi. Latest edition
2. Barthwal R.R., *Industrial Economics*, Wiley Eastern Ltd., New Delhi. Latest edition
3. Cherunilam, F., *Industrial Economics: Indian Perspective*, Himalaya Publishing House, Mumbai Latest edition
4. Desai, B., *Industrial Economics in India*, Hamalya Publishing House, Mumbai. Latest edition
5. Divin, P.J. and R.M. Jones et. al., *An Introduction to Industrial Economics*, George, Allen and Unwin Ltd., London. Latest edition
6. Government of India , *Economic Survey (Annual)*. Latest edition
7. Hay D. and D.J. Morris, *Industrial Economics Theory and Evidence*. Oxford University Press, New Delhi. Latest edition
8. Kuchhal S.C., *Industrial Economy of India*, Chaitanya Publishing Houses, Allahabad. Latest edition
9. Reserve Bank of India , *Report on Currency and Finance ( Annual)* Latest edition
10. Singh, A and A.N. Sandhu, *Industrial Economics*, Himalaya Publishing House, Mumbai. Latest edition.

**MEC- 304(D)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**DEMOGRAPHY**  
**SEMESTER-III**

**CO1:** It tries to explore the relationship between development and population growth. Students will be able to know the different models, theories about the relationship between population growth and development

**CO2:** It tries to explore the trend and growth of world population and different aspects of world population growth. It enriches the knowledge of changing components of world population.

**CO3:** Fertility and Mortality are the two important factors for change in population in a particular region. It gives an idea about calculation of different rates of fertility and mortality.

**CO4:** It demonstrates the international and internal migration of India. Students will be able to know the factors responsible for internal and international Migration.

**CO5.** The students will be able to relate the changes in social and political economy due to demographical changes.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Population and Development**

Meaning and scope of demography, components of population growth and their inter-dependence, Measures of population change, structure, distribution and sources of population data; Views of Meadows, Enke and Simon; Population and development. – Demographic Dividend.

**Unit 2: Structure of Population**

Population trends in the twentieth century, population explosion its dynamics; International aspects of population growth and distribution; Pattern of age and sex structure in more developed and less developed countries; Determinants of age and sex structure; Demographic effects of sex and age structure, economic and social implications, Age pyramids projections.

**Unit 3: Fertility and Mortality**

Fertility Emerging issues in fertility control, Fertility analysis, Social structure and Fertility change; Mortality: Death rates, crude age-specific, Mortality at birth and infant mortality rate; Sex and age pattern of mortality, Factors for decline in mortality in recent past, Levels and trends of mortality rate in advanced and less advanced countries; Life table Construction and uses; Concepts of stable population, Methods of population projection.



#### **Unit 4: Migration and Urbanization**

Internal and international migration flows: The case of India and Bangladesh; Internal migration: Its effect on population growth and pattern, Factors affecting migration; Theories of migration related to internal migration, process shaping international migration flows, Dynamics of the international migration process; Urbanization Growth and distribution of rural-urban population in developed and developing countries; Population growth, employment and housing in mega cities in developing countries, the question of mega city transformations, Gravity Model.

#### **Recommended Readings:**

1. Amsden, A.H. (ed): *The Economics of Women and Work*, Latest Edition
2. Baud, I.S.A.: *Form of Production and Women's Labour, Gender Aspects of Industrialization in India and Mexico*, Latest Edition
3. Bogue, D.J.: *Principles of Demography*, Latest Edition
5. Boserup, E.: *Women's Role in Economic Development*, Latest Edition
6. Chenery, H. and .N. Srinivasan, *Handbook of Development Economics*, Latest Edition
7. Chiang, C.L., *Life Tables and Mortality Analysis*, Latest Edition
8. Coale, A.J. and E.M. Hoover. *Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects*, Latest Edition
9. King, M. and M.A. Hill, *Women's Education in Developing Countries: Barriers, Benefits and Politics*, Latest Edition

**MEC-305 (MDC-I)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**ENVIRONMENTAL ECONOMICS**  
**SEMESTER-III**

**CO1:** Demonstrate a basic knowledge of the role of markets and market failure with regards to the allocation of natural resources and environmental amenities.

**CO2:** Understanding of the effects and relative merits of public environmental policy efforts, including cap-and-trade schemes, Pigovian taxes, regulation, and public ownership and/or management

**CO3:** Population growth and the environment

Global warming, Wilderness protection and related public lands issues, Air pollution and carbon bank.

**CO4:** Concepts of Pareto optimality, efficiency, and equity, the role of property, property rights and common property resources.

**CO5.** The students will be able to understand the concept of carbon bank, and international trading with carbon.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit1: Environment and Economy:**

Linkages between ecology, environment and economics system, Classification of goods, Pareto optimality and market failure in case of environment goods, incomplete markets, externalities, Indivisibility and asymmetric information.

**Unit 2: Environmental Valuation:**

Environmental valuation, Valuation techniques- production based, contingent valuation, hedonic-pricing, travel cost method, risk assessment, environmental impact assessment. Property rights and transaction cost.

**Unit 3: Sustainable Development:**

Sustainable Development, environmental Sustainability, Economic Sustainability and social Sustainability, Sustainable Development Rule

**Unit 4: Global Environmental Issues:**

Deforestation, Social forestry, Green marketing, Food security, Human health and environment, Economic instruments for environmental protection: Price rationing, pollution charges, ambient charges, product charges, subsidies, Liability rules; non-compliance fees, deposit refund system, performance bonds. Carbon bank.

**Recommended Readings:**

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2<sup>nd</sup> edition, 2010. Latest edition
2. Hanley N., J.F. Shogren and B. White (1997). *Environmental Economics in Theory and Practice*, Macmillan. Latest edition
3. Kolstad, C.D. (1999). *Environmental Economics*, Oxford University Press, New Delhi. Latest edition
4. Pearce, D.W. and R. Turner (1991). *Economics of Natural Resource Use and Environment*, John Hopkins Press, Baltimore. Latest edition
5. Tietenberg, T. (1994). *Environmental Economics and Policy*, Harper Collins, New York. Latest edition
6. Shankar, U. (Ed.) (2001). *Environmental Economics*, Oxford University Press, New Delhi. Latest edition

**MEC- 401**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**INDIAN ECONOMY**  
**SEMESTER-IV**

- CO1.** Wide and holistic understanding of India's Economic structure.
- CO2.** Develops knowledge of India's economic potential and weakness.
- CO3.** Develops sense of policy diversification and way forwards.
- CO4.** Understand the country where we live and the ways to make it better place.
- CO5.** Understand the role of India in different international organizations.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Framework of Indian Economy**

Economic policy: An Introduction, Meaning, Importance; National income: Trends and Structure of National Income; Demographic features and Indicators of Economic Development & Growth, Rural-Urban migration, Indian population policy: Poverty and inequality: nature, policy & implications: Employment and unemployment: Nature, Central and State Government's policies, & implications.

**Unit 2: Industrial Sector and Entrepreneurship development in India:**

The Industrial Environment at Independence — Performance of Industrial Licensing System – Economic Reforms and New Industrial Policy Industry – Indian Industry in the Contemporary context. Entrepreneur, Entrepreneurship and Enterprise- Importance and relevance of the entrepreneur- Factors influencing entrepreneurship- Pros and Cons of being an entrepreneur- Women entrepreneurs, Challenges and achievements of women entrepreneurs.

**Unit 3: Agricultural Sectors in India:**

Growth and Productivity of Agriculture – Agriculture Policy: Institutional Reforms, Credit Reforms, Agrarian Reforms – Agricultural Technology, Resources and Investment; WTO and Agriculture

**Unit 4: India's Economic Reforms**

Rationale for Economic Reforms – History of Economic Reforms – Current Phases of Reforms – Public Sector Enterprises – Privatization and Competition – Financial Sector Reforms – Planning in the Context of Liberalisation - Economic Liberalisation and Regional Planning in India. –

India's Economic Reforms in the Global Context – Foreign Trade Policy – Convertibility of Rupee – Impact of WTO on Indian Economy

**Recommended Readings:**

1. Bardhan, P., *“The Political Economy of Development of India”*, OUP. Latest edition
2. Brahmananda, P.R. and Panchamukhi, V.R., *“The Development Process of Indian Economy”*, Himalaya. Latest edition
3. Jalan, Bimal (Ed), *“The Indian Economy – Problems and Prospects”*, Viking. Latest edition
4. Kapila, Uma (Ed), *“India's Economic Reforms”*, Academic Foundation. Latest edition
5. Hazari, R.K., *“Industrial Planning and Licensing Policy”*, Final Report. Latest edition
6. Sen, A. and Dreeze, J., *“Economic Development and Social Opportunities”*, OUP. Latest edition
7. Wadhwa, C. (Ed), *“Some Problems of India's Economic Policy”*, Tata McGraw Hill. Latest edition
8. Fouseca, A.J. (Ed), *“Challenge of Poverty in India”*, Vikas. Latest edition
9. Rao, V.K.R.V., *“India's National Income, 1950-1980”*, Sage. Latest edition

**MEC- 402**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**FINANCIAL ECONOMICS**  
**SEMESTER-IV**

**CO1.** By end of course, student will understand the Indian financial system and its relationship with Economic growth.

**CO2.** By end of course, student will learn the instruments of Money markets and intermediaries of money markets.

**CO3.** By end of course, student will understand the capital market instruments.

**CO4.** By end of course, student will learn different types of stock markets.

**CO5.** By end of course, student will explore the valuation of financial assets and banking and capital market reforms.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: The Financial System**

Components of the financial system: Institutions, Markets, Instruments, and Services.-  
Functions of the Financial System. - Relationship between the Financial System and Economic Growth- Financial development ratio.

**Unit 2: Financial Markets- Money Market**

Structure and Functions - Instruments in the money market -Treasury Bill, Call Money Market, Commercial Papers, Certificate of Deposits and Commercial Bills. Money Market Intermediaries: The Discount and Finance House of India and Money Market Mutual Funds. Liquidity Management Instruments in the Money Market -.Money Market Derivatives.

**Unit 3: Financial Markets- Capital Market**

Structure and functions of the capital market - Primary Equity Market: Instruments of resource mobilization- Public Issues, Right Issues, and Private Placement. Resource mobilization from International Capital Market.- Secondary Equity Market: Functions of the secondary market. The Stock market and its operation. Stock Market Index- The BSE Sensex and the NSE Nifty -Derivative Equity Market: Nature of Derivatives and their benefits. Types of Financial Derivatives.

**Unit 4: Valuation of Financial Assets**

The time value of money and asset pricing - The valuation of debt instruments - The equilibrium price and quantity of bonds: loanable fund approach, Demand and Supply approach. – Valuing stock and other assets- income stocks and growth stocks -Equilibrium price and value of stock transactions. Evolution of Banking System in India - Banking Sector Reforms - Reforms in the Capital Market.

**Recommended Readings:**

1. 1. Baye, R. Michael & Jonson, W. Bennis, *Money, Banking and Financial Market-An Economic Approach*, AITBS Publishers.
2. 2. Pathak, Barati, B., *Indian Financial System*, Pearson Publication.
3. 3. Chandler, V.L., “The Economics of Money and Banking”
4. 4. Saxena, R.M., “Development Banking in India”
5. 5. Gupta, S. B., “Monetary Economics: Institutions, Theory and policy”
6. 6. Avadnani, V.A., “Studies in Indian Financial System”
7. 7. Sharma, S.K., “The Institutional Structure and Capital Market in India”
8. 8. Dagli, V., “Financial Institutions in India”
9. 9. Gupta, U.L., “Working of Stock Exchanges in India”
10. 10. Raj, J., “Money Market, Mutual Funds: Scope and Implications”
11. 12. Reserve Bank of India, “Functions and Workingg.

**MEC- 403**

**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA  
M.A. ECONOMICS SYLLABUS  
INTERNATIONAL ECONOMICS  
SEMESTER-IV**

**CO1:** Be familiar with the main economic theories and models of international trade,

**CO2:** Have an elementary understanding of open-economy macroeconomics and the determinants of exchange rates and the balance of payments.

**CO3:** Be aware of the likely distributional consequences of trade and thus of conflicting interests within an economy regarding trade liberalization,

**CO4:** Understand economists' arguments concerning trade policy and its analysis, and to apply economic reasoning to issues of the day surrounding globalization,

**CO5.** The students understand the working pattern of various international organizations to address specific global problems.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Theories of International Trade**

Comparative Cost advantage, - Heckscher-Ohlin theory of trade -Samuelson's Factor Price Equalization Theory, -Linder theory of trade. Leontief paradox, -Alternative Trade Theories: Vent for Surplus– Availability–Increasing Returns to Scale – Monopolistic Competition and International Trade – Imitation Gap and Product Cycle Theories of Trade Monopolistic Competition and Trade.

**Unit 2: Terms of trade and Determination of Exchange Rate**

Concept and types of terms of trade-Fixed and Flexible Exchange control, Theories of exchange rate determination- Meaning types and effects of tariffs and Non-tariff barriers- Theories of balance of payments

**Unit 3: Regional Economic Integration**

Preferential Trading Club - Free Trade Area – Customs Union – Common Market – Economic Union ; Trade creation and diversion, production and consumption effects, other dynamic effects of Customs Unions, Intra-Industry Trade.

**Unit 4: International Financial Movements**

International trade and financial institutions – IMF, World Bank & WTO- The foreign exchange market, Spot and Forward market-The linkage of spot and forward market: Hedging, Speculation and Arbitrage

**Recommended Readings:**

1. Bhagwati, J. (Ed.), *International Trade*, Cambridge, University Press, Massachusetts.Latest edition
2. Chacholiades, M., *International Trade: Theory and Policy*, McGraw Hill, Kogakusha, Japan. Latest edition
3. Kindleberger, C.P., *International Economics*, R.D. Irwin, Homewood. Latest edition
4. King, P.G., *International Economics and International Economic Policy: A Reader*, McGraw Hill International, Singapore. Latest edition
5. Krugman, P.R. and M. Obstfeld, *International Economics: Theory and Policy*, Glenview, Foresman. Latest edition
6. Mannur HG, *International Economics*, Vikas Publishing P ltd New Delhi Latest edition
7. Kenen PB, *The International Economy*, Cambridge university Press, London. Latest edition



**MEC-404**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**ECONOMICS OF ENVIRONMENT**  
**SEMESTER-III**

**CO1:** Utilize economic principles and models to address private and public policy issues related to allocating natural resources and environmental amenities.

**CO2:** The role of externalities, common property resources, and public goods, Concepts and measures of economic value including non-market valuation

**CO3:** Gain a basic understanding of the effects and relative merits of public environmental policy efforts, including cap-and-trade schemes, Pigovian taxes, regulation, and public ownership and/or management

**CO4:** Become knowledgeable about and be able to use economic principles and non-market valuation techniques to address a variety of continuing and contemporary natural resource and environmental issues.

**CO5.** Understand the concept of climate change, pollutions, carbon bank, trading and environment etc.

## **CREDIT-4**

**TOTAL MARKS-100**

### **Unit 1: Environment and Economy**

Environment and economics system, Classification of goods, Pareto optimality, Market failure in case of environment goods, Causes of market failure. The First two laws of Thermodynamics.

### **Unit 2: Externality and Environment:**

Public goods and Externalities: Coase Property rights and transaction costs, Pigouvian taxes and effluent fees, Lindahl's equilibrium and public goods, Common property resources and Tragedy of Common.

### **Unit 3: Environment Valuation:**

Environmental valuation; Use values, and non-use values, Valuation techniques: Production based, Contingent valuation, Hedonic-pricing, Travel cost method, Risk assessment, Environmental impact assessment, Social cost and benefit analysis. Sustainability; Concept and indicator, Environmental Kuznet curve, Classification of Resources, Issues relating to renewable and non-renewable resources, Hotelling theory of exhaustible resources,

### **Unit 4: Global Environmental Issues:**

Forestry management and some policy measures, GEF, REDD and REDD+: Climate change International Conventions and Protocols: Kyoto protocol, carbon bank, –Trade and Environment – Pollution Havens.

### **Recommended Readings:**

1. Roger Perman, Yue Ma, Michael Common, David Maddison and James McGilvray, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley. Latest edition
2. Charles K., *Intermediate Environmental Economics*, Oxford University Press. Latest edition
3. Hanley N., J.F. Shogren and B. White. *Environmental Economics in Theory and Practice*, Macmillan. Latest edition
4. Kolstad, C.D., *Environmental Economics*, Oxford University Press, New Delhi Latest edition
5. Pearce, D.W. and R. Turner., *Economics of Natural Resource Use and Environment*, JohnHopkins Press, Baltimore. Latest edition

6. Tietenberg, T., *Environmental Economics and Policy*, Harper Collins, New York. Latest edition
7. Shankar, U. (Ed.),. *Environmental Economics*, Oxford University Press, New Delhi. Latest edition

**MEC- 405 (A)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**AGRICULTURAL ECONOMICS**  
**SEMESTER-IV**

**CO1:** It tries to explore the condition of agricultural labor in India and different aspects of agricultural labour in India.

**CO2:** It focuses on need and importance of agricultural credit and different sources of agricultural credit and the problems faced by the farmers in India.

**CO3:** It tries to give the idea about the present scenario of Agriculture markets of India and its related problems.

**CO4:** It tries to explore the trend and pattern of agricultural growth of India. Attempt has been made to capture the public investment and technological change in India.

**CO5.** Get an idea of various scheme of agriculture and methods of intensive agriculture and its impact.

#### **CREDIT-4**

**TOTAL MARKS-100**

#### **Unit 1: Agricultural Labour Market**

Rural labour supply, interlocking of factor markets, mobility of labour and segmentation in labour markets. Marginalization of rural labour, nature, extent and trends in rural unemployment. Agricultural wages in India, male-female wage differences. Non-agricultural rural employment, trends and determinants

#### **Unit 2: Agricultural Finance**

Role of capital and rural credit, organized and unorganized capital markets. Rural savings and capital formation. Characteristics and sources of rural credit- institutional and non-institutional. Reorganization of rural credit- co-operatives, commercial banks, regional rural banks, micro-finance, role of NABARD

#### **Unit 3: Agricultural Prices and Policy**

Marketing and state policy: Agricultural market and marketing efficiency-Marketing functions and costs: Market structure and imperfections, regulated markets, marketed and marketable surplus. Behaviour of agricultural prices, Cobweb model, price and income stability. State policy with respect to agricultural marketing, warehousing prices, taxation and crop insurance. Terms of trade between agricultural and non-agricultural sectors, need of state intervention, objectives of agricultural price policy- instruments and evaluation, Commission for Agricultural Costs and Prices (CACP)

#### **Unit 4: Agricultural Growth in India**

Recent trends in agricultural growth in India: Inter-regional variations in growth of output and productivity, shift in cropping pattern. Supply of inputs- irrigation, power, seed and fertilizers, pricing of inputs and role of subsidies. Distribution of gains from technological change, strategy of agricultural development and technological progress, sustainable agriculture. Role of public investment and capital formation in Indian agriculture.

#### **Recommended Readings**

1. Carl Eicher and Lawrence Wit, (1964), Agriculture in economic development; Latest Edition
2. Bilgram, S.A R, (1966) Agricultural Economics, Latest Edition

3. Ghatak, S. and K. Ingerscent (1964), Agriculture and Economic development, latest Edition
4. Raj K.N. (1988), Essays in commercialisation of Indian Agriculture, Latest Edition
5. Thamarajlaxmi R.(1994), Intersectoral relationship in developing economy, Latest Edition
6. Khusro A.M (1968) Leading issues in agricultural development, Latest Edition
7. Sadhu, A.N & Amarjit Singh(1966) Fundamental of agricultural economics, Latest Edition
8. Soni R.N.(1955),Leading Issues in Agricultural Economics, Latest Edition
9. Wanmali S. and C. Ramaswamy (Eds)(1995), Developing Rural Infrastructure, Latest Edition
10. Govt. of India(1976), Report of National Commission on Agriculture, Latest Edition
11. Memoria C.B., Agricultural Problem of India; Latest Edition
12. Lekhi R. K., Agricultural Problems in India; Latest Edition
13. Datt and Sundaram(2008), Indian Economy , Latest Edition
14. Mishra &Puri,(2008), Himalaya Publishing House, Latest Edition
15. Vaidhanathan, A.(1995), The Indian Economy : Crisis, Response and Prospects, Latest Edition
16. John W. Penson, Oral Capps, C. parrRosson,(1999), Introduction to Agricultural Economics, Latest Edition
17. Agarwal A. N. & Kundan K. L. Agricultural Problems of India, Latest Edition
18. Khusro A.M.(1968) Leading issues in Agricultural Development, Latest Edition

**MEC- 405(B)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**ADVANCED ECONOMETRICS**  
**SEMESTER-IV**

**CREDIT-4**

**TOTAL MARKS-100**

**Course Outcome:**

**CO1. Enable to understand the new programs and tools invented in the field of Econometrics.**

**CO2. Use the computer software's to analyze data.**

**CO3. Interpretation and finding the solutions of complex economic problems.**

**CO4. Much deeper understanding of econometrics and its dimensions.**

**CO5:** Enable the students in building model to address certain economics issues

**Unit 1: Distributed Lag Models Concept**

Auto Regressive and Distributed lag Models, Koyck Model – Partial Adjustment and Adaptive Expectation Models – Estimation of Models with a Lagged Dependent Variable – Test of Autocorrelation in Auto-Regressive Models. Causality tests; Granger and Sim’s Test

**Unit 2: Non-Linear Estimation**

Non-Linear Least Squares and Iteration process – Models with Binary Dependents Variables – Logit and Probit Models.

**Unit 3: Time Series Modelling**

Stationary and Non Stationary Series, Random Walk, Integrated Series - Unit root - Univariate Time Series Modelling, Forecasting with ARMA and ARIMA models - Co-integration and Error Correction Mechanism, Granger Causality Test.

**Unit 4: Introduction to Panel Data Techniques**

Box Jenkins Methodology, Penal data, Random Coefficients Model; Fixed effects model, random effects model - Housman Test – Estimation methods.

**Recommended Readings:.**

1. Johnston and Dinardo, *Econometric Methods*, McGraw Hill
2. Pindyck and Rubinfeld, *Econometric Models and Econometric Forecasts*, McGraw Hill.
3. Greene, William, *Econometric Analysis*, Macmillan
4. Christopher Daugherty, *Introduction to Econometrics*, OUP.
5. Maddala G.S., *Econometric methods and Application*, Alderson U.K.
6. Theil H., *Introduction to Econometrics*, Prentice Hall of India, New Delhi.
7. Damodar Gujrati, Sangeetha - *Basic Econometrics*, Tata McGraw Hill, New Delhi.
8. Johnson J., *Econometric Methods*, MC Graw Hall Book Co. London.

**MEC- 405(C)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**ECONOMY OF NORTH EASTERN REGION**  
**SEMESTER-IV**

- CO1.** By end of the course, student will learn about the overview of North East India.
- CO2.** By end of the course, student will explore the available natural resources of North East India.
- CO3.** Student will learn different sector of North east economy that will help to address the problem of north east economy and can develop research on North East Economy.
- CO4:** Student can understand structural transformation of North East India. It will provide research scope for evaluation of recent policy in the North East India.
- CO5.** Students get an idea of various scope of development in North East India, and what are the limitations of the area.

**CREDIT -4**

**FULL MARKS -100**

**Unit-I: Overview and Characteristics of North East Economy**

North Eastern Region as an economy; Characteristics of the economy; Trend and Pattern of GDP growth in NE; Demographic features of the NE economy; Poverty and Inequality in NE comparison with the Indian economy; Trends of Employment and Unemployment; Recent developments in human resource.

## **Unit-II: Agriculture in North East Economy**

Agriculture: features and challenges; Growth of Agricultural Sector in NE; Agricultural Finances-Sources and Limitations; Agricultural Policies of NE States; Agriculture-Industry linkage especially in NER, Problems of Agricultural Marketing in NE.

## **Unit-III: Industry and Service Sectors in North East Economy**

Industry: growth, composition and challenges, Growth of Micro Small and Medium Enterprises (MSME); North East Industrial and Investment Promotion Policy (NEIIPP) 2007 & 2015; Services sector; Trends, growth and challenges; Rural economy, Diversification of rural employment; Infrastructure and regional economic development, Nature and characteristics of Public finance for NER trends and challenges.

## **Unit-IV: Structural Transformation and Institutions in North East**

Institutions and economic Development; Governance and development-government failure and its correction; Local self-government and development; Community participation and development, community failure; Role of DONER and NEC; New development initiatives in NER, Vision Document 2020 and Act East Policy

## **Suggested Readings**

1. Banerjee and Kar (1999): Economic Planning and Development of North-Eastern States, Kanishka, ND.
2. Deb, B.J & B. Dutta Ray (2006): Changing Agricultural Scenario in North-East India, Concept Publication, New Delhi
3. Dikshit, K. R and J K Dikshit (Eds.) (2014): North East India Land People and Economy, Springer
4. Maithani, B.P. (1997): Local Self-Government in North-East India: An Appraisal, NIRD, Hyderabad
5. Menon, S. (Ed.) (2007): India's North East Economy-Problems and Prospects, ICFAI Univ. Press, Hyd.
6. Mishra, B. (2006): Fiscal Policy in North-East India, Akansha Publishing House, ND.
7. Nayak. P. (Ed.) (2010): Growth and Human Development in North- East India, Oxford University Press.
8. RBI (2006): Report of the Committee on Financial Sector Plan for North Eastern Region, RBI.
9. World Bank (2007): Development and Growth in Northeast India The Natural Resources, Water, and Environment Nexus



**MEC- 405 (D)**  
**UNIVERSITY OF SCIENCE AND TECHNOLOGY, MEGHALAYA**  
**M.A. ECONOMICS SYLLABUS**  
**OPERATION RESEARCH**  
**SEMESTER-IV**

**CO1.** Understand the basic concepts of operations research, its scope, methodology and limitations.

**CO2.** Understand and know the various techniques of operations research and to translate a real word problem, given in words, into a mathematical formulation and to analyze the results and propose recommendations to the decision making processes.

**CO3.** Develop linear programming (LP) models and solve the problems using graphic method and simplex method.

**CO4.** Understand and formulate variety of problems such as assignment, transportation; solve this problems using north west corner method, dual transportation method etc. and apply in real life problems.

**CO5.** Understand different queuing situations and find the optimal solutions using models for different situations; solve the problems using special solution algorithms;

Use CPM and PERT techniques, to plan, schedule, and control project activities.

**CREDIT-4**

**TOTAL MARKS-100**

**Unit 1: Introduction**

Origin and development of Operation Research (OR). -Phases of O.R.- Models and Methodology of O.R. -Scope and limitations of O.R.

**Unit 2: Linear Programming**

General Formulation of Linear Programming Problems (LPP) -Solutions of LPP by graphic method and simplex method (Two variables and more than two constraints) - Duality in linear programming- solution via dual- economic interpretations of dual variables.

**Unit 3: Assignment and Transportation Problems**

Concept of Assignment Problem - Transportation Problem- Nature and General Formulation - Solution of Transportation Problem – North West Corner Method – Dual Transportation Model - Difference between a transportation problem and an assignment problem.

**Unit- 4: Queuing Theory**

The Pure birth process - The Pure Death Process - The Birth -Death Process - Solution of M/M/S Queuing Process. Project Management: PERT/CPM – Network Analysis – Critical Path Analysis – Probability in PERT Analysis

**Recommended Readings:**

1. J K Sharma, *Operations Research Theory and Applications*, Macmilan latest edition
2. H A Taha, *Operations Research*, Pearson latest edition
3. A.M. Natarajan P. Balasubramani A. Tamilarasi, *Operations Research*, Pearson. Latest edition
4. Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press. Latest edition
5. Handry, A. T.; *Operation Research*, Prentice Hall, ND. Latest edition
6. Mathur, P.N. and R. Bhardwaj, *Economic Analysis in Input-Output Research*. Input- Output Research Association of India, Pune. Latest edition

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