5years integrated course
SYLLABUS
ECONOMICS
BODOLAND UNIVERSITY
Semester-wise Outline of the Courses

Year	Semester	Course	Code	Paper Title	Credit
First Year	I	Major	ECOMAJ1014	Introductory Microeconomics	4
		Minor	ECOMIN1014	Principle of Microeconomics-I	4
		IDC-1	ECOIDC1013	Introduction to Interdisciplinary Economics	3
		AEC-1	AEC1012	Language/ Regional Language	2
		SEC-1	ECOSEC1013	Economics of Sericulture	3
		VAC-1	ECOVAC1014	Sustainable Development -I	4
				Total Credit	**20**
	II	Major	ECOMAJ1024	Intermediate Microeconomics-I	4
		Minor	ECOMIN1024	Principle of Microeconomics-II	4
		IDC-2	ECOIDC1023	Intermediate Interdisciplinary Economics	3
		AEC-2	AEC1022	Language/ Regional Language	2
		SEC-2	ECOSEC1023	Tourism Economics	3
		VAC-2	ECOVAC1024	Sustainable Development -II	4
				Total Credit	**20**

Paper Title: Introductory Micro Economics

Paper Code: ECOMAJ 1014   **Credit Points: 4**

Course Objectives: This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Learning Outcome: The course introduces the students to the first course in economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, interactions of supply and demand, and characteristics of perfect and imperfect markets.

Course Outline:

Unit 1: Introduction

Basic concepts- dependent and independent variables- exogenous and endogenous variable - The Economic Problem- Scarcity and Choice; Concepts of Equilibrium - Stable and Unstable, Static, Comparative Static, Dynamic, The Basic Market Model.

Unit 2: Consumer behavior

Utility: Cardinal versus Ordinal; Indifference Curve - Assumptions and Properties; optimal choice Consumer's Equilibrium; Price Effect-Income Effect, Substitution Effect; Engel's Curve; Derivation of the Demand Curve; Giffen Paradox; Merits and Limitations of Indifference Curve Analysis; Consumer's Surplus and Applications and Limitations of the Concept.

Unit 3: Theory of Production and Cost -I

Organisation of Production; Production Function and its related concepts; Total, Average and Marginal Products and the Law of Variable Proportions; Production with two variable inputs-isoquant; Factor Elasticity of Substitution; Types of Costs- Money Cost, Real Cost, Explicit Cost, Implicit Cost, Sunk Cost, Opportunity Cost, Private Cost, Social Cost.

Unit 4: Output Decisions and Profit Maximisation

Revenue: TR, AR, MR; Relation between AR, MR, Elasticity of Demand; Comparing Costs and Revenues to maximize Profit.

Suggested Readings:

1. Karl E. Case, Ray C. Fair, Principles of Economics, Pearson Education Asia

2. Dominick Salvatore, Micro Economics- Theory and Applications, Oxford University Press.

3. Koutsoyiannis. A, Modern Micro Economics, ELBS/ Macmillan.

4. Sampat Mukherjee, Modern Economic Theory, New Age International Publishers.

5. Rahul A. Shastri, Micro Economic Theory, University Press (India) Limited.

6. D. N. Dwivedi, Micro Economic Theory and Applications, Pearson Education.

7. R. K. Sharma and Shashi K. Gupta, Management Accounting- Principles and Practice, Kalyani Publishers.

8. G S Maddala and Ellen Miller, Micro Economic Theory and Application, Tata Mc Graw- HillM.

9. N. Gregory Mankiw (2007), Principal of Economics 6th Edn.thompson.

10.Hall R. Varian (2010). Intermediate Micro Economics: A Modern Approach.

Paper Title: Principle of Micro Economics - I

Paper Code: ECOMIN 1014   **Credit Points: 4**

Course Objectives: This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Learning Outcome: The course introduces the students to the first course in Economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, Consumer Behaviour and Demand, Theory of Production and Cost, Product Pricing etc.

Course Outline:

Unit – I: Introduction

Basic concepts- dependent and independent variables- exogenous and endogenous variable - The Economic Problem- Scarcity and Choice; Concepts of Equilibrium - Stable and Unstable, Static, Comparative Static, Dynamic, The Basic Market Model.

Unit 2: Consumer Behaviour and Demand

Consumer Behaviour: Cardinal Approach Indifference Curves- Assumptions and properties, Law of Marginal Rate of Substitution, Consumer's Equilibrium, Income Effect, Substitution Effect, Price Effect, Derivation of Demand Curve, Giffen Paradox, Merits and Limitations of Indifference Curve Analysis; Consumer's Surplus and Applications and Limitations of the Concept.

Unit - 3: Theory of Production and Cost

Law of Variable Proportions; Returns to Scale, Isoquants, Iso-Cost, Least Cost Input Combination, Expansion Path; Contract Curve and the derivation of Production Possibility Curve; Cost of Production; Types of Costs- Money Cost, Real Cost, Explicit Cost, Implicit Cost, Sunk Cost, Opportunity Cost, Average and Marginal Cost Curves; Economics and diseconomies of Scale.

Unit – 4: Product Pricing

Pricing under Perfect completion; Equilibrium of Firm and Industry; Derivation of Supply Curve; Price output determination Monopoly, Price Discrimination, Price and output under Product Differentiation, Basic ideas of Oligopoly.

Suggested Readings:

1. Karl E. Case, Ray C. Fair, Principles of Economics, Pearson Education Asia

2. Dominick Salvatore, Micro Economics- Theory and Applications, Oxford UniversityPress

3. Koutsoyiannis. A, Modern Micro Economics, ELBS/ Macmillan

4. Sampat Mukherjee, Modern Economic Theory, New Age International Publishers

5. Rahul A. Shastri, Micro Economic Theory, University Press (India) Limited

6. D. N. Dwivedi, Micro Economic Theory and Applications, Pearson Education

7. R. K. Sharma and Shashi K. Gupta, Management Accounting- Principles andPractice, Kalyani Publishers

8. G S Maddala and Ellen Miller, Micro Economic Theory and Application, TataMc Graw-HillM

9. N. Gregory Mankiw (2007), Principal of Economics 6th Edn.thompson

10.Hall R. Varian (2010). Intermediate Micro Economics: A Modern Approach.

Paper Title: INTRODUCTION TO INTERDISCIPLINARY ECONOMICS

Paper Code: ECOIDC1013   **Credit Points: 3**

Course Description: The course aims to provide students with a strong foundation in interdisciplinary economics, equipping them with the analytical and critical thinking skills necessary to understand and address complex economic issues in various contexts.

Course objectives:
To Understand the importance of interdisciplinary perspectives in analysing economic phenomena. Apply microeconomic principles to analyse individual decision-making and market behaviour. Analyse macroeconomic variables and their impact on the overall economy. Identify different market structures and their implications for competition.

Course Outcomes:
Evaluate economic issues related to the environment and natural resources. Analyse international trade patterns and the impact of globalization on economies. Assess the effectiveness of economic policies and their implications for society. Apply economic models and empirical analysis to assess policy outcomes.

Course Outlines:

Unit 1: Foundations of Interdisciplinary Economics
Introduction to Interdisciplinary Economics; Principles of Microeconomics;
Principles of Macroeconomics.

Unit 2: Interdisciplinary Dimensions of Economics;
Economic History and Development;
Quantitative Methods for Economic Analysis
Behavioral Economics

Unit 3: Applied Interdisciplinary Economics;
Environmental Economics
International Economics
Economic Policy Analysis
Note: Each unit will cover multiple topics within the respective subject area, providing a comprehensive understanding of interdisciplinary economics.

Recommended Readings:
The Economic Way of Thinking" by Paul Heyne, Peter J. Boettke, and David L. Prychitko
Economics: The User's Guide" by Ha-Joon Chang
Economics in One Lesson" by Henry Hazlitt

Interdisciplinary Economics: Kenneth E. Boulding's Engagement in the Sciences" edited by Paul Dragos Aligica and Kenneth J. Boulding
The Oxford Handbook of Interdisciplinarity" edited by Robert Frodeman, Julie Thompson Klein, and Carl Mitcham.

SEMESTER - I

Paper Title: ECONOMICS OF SERICULTURE

Paper code: ECOSEC1013 **Credit 3**

Objective: Studying the economics of sericulture involves analyzing the economic aspects and implications of silk production, including the costs, benefits, and market dynamics associated with the sericulture industry

Outcome: Course outcomes for studying the economics of sericulture may vary depending on the level of study (undergraduate or postgraduate) and the specific curriculum. However, some common course outcomes may include the Knowledge of sericulture economics, comprehensive understanding of the economic principles, theories, and concepts related to sericulture, including production costs, market structures, pricing strategies, and supply chain dynamics.

Unit-1: Sericulture: An overview

Introduction to Sericulture: Origin and history of sericulture. Silk route and map of India and World; Temperate and tropical climate for sericulture practice; Meaning of Sericulture, Types of Sericulture as a source of employment and income; Demand and Supply of Silk.

Unit-2: Investment analysis

Investment Analysis in Sericulture, Cost – Fixed Cost and Variable cost in three cultures, return from sericulture; Profit from sericulture; Silk Industry, Spinning, Reeling and weaving, Cost, Revenue and Profit.

Unit -3: Environmental impact of sericulture

Environmental impact of sericulture: Eco-friendly activity of sericulture; Employment generation in sericulture and role of women in sericulture; Industrial aspect of the industry; Silk reeling as a cottage industry; Handloom and power loom activities.

Unit – 4: Types of fibers and govt's role

Textile fibers: Natural and Synthetic fibers: Advantage of silk fiber over other fibers: International demand of silk. Function Central Silk Board; Role of State Department of Sericulture (Assam and BTR); Role of universities and NGOs in sericulture development; Various Government schemes for Sericulturist, bank loan and Subsidy. Prospects and problems of sericulture industry in Assam with special reference to BTR.

Reference Readings:

Chowdhury, S.N., Eri Silk Industry, Directorate of Sericulture and Weaving, Government of Assam.

Chowdhury, S.N.,Muga Silk Industry, Directorate of Sericulture and Weaving, Government of Assam.

Manjit Das, Sericulture and Sericulture in Assam: An Economic Analysis, Tushar Publishing House, Guwahati.

Sengupta .K. Tasar Silk Industry in India, CRT & TI, CSB , Ranchi.

Sarkar. D.C. Ericulture in India, Central Silk Board, Ministry of Textile, Government of India.

Thangavelu, K and Borah .H, Ericulture, Central Silk Board, Ministry of Textile, Bangalore, Government of India.

Ullal , S.R. and Narasimhana, hand book of Practical Sericulture, Central Silk Board, Ministry of Textile, Government of India.

Ullal , S.R. and Narasimhana, M.N. , Handbook of Practical Sericulture, Central Silk Board, Ministry of Textile, Bangalore, Government of India.

Paper Title: SUSTAINABLE DEVELOPMENT -I

Course- Value Added Course   Code- ECOVAC1014   Credit Points: 4

Course Description: Explore the principles and practices of sustainable development and environmental economics. Analyse the economic aspects of environmental issues and strategies for achieving a balance between economic growth, social well-being, and environmental protection.

Course Outcomes: By the end of this course, students will be able to:Understand sustainable development and environmental economics.Analyse the economic implications of environmental issues.Evaluate economic instruments and policy tools for sustainable development.Identify opportunities for sustainable economic growth.Critically evaluate environmental policy frameworks.Develop strategies for promoting sustainable development.

Course Objectives:To understand the relationship between economic development, social well-being, and environmental sustainability.To analyse the economic implications of environmental issues and externalities.To evaluate policy tools and instruments for promoting sustainable development.To develop strategies for sustainable solutions, including sustainable economic growth and effective environmental governance.

Course Outlines:

Unit 1: Introduction to Sustainable Development and Environmental Economics (1 credit:)
Definition and principles of sustainable development; Relationship between environmental economics and sustainable development; Key sustainability challenges and the need for environmental economics.

Unit 2: Economic Analysis of Environmental Issues(1 credit)
Economic implications of environmental degradation and resource depletion; Externalities and market failures in environmental problems; The role of economic analysis in understanding environmental issues.

Unit 3: Valuation of Environmental Goods and Services(1 credit)

Methods for valuing environmental resources; Cost-benefit analysis for evaluating environmental projects and policies; Limitations and challenges of valuing environmental goods and services;

Unit 4: Identification and Assessment of Local Resources(1 credit)

Identifying the diverse range of local resources in BTR (natural, cultural, economic).; Evaluating the environmental impacts and challenges associated with these resources.

Recommended Readings:

Environmental Economics and Sustainable Development by Timothy M. Swanson and Anastasios Xepapadeas.

Principles of Environmental Economics and Sustainability by Ahmed Hussen.

Economics of the Environment: Selected Readings" edited by Robert N. Stavins.

Sustainable Development: Principles, Frameworks, and Case Studies by OkechukwuUkaga.

Local Sustainable Development and Global Environmental Governance by John Callebaut and Arnold Tukker.

Sustainable Resource and Environmental Management" by Simon Bell and Stephen Morse.

Ecotourism and Sustainable Development: Who Owns Paradise? by Martha Honey.

Sustainable Energy: Choosing Among Options by Jefferson W. Tester et al.

Paper Title: INTERMEDIATE MICRO ECONOMICS - I

Paper Code: ECOMAJ 1024   **Credit Points: 4**

Course Objectives: The course is designed to provide a sound training in microeconomic theory to formally analyze the behaviour of individual agents. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts. This course looks at the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm.

Learning Outcome: The course trains the students of Economics about the basic elements of consumer theory and production theory and the functioning of the competitive markets. This course aims to give students a solid grasp of microeconomic analysis at the intermediate-level using mathematical techniques where appropriate.

Course Outline:

Unit-1: Consumer Theory Revisited

Preference; utility; budget constraint; choice; demand; Slutsky equation; buying and selling; (iii) Choice under risk: Describing Risk, Preferences towards risk, reducing risk, the demand for Risky assets-the trade-off between Risk & Return(iv) Revealed Preference – the weak axiom and substitution effect.

Unit- 2: Cost Functions

Definition and types of Costs, Cost Functions and its Properties, Shift in Cost Curves; Cost in the Short-Run and Long-Run; Long-Run versus Short-Run Cost Curves; the relationship between short run and long run cost curves; Impact of Economies and diseconomies of scale.

Unit – 3: Theory of Production and Cost –II

Returns to Scale and Returns to Factors; Least cost input combination; Expansion Path; Contract Curve and the derivation of Production Possibility Curve; Technical Progress and Production Functions- Cobb – Douglas, CES production Function.

Unit -4: Market Structure and the Theory of Product Pricing -I

 Price Determination under Perfect Competition; Monopoly: Determination of Price - Output Equilibrium, Degrees of Monopoly Power, Price discrimination, Multi –plant Monopoly, peak-load pricing, Monopoly and Anti Trust Policies, Monopsony, Hidden action & hidden information and monopoly solution. Signaling.

Suggested Readings:

1. Hal R. Varian, Intermediate Microeconomics, a Modern Approach, W.W. Norton and Company/Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
2. C. Snyder and W. Nicholson, Fundamentals of Microeconomics, Cengage
Learning (India), 2010.
3.1. B. Douglas Bernheim and Michael D. Whinston, Microeconomics, Tata McGraw- Hill (India), 2009.

SEMESTER - II

Course Title: PRINCIPLE OF MICRO ECONOMICS - II

Paper Code: ECOMIN1024   **Credit Points: 4**

Course Objectives: This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and thecourse will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Learning Outcome: The course introduces the students to the first course in Economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, Consumer theory, Theory of factor pricing and welfare economics.

Unit-1: Consumer Theory

Preference; utility; budget constraint; choice; demand; Slutsky equation; buying and selling; choice under risk and intertemporal choice; revealed preference.

Unit-2: Determination of Factor Pricing

Pricing of Factors under Perfect Competition–Factor Share and Technical Progress- Backward Bending Supply Curve of Labour–Monopsony; Principal agent problem-Monopoly & Competitive solution; Hidden action & hidden information and monopoly solution; Signaling

Unit: 3: Welfare Economics:

Positive, Normative and Welfare Economics, Individual and Social Welfare, Pigovian Welfare Economics, Condition of Pareto Optimality, The Compensation Principle (Kaldor – Hicks Criterion),

Unit: 4: General Equilibrium

Meaning of General Equilibrium, Partial vs General Equilibrium, Walrasian General
Equilibrium System: Tatonnement, Existence, Stability and Uniqueness of the Equilibrium.
 Critique of General Equilibrium Theory – Non–tatonnement Process

Suggested Readings:

1. Hal R. Varian, Intermediate Microeconomics, a Modern Approach, W.W. Norton and
Company/Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and
Bergstrom may be used for problems.

2. C. Snyder and W. Nicholson, Fundamentals of Microeconomics, Cengage
Learning (India), 2010.
1. B. Douglas Bernheim and Michael D. Whinston, Microeconomics, Tata McGraw- Hill
(India), 2009.

SEMESTER - II

Paper Title: INTERMEDIATE TO INTERDISCIPLINARY ECONOMICS

Paper Code: ECOIDC1023   **Credit Points: 3**

Course Objectives: To analyseand apply economic analysis to understand and address environmental challenges, including the efficient management of natural resources. To understand the theory of comparative advantage and gains from trade. To apply economic analysis to understand innovation and technological changeto comprehend the drivers and effects of innovation and technological advancements in various sectors of the economy

Learning Outcome: This syllabus provides an outline of the course "Intermediate to Interdisciplinary Economics" and can be adjusted or expanded based on specific curriculum requirements and preferences of the educational institution offering the course.

Course outline:

Unit 1: Environmental and Resource Economics

Economic analysis of environmental issues and natural resource management; Evaluation of environmental policies and their economic implications; Cost-benefit analysis of environmental projects and regulations.

Unit 2: International Trade and Finance

Theory of comparative advantage and gains from trade; International trade patterns and barriers; Exchange rates, balance of payments, and global financial markets.

Unit3: Innovation and Entrepreneurship

Economic analysis of innovation and technological change; Role of entrepreneurship in economic growth and development; Policies for fostering innovation and entrepreneurship.

Recommended Readings:

Environmental and Natural Resource Economics" by Tom Tietenberg and Lynne
International Economics: Theory and Policy" by Paul Krugman and Maurice Obstfeld

The Entrepreneurial State: Debunking Public vs. Private Sector Myths" by Mariana Mazzucato
The Economics of Innovation" by William F. Baumol

Course Title: TOURISM ECONOMICS

Code: ECOSEC1023   **Credit Points: 3**

Objectives: studying tourism economics involves analyzing the economic aspects of the tourism industry, including its impact on local economies, businesses, and governments. The objectives of studying tourism economics are to understand the economic principles and factors that influence the development and growth of the tourism sector, as well as to analyze its economic impact and implications

Outcome: Overall, studying tourism economics equips individuals with the knowledge and skills to understand, analyze, and contribute to the sustainable development of the tourism industry from an economic perspective.

Unit-1: Introduction

Economics of Tourism: Definitions, Meaning, Subject-matter, Nature and Social Relations.

Unit-2: Economic and social significance

 Benefits to the state, Educational and cultural value of tourism, Costs –Benefits from Tourism.

Unit 3: Tourism Development:

The organizations of Tourism, Organization for economic Cooperation and Development, Tourists organizations in India. Thomas Cook as travel Agents, Role of the travel agency and income generation

Unit -4: Tourism in India

Early history, ancientcivilization, Tourist products, Tourist publicity, Employment   Generation, Spot development in BTAD areas, their importance and problems.

 Recommended Readings:

1. Bhatia A.K. (2005), ''Tourism Development, Principle & Practices'' Sterling publisher private limited
2. Chatopadhyay Kunal," Economic impact of Tourism development in Indian Experience, Kanishka publishers & distributors.
3. B.Ghosh, Tourism and travel management.
4. A.K. Bhatia, ''International tourism managements"

SEMESTER-II
Course Title: SUSTAINABLE DEVELOPMENT -II
Course- Value Added Course   **Code- ECOVAC1024**   **Credit Points: 4**

Course Description: Explore the principles and practices of sustainable development and environmental economics. Analyse the economic aspects of environmental issues and strategies for achieving a balance between economic growth, social well-being, and environmental protection.

Course Outcomes: By the end of this course, students will be able to:

Understand sustainable development and environmental economics.Analyse the economic implications of environmental issues.Evaluate economic instruments and policy tools for sustainable development.Identify opportunities for sustainable economic growth.Critically evaluate environmental policy frameworks.Develop strategies for promoting sustainable development.

Course objectives:

To understand the relationship between economic development, social well-being, and environmental sustainability.To analyse the economic implications of environmental issues and externalities.To evaluate policy tools and instruments for promoting sustainable development.To develop strategies for sustainable solutions, including sustainable economic growth and effective environmental governance.**Course Outlines:**

Unit 1: Economic Instruments and Policy Tools for Sustainable Development(1 Credit; 4 classes)

Overview of economic instruments (taxes, subsidies, cap-and-trade); Policy tools for sustainable development (regulations, standards); Evaluation of the effectiveness of different policy approaches.

Unit 2: Sustainable Development and Business Practices (1 Credit; 4 classes); The role of businesses in promoting sustainability; Corporate social responsibility and green marketing; Economic opportunities and challenges of sustainable business models.

Unit 3: Strategies for Promoting Sustainable Development (1 Credit; 4 classes)

Integrating sustainable development principles in various sectors; Examples of successful sustainable development initiatives; Action plans for promoting sustainable development at different levels;

Unit 4: Sustainable Utilization of Local Resources (1 Credit; 4 classes)

Exploring sustainable agricultural practices tailored to BTR's environmental conditions.; Promoting community-based ecotourism and its economic benefits in BTR.; Sustainable forestry practices and the conservation of local forest resources in BTR.; Examining renewable energy options suitable for BTR's energy needs.

Recommended Readings:

Environmental Economics and Sustainable Development by Timothy M. Swanson and Anastasios Xepapadeas.

Principles of Environmental Economics and Sustainability by Ahmed Hussen.

Economics of the Environment: Selected Readings" edited by Robert N. Stavins.

Sustainable Development: Principles, Frameworks, and Case Studies by OkechukwuUkaga.

Local Sustainable Development and Global Environmental Governance by John Callebaut and Arnold Tukker.

Sustainable Resource and Environmental Management" by Simon Bell and Stephen Morse.

Ecotourism and Sustainable Development: Who Owns Paradise? by Martha Honey.

Sustainable Energy: Choosing Among Options by Jefferson W. Tester et al.

Year	Semester	Course	Code	Paper Title	Credit
Second Year	III	Major	ECOMAJ2014	Intermediate Microeconomics-II	4
			ECOMAJ2024	Introductory Macroeconomics	4
		Minor	ECOMIN2014	Principle of Macroeconomics-I	4
		IDC-3	ECOIDC2013	Contemporary Economic Issues	3
		AEC-3	AEC2012	Language/Regional Language	2
		SEC-3	ECOSEC2013	Data analysis	3
				Total Credit	**20**
	IV	Major	ECOMAJ2034	Intermediate Macroeconomics-I	4
			ECOMAJ2044	Statistical Methods for Economics	4
			ECOMAJ2054	Development Economics-I	4
		Minor	ECOMAJ2024	Principle of Macroeconomics-II	4
		AEC-4	AEC2022	Language/Regional Language	2
				Internship	2
				Total Credit	**20**

Course Title: INTERMEDIATE MICRO ECONOMICS - II

Paper Code: ECOMAJ 2014   **Credit Points: 4**

Course Objectives: This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers welfare Economics, imperfect markets, Pricing of Factors and Distribution and topics under economics of market failure

Learning Outcome: This course helps the students to understand efficiency of markets and the environment where the standard market mechanism fails to generate the desirable outcomes. The issues of market imperfection and market failures are important building blocks of this course.

Course Outline:

Unit: 1 : Welfare Economics:

Positive, Normative and Welfare Economics, Individual and Social Welfare, Pigovian Welfare Economics, Condition of Pareto Optimality, The Compensation Principle (Kaldor – Hicks Criterion), Scitovsky"s Double Criterion; Bergson – Samuelson Social Welfare Function; Arrow's condition on Social Choice and Individual values.

Unit 2: Pricing of Factors and Distribution

Marginal Productivity Theory of Distribution – Wage Differentials – Ricardian Theory of Rent – Classical theory of Interest – Theories of Profit-Innovation theory of Profit, Risk and Uncertainty bearing theory of profit.

Unit -3: Market Structure and the Theory of Product Pricing –II

Monopolistic Competition: Determination of Price - Output Equilibrium, Degrees of Product Differentiation, Selling costs, Excess Capacity; Oligopoly Analysis of Classical Oligopoly Model (Cournot, Bertrand) Collusive Oligopoly and Price Leadership & Prisoners' dilemma in cartel stability, Nash equilibrium of game.

Unit 4: Market Failure

Externalities: Positive and Negative Externality and Inefficiency, Externalities and Property Rights: Property Rights, Bargaining and Economic Efficiency; Public goods: Non-rival and Non Exclusive goods; Efficiency and Public Goods; Private preferences for public Goods;   Ways of Correcting Market Failure, Markets with Asymmetric Information: Quality Uncertainty and the Market for Lemons, Moral Hazards and adverse selection, Asymmetric Information in Labour Markets: Efficiency Wage Theory.

Suggested Readings:

1. Hal R. Varian, Intermediate Microeconomics, a Modern Approach, 8th edition, W.W. Norton and Company/Affiliated East-West Press (India), 2010.
2. C. Snyder and W. Nicholson, Fundamentals of Microeconomics, Cengage Learning (India), 2010.
2. Dominick Salvatore, Micro Economics- Theory and Applications, Oxford University Press.
3. Koutsoyiannis. A, Modern Micro Economics, ELBS/ Macmillan.
6. D. N. Dwivedi, Micro Economic Theory and Applications, Pearson Education.

SEMESTER - III

Course Title: INTRODUCTORY MACROECONOMICS

Paper Code: ECOMAJ 2024   **Credit Points: 4**

Course Objective: The objective of this course is to introduce undergraduate students to the basic principles and concepts of macroeconomics. The course will focus on the study of the behaviour of the economy as a whole, including issues such as economic growth, inflation, unemployment, monetary and fiscal policy, and international trade.

Learning Outcomes: By the end of the course, students will be able to: -

- Understand the basic introductory macroeconomics
- Analyse macroeconomic data
- Apply macroeconomic models
- Understand the relationship between money-banking and inflation-unemployment.

Course Outline:

Unit 1: Introduction to Macroeconomics
Definition and scope of macroeconomics; basic macroeconomic concepts and principles; macroeconomic goals and policy tools.

Unit 2: Measuring Economic Performance
National Income accounting and measurement; Gross Domestic Product and its components; Inflation and its measurement

Unit 3: Money and Banking
Money and its functions; Banking and financial intermediation; The Central Bank and monetary policy.

Unit 4: Unemployment and Inflation
The Labour market and unemployment; Types of Inflation and their causes; Philips curve and inflation-unemployment trade-off.

Recommended Readings:

Gupta, Suraj B: Monetary Economics, S. Chand and Co. Ltd
Mankiw, N. G. (2014). Principles of Macroeconomics. Cengage Learning
Dornbusch, R., Fischer, S., &Startz, R. (2013). Macroeconomics. McGraw-Hill Education
Blanchard, O., Johnson, D. R., & Johnson, D. W. (2015). Macroeconomics (6th ed.). Pearson

Ahuja, H.L.: Macroeconomics, Theory and Policy, S. Chand and Co. Ltd
Rana and Verma: Macroeconomic analysis, Vishal Publications, Jalandhar
Ray, D. (2015). Development Economics. Princeton University Press

SEMESTER - III

Course Title: PRINCIPLE OF MACROECONOMICS-I

Paper Code: ECOMIN2014   **Credit Points: 4**

Course Description: This course is an introduction to the fundamental principles of macroeconomics. The course will cover topics such as national income accounting, the measurement of economic growth, inflation, unemployment, monetary and fiscal policies, and international trade. Students will learn how to analyze macroeconomic data, apply macroeconomic models, and evaluate macroeconomic policies

Course Objectives: To introduce students to the basic principles of macroeconomics.To familiarize students with the tools and techniques used in macroeconomic analysis.To provide students with an understanding of key macroeconomic concepts such as national income accounting, economic growth, inflation, unemployment, and international trade.To enable students to analyses macroeconomic data and apply macroeconomic models.To develop students' ability to evaluate macroeconomic policy

Course Outline:

Unit 1: Introduction to Macroeconomics
Definition and scope of macroeconomics; Basic macroeconomic concepts: GDP, inflation, unemployment, etc.; The circular flow of income and expenditure; The role of government in the economy

Unit-2: National Accounting
The measurement of GDP; The components of GDP- consumption, investment, government spending, net export; Limitations of GDP as a measure of economic well-being

Unit-3: Economic Growth
The sources of economic growth; the role of technology in economic growth; the measurement of economic growth, The determinants of long-run economic growth

Unit 4: Inflation and Unemployment
The measurement of inflation and unemployment; The costs of inflation and unemployment; The Phillips curve and the trade-off between inflation and unemployment; The role of monetary and fiscal policies in stabilizing the economy

Recommended Readings:

Mankiw, N. G. (2019). Principles of Macroeconomics. Cengage Learning.

Macroeconomics: Principles, Applications, and Tools by Arthur O'Sullivan, Steven Sheffrin, and Stephen Perez
Principles of Macroeconomics by N. Gregory Mankiw
Macroeconomics by Robert J. Gordon

SEMESTER - III

Course Title: CONTEMPORARY ECONOMIC ISSUES

Paper Code: ECOIDC2013   **Credit Points: 3**

Objectives:The paper seeks to familiarize the students with basic concepts related to some contemporary Indian economic issues.

Outcomes: Its aim is to equip the students with sufficient knowledge and skills so as to understand media discussions, and to critically analyze contemporary issues.Suchcapabilityis necessarytounderstandgovernmentpoliciesandalsotoincreasepeople'sparticipationineconomi c decision-making. Theemphasisinthis paper will be on conceptual understanding only.

1. Concepts

a. Growth and Development: GDP, GNP, HDI.

b. Fiscalpolicy,needforgovernmentspending,areasofgovernmentspendinginIndia
c. Capital expenditure, revenue expenditure, plan expenditure, non-planexpenditure.
d. Deficits(budget, fiscal,revenue),impactoffiscaldeficitoneconomy,needtocontrol fiscaldeficits,
e. Capitalreceipts,revenuereceipts,taxandnon-taxrevenue,directandindirecttaxes,need to rationalize tax structure. Goods and Services Tax(GST).
f. Actuals, Revised Estimates, BudgetEstimates
g. Zero-basebudgeting
h. Genderbudgeting
i. Centre-state financial relations inIndia
j. Demonetisation

2. The UnionBudget

   Need for the Budget, Understanding the process of budget making in India, Analysis of budget in terms of various parameters suchas:

   a) Deficits — trends in fiscal deficit and revenuedeficit
   b) Receipts-   proposed sources of revenue and expected growth inrevenue;
   c) Expenditure - expenditure pattern and expected growth inexpenditure; The thrust areas of the budget; areas/sectors which have received higher or lower share of expenditure, reasons and consequences there of; steps proposed to ensure effectives pending.

Recommended readings:

1. 'Understanding the Budget Concepts and Terminologies', Centre for Budget and Governance Accountabilityhttp://www.cbeaindia.ore/files/documents/Understandin u%20the%20Budget%20Concepts%20and%20Terminologies.pdf

2. *The Key to Budget Documents, Budget At A Glance, Macroeconomic Framework Statement, Medium Term Fiscal Policy Statement and Fiscal Policy Strategy Statement,* all available atindiabudget.nic.in.

3. *Economic and Social Classification of' the Budget,* available athttp://finmin.nic.in/reports/FunClass20l415.pdf.

4. http://www.unionbudget.nic.in/ub2016-17/bh/bh1.pdf (For Budget 2016-17 highlights)

5. PranabMukherjee(2012),"BudgetMaking",inK.BasuandA.Maertens(eds),*The New Oxford Companion to Economics in India,*OUP.

6. DipakDasguptaandSupriyoDe(2012),"FiscalDeficit",inBasuandMaertens.

7. UmaKapila(2016),"FiscalandBudgetaryDevelopments",in*IndianEco nomySince Independence,* Academic Foundation, latestedition.

8. YVReddy(2015),"Continuity,ChangeandTheWayForward:Fourteent hFinance Commission", EPW Vol. 50, Issue No. 21, 23 May,2015

9. 14th Finance Commission Report. http://finmin.nic.in/14fincomm/14thFinanceC ommission.htm

10. Chakraborty,Pinaki(2015)"IntergovernmentalFiscalTransfersinIndia: Emerging Trends and Realities" in P. Patnaik (ed), *Economics Volume 3. Macroeconomics,* Oxford University PressIndia.

11. Mukherjee,Sacchidananda(2015)."PresentStateofGoodsandServices Tax(GST) ReforminIndia,"WorkingPaperNo.2015- 154(September2015),NationalInstitute of Public Finance and Policy, NewDelhi.

12. M.R.Spiegel(2003),*TheoryandProblemsofProbabilityandStatistics,*ch.19.

SEMESTER - III

Course Title: DATA ANALYSIS

Paper Code: ECOSEC 2013   **Credit Points: 3**

Objectives: Data analysis serves various objectives and can yield several outcomes depending on the context and purpose of the analysis. it includes Understanding particular phenomenon, process, or system by exploring and examining the available data, Decision-making, Problem-solving and Prediction and forecasting.

Outcomes: Data analysis can lead to new insights, discoveries, or hypotheses that were previously unknown or not apparent, helping to expand knowledge and understanding.

Unit-1: Collection of Data, secondary data and primary data, different sources of secondary data, different methods of primary data collection, preparation of questionnaire and schedule.

Unit-2: Measure of central tendency-mean, median, mode; measure of dispersion-range, quartile deviation, standard deviation, measurement of growth rate.

Unit-3: Correlation, Coefficient of Correlation, Rank correlation, Regression analysis.

Unit-4: Data Entry in Excel, Diagrammatic representation and Analysis; Power Point Presentation; Concepts of statistical tools like Excel, R, SPSS, STRATA, SAS.

Recommended Readings:

Gupta, SP *Statistical Methods¸* Sultan Chand and Sons, New Delhi.

Gujrati, D. N. (2004), *Basic Econometrics, Fourth Edition,* Tata Mc Graw-Hill Publishing Company Limited, New Delhi.

Gupta, S.C. and Kapoor, VK ,*Fundamentals of Mathematical Statistics*, Sultan Chand and Sons, New Delhi.

Gupta, S.C. and Kapoor, VK ,*Fundamentals of Applied Statistics*, Sultan Chand and Sons, New Delhi.

Course Title: INTERMEDIATE MACROECONOMICS-I

Course- Major   Code- ECOMAJ2034   Credit Points: 4

Course Description: This course is designed to provide students with a deeper understanding of macroeconomic theory and its application to real-world issues. The course will cover topics such as the determinants of long-run economic growth, the business cycle, monetary policy, and fiscal policy. Students will learn how to analyse macroeconomic models and theories, and evaluate macroeconomic policies.

Course Objectives: To develop a deeper understanding of macroeconomic theory.To Apply macroeconomic models and theories in real-world issues. To evaluate the macroeconomic policies and to study the business cycle and its impact on the economy. To examine the role of monetary and fiscal policy in the economy.

Learning Outcomes: By the end of the course, students will be able to: Understand the key concepts and theories of macroeconomics. Analyze and evaluate macroeconomic models and theories. Apply macroeconomic concepts to real-world economic issues. Understand the relationship between macroeconomics and other fields of study, such as finance and public policy.

Course Outline:

Unit 1: Introduction to Intermediate Macroeconomics
Review of basic macroeconomic concepts; Introduction to intermediate macroeconomic models; The circular flow of income and expenditure in the long run.

Unit 2: The Business Cycle
Theories of the business cycle; Empirical evidence on business cycles; The role of expectations in business cycles; Monetary and fiscal policies for stabilizing the economy.

Unit 3: Monetary Policy
The role of money in the economy; Money demand and supply; The conduct of monetary policy; The challenges of implementing effective monetary policy.

Unit 4: Fiscal Policy
The role of government in the economy; The government budget constraint; The impact of fiscal policy on aggregate demand; The effectiveness and limitations of fiscal policy.

Recommended Readings:

Romer, D. (2012). Advanced Macroeconomics (4th ed.). McGraw-Hill.
Macroeconomics by N. Gregory Mankiw
The Macroeconomy: Private Choices, Public Actions, and Aggregate Outcomes by Frederic S. Mishkin
Macroeconomic Theory and Policy by David Andolfatto and Simon Fraser University
Principles of Macroeconomics by Karl E. Case and Ray C. Fair
Advanced Macroeconomics by David Romer

SEMESTER IV

Course Title: STATISTICAL METHODS FOR ECONOMICS

Course: Major   Code: ECOMAJ 2044   Credit Points: 4

Course Objectives: The course teaches students the basics of probability theory and statistical inference. It sets a necessary foundation for the econometrics courses within the Honours programme. The familiarity with probability theory will also be valuable for courses in advanced microeconomic theory.

Learning Outcome: At the end of the course, the student should understand the concept of random variables and be familiar with some commonly used discrete and continuous distributions of random variables. They will be able to estimate population parameters based on random samples and test hypotheses about these parameters. An important learning outcome of the course will be the capacity to analyse statistics in everyday life to distinguish systematic differences among populations from those that result from random sampling.

Unit-1: Introduction and Overview

Meaning and Scope of statistics; Data: Collection, Organization and Presentation.

Unit-2: Statistical Measures

Measures of Central Tendency -- Mean, Median and Mode; Weighted Mean, Geometric and Harmonic means, Measures of Dispersion – Range, Mean Deviation, Quartile Deviation, Standard Deviation, Coefficient of Variation and Lorenz curve; Moments, Skewness and Kurtosis, Symmetrical Vs. Asymmetrical distribution.

Unit- 3: Correlation and Linear Regression Model

Correlation Analysis: Meaning and Types, Coefficient of linear correlation; Scatter diagram, Karl Pearson's correlation coefficient and Spearman's Rank method, Partial & Multiple Correlation coefficient; Regression Analysis – estimation of regression line in a bi-variate distribution - Least Square Method, properties of regression coefficient.

Unit – 4: Elementary Probability Theory

Probability: Concepts of Sample Space and Events, Probability of an Event, Addition and Multiplication Theorems; Conditional Probability and Independence of Events; Inverse Probability; Bayes'Rule (concepts only) ; Concept of a Random Variable, Discrete and Continuous Random Variable, Probability Mass Function, Probability Density Function, Mathematical Expectation and Its Properties.

Suggested Readings:

1. Gupta, S. C. (2011). Fundamentals of statistics (pp. 18-1). New Delhi: Himalaya Publishing House.
2. Gupta, S. C., & Kapoor, V. K. (2020). Fundamentals of mathematical statistics. Sultan Chand & Sons.
3. Bluman, A. G. (2013). Elementary statistics: A step by step approach: A brief version (No. 519.5 B585E.). McGraw-Hill.
4. Berenson, M. L., Stephan, D. F., Krehbiel, T. C., & Levine, D. M. (2011). Statistics for Managers using MS Excel. Pearson Higher Ed.
5. Sharma, J. K. (2010). Fundamentals of Business Statistics. (2nd ed.). New Delhi: Vikas Publishing House.
6. Nagar, A.L. and Das, R.K (1983), Basic Statistics, Second Edition, Oxford
   University Press.

SEMESTER IV

Paper Title: DEVELOPMENT ECONOMICS I

Paper code: ECOMAJ2054   **Credit:4**

Objective: The objective of this paper is to help student acquire the conceptual knowledge of economic growth and development.

Course Learning Outcome: The course will enable the student to understand the theoretical framework of economic growth and development. It will also help them to learn about the entrepreneurship, technology and economic development, poverty and inequality. Besidesthat it will enable the students to gather knowledge of the various models of economic growth and development.

Unit-1: Concepts of Economic Growth and Development

Economic growth and development-Concepts, indicators of economic development-PCI, PQLI, HDI, PQLI, Sen's views on development, Challenges and solution to development, Characteristics of modern economic growth.

Unit-2: Entrepreneurship, Technology and Economic Development

Entrepreneurship- Role of entrepreneurship in economic development; Problems and measures in the growth of entrepreneurship; Technological change, Role of technology in economic development; Technology transfer and its problems.

Unit-3: Poverty and Inequality: Definitions, Measures and Mechanisms

Inequality axioms and measurement; Connections between inequality and development; Poverty and measurements; Mechanism that generate poverty trap.

Unit-4: Growth models and Empirics

Vicious Circle of Poverty; Theory of Big Push; Theory of Balanced and Unbalanced Growth; Endogenous Growth model; Determinants of Growth.

Recommended Readings:

1. Debraj Ray, *Development Economics*, Oxford University Press, 2009
2. Michael P. Todaro and Stephen C. Smith, *Economic Development*, Pearson
3. R. K. Lekhi& Joginder Singh, *The Economics of Development and Planning*, Kalyani Publishers
4. Thirlwal, AP, *Growth and development*, Palgrave.
5. UNDP-development challenges and solutions (https://www.undp.org)

Course Title: PRINCIPLE OF MACROECONOMICS-II

Course- Minor   **Code- ECOMIN2024**   **Credit Points: 4**

Course Description: This course is a continuation of Principles of Macroeconomics-I, focusing on more advanced topics in macroeconomics. The course will cover topics such as economic growth, business cycles, monetary policy, fiscal policy, and international economics. Students will learn how to apply macroeconomic models and theories to analyse current economic issues and policies.

Course Objectives:To build on the knowledge gained in Principles of Macroeconomics-I, and introduce more advanced concepts and topics in macroeconomics.
To deepen students' understanding of macroeconomic theories and their application to real-world issues and policies.
To provide students with analytical tools to study topics such as economic growth, business cycles, monetary and fiscal policies, and international economics.
To enable students to apply macroeconomic models and theories to analyse current economic issues and policies.
To develop students' ability to evaluate macroeconomic policies and their impact on economic performance.

Learning Outcomes: By the end of the course, students will be able to:Understand the advanced principles of macroeconomics; Analyse macroeconomic models and theories; Evaluate macroeconomic policies and their effectiveness; Apply macroeconomic concepts to real-world economic issues.

Course Outline:
Unit 1: Economic Growth and Development
Theories of economic growth; Endogenous growth theory; Sources of economic development; Measuring development and its challenges.

Unit 2: Business Cycles
Theories of business cycles; Measuring business cycles; Fiscal and monetary policies for stabilizing the economy; The role of expectations in business cycles.

Unit 3: Monetary Policy
Money demand and supply; The role of central banks in monetary policy; Transmission mechanisms of monetary policy; The challenges of implementing effective monetary policy.
Unit 4: Fiscal Policy
The role of government in the economy; The impact of fiscal policy on aggregate demand; The government budget constraint; The effectiveness and limitations of fiscal policy.

Unit 5: International Economics

The gains from trade; The theory of comparative advantage; Trade policies and their impact on welfare; Exchange rates and the balance of payments.

Recommended Readings:

Blanchard, O., & Johnson, D. R. (2019). Macroeconomics (8th ed.). Pearson.

Mankiw, N. G. (2019). Principles of Macroeconomics. Cengage Learning.

Macroeconomics: Principles, Applications, and Tools by Arthur O'Sullivan, Steven Sheffrin, and Stephen Perez

Principles of Macroeconomics by N. Gregory Mankiw

Macroeconomics by Robert J. Gordon.

Year	Semester	Course	Code	Paper Title	Credit
Third Year	V	Major	ECOMAJ3014	Intermediate Macroeconomics-II	4
			ECOMAJ3024	Mathematical Methods for Economics-I	4
			ECOMAJ3034	Development Economics-II	4
			ECOMAJ3044	Population Studies	4
		Minor	ECOMIN3014	Money and Banking	4
				Total Credit	**20**
	VI	Major	ECOMAJ3054	Indian Economy-I	4
			ECOMAJ3064	Public Economics	4
			ECOMAJ3074	International Economics	4
			ECOMAJ3084	Mathematical Methods for Economics-II	4
		Minor	ECOMIN3024	Issues of Indian Economy	4
				Total Credit	**20**

SEMESTER-V

Course Title: INTERMEDIATE MACROECONOMICS-II

Course- Major   Code- ECOMAJ3014   Credit Points: 4

Course Description: This course is a continuation of Intermediate Macroeconomics-I and will cover more advanced topics in macroeconomic theory and policy. The course will focus on topics such as dynamic macroeconomic models, monetary and fiscal policy in open economies, and the relationship between macroeconomics and financial markets. Students will learn how to analyse macroeconomic models and theories, and evaluate macroeconomic policies in a dynamic setting.

*Course Objectives:*To. develop advanced understanding of macroeconomic theory and policy.Analyse macroeconomic models and theories in a dynamic setting.Evaluate macroeconomic policies in open economies.Understand the relationship between macroeconomics and financial markets.

Learning Outcomes: By the end of the course, students will be able to:Understand the advanced concepts and theories of macroeconomics; Analyse and evaluate dynamic macroeconomic models; Apply macroeconomic concepts to real-world economic issues; Understand the relationship between macroeconomics and financial markets; Evaluate macroeconomic policies in open economies.

Course Outline:

Unit 1: Dynamic Macroeconomic Models

The IS-LM model in a dynamic setting; The Phillips curve in a dynamic setting; The role of expectations in dynamic macroeconomic models; Rational expectations and the Lucas critique.

Unit 2: Monetary and Fiscal Policy in Open Economies

The open economy IS-LM model; The Mundell-Fleming model; The relationship between exchange rates and interest rates; International transmission of monetary and fiscal policies.

Unit 3: Macroeconomics and Financial Markets

The money market and the loanable funds market; The impact of monetary policy on interest rates; The impact of fiscal policy on interest rates; The relationship between interest rates and asset prices.

Unit 4: Economic Growth and Development

Theories of economic growth-The Solow growth model; Endogenous growth model; Human capital and technological progress; The challenges of economic development; The role of macroeconomic policies in promoting economic growth and development.

Recommended Readings:
Burda, M., &Wyplosz, C. (2017). Macroeconomics: A European Text (7th ed.). Oxford University Press.
Dynamic Macroeconomic Analysis: Theory and Policy in General Equilibrium by SumruAltug and Pamela Labadie.
International Macroeconomics by Maurice Obstfeld and Kenneth Rogoff.
Macroeconomics: Imperfections, Institutions and Policies by Wendy Carlin and David Soskice.
Macroeconomics: Principles and Policy by William J. Baumol and Alan S. Blinder.
Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and Its Applications by Jordi Galí

Course Title: MATHEMATICAL METHODS FOR   ECONOMICS - I

Course: Major   **Code: ECOMAJ 3024**   **Credit Points: 4**

Course Objectives: This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Learning Outcome: The course hones and upgrades the mathematical skills acquired in school and paves the way for the second semester course Mathematical Methods in Economics I. Collectively, the two papers provide the mathematical foundations necessary for
further study of a variety of disciplines including economics, statistics, computer

Science, finance and data analytics. The analytical tools introduced in this course have applications wherever optimization techniques are used in business decision-making. These tools are necessary for anyone seeking employment as an analyst in the corporate world. The course additionally makes the student more logical in making or refuting arguments.

Unit -1: Preliminaries

Logic and proof techniques; sets and set operations; Functions and Relations: Definitions; Concepts of 'range', 'domain' and 'mapping'; Explicit and implicit functions; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; convex, quasi – convex and concave functions, limit and continuity of functions

Unit – 2: Differential Calculus

Differentiation of a function, Basic rules of differentiation, Partial and Total differentiation, second and higher order derivatives for single variable, Economic applications of Derivative: Derivatives in elasticity of demand and supply, relationship of MR, AR and Elasticity, Relationship between AC and MC, Relationship between Marginal Product and Marginal Cost , Derivation of Marginal Functions, Comparative Static Analysis of Market Model, Comparative Static Analysis in a National Income Model, Application of Euler's Theorem.

Unit -3: Single-variable optimization

Geometric properties of functions: convex functions, distinction between concave and convex functions; their characterizations and applications; local and global optima: tests for maximization and minimization, geometric characterizations, characterizations using calculus and applications. Applications: Equilibrium under cardinal utility theory; Maximization of Revenue and Profit, Minimization of cost of production in short run.

Unit – 4: Simultaneous Linear Systems and Related Applications of Matrix Algebra

Vectors, Vector Spaces; Linear Dependency; Matrix; Types, Matrices-elementary operations: matrix addition, subtraction, scalar multiplication, rank of a matrix, determinants: characterization, properties and applications, inverse of a matrix, Solution of Simultaneous equation system: Application of Cramer 's rule for solution of a system of linear equations, Application to Partial Equilibrium Market Model, Simple National Income Model.

Suggested Readings:

1. Chiang, A.C. & Wainwright, K. (2013). Fundamental Methods of Mathematical Economics. (4th ed.). McGraw Hill Education (India) Private Limited, 4th Edition.

2. Sydsaeter, K. & Hammond, P. (2016). Mathematics for Economic Analysis. New Delhi: Pearson Education Inc.

3. Dowling, E. T. (2012). Schaum's Outlines-Introduction to Mathematical Economics. (3rd ed.). New York: McGraw Hill.

4. Simon, C. P., & Blume, L. (1994). Mathematics for economists (Vol. 7). New York: Norton.

5. Rosser, M. (2003). Basic Mathematics for Economists. (2nd ed.). New York: Routledge.

6. Renshaw, G. (2011). Maths for Economics. (4th ed.). Oxford. Oxford University Press.

7. Baruah Srinath (2019) . Basic Mathematis and its Application in Economics, Trinity Press (An Imprint of Laxmi publication Pvt. Ltd.), India.

Course Title:DEVELOPMENT ECONOMICS II

Paper code: ECOMAJ3034   **Credit: 4**

Objective: The objective of this paper is to help student acquire the conceptual knowledge of economic growth and development and to understand role of demography, health and education, environment and trade in economic development.

Learning Outcome: The course will enable the student to understand the theoretical framework of economic growth and development. It will also help them to learn about the demography, health and education, environment and trade, in economic development. Besides that, it will enable the students to gather knowledge of the globalize perspective of economics development.

Course Outline:

Unit-1: Demography and Development

Basic concepts of demography- Birth and death rate, age structure, fertility and mortality; Demographic transitions during the process of development; The Malthusian Population Trap; Migration-Rural and Urban; Harris-Todaro Model of Migration

Unit-2: Health, Education and Development

Investment in health and education-the Human Capital Approach; Gender bias in health and education; Role of health and education in economic development;

Unit-3: Environment, Trade and Development

Sustainable development-concepts and indicators; Policies for sustainable development; Green Growth and Green Accounting; Relationships between environment and development; Gains from Trade, Vent for Surplus Theory of Trade, Trade as an engine of Growth

Unit-4: Globalization and Development

The Economics and Politics of Multilateral Agreements; Production Pattern and World inequality; Financial Instability in a globalized world; Effects of globalization on development

Recommended Readings:

1. Debraj Ray, *Development Economics*, Oxford University Press, 2009
2. Michael P. Todaro and Stephen C. Smith, *Economic Development*, Pearson
3. R. K. Lekhi& Joginder Singh, *The Economics of Development and Planning*, Kalyani Publishers
4. Thirlwal, AP, *Growth and development*, Palgrave.

Course Title: Population Studies

Paper code: ECOMAJ3044   **Credit: 4**

Course Objectives: Population studies are a multidisciplinary field of research that aims to understand various aspects of human populations, including their size, composition, distribution, and dynamics. Some common objectives of population studies includes demographic Analysis, fertility and Family Dynamics, Migration and Urbanization and Policy Development etc.

Course Outcome: The outcomes of population studies contribute to scientific knowledge, inform policymaking, and support evidence-based decision-making. By understanding population dynamics, researchers and policymakers can develop targeted interventions, allocate resources efficiently, and address societal challenges related to population growth, aging, urbanization, and social inequalities.

Course Outline:

Unit 1: Concepts and Basic Theories

The Malthusian Theory of Population—Theory of Optimum Population—Theory of Demographic Transition, source of population data

Unit 2: Elements of Vital Statistics

Measure of Fertility—Crude Birth Rate, Fertility Rate, Age Specific Fertility Rate, Measures of Reproductivity—Total Fertility Rate, Gross Reproduction Rate, Net Reproduction Rate—Measure of Mortality—Crude Death Rates, Age Specific Death Rates.

Unit-III Urbanization

Urbanization –Growth and distribution of rural–urban population in India, forces of urbanization in developed and developing countries, trends in urbanization in India,

Unit-IV Migration

Importance of migration in the study of population, internal and international migration-concept-determinant and consequences. migration modal- todaro's model of rural-urban migration

Recommended Readings:
1. Bhende, A and T. Kanitkar: Principles of Population Studies
2. Gupta and Kapoor: Fundamental of Applied Statistics
3. Ramkumarr, R : Technical Demography
4. Gupta, S.K and R. Joshi: Human Resource Management
5. Sinha, V.C and Zacharia, E: Elements of Demography

Course Title: MONEY AND BANKING

Course- Minor   Code- ECOMIN3014   Credit Points: 4

Course Description: This course aims to provide students with an understanding of the nature, functions, and significance of money and banking in the modern economy. The course will cover topics such as the evolution of money, the role of banks in the economy, the central banking system, and the impact of monetary policy on economic growth and stability.

Course Objectives: To provide students with an understanding of the nature and functions of money in the modern economy.To introduce students to the evolution of money, from its origins to the modern financial system.To analyse the role of banks in the economy and how they facilitate the flow of funds between savers and borrowers.To explore the central banking system and the role of central banks in regulating the money supply and maintaining economic stability.To assess the impact of monetary policy on economic growth and stability, and the challenges posed by inflation and deflation.

Learning Outcomes: Understand the nature and functions of money in the modern economy.Analyse the historical evolution of money and its current role in the financial system.Explain the role of banks in facilitating the flow of funds between savers and borrowers.Evaluate the central banking system and the role of central banks in regulating the money supply and maintaining economic stability.Assess the impact of monetary policy on economic growth and stability, and the challenges posed by inflation and deflation.

Course Units and Credits:

Unit 1: Introduction to Money (1 Credit)

Definition and functions of money; Types of money: commodity, fiat, and digital; Evolution of money: from barter to digital.

Unit 2: Banking and Financial Intermediation (1 Credit)

The role of banks in the economy; Types of banks: commercial, investment, and central banks; Financial intermediation: deposit creation and lending.

Unit 3: Central Banking and Monetary Policy (1 Credit)

The central banking system: structure and functions; Monetary policy tools: reserve requirements, discount rate, and open market operations. The transmission mechanism of monetary policy.

Unit 4: International Finance and the Global Monetary System (1 Credit)

Exchange rates and the foreign exchange market; The gold standard, Bretton Woods, and the current global monetary system; The role of the International Monetary Fund (IMF).

Recommended Readings:

Mishkin, F. (2016). The Economics of Money, Banking, and Financial Markets (11th Edition). Pearson.

The Economics of Money, Banking and Financial Markets" by Frederic S. Mishkin

Money, Banking and Financial Markets" by Stephen G. Cecchetti and Kermit L. Schoenholtz

The Theory of Monetary Institutions" by Lawrence H. White.

Money, Bank Credit, and Economic Cycles" by Jesús Huerta de Soto.

SEMESTER-VI

Course title: INDIAN ECONOMY-I

Course: Major   Code: ECOMAJ3054   Credit Points: 4

Course Objective: Students will gain a comprehensive understanding of the economic structure, functioning, and policies of India. It involves analyzing various aspects such as macroeconomic indicators, sectors of the economy, policy frameworks, and socio-economic factors that shape India's economic development.

Course outcome: It will equip students with a strong understanding of the economic dynamics of India, enabling them to contribute effectively to policy-making, research, business decisions, and socio-economic development in the country

Course Description: Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in India, the reading list will have to be updated annually.

Course Outline:

Unit-1: Economic Development since Independence

Major features of the economy at independence;population - the factor endowment's approach to development.Growth and Development under different policy regimes (from planning to market based development)- Objectives, achievements and failures of Planning.Economic Reforms - critical analysis.Structural changes in the post reforms period- trends in National income and per capita income.

Unit-2: Population and Human Development

Demographic trends and issues; Population as a factor of economic development; Age and sex composition; The quality of population; Demographic Dividend; education; health and malnutrition; basic problems and government measures, Right to Education (RTE) Act 2009

Unit-3: Growth and Distribution

Trends and policies in poverty including Sen's Entitlement Analysis, inequality and unemployment, the State and social programmes, Trends in GDP and per capita GDP; Youth unemployment (School Transition to Work); Policy perspectives in growth and distribution

Unit-4: International Comparisons

With China, Pakistan, Bangladesh, Sri Lanka, Nepal and Vietnam

Recommended Readings:

1. Jean Dreze and Amartya Sen, Jean Dreze and Amartya Sen, 2013. An Uncertain Glory:
India and its Contradictions, Princeton University Press.
2. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era,
Economic and Political Weekly, November.
3. Rakesh Mohan, 2008, ―Growth Record of Indian Economy: 1950-2008. A Story of
Sustained Savings and Investment, Economic and Political Weekly, May.
4. S.L. Shetty, 2007, ―India 's Savings Performance since the Advent of Planning, in K.L.
Krishna and A. Vaidyanathan, editors, Institutions and Markets in India's Development.
5. Himanshu, 2010, Towards New Poverty Lines for India, Economic and Political Weekly,
January.
6. Jean Dreze and Angus Deaton, 2009, Food and Nutrition in India: Facts and Interpretations,
Economic and Political Weekly, February.
7. Himanshu. 2011, ―Employment Trends in India: A Re-examination, Economic and
Political Weekly, and September
8. Uma Kapila: Indian Economy since independence, Academic Foundation
9.Misra and Puri: Indian economy, Himalaya Publishing House Pvt. Ltd.

Course Title: PUBLIC FINANCE

Course code: ECOMAJ3064   **Credit: 4**

Course Objective: studying public finance is to develop a comprehensive understanding of the government's role in managing public funds, allocating resources, and making fiscal policy decisions. It involves analyzing various aspects of public finance, such as taxation, government expenditures, public debt, budgeting, and the impact of fiscal policies on the economy and society.

Course outcome: Overall, studying public finance equips students with a deep understanding of the principles, policies, and practices related to government finance. It enables them to analyze fiscal issues, contribute to policy debates, and make informed decisions regarding public finance management at various levels of government.

Course Outline:

Unit1 Public Economic Theory

Public finance: definition, nature and scope, private and public finance, role of public finance; Fiscal policy: meaning, objectives, instruments; Public goods: definition, types, models of efficient allocation, free riding, Externalities: the problem and its solutions, taxes versus regulation; Taxation: meaning, types, economic effects, a good tax system, efficiency and equity considerations, tax incidence;

Unit 2Public expenditure

Public expenditure: meaning, causes of growth of public expenditure. Public debt: meaning, reasons for growing public debt. Theories of Public Expenditure- Lindhal's Model of Voluntary Exchange, Musgrave's Optimum Budget Theory

Unit-3 Public Debt
The Neo-classical Theory of Incidence and Shifting, Musgrave's Budget Incidence Theory
Public Debt- sources, burden and effects, Optimality in Public Debt Management Pay- As- You-Use and Pay- As- You-go Finance, Musgrave's Intergeneration Equity Theory.

Unit 4 Indian Public Finance

Tax system in India: structure and reforms; Budget deficits and public debt; Fiscal federalism in India.

Recommended Readings:

1. J. Hindrinks, G. Myles: *Intermediate Public Economics*, MIT Press, 2006.
2. H. Rosen, T. Gayer: *Public Finance*, 9th ed., McGraw-Hill/Irwin, 2009.
3. Joseph E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3rd edition, 2000.
4. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory & Practice*, McGraw Hill Publications, 5th edition, 1989.
5. John Cullis and Philip Jones, *Public Finance and Public Choice*, Oxford University Press, 1st edition, 1998.
6. Harvey Rosen, *Public Finance*, McGraw Hill Publications, 7th edition, 2005.
7. Mahesh Purohit, *Value Added Tax: Experiences of India and Other Countries*, 2007.
8. R.K Choudhury, *Public Finance and Fiscal Policy*, Kalyani Publishers, 2000.

Paper Title: INTERNATIONAL ECONOMICS

Course: Major   **code: ECOMAJ3074**   **Credit:4**

Course Objectives: Studying international economics aims to understand the principles and theories governing economic interactions among countries. It involves analyzing the global flow of goods, services, and capital and the policies and factors that influence international trade and finance. By studying international economics, individuals can gain insights into the functioning of the global economy and its impact on various stakeholders, including nations, businesses, and individuals.

Learning outcome: It will equip individuals with analytical tools and a broad understanding of the global economy. It provides insights into the complexities of international economic relations and prepares students for careers in areas such as international business, economic consulting, government agencies, and international organizations.

Course Outline:

Unit-1 Introduction to International Economics

Definition and scope of international economics; Key concepts and theories in international trade and finance; Historical development of international economic relations

Unit 2. International Trade Theory

Comparative advantage and gains from trade; Ricardian, Heckscher-Ohlin, and specific factors models; Trade Patterns and factors Influencing trade flows; Trade policy analysis: tariffs, quotas, subsidies, and trade agreements.

Unit 3. International Trade Policy

Trade barriers and protectionism; Arguments for and against free trade; Trade policy instruments: tariffs, non-tariff barriers, and trade remedies; International trade organizations: World Trade Organization (WTO) and regional trade agreements.

Unit 4. International Macroeconomic Policy

Fixed versus flexible exchange rates; International Monetary systems, financial globalization and financial crisis.

Recommended Readings:
1. Paul Krugman, Maurice Obstfeld, and Marc Melitz, International Economics: Theory and Policy, Addison-Wesley (Pearson Education Indian Edition), 9th edition, 2012
2. Dominick Salvatore, International Economics: Trade and Finance, John Wiley International Student Edition, 10th edition, 2011.

Paper Title: MATHEMATICAL METHODS FOR ECONOMICS-II

Course Code: ECOMAJ3084 **Credit: 4**

Objectives: Studying mathematical economics involves the application of mathematical methods and models to analyze economic theories, phenomena, and problems. The objectives and outcomes of studying mathematical economics can includes formalization of economic theories, Optimization and decision-making etc.

Outcomes: Overall, studying mathematical economics equips individuals with a strong quantitative foundation and analytical toolkit, enabling them to analyze economic phenomena, develop models, make predictions, and contribute to economic research and policy analysis.

Unit -1. Derivatives of Functions of several variables:

Partial and Total differentiation and economic applications, Comparative –Static Analysis of Market Model, Comparative –Static Analysis in a National Income Model, Indifference curve analysis, Application of Euler's Theorem, Cobb-Douglas Production Function and its Properties; CES Production Function and its properties

Unit - 2. Unconstrainedoptimization:

Unconstrained optimization with one variable and Economic Applications: Profit Maximisation and Cost Minimisation, Revenue Maximisation;

Unconstrained optimization with more than one variable and economic applications - Discriminating Monopoly, Multiproduct Firm, Multi –Plant Firm.

Unit – 3: Integration of functions
Meaning and significance of integration, basic rules of integration, significance of a constant after integration, Indefinite and Definite Integral; Applications: derivatives of total functions (total cost, total revenue, consumption and saving functions) from marginal functions, consumer's surplus and producer's surplus, problems relating to investment and capital formation.

Unit – 4.Linear programming:
Introduction, graphical solution and economic interpretation.

Recommended Readings

1. Chiang, A.C. & Wainwright, K. (2013). Fundamental Methods of Mathematical Economics. (4th ed.). McGraw Hill Education (India) Private Limited, 4th Edition.

2. Sydsaeter, K. & Hammond, P. (2016). Mathematics for Economic Analysis. New Delhi: Pearson Education Inc.

3. Dowling, E. T. (2012). Schaum's Outlines-Introduction to Mathematical Economics. (3rd ed.). New York: McGraw Hill.

4. Simon, C. P., & Blume, L. (1994). Mathematics for economists (Vol. 7). New York: Norton.

5. Rosser, M. (2003). Basic Mathematics for Economists. (2nd ed.). New York: Routledge.

6. Renshaw, G. (2011). Maths for Economics. (4th ed.). Oxford. Oxford University Press.

7. Baruah Srinath (2019) . Basic Mathematis and its Application in Economics, Trinity Press (An Imprint of Laxmi publication Pvt. Ltd.), India.

SEMESTER-VI

Course Title: ISSUES OF INDIAN ECONOMY

Course- Minor   **Code: ECOMIN3024**   **Credit Points: 4**

Objective: Students will gain a comprehensive understanding of the economic structure, functioning, and policies of India. It involves analyzing various aspects such as macroeconomic indicators, sectors of the economy, policy frameworks, and socio-economic factors that shape India's economic development.

Course outcome: It will equip students with a strong understanding of the economic dynamics of India, enabling them to contribute effectively to policy-making, research, business decisions, and socio-economic development in the country

Unit-1: Macroeconomic Policies and Their Impact

Fiscal Policy; Trade and investment policy; Financial and monetary policies; Inflation and measures to control inflation; Labour laws and regulation.

Unit-2: Policies and Performance in Agriculture

Growth; productivity; agrarian structure and technology; capital formation; Agriculturalmarketing;Food security and food policy;Pricing and procurement;WTO and Indian agriculture

Unit-3: Policies and Performance in Industry

Output, employment and productivity growth;Small scale industries- problems and prospects and its contribution in national economy;Public sector; competition policy;Foreign direct investment in industry;Economic reform and industry; Industrial stagnation and crisis of the Indian economy.

Unit-4: Trends and Performance in Services

Formal and informal sectors; Banking and insurance; Trade in services

Recommended Readings:

1. Shankar Acharya, 2010, ―Macroeconomic Performance and Policies 2000-8, ‖ in Shankar Acharya and Rakesh Mohan, editors, India's Economy: Performances and Challenges: Development and Participation, Oxford University Press.
2. Rakesh Mohan, 2010, ―India 's Financial Sector and Monetary Policy Reforms, ‖ in Shankar Acharya and Rakesh Mohan, editors, India's Economy: Performances and Challenges: Development and Participation, Oxford University Press.
3. Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar, 2008, ―Agricultural Growth in India Since 1991, RBI DEAP Study no. 27.
4. B.N. Goldar and S.C. Aggarwal, 2005, ―Trade Liberalisation and Price-Cost Margin in Indian Industries, The Developing Economics, September.
5. P. Goldberg, A. Khandelwal, N. Pavcnik and P. Topalova, 2009, ―Trade Liberalisation and New Imported Inputs, American Economic Review, Papers and Proceedings, May.
6. Uma Kapila: Indian Economy since independence, Academic Foundation

SEMESTER VII

Paper Code	Paper Title	Credits(L+T+P)
ECOADL 14014	Microeconomics-I	3+1+0
ECOADL 14024	Macroeconomics-I	3+1+0
ECOADL 14034	Mathematical Economics-I	3+1+0
ECOADL 14044	Statistical Economics	3+1+0
ECOADL 14054	Development Economics-I	3+1+0

Micro Economics- I
(ECOADL14014)

Course Objectives:

• Acquaint students with the recent developments in consumer behaviour.
• Apprise the learners about the role of production functions and cost function

• Knowledge about decision making under uncertainty and Attitude towards Risk

• To understand the price-output behaviour under different market structures

Course outcomes (CO)

CO1: Understand alternative methods to the analysis of consumer's behaviour

CO2: Understand and analyse production function

CO3: Analyse on decision making under uncertainty and attitude towards risk real life application

CO4: Evaluate the behaviour of different markets

Course Outline:

Unit-1

Theory of Consumer Behaviour(10)

The violation of the premises of the indifference curves approach, The theory of Revealed Preference; Satiation and Lexicographical ordering. Indirect Utility function-Roy's Identity; Dual properties of Utility and Expenditure functions. Linear Expenditure system; Distributed lag models of demand

Unit-2

Theory of Production and Costs(12)

Forms of Production Function; Cobb-Douglas, CES and Fixed co-efficient Type and properties, elasticity of substitution, Single Decision of a Firm; Choice of Optimal Factor Combination – Expansion Path – Derivation of Cost Function from Production Function – Multi-product Firm production Efficiency Locus, Production Possibility Frontier and Choice of Optimal Combination of Output of Products. Basic Concept of costs.

Unit-3

Decision making under uncertainty and Attitude towards Risk(8)

Uncertainty and Imperfect Competition Uncertainty, Probabilities and Expected values, Attitude towards risk, Insurance and Gambling, Asymmetric information: Market for Lemons. The Insurance markets and Adverse selection, the problem of moral Hazard, Signaling. Principal-Agent Problem, Uncertainty in Public and Private Enterprise.

Unit-4: Market (15)

perfect competition, monopoly and monopolistic competition; Oligopoly Market; Non collusive oligopoly- Duopoly Market- Cournot, Bertrand, Chamberlin, Stackelberg, Kinked-Demand: Collusive Oligopoly-Cartels, Price leadership and Basing point price system.

Recommended Readings:

 1. Hal A. Varian (1992), Microeconomic Analysis, W. W. Norton and Co.

2. Walter Nicholson (1992), Microeconomics, Salvatore

3. Pindyck and Rubinfeld (1992) Microeconomics, PHI.

 4. D. M. Kreps, A Course on Microeconomics, EHI

 5. Koutsoyianis , A., " Modern Microeconomics" , Macmillan

6. Anindya Sen , "Microeconomics Theory". Oxford University Press.

7. Madalla Miller. "Microeconomics", McGraw Hill.

8. Mukherjee, S., "Business and Managerial Economics", New Central Book Agency.

 9. Juneja and Chawla, "Book Keeping and Accountancy.

MACROECONOMICS-I
(ECOADL14024)

Course Objective:

This paper aims to make the students understand and provide good knowledge of the principle macroeconomic variables that are considered to be the four wheels of a free market open economy.

Course Outcome:

CO1: Understandingthe estimation process and method of national income in a four sector

economy including exclusions and inclusions.

CO2: Understandingdifferent approaches to reconcile empirical evidence

arising from short run and cross sectional data and long run time series

data pertaining to consumptionbehaviour.

CO3: Understandingthe investment behaviourincluding user cost, internal funds and liquidity effects; including multiplier-accelerator interaction model.

CO4: Understandingthe relative efficiency of fiscal and monetary policies to achieve the objectives of full employment and desirable rate of interest underboth fixed exchange rate and flexible exchange rate regime, using the framework of Mundell- Fleming Model.

Course Outline
Unit- 1: National Income, employment and income determination in Short run(12)
National Income - Concepts and Accounting Methods - Inclusions and Exclusions – National Income and Welfare – Adjustment required - Income determination with Foreign Trade – The Foreign Trade Multiplier – Classical and Keynesianism. - Determination of Income and Employment – Demand and Supply of Labour – Classical view.

Unit- 2: Consumption Function: An empirical study (11)
The Consumption Function Puzzle – Relative Income Hypothesis – Permanent Income Hypothesis–Life Cycle Hypothesis- Further aspects of Consumption Behavior - Consumption and Uncertainty.

Unit – 3: Investment Function (11)
Residential and Inventory Investment-The User Cost and Liquidity Effects – Lags in the Investment Function.-Marginal Efficiency of Investment; The Accelerator theories and Investment Behaviour – Influence of policy measures on Investment;

Unit- 4: Monetary Theory (11)
Classical Theory of Money - Say's Law and Walras' Law; The Neutrality of Money; Friedman's Modern Quantity Theory of Money; Pigou Effect and Real Balance Effect.

Recommended Readings:
1. Jha, Raghubendra,(1991) ,Contemporary Macroeconomics Theory and Policy, Wiley Eastern Ltd, New Delhi
2. Branson W.H.(1989), Macroeconomics: Theory and Policy, Harper and Row,New York
3. Brooman, F.S." Macroeconomics" George Allen & Unwin, London
4. Michl, "Macro Economics Theory- A Short Course", Prentice Hall of India
5. Shapiro, Edward (1996). "Macroeconomic Analysis" Galgotiapublications,New Delhi
6. Dornbusch, R , Stanley F and Fischer, S(2000), Macro Economics"Tata McGraw- Hill, New Delhi

7. Mankiw, N.G, "Macroeconomics" McMillan International, New york

9. Gupta, R.D & Rana, A.S, "Keynes Post Keynesian Economics", Kalyani Publisher, New Delhi

10. Gupta, S.B. (1997). Monetary Economics, S. Chand and Company, New Delhi

11. Patinkin, D. (1965). Money, Interest and Prices, Harper and Row, New York.

12. Survey of Economic Theory, (1972), Vol.I: Money, Interest & Prices, Macmillan, New York.

13. Sikdar, S. (2011). Principles of Macroeconomics: Second Edition Paperback, OUP.

14. Hejidra, B.J. and F.V. Ploeg (2001), Foundations of Modern Macroeconomics, Oxford University Press, Oxford.

MATHEMATICAL ECONOMICS-I

(ECOADL14034)

Objectives: Mathematical tools for economic analysis is an essential part of any economic analysis. This basic tools are handy for higher mathematical modellings in understanding complex economic issues. The significance of Mathematical Economics lies in its ability to provide a structured and quantitative framework for analyzing economic phenomena. By employing mathematical models, economists can describe relationships between variables, test theories empirically, and make informed predictions about economic behavior. This discipline plays a vital role in valuing assets, optimizing capital allocation, and improving resource allocation, which are key components in the development of market-based economies.

Outcome:
CO1: This paper will enable and enhance the mathematical tools and its applications analyzing economic issues.
CO2:
Understanding and mastering these units will equip you with the quantitative skills necessary to analyze complex economic issues, contribute to academic research, and inform policy-making.
CO3: Mathematical economics supports the creation of precise models that lead to exact conclusions, which are crucial for policy decisions and economic predictions.

Unit- 1: Matrix Algebra
Concepts, Types, Its solutions; It's application to input-output table-Static Leontief system – Closed and Open, Domestic and external sectors.

Unit- 2: Integration

Concept, Basic Rules and Properties: Applications; 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: Unconstrained Optimization

Maxima and Minima of functions of single variable- application to cost minimization, revenue maximization, tax revenue maximization, profit maximization and equilibrium of firm. Unconstrained maxima and minima with more than one variable-application to discriminating monopoly, Multi-product equilibrium, Multiplan equilibrium of firm with advertisement cost and subsidy

Unit- 4: Optimization with inequality constraint

Linear programming, General formulation- optimum; Application to Transportation problem, Diet problem and production problem – Simplex method of solution, Concept of duality and Solutions.

Recommended Readings:

1. A.C. Chiang, "Fundamental Methods of Mathematical Economics," McGrew Hill.
2. S. Baruah, "Basic Mathematics and its Economic Applications, Macmillan
3. R.G.D Allen, "Mathematical Analysis for Economists."
5. Taro Yamane, "Mathematics for Economists."
6. E.T Dowling. "Theory and Problems of Mathematical Methods for Business and Economics," McGraw Hill
7. Mouhammed, "Introduction into Mathematical Economics," Prentice Hall of India.
8. M. Metwally, "Mathematical Treatment of Micro-Economics."

STATISTICAL ECONOMICS
(ECOADL14044)

Objective: The content of is of paramount importance for several reasons, particularly in the context of your interest in academic writing and research. Overall, the content of equips students and researchers with the statistical tools necessary to conduct rigorous empirical research, which is indispensable for understanding complex economic relationships and contributing to the discourse on economic analysis.

Outcome:

CO1: This content will provide a clear trajectory for students to grasp the foundational elements of statistical analysis and its applications in various fields.

Unit-1: Probability theory and expected value

The Concept of Probability, distribution and a density function. 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. Binomial distribution, Poisson distribution and normal distributions with properties-Moment Generating function-The Central Limit Theory.

Unit-II: Sampling and Estimation

Sampling and sample designs: simple random sampling, stratified random sampling, systematic sampling and cluster sampling. Concept of Sampling Distribution and Standard Error of Statistic–Methods of Estimation principles of Moments, Least Square and Maximum Likelihood (Concept Only)-Characteristics of a Good estimator.

Unit -III: Analysis of Time Series and Index number

Components of time series-fitting of trend, moving average method, fitting of linear and exponential trend curves. Classification of index numbers, unweighted price index numbers, relative of aggregate method and average of price relatives, weighted price index numbers: Laspeyre's, Paasche's and Fisher's ideal index numbers. Time reversal test and factor reversal test and chain based index numbers.

Unit IV: Statistical inferences

One-tailed and two-tailed tests, testing of Hypothesis: Type I and Type II Errors, Tests- based on standard normal, t , F and chi-square distribution and its applications.

Recommended Readings:

1. Yamana, Taro, "Statistics-an Introductory Analysis"
2. Gupta, S.C, and Kapoor, U.K. fundamentals of mathematical statistics"
3. Nagar, A.L. and Das, R.K. "Basic statistics", oxford
4. Salvatore, Dominick and Darrick, "Statistics and Econometrics".
5. Goon, Gupta, Das Gupta," Fundamental of Statistics, Vol. II

DEVELOPMENT ECONOMICS 1
(ECOADL14054)

Course objective:

This course is designed to impart in depth knowledge of the basic economic growth and development, theories and models developed by different development economists.

Course outcomes:

CO1: Understand the basic concept of economic development, measurement and inequality.

CO2: This help to understand the various theories of economic growth.

CO3: Understand the theories of economic underdevelopment.

CO4: This contents help to understand the basic theories of economic development and strategies.

Unit 1: Development, Inequality, Measurement

Development: Concept and measurement, Indicators of Economic Development: PQLI, HDI, GDI, SDGs, Poverty Gap, Capability Approach of Sen, Inequality and Growth.

Unit 2: Theories of Economic Growth

Harrod-Domar , Solo,Joan Robinson, Kaldor, Technical progress- Disembodied & embodied, Endogenous growth theory.

Unit 3: Theories of Underdevelopment

The International Dependence Revolution: Neo-colonial Dependence model, False Paradigm, The Dualistic Development Thesis, The Process of Cumulative Causation: Myrdal, The Vicious Circle Theory.

Unit4: Theories of Development and Strategies

The Stages of Growth: Rostow, The Big push: Rosenstein- Rodan, Balanced Growth: Nurkse, Unbalanced Growth: Hirschman, Horris-Todaro Model of Migration.

Recommended Readings:

1. Higgins, Benjamin, Economic Development, Universal Book Stall.
2. Todaro, MP, Development Economics, Pearson.
3. Meir, GM, Leading Issues in Economics development, OUP.
4. Basu, Kausik, Analytical Development Economics, OUP.
5. Barro &Salai-Martin, Economic Growth, Prentice Hall of India.
6. Thirlwal, AP, Growth & Development, Palgrave.
7. Sen, Amartya, On Economic Inequality, OUP
8. World Bank, World Development Reports, OUP.
9. UNDP, Human Development Reports. OUP

Paper Code	Paper Title	Credits(L+T+P)
ECOADL 14064	Microeconomics-II	3+1+0
ECOSPL 15074	Macroeconomics-II	3+1+0
ECOSPL 15084	Mathematical Economics-II	3+1+0
ECOSPL 15094	Elements of Econometrics	3+1+0
ECOSPL 15104	Development Economics-II	3+1+0

Micro Economics- II

(ECOADL14064)

Course Objectives:

• Evaluate the behaviour of managerial theories

• An understanding the pricing of factors of production and income distribution

• Information about general equilibrium concepts

• Introduction to theoretical deliberations on welfare

Course Outcome:

CO1: Understand the importance and applicability of managerial theories

CO2: Understand the importance of determining price of factors and how it is determined.

CO4: Evaluate the general equilibrium concepts

CO3: Analyse welfare implications of economic phenomena through sound theoretical conceptualisations

Unit-1 Market

Managerial Theories of the Firm- Baumol's, Marris; Behavioral theory of the Firm (Model of Cyert and March); Full cost pricing principle; Limit pricing principle (Bains, Sylos-Labini, Modigliani); Issues regarding existence, purpose and objectives of a firm.

Unit-2 Factor Pricing

Firm's and Industry's input demand curves; Monopsony and Monopoly in Input markets; Unions as monopolists; Bilateral monopoly; Choice of optimal combination of inputs; Adding-Up Problem; Product Exhaustion theorems – Euler's and Clark-Wicksteed-Walras theorems.

Unit-3 General Equilibrium Analysis:

General Equilibrium Meaning of General Equilibrium, Partial vs General Equilibrium, Walrasian General Equilibrium System: Tatonnement, Existence, Stability and Uniqueness of the Equilibrium. **Pareto-Optimality, Kaldor – Hicks and Wealth Maximization** , Critique of General Equilibrium Theory – Non–tatonnement Process. Contributions of Arrow and Debreu Dynamic Stability of General Equilibrium.

Unit-4 Welfare Economics: Social Welfare Function

The Fundamental Theorems of Welfare Economics: Adam Smith, Bentham, Cardinalist, Pareto Optimality: Market Failure: Causes and instances, externality and public good, Bentham, Kaldor and Hicks, Bergson: Maximization of Social Welfare, Choice, Arrow's contribution, Trade protection and Economic Welfare.

Recommended readings:

 1. Koutsoyiannis, A.: Modern Microeconomics.

2. Varian, H.: Microeconomic Analysis.

 3. Gravelle and Rees: Microeconomics.

4. Quirk and Saposnik: General Equilibrium and Welfare Economics.

 5. Domonick Salvatore: Microeconomics-Theory and Application.

6. G.S. Maddala and Ellen Miller: Microeconomic Theory and Applications.

Additional Readings

 1. Anjan Mukherjee: General Equilibrium.

2. Kreps, David M.: A Course in Microeconomic Theory MACROECONOMICS –I

MACROECONOMICS –II

(ECOADL15074)

Course Objective:

Introduction to the basic macroeconomic controversies – inflation and unemployment; understanding the economic fluctuations – relative efficacy of monetary and fiscal policies including demand and supply of money.

Course Outcome:

CO1: Understanding the views of different schools on inflation including empirical study on Phillips curve.

CO2: Understanding the macro economic variables in an open economy under the Mundell-Fleming model with fixed and flexible exchange rate regime.

CO3:Understanding the issues of business cycles; different approaches of economic movements and fluctuations.

CO4: Understandingthe economic issues of demand for and supply of money.

Course Outline

Unit -1 Macroeconomic Controversy - Theory of Inflation and Unemployment (13)
Keynesian, Monetaristand Structuralist view on Inflation– Modern Approaches to Inflation – Tobin's view; Philips curve analysis – Short run and Long run Behavior - Empirical study on Phillips Curve; the Natural Rate of Unemployment Hypothesis; - Policies to control Inflation.

Unit- 2: Macroeconomics in the open economy (12)
IS-LM Model in an open economy - Effect of a shifting in IS and LM function; Mundell - Fleming Model – Targets of Interest Rate and Full Employment - Effectiveness of Monetary and Fiscal Policy under Fixed and Flexible Exchange Rate System.

Unit- 3: Business Cycle Theories (10)

Characteristics of Change and Movements; Accelerator and Multiplier Principles and their Interactions; Theories of Business Cycle- Kaldor, Samuelson and Hicks - Control of Business Cycle; Relative Efficacy of Monetary and Fiscal Policies.

Unit- 4: The Demand and Supply of Money (10)
The Demand for money – Classical and Keynesian Approach - Liquidity Trap - Approach of Baumol and Tobin: Measures of Money Supply - Determinants of Money Supply-Money Multiplier Theory.

Recommended Readings:

1. Jha, Raghubendra,(1991) ,Contemporary Macroeconomics Theory and Policy, Wiley Eastern Ltd, New Delhi
2. Frisch, H: Theories of Inflation, Cambridge University Press
3. Branson W.H.(1989), Macroeconomics: Theory and Policy, Harper and Row,New York
4. Brooman, F.S." Macroeconomics" George Allen & Unwin, London
5. Shapiro, Edward (1996). "Macroeconomic Analysis" Galgotiapublications,New Delhi
6. Dornbusch, R , Stanley F and Fischer, S(2000), Macro Economics"Tata McGraw- Hill, New Delhi
7. Mankiw, N.G, "Macroeconomics" McMillan International, New york
8. Gupta, R.D & Rana, A.S, "Keynes Post Keynesian Economics",   Kalyani Publisher, New Delhi
9.Gupta, S.B. (1997). Monetary Economics, S. Chand and Company, New Delhi
10.Patinkin, D. (1965). Money, Interest and Prices, Harper and Row, New York.
11. Levacic, R. and A. Rebman: Macroeconomics: An Introduction to Keynesian and Neo-Classical Controversies
12. Sikdar, S. (2011). Principles of Macroeconomics: Second Edition Paperback, OUP.
14. Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, Macmillan, London

Mathematical Economics –II
(ECOADL15084)

Objective: The objectives of the content provided are to apply optimization principles to consumer and producer equilibrium in factor markets .Grasp the properties and solutions of first-order difference equations. Comprehend two-person zero-sum games with and without saddle points, and the rule of dominance.Learn the concept and nature of optimal control theory. This will provide a deep understanding of advanced economic theories and their practical applications in various economic scenarios.

Outcome:

CO1: The outcome of the content is to equip learners with the ability to Apply optimization principles

CO2:Understand and solve first-order difference equations

CO3:Master the strategic aspects of game theory and learn the fundamentals of optimal control theory and its economic applications. This educational trajectory is designed to deepen the learner's grasp of economic concepts and analytical techniques, preparing them for advanced applications in the field of economics

Unit- I: Optimization with Equality Constraint

Optimization with equality constraints, Lagrange's multiplier method- application to consumer's equilibrium and producer's equilibrium in factor market. Homogenous, homothetic equations and solution. Solution to system of simultaneous equations

Unit- II: Difference and Differential Equation and their Applications

First order difference equation, Properties and solution. Stability of equilibrium. The Cobweb model. First order differential equation with constant coefficient and constant term, properties and solution. Dynamics of market price. Application in growth models.

Unit- III Game Theory

Two- person zero sum game- pure strategies with saddle point, game without saddle point, rule of dominance, mixed strategy. Non-Coperative Games: Nash equilibrium, Prisoner's dilemma, Repeated Games and its application to simple market models.

Unit- IV Optimal control theory

Concept, Nature, Economic application: Lifetime utility maximization, Exhaustible resource with illustrative examples.

 Recommended Readings:

1. A.C. Chiang, 'Fundamental methods of Mathematical Economics', McGraw Hill.
2. S.Barua, 'Basic Mathematical and its Applications', MacMillan.
3. Taro Yamane, 'Mathematics for Economists'.
4. Jaydeb Sarkhel" An Introduction to Mathematical Techniques for Economic Analysis", Book Syndicate, Kolkata
5. C P Simon, " Mathematics for Economists"
6. Mathematical Economics by Akira Takamaya
7. Statistics for business and economics by McClave Benson Sincich
8. For Optimal Control Theory https://www.pdfdrive.com/schaums-outline-theory-and-problems-of-introduction-to-mathematical-economics-e54318490.html

Elements of Econometrics
(ECOSPL15094)

Objective: The content aims to prepare students with the necessary analytical tools for robust economic research and analysis.This objective serves to build a strong foundation in econometrics, essential for students to effectively apply these concepts in real-world economic analysis.

Outcome:

CO1: The outcome of the content is to provide students with a foundational understanding of econometric principles and their application in economic analysis.

CO2: To understand the meaning, uses, and scope of econometrics, such as classical Linear Regression Model and the general linear regression model and OLS estimation.

CO3: Additionally it delves into advanced topics in linear regression.This structured outcome aims to equip students with the analytical tools necessary for conducting robust economic research and analysis.

Elements Econometrics-I
Unit 1: Introductory Econometrics
Econometrics: Meaning, Uses and Scopes. Classical Linear Regression Model: Two Variable linear Regression, properties of least square estimates(Gauss-Markov), test of hypothesis, confidence interval, standard errors.
Unit 2: Multiple Linear Regression Model and its estimation
The general linear Regression model- Standard Assumption- OLS estimation and their properties- R^2 and Adjusted R^2.
Unit 3: Further Topics in Linear Regression Model
Multicollinearity, Effects, detection and remedies- Specification Errors and their consequences, Dummy Variables, Functional forms of regression models.
Unit 4: Introduction to simultaneous Equation models
Structural and reduced forms- Simultaneity bias- informal introduction to identification problem Formalization of identification problem- order and rank condition of identification.
Recommended Readings:
1. Johnston and Dinardo, *Econometric Methods*, McGraw Hill
2. Gujarathi, *Basic Econometrics*, McGraw Hill.
3. Daugherty, Basic Econometrics, McGraw Hill
4. GMK Madnani, " Introduction to Econometrics: Principles and Applications", Oxford and IBH Publishing.

5. Jeffrey M. Wooldridge, "Introductory Econometrics: A Modern Approach", South-Western Cengage Learning

Development Economics-II
(ECOSPL15104)

Course objective:
This course will help students to understand the development planning, financing, trade and development, environment and agriculture.

Course outcomes:
CO1: Understand the basic concept of development planning.
CO2: Understand the various sources of development finance.
CO3: Understand the trade, development and environmental issues.
CO4: This contents help to understand the sectoral aspect of development.

Unit- : Development Planning:

Concept and nature of development planning, types of planning, rationale for development planning, planning process, Project evaluation and social cost-benefit analysis

Unit-2: Development Financing:

Internal sources: private savings & taxation. Public and private borrowing: advantages & disadvantages, foreign borrowing: importance, disadvantages. Foreign investment: portfolio and direct foreign investment-importance/ advantages & disadvantages,

Unit-3: Trade, development and Environment:

Trade as an Engine of growth- trade and aid-gain from trade; Terms of trade and underdeveloped countries, singer & Myrdal's views; Environment & Environmental degradation, Forestation & deforestation- consequences, concept of sustainable development and role of state in environmental preservation

Unit-4: Sectoral aspects of Development:

Role of agriculture in economic development, commercialisation in agriculture, problems & causes of low agricultural development, rationality and pattern of industrialization in developing countries, relation between agriculture-industry.

Recommended readings:

1. Todaro, M.P, : Development Economics, McGraw Hill

2. Thirlwal, A.P, : Development Economics, Pearson

3. Misrha&Puri, : Economics of Development & Planning, HPH

4. Lekhi, R, K. : The Economics of Development & Planning

SEMESTER-IX

Paper Code	Paper Title	Credits(L+T+P)
ECOSPL 25014	International Economics	3+1+0
ECOSPL 25024	Population and Human Resources	3+1+0
ECOSPL 25034	Monetary Economics	3+1+0
ECOSPL 25044	Public Finance	3+1+0
ECOSPL 25054	Issues in Indian Economy	3+1+0

INTERNATIONAL ECONOMICS
(ECOSPL25014)

Course Objective:

Learning of this course would provide the knowledge about Heckscher-Ohlin and post Heckscher-Ohlinalternative theories of trade, impact of growth on trade, commercial policies, internationalorganizations relating to issues of trade and economic policies.

Course Outcome:

CO1: Understanding the basic issues ofinternationaltrade; modern alternativeexplanation of trade theories.

CO2: Understanding the inter-relationbetweeneconomicgrowth and internationaltrade including technological changes.

CO3: Understanding issues concerning commercial policies that influence international trade and welfare.

CO4: Understandingthe role of international movements towards economic integration, international monetary system and role of international institutions to facilitate international liquidity.

Course Outline

Unit - 1: International Trade Theories, Economies of scale and Imperfect Competition (10)
Theories of Trade: Foundational Propositions - Ricardian and Heckscher- Ohlin Trade Theory -. Alternatives to the Standard Trade Theories – Product Cycle and Technology Gap Models, Availability Approach - Monopolistic Competition and Analysis of Gains from Trade.

Unit-2: Economic Growth and International Trade (8)
Effects of Growth on Trade –Rybczynski and Stolper-Samuelson Theorems- Trade and National Income – Trade and Technical Progress –Neutral Technical Progress, Labour - Saving Technical Progress, Capital – Saving Technical Progress.

Unit- 3: International Trade Policy and Regional Economic Integration (19)
Types of Tariff – Partial Equilibrium Analysis of Tariff – General Equilibrium Analysis (Small Country Case) – Tariff and World Welfare – Tariff and Income Distribution – Effective Protection – Economic and Non-economic Arguments for Protection.
Instruments of Commercial Policy: Export Tax and Subsidy – Quantitative Restrictions – International Cartels – Dumping – Other Non Tariff Barriers.
Preferential Trading Club - Free Trade Area– Customs Union –Common Market – Economic Union – Trade Creation and Trade Diversion - Dynamic Effects of Customs Union –WTO and Preferential Treatment to Developing Countries.

Unit- 4: The International Monetary System (8)
Characteristics of a Good IMS – The Gold Standard –The Britton Woods System – Present System of Managed Flexibility – Optimum Currency Area – European Monetary System.

Recommended Readings:
1. R.N.Batra: Pure Theory of International Trade. Chapter 4, 10
2. Wilfred Ethier: Modern International economic s
3. Chacholiades, M., "International Trade: Theory and Policy", McGraw Hill.
4. Kindleberger, C.P., "International Economics", Irwin.
5. Soderston, B., "International Economics", Tat McGraw Hill

6. Lipsey, R.G., "The Theory of Custom Union", Windfield.
7. Roy, P.N., "International Trade: Theory and Policy"
8. M.M. Conden, "Economics of Protection."

Population and Human Resource
(ECOSPL25024)

Course Objective:

Learning of this course would provide the knowledge about the aspects of demographic pattern, demographic transition including vital statistics relating to it. The course would provide the scope for understanding the issues relating to economics of education and health services.

Course Outcome:

CO1: Thorough understanding of theories of population and demographic transitions.

CO2: Understanding the various measures of demographic components and variables.

CO3: Understanding issues concerning economics of education; issues of financing pattern, economic efficiency and equity issues..

CO4: Understandingthe role of health care services, its problems and prospects and cost-benefit analysis of health care services.

Course Outline

Unit 1: Concepts and Basic Theories
The Malthusian Theory of Population—Theory of Optimum Population—Theory of Demographic Transition—Sources of Population Data—Population Pyramids.
Unit 2: Elements of Vital Statistics
Measure of Fertility—Crude Birth Rate, Fertility Rate, Age Specific Fertility Rate, Measures of Reproductivity—Total Fertility Rate, Gross Reproduction Rate, Net Reproduction Rate—Measure of Mortality—Crude Death Rates, Age Specific Death Rates, Concept of Infant Mortality Rate, Life Table.

Unit 3: Economics of Education (12)

Concept of Human Capital - Education and Economic Development—Residual Factor Approach-Cost Benefit Analysis of Education - Public and Private Financing of Education—Criteria for Adequacy of Education Finance—Education and Economic Efficiency -Financing of Education and Equity,—Financing for Higher Education in India and its Problems.

Unit 4: Health Economics (10)
Primary Health Services - Problems of Health care Services in India and Developing Countries-Health and Economic Development, Cost and Benefit Analysis of Health Care Services.

Recommended Readings:
7. Bhende, A and T. Kanitkar: Principles of Population Studies
8. Gupta and Kapoor: Fundamental of Applied Statistics
9. Ramkumarr, R : Technical Demography
10. G. Psacharopolous (ed): Economics of Education
11. Gupta, S.K and R. Joshi: Human Resource Management

MONETARY ECONOMICS
(ECOSPL25034)

Course Objectives:

This course covers the theory and practice of monetary economics, focusing on the role of money in the economy, the functioning of financial institutions, monetary policy, and the interaction between monetary policy and the broader economy. The course combines theoretical models with empirical evidence and policy discussions.

Course Outcome

CO1: Understand the role of money and financial institutions in the economy.

CO2: Analyze the effects of monetary policy on inflation, unemployment, and economic growth.

CO3: Evaluate the transmission mechanisms of monetary policy.

CO4: Discuss the design and implementation of monetary policy in different economic contexts.

Course Outline:

Unit 1 Money Supply and Demand

The money creation process, Measures of money supply , Demand for money theories: Classical, Keynesian, and Friedman's Monetarism

Unit 2 Central Banking and Monetary Policy Transmission Mechanisms

Structure and functions of central banks, Tools of monetary policy, Goals of monetary policy: Inflation targeting, price stability, and other objectives, Interest rate channels, Credit channels, Exchange rate channels, Asset price channels

Unit 3 Money, Inflation, Monetary Policy in Open Economies

The relationship between money supply and inflation, The Phillips curve, Hyperinflation case studies, Balance of payments and exchange rate regimes, Mundell-Fleming model, International monetary systems and crises

Unit 4 Current Issues and Debates in Monetary Policy

Central bank independence, Monetary policy and financial stability, Digital currencies and the future of monetary policy

Recommended Readings:

- Mishkin, F. S. (2019). *The Economics of Money, Banking, and Financial Markets*. Chapters 1-2.
- Friedman, M., & Schwartz, A. J. (1963). *A Monetary History of the United States, 1867-1960*. Chapter 1.

- Mishkin, F. S. (2019). Chapters 3-4.
- Friedman, M. (1956). "The Quantity Theory of Money – A Restatement".

- Mishkin, F. S. (2019). Chapters 15-16.
- Bernanke, B. S., & Blinder, A. S. (1992). "The Federal Funds Rate and the Channels of Monetary Transmission".

- Mishkin, F. S. (2019). Chapters 18-19.
- Bernanke, B. S., & Gertler, M. (1995). "Inside the Black Box: The Credit Channel of Monetary Policy Transmission".

- Mishkin, F. S. (2019). Chapters 22-23.
- Sargent, T. J. (1982). "The Ends of Four Big Inflations".

- Obstfeld, M., & Rogoff, K. (1995). "The Mirage of Fixed Exchange Rates".
- Mishkin, F. S. (2019). Chapters 21-22.

- Bernanke, B. S. (2020). "The New Tools of Monetary Policy".
- Mishkin, F. S. (2019). Chapter 24.

- Goodhart, C. A. E. (2010). "The Changing Role of Central Banks".
- Rogoff, K. S. (2017). *The Curse of Cash*. Chapter 12.

- Mishkin, F. S. (2019). *The Economics of Money, Banking, and Financial Markets*. 12th Edition.
- Walsh, C. E. (2017). *Monetary Theory and Policy*. 4th Edition.

- Bernanke, B. S. (2013). *The Federal Reserve and the Financial Crisis*.
- Blinder, A. S. (1998). *Central Banking in Theory and Practice*.

PUBLIC FINANCE
(ECOSPL25044)

Course Objectives:

Acquaint students with the Role of the government in the economy, The learners would be equipped with the understanding of public choice, market failure, government intervention, Public Revenue & Public Debt

Course outcomes (CO)

CO1: Understand the importance of state in an Economy

CO2: Understand the role of public expenditure

CO3: Analyse on the importance and its sources of Public Revenue & Public Debt

CO4: Analyse on Public Budget and its different types

Course Outline:

Unit-1 : State Role

State Role in the Economy & Provision of Public Goods Role of the government in the economy-allocation, distribution and stabilization functions. The nature of Public Goods. Market Failure and Remedial Measures. The efficient provision for public goods, Basic concepts-The Theory of Clubs, Tie-bout Hypothesis, Voluntary Bargaining in Small Groups (Coase's analysis), Public goods- externalities, corrective policies and viability of government intervention

Unit 2:Public Expenditure Theories

Public Expenditure Theories of Public Expenditure- Lindhal's Model of Voluntary Exchange, Samuelson's Benefit Theory of Public Expenditure, Musgrave's Optimum Budget Theory Public Expenditure on non-marketed goods, fixed quantity subsidy for marketed goods and excise subsidy –their impact on allocation.

Unit-3: Public Revenue & Public Debt

Public Revenue & Public Debt- Tax & Non-Tax Revenue, Direct & Indirect Taxes, Progressive and non-Progressive Taxation, Tax Ratio, Buoyancy and elasticity of taxation, Rate schedules of taxation, tax credit, Exemption and Deduction, Excess burden of tax and taxable capacity, Incidence and Effects of Taxation. Value Added Tax. Principle of taxation – The Benefit Principle, The Ability to pay principle, the Maximum Welfare Principle of Budget Determination. The Neo-classical Theory of Incidence and Shifting. Public Debt and its management -Musgrave's Budget Incidence ,Theory Public Debt- sources, burden and effects, Optimality in Public Debt Management, Pay- As- You- Use and Pay- As- You-go Finance, Musgrave's Intergeneration Equity Theory.

Unit-4: Public Budget & Fiscal Policy (13)

The Modern Theory of public Budgeting, Structure of a Public Budget, Incremental and Zero-base Budget Concepts: Budget Deficit, Revenue Deficit and fiscal deficit. The current Union and State Budget. Fiscal Policy and its role in the economy Fiscal Policy-Functional Finance and Pump Priming-Fiscal Policy under condition of inflation, Fiscal Policy under condition of unemployment, The Balanced Budget Multiplier, Built in the compensatory mechanism. Incidence of deficit financing-The Ricardian Equivalence Theorem- Impact of deficit finance on the capital market. The Crowding out effect. The welfare cost of deficit finance. Rational and methods of reducing deficits

Recommended Readings:

1. Cullis, john & Jones, Philip: Public Finance and Public Choice.

2. Browning, E.K & Browning, J.M : Public Finance and the price system.

3. Musgrave & Musgrave: Public Finance in Theory and Practice.

4. Buchanan, J.M: The Public Finance

ISSUES IN INDIAN ECONOMY
(ECOSPL25054)

Course Objectives

This course provides an in-depth understanding of the Indian economy, covering its historical evolution, structural characteristics, key sectors, policy frameworks, and contemporary issues. The course integrates theoretical analysis with empirical data to examine the dynamics of the Indian economy.

Course Outcomes

> CO1:Students will able to understand the historical development and structural changes in the Indian economy.

> CO2: It will analyze the performance and issues of different sectors.

> CO3: Students will be able to evaluate economic policies and their impacts.

Course Outline:

Course Outline

Unit – 1: Changing contours of India's economic policy

Evaluation of planning era in India; Advent of Neo-liberalism post-1991; trends and composition in national income: Spatial variations; Importance of industrialization; strategy of industrial development; industrial policy reforms since 1991; Public sector reforms; Reflection of these mainstream changes on the economy of Assam

Unit – 2: India's Economic Reforms

Rationale for Economic Reforms: India's Economic Reforms in the Global Context; Foreign Trade Policy; Convertibility of Rupee; Impact of WTO on Indian Economy; Foreign Investment and Multinational Corporations; Privatisation and Competition – Financial Sector Reforms

Unit 3 : Primary, secondary and tertiary sector

Agriculture Policy: Institutional Reforms: price policy, Credit policy, taxation and insurance mechanism, technology mission: mechanization, oil seed and pulses, livestock, horticulture; evaluation of budgetary provision; Economic Reforms and their impact on Agriculture of India with a special reference to Assam. Evolution of industrial policy in India, Industrial growth and

structural transformation, MSMEs and their role in the economy, Growth and composition of the service sector, Information Technology and its impact, Challenges and future prospects

Unit 4: Poverty, Inequality, and Employment

Measurement and trends in poverty and inequality, Employment patterns and challenges, Government policies and their effectiveness

Recommended Readings:

Ahluwalia, M. S. (2002). "Economic Reforms in India Since 1991: Has Gradualism Worked?".

Joshi, V., & Little, I. M. D. (1996). *India's Economic Reforms 1991-2001*. Chapters 1-2.

Bhalla, G. S., & Singh, G. (2012). *Economic Liberalisation and Indian Agriculture*. Chapters 3-4.

Vaidyanathan, A. (2010). *Agricultural Growth in India: Role of Technology, Incentives, and Institutions*. Chapters 1-2.

Panagariya, A. (2008). Chapters 6-7.

Mohan, R. (2002). "Small Scale Industry Policy in India: A Critical Evaluation".

Ghani, E. (2010). *The Service Revolution in South Asia*. Chapters 5-6.

Banga, R., & Goldar, B. (2007). "Contribution of Services to Output Growth and Productivity in Indian Manufacturing: Pre and Post Reforms".

Dreze, J., & Sen, A. (2013). *An Uncertain Glory: India and its Contradictions*. Chapters 4-5.

Dev, S. M. (2000). "Economic Reforms, Poverty, Income Distribution, and Employment".

Roy, A., & Hulme, D. (2012). "Inclusive Growth in India: A Perspective".

Ahluwalia, I. J., & Mohan, R. (2014). *Urbanisation in India: Challenges, Opportunities, and the Way Forward*. Chapters 2-3.

Chakravarty, S. (1987). *Development Planning: The Indian Experience*.

Ahluwalia, I. J., & Little, I. M. D. (1996). *India's Economic Reforms 1991-2001*.

SEMESTER-X

Paper Code	Paper Title	Credits(L+T+P)
ECOSPL 25064	Economics of Environment	3+1+0
ECOSPL 25074	Labour Economics	3+1+0
ECOSPL 25084	Agricultural Economics	3+1+0
ECOSPL 25094	Demography (E)	3+1+0
ECOSPL 25104	Econometrics (E)	3+1+0
ECOSPL 25114	Industrial Economics (E)	3+1+0
ECOSPL 25124	Dissertation (E)	

ECONOMICS OF ENVIRONMENT
(ECOSPL25064)

Course Objective:

The objective of the course is to provide the learners with basic issues relating to the economics of environment, valuation techniques environmental resources, and sustainable use of non-renewable environmental resources in the society.

Course Outcomes:

CO1: Understanding the core issues of sustainable development; the environmental accounting and various measures of it- both weak and strong sustainability rules; learning the issues of market success and market failure.

CO2: Understanding the way of sustainable exploitation of environmentalresources.

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CO3: Understanding the valuation techniques of environmental resources, both use and non-use values.

CO4: Understanding the issues of global warming, ozone layer depletion and international protocol and conventions.

Unit-I: Economy and the Environment (13)
Economy-Environment linkages - Poverty and the Environment- Concept and indicators of Sustainable Development- Environmental Accounting Policy for Sustainable Development.- Weak and Strong Sustainability Rules -Safe Minimum Approach - Solow-Hartwick Rule - Genuine Savings - Green GNP Accounts.
Environmental degradation and Market Failure – Externalities - Externalities and Market Failure - Property Rights and Transaction Costs- Environmental Public Goods: Efficient provision of Public Goods, Environment as a Public Good,Propertyrights - Environmental Kuznets Curve.

Unit-2: Economic issues of Environmental Resources (9)
Economic issues of Renewable and Non renewable Resources - Optimal depletion of Environmental Resources - Hotelling Rules - Common Property Resources- Open access- the Tragedy of Commons.

Unit-3: Valuation of Environmental Goods: Damages and Benefits (12)
The value of Environmental Resources - Use and Non - use values - Willingness to Pay and Willing to Accept - Valuation Methods - Direct and Indirect Methods - Stated Preference, Contingent Valuation Method, Revealed Preference Methods, Hedonic Pricing and Travel Cost Methods ; Environment Impact Assessment.

Unit-4 Current issues in Global Environment (11)
The issues of Climate change, Global Warming, Loss of Biodiversity, Ozone Layer Depletion - International Conventions and Protocols- Trade and Environment- Pollution Havens.-Pollution Prevention -,Market based Instruments - Taxes vs Tradable Pollution Permits - Pigovian Tax.

Recommended readings:
1. Nick Hanley, Janson F. Shogren and Ben White: environmental Economics, Macmillan Publications
2. Bhattachariya, R.: environmental Economics, Oxford University Press
3. Shankar, U. : Environmental Economics, Oxford University Press
4. Kolstad, Charles D: Environmental Economics, Oxford University Press

LABOUR ECONOMICS
(ECOSPL25074)

Course objective:

This course is designed to impart in depth knowledge of the labour economics- labour markets, wage determination, discrimination of labour based on gender caste, Trade unions and collective bargaining and various issue of labour of Indian labour markets.

Course outcomes:

CO1: Understand the basic concept and theories of labour markets.

CO2: This help to understand the various theories of wage and labour productivity.

CO3: Understand the Discrimination in labour markets, Trade Union and Collective Bargaining.

CO4: This contents help to understand the basic issues of Indian labour markets.

Course Outline

Unit I: Labour Market

Meaning/concepts of labour: Nature and characteristics of labour markets; Supply and Labour Demand; The Short- and Long-run Labour Supply and Labour Demand Curves and their Elasticities; Labour Market Equilibrium; Competitive Equilibrium across Labour Markets; The Cobweb Model; Non-Competitive Labour Markets; Monopoly, Monopsony and Bilateral Monopoly;

Unit 2: Wage Determination

Theories of Wage-Classical, New classical and modern, Concepts of minimum wage and efficiency wage; Wage determination in organised and unorganised sector; Human Capital theory of wage; wage differentials; relationship between wage and employment; Labour Productivity: concept and measurement, wage price and employment; Labour mobility.

Unit 3: Labour Market Discrimination, Trade Union and Collective Bargaining

Labour market discrimination; Caste and gender in the labour market, the crowding model, Employer and employee discrimination, Trade Unions- 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- Employers resistance, potential impact on union.

Unit 4: Issues in Indian labour market

Indian labour markets: size, composition in the organised and unorganised labour; Major issues in Indian labour markets; labour productivity in India; Labour turnover and absenteeism in India;

women and child labour in India; Agriculture and rural labour; Employment and wage policy in India; Informal labour and Social security measures; Globalization and labour market.

Lester, R.A. (1964). Economics of Labour, (2nd Edition), Macmillan, New York.
C.R MC Connel and S.L.Bruce, Contemporary Labour Economics, McGraw Hill,1986
Butler,A.D. (1972): Labour Economics and Institutiions, American Publishing Companies
Goers,J.B (1996): Labour Economics, McGrwHill.,NY.
Ashenfelter, Orley and Richard Layyard, The Handbook of Labour Economics. Vol.1 and 2. NY: North Holland, 1986.
Papola T.S., P.P. Ghosh and A.N.Sharma (EDS) (1993) Labour Employment : Industrial Relation in India, B.R. Publishing Corporation
Praveen Jha B.R. Agriculture Labour in India, Vikas Publication,2001
Hicks J.R. (1932). The Theory of Wages. Clarendon Press, Oxford.
• Jhabvala, R. &Subrahmanya,R.K. (Eds.) (2000).The Unorganised Sector: Work Security and Social Protection. Sage Publications, New Delhi.

AGRICULTURAAL ECONOMICS

(ECOSPL25084)

Course Objectives:

It will Acquaint students with agricultural economics and helps understand the role of production functions in agricultural economics. Students will gain knowledge about the pricing of factors of production and income distribution

Course Outcome:

CO1: Understand the importance and applicability of agricultural economics

CO2: Understand the importance and applicability of production function in agricultural economics.

CO3: Analyse price determination of different factors of production and income distribution among them.

CO4: Analyse differentdevelopment models ofagriculture

Unit-1 Nature and scope of agricultural economics

Unit-1 Introduction to agricultural Economics Nature and scope of agricultural economics-role of agriculture in economic Development-special Characteristics of the primary sector-interdependence between agriculture and rest of the Economyfarming system-the Chayanovian farm Household model-farm size and productivity

Unit-2 Production functions

The Economics Agricultural Production functions of Agricultural Production -–input-output relationship-farm Budgeting –rotation of crops, location of crops, cropping pattern determinants of cropping pattern.

Unit-3 Factor market:

Agricultural markets Land market: Land use and land prices, lease market-land tenure system-mobility of labour-marginal product of labour-credit market-role of capital in agricultural development-the rural credit market in India-micro finance. Demand for farm product-factors affecting demand for food, Engels law and Engels elasticity-supply of agricultural products-supply of individual crops and aggregate supply – supply response to perennial crops-marketed supply and marketable supply-cowweb market model, Nerlover's PAAE model.

Unit-4 Models of agricultural development

Behaviour of agricultural prices, models of agricultural development Features of agricultural prices-agricultural price policy-role and functions-sectoral terms of trade and economic growth. Lewis, Fei-Ranis, Jogenson, Mellor, Schultz and Boserup models

Recommended readings:

 1. Heady, E.O: Economics of Agricultural Production and Resource Use, prentice Hall

2. Heady, E.O: The Economic Organisation of Agriculture, Mc Graw Hill

 3. Fei, Ranis: Economic Growth-An Evolutionary Perspective.

4. Ray, Debraj: Development Economics-Oxford University Press

DEMOGRAPHY (E)
(ECOSPL25094)

Course objective:
The course will help to understand basic demographic aspect of population growth and development, nuptiality and vital statistical measures. It also imparts knowledge about the urbanization, migration, population projections and policies of the government.

Course outcomes:
CO1: Understand the population growth and development.
CO2: Understand nuptiality and vital statistical measures.
CO3: It helps to understand migration and urbanization.
CO4: Understand the Population projection and work-force participation**.**

Unit-I: Population and Economic development
Population and Development; Meaning and scope of demography; population growth and their interdependence; International aspects of population growth and distribution; Pattern of age and sex structure in developed and less developed countries.

Unit-II Nuptiality, vital rates and the life table
Nuptiality: Concept and analysis of marital status, Singulate Mean Age of Marriage, Trends in age at marriage in India. Measures of mortality: standardized death rates, infant mortality and maternal mortality rate.

Life table- relationships among various life table functions, curate expectation of life, central mortality rate: construction of abridged life tables from death registration and census data, reed-Merell method

Unit-III Urbanization and migration
Urbanization: Growth and distribution of rural–urban population in India, forces of urbanization in developed and developing countries, trends in urbanization in India, Migration: concept of migration, Types of migration: internal migration-determinant and consequences, International migration-types, determinants and consequences, migration modal-push-pull hypothesis-todaro's model of rural-urban migration

Unit-IV Population projection
Component of population change, population projection: mathematical and component methods of projection, economically active population, composition and size of labour force participation rate, female work force participation rate.

Recommended Readings:
1. Bose, A. (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.
2. Choubey, P.K. (2000), Population Policy in India, Kanishka Publications, New Delhi.

3. Coale, A.J. and E.M. Hoover (1958), Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospectus, Princeton University Press, Princeton
4. Bhende, A and T. Kantikar, principles of Population Studies'
5. Thomson and Lewis: population problems
6. Gupta, SP and VK Kapoor: Fundamentals of applied statistics'
7. Ramkumar, R: Technical Demography

ECONOMETRICS
(ECOSPL25104)

Objective: This content will enable students with the skills to perform sophisticated econometric analyses, essential for empirical research in economics and finance.

Outcome:

CO1: To develop a comprehensive understanding of advanced econometric techniques and their applications addressing analytical issues such as heteroskedasticity and autocorrelation.

CO2: To master nonlinear least squares, binary dependent variable models and estimation of ARDL models.

CO3:To understand stationary and non-stationary series, random walk models, unit root tests, causality tests, co-integration, error correction mechanisms, and the basics of panel data models.

Unit-1 Multiple Regression Analysis: Issues
Heteroskedasticity, Autocorrelation – Tests, Detection and Remedies.
Unit-2 Non linear Estimation and distributed Lagged models
Non Linear least squares and its iteration process-models with binary dependent variable-Logit and Pobit models, Tobit Model, Koyck model-partial adjustment and adaptive expectation model, estimation of model with lagged dependent variable(ARDL).
Unit-3 Simultaneous Equation Models
Identification through restrictions on the covariance matrix of structural disturbances, recursive model-methods of estimation ILS, 2SLS, IV, 3SLS and FIML methods with properties, forecasting and simulation in SEM.
Unit-4 Time series modeling
Stationery and Non stationery series, random walk model, unit root time series modeling, causality test-Granger and sim's test, co-integration/integrated series,error correction mechanism. Introduction to Panel Data - Fixed and Random Effect models.
Selected Reading:

1. Johnston and Dinardo: econometrics Methods, McGraw Hill
2. Guajarati, D: Basic Econometrics, McGraw Hill
3. Pindyck and Rubinfeld: econometrics Models and econometrics Forecast, McGraw Hill
4. Greene William: Econometrics Analysis, McGraw Hill
5. G.S Madalla: Introduction to Econometrics, Macmillan, New York
6. Jeffrey M. Wooldridge, "Introductory Econometrics: A Modern Approach", South-Western Cengage Learning

INDUSTRIAL ECONOMICS

(ECOSPL25114)

Course Objectives:

Students will gain knowledge about Industrial economics. The course will acquaint students with production and productivity under industrial economics. Knowledge about industrial finance and various government planning for industrial development will shape the student to be industrialist.

Course Outcome:

CO1: Understand the importance industrial economics

CO2: Understand the role and importance of productivity in industrial economics

CO3: Understand the role, importance and sources of industrial finance

CO4: Understand about the influencing factors of industrial location

Unit-1Introduction to industrial Economics

Introduction to industrial Economics Meaning-Scope-Need & Significance of the Study of Industrial Economics Industrial Profile -Private Sector, Large, Medium &Small Scale Industries Village Industries-Public Sector-Role and Problems of Public Sector-Industries-Disinvestment-Policy. Integration, Industrial Combinations - Causes, Mergers & Amalgamations, Effects of Industrial Monopoly

Unit-2 Industrial Location

Theories of Industrial Location Theories of Industrial Location- Factors Influencing Location of Industries-Theories of Industrial Location, Weber, and Sargent Florence-Industrial Imbalance, Causes and Measures-Need for Balanced Regional Development of Industries

Unit-3 Production and productivity:

Industrial Productivity & Efficiency Productivity - Norms and Measurement, Factors affecting Productivity and Capacity Utilization Importance of Productivity in the Competitive Environment, Measures required for Improving Productivity and Efficiency

Unit-4 Industrial Finance

Industrial Finance Meaning, Scope, Importance of 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, Euro Issues, GDR, ADR, External Commercial Borrowings Unit 5 Indian Industrial Growth Brief Outline of Industrial Policies of 1948, 1956, 1977, Industrial Policy – 1991; Trends in Industrial Growth after 1991 Make in India, Look East Policy, North East Industrial and Investment Policy, Performance & Problems of Small Scale & Cottage Industries in India, Role of MNC's in India.

Recommended readings:

1. Alhuwalia I.J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.

2. Barthwal R.R. (1985), Industrial Economics, Wiley Eastern Ltd., New Delhi.

3. Cherunilam, F. (1994), Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai

4. Desai, B. (1999), Industrial Economics in India (3rd Edition), Himalaya Publishing, House, Mumbai 5. Divine, P.J. and R.M. Jones et.al (1976), An Introduction to Industrial Economics, George, Allen and Unwin Ltd., London. Government of India, Economic Survey (Annual)

6. Hay D. and D.J. Morris (1979), Industrial Economics Theory and Evidence, Oxford University Press, New Delhi

7. Kuchhal S.C. (1980), Industrial Economy of India (5th Edition), Chaitanya, Publishing Houses, Allahabad. 8. Singh, A and A.N. Sandhu (1988), Industrial Economics,A Himalaya Publishing, House, Bombay

DISSERTATION (E)

(ECOSPL25124)