

Course Description: This is a core course of 06 credits (01 credit for each unit with last two units as tutorials). The course starts with some basic concepts required for understanding the essence of subject, followed by law of demand and supply along with the concepts like market equilibrium, utility, budget line and consumer's equilibrium. The course concludes with the basic concepts associated with producer's equilibrium. Overall focus of the course is to foster knowledge, comprehension and skills among the learners.

Course Objective: The course is designed to expose the students to the basic principles of microeconomic theory. The course illustrates how microeconomic concepts can be applied to analyze real life situations.

Learning Outcomes: After completing this course, the student is expected to:

LO1: Develop a basic understanding of theoretical concepts in microeconomics

LO2: Exhibit a broad understanding of the theory of demand and be in a position to calculate demand elasticity under different circumstances.

LO3: Demonstrate an understanding of utility theory and analyze changes in budget and its impact on consumer's equilibrium

LO4: Acquire the skills to calculate revenue and cost functions of a firm.

Unit I: Introduction (15 Marks/1 Credit)

Economics: nature & scope; methodology of economics; microeconomics and macroeconomics – distinction; central problems of an economy; basic economic concepts; the economic problem - scarcity and choice; concept of opportunity cost; production possibility curve.

Unit II: Demand & Supply (15 Marks/1 Credit)

Demand – concept and types, demand schedule & demand curve; determinants of demand; law of demand & its exceptions; movement vs. shift in demand. Supply-concept, types and determinants; law of supply. Elasticity of demand & supply; types and measurement of elasticity of demand, factors affecting elasticity of demand.

Unit III: Utility Analysis of Demand (15 Marks/1 Credit)

Consumer Preference's, Utility- concept and approaches, total utility and marginal utility and the relationship between the two; law of diminishing marginal utility and law of equi-marginal utility; utility function; indifference curve- concept, types, assumptions and properties; budget line; consumer's equilibrium, derivation of demand curve using indifference curve analysis.

Unit IV: Production, Cost & Revenue (15 Marks/1 Credit)

Production function, law of variable proportions, economies and diseconomies of scale, returns to scale. Isoquants - properties of isoquants; iso-cost line, producer's equilibrium - cost minimizing approach. Cost: concepts, short run and long run cost curves. Revenue: concepts of revenue- total, average and marginal revenue and their relationship.

Unit V: Tutorial-I (15 Marks/1 Credit)

- Use of two-dimensional plan in economics – single and two variable graphs.
- Numerical examples of calculating elasticities – point and arc elasticities.
- A case study on giffen paradox
- Derivation of demand curve from market data.

Unit VI: Tutorial-II (15 Marks/1 Credit)

- Numerical exposition on budget line
- Numerical exposition on total utility and marginal utility
- Numerical exposition on total cost, average cost and marginal cost

Basic Readings:

1. Mankiw, N. (2020). Economics: Principles and applications, 9th ed. Cengage Learning.
2. Snyder, C., Nicholson, W. (2010). Theory and Application of Intermediate Microeconomics, 10th Edition Samuelson, P., & Nordhaus, W. (2010). Principles of Economics. McCraw-hill, New York, 10th edition.
3. Karl E. Case, Ray C. Fair, Sharon E. Oster (2017), Principles of Microeconomics, Pearson.

Additional Readings:

1. Bernheim, B. Douglas, and Michael Dennis Whinston. 2014. *Microeconomics*. New York, NY: McGraw-Hill/Irwin.
2. Varian, H. (2010). Intermediate microeconomics: A modern approach, 8th ed. W. W. Norton.
3. Bergstrom, T., Varian, H. (2014). Workouts in intermediate microeconomics. W. W. Norton.
4. Stonier, A. W., & Hague, D. C. (2008). A textbook of economic theory, 5th Edition.

*Further Readings are available with concerned teacher

Course Description: This is a core course of 06 credits (01 credit for each unit with the last two units as tutorials). The course starts with some basic concepts required for the understanding the essence of subject, followed by consumption and savings function along with the concepts like investment, multiplier and accelerator. The course concludes with the basic concepts associated with money, inflation and unemployment. Overall, focus of the course is to disseminate knowledge, comprehension and skill among the learners.

Course Objective: The course is framed in order to expose the students to basic principles of macroeconomics. The course illustrates how macroeconomic concepts can be applied to analyse real life situations.

Learning Outcomes: After completion of course, the student is expected to:

LO1:Develop a basic understanding of theoretical concepts of macroeconomics.

LO2:Exhibit a broad understanding of the national income concepts and its measurement so that students can calculate national income under different methods.

LO3:Demonstrate an understanding of investment and analyse its impact on macroeconomy.

LO4:Acquire skills to calculate price change through different indices.

Unit I: National Income and Accounting (15marks/1 credit)

Macroeconomics - Definition and Scope, National Income Identities– Concept and Measurement, Circular Flow of Income – Two, Three and Four Sector Models,

Unit II: Behavioral Foundations-I (15marks/1 credit)

Consumption and Saving Function – APC and APS, MPC and MPS. Psychological Law of Keynes. Kuznets Puzzle. Relative Income hypothesis.

Unit III: Behavioural foundation II (15marks/1 credit)

Investment: meaning and types, marginal efficiency of investment and rate of interest, derivation of investment demand curve, concept of multiplier: Static and Dynamic, Accelerator: Concept and Theory.

Unit IV: Money Inflation and Unemployment (15marks/1 credit)

Money- concept and functions. Inflation: meaning and types, demand pull and cost push inflation, costs and benefits of inflation. Unemployment: meaning and types, demand for money – Classical view, supply of money

Unit V: Tutorial I(15marks/1 credit)

Calculation of National Income and its associated entities.

Compilation of GDP by value added method and income method, using data from CSO
Importance and Concept of Base year (Example from CSO).

Unit VI: Tutorial II (15marks/1 credit)

- Compilation and concept of M_1 , M_2 , M_3 and M_4 measures of money using data from Reserve Bank of India.
- Concept and calculation of Price Index number and then using this analogy to calculate WPI and CPI for Indian economy.
- Concept and numerical exposition of Multiplier with tax and imports as a function of GDP.

Basic Readings:

1. Mankiw, N. G. (2020). *Principles of macroeconomics*. Cengage Learning.
2. Dornbusch, R., Fischer, S., & Startz, R. (2018). *Macroeconomics*. 12th Edition, McGraw-Hill.
3. Shapiro, E. (2005), *Macroeconomic Analysis*, Galgotia Publications, New Delhi.
4. M. C. Vash. (2010). *Macroeconomic Theory* (14th ed.). Vikas Publishing House Pvt. Ltd.: New Delhi.
5. Blanchard, Olivier Jean (2016). *Macroeconomics*. 7th Ed. Pearson.

*Further Readings are available with concerned teacher

Course Description: This is the core course of 06 credits (01 credit for each unit with the last two units as tutorials). The course starts with some basic concepts required for understanding the essence of the subject. It covers topics such as money supply, monetary standards, and the structure of Indian financial system. The course also includes tutorials that explore additional aspects such as inflation targeting, credit creation, and the impact of digital money and cryptocurrency.

Course Objective: The objective of this course "Monetary Economics" is to provide students with a comprehensive understanding of concepts and measures of money supply. The course enables the students to understand the structure of Indian Financial System and conduct of monetary policy by the RBI.

Learning Outcomes: After completing this course, the students are expected to:

L01: Demonstrate a clear understanding of the fundamental concepts of money, its evolution, and the functions it serves in an economy.

L02: Analyse and evaluate how to measure the money supply, and the factors influencing money supply, including high-powered money.

L03: Analyse the structure of Indian Financial System including its various components.

L04: Evaluate the role of the Reserve Bank of India in conducting monetary policy.

Unit I: Basic Concepts (15 Marks/1 Credit)

Concept of Money and its Functions, Kinds of Money, Approaches to Definition of Money: Conventional, Chicago, Gurley and Shaw, and Central Bank Approaches. Evolution of Monetary Standards from Gold Standard to Paper Standard, Gresham's Law, Principles of Note Issue: Currency and Banking Principle, Methods of Note Issue.

Unit II: Money Supply (15 Marks/1 Credit)

Measures of Money Supply, Concept of High-Powered Money, Determinants of High-Powered Money, Concept of Money Multiplier, Credit Multiplier and Deposit Multiplier, Reserve Bank Money, RBI's analysis of Money Supply

Unit III: Indian Financial System (15 Marks/1 Credit)

Role of Finance in an Economy; Overview of Indian Financial System; Banks and Non-Banking Financial System; Commercial Banks; RRB's and Development Banks; Financial Markets: Money & Capital Market and Their Instruments; Stock Exchange Markets (NSE & BSE, Nifty & Sensex); Role of SEBI.

Unit IV: RBI and Conduct of Monetary Policy in India (15 Marks/1 Credit)

RBI: Evolution and Functions, Monetary Policy: Objectives, Instruments: SLR, CRR, OMOs, LAF: Repo and Reverse Repo Rate, Market Stabilization Scheme, Marginal Standing Facility and Standing Deposit Facility, Bank Rate, Analysis of Current Monetary Policy.

Unit V: Tutorial – I (15 Marks/1 Credit)

- Reports of I, II, and III Working Groups on Money Supply by the RBI
- Measurement of Liquidity Aggregates
- Working of Digital Money and Cryptocurrency (Bitcoin)
- Assets and liabilities of commercial banks.

Unit VI: Tutorial – II**(15 Marks/1 Credit)**

- Concept and Working of Inflation Targeting
- Role and Structure of Monetary Policy Committee (MPC)
- Credit Creation by Commercial Banks – Using Hypothetical Data
- Demonetisation in India

References:

1. Gupta, S. B. (2010). *Monetary Economics: Institutions, Theory & Policy*. S Chand & Company (1 December 2010).
2. Sethi, T.T (2005). *Money, Banking and International Trade*. S Chand Publication.
3. Khan, M. Y. (2015). *Indian Financial System*. McGraw Hill Publication.

Additional Readings:

1. Bhalla, V. K. (2020). *Money, Banking, and Financial Markets in India*. S. Chand Publishing.
2. Mishkin, F. S. (2018). *Money, Banking, and Financial Markets*. Pearson Education.
3. Pathak, B. V. (2019). *Indian Financial System*. Pearson Education.

*Further Readings are available with concerned teacher

Course Description

This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to develop various measures of inequality and connections between growth and inequality are explored. The course ends by discussing various theories of economic development.

Learning Outcomes: After completing this course the students are expected to:

LO1: Demonstrate a good understanding of basic concepts of development, poverty and inequality.

LO2: Gain a comprehensive idea about historical and contemporary processes of development.

LO3: Understand the role of labour and migration in the process of economic development.

Unit1: Conceptions of Development (15 Marks/1 Credit)

Concept of development and Development Gap; Alternative measures of development: HDI; A.K. Sen's concept of development- Capabilities approach; Concept of Inequality; Lorenz curve, Kuznets ratio and Gini coefficient; Inequality and income-inverted U hypothesis; Estimation of Poverty; Multi-dimensional poverty index; Human poverty index.

Unit II: Theories of Economic Development-I (15 Marks/1 Credit)

Classical Theories of Development: Adam Smith, David Ricardo and Karl Marx. Low Level equilibrium trap-Nelson model. The theory of big push; Schumpeter and Capitalistic Development; Balanced growth; Unbalanced growth-Hirschman strategy.

UnitIII: Theories of Economic Development-II (15 Marks/1 Credit)

Structural change model-Lewis; Rural Urban migration Model-Harris-Todaro. The process of cumulative causation-Myrdal. New Economic Geography - Paul Krugman.

UnitIV.Tutorial1 (15 Marks/1 Credit)

- a) Problems related to measurement of Development Gap
- b) Measurement of inequality- Numerical Examples
- c) Measurement of HDI, MPI, HPI - Data Based
- d) UNDP Sustainable Development Goals - Case Studies

Basic Readings:

1. Todaro, M.P. (1996) (6th Edition), Economic Development, Longman, London.
2. Thirwall, A.P. (1999) (6th Edition), Growth and Development, Macmillan, U.K.
3. Debraj Ray, *Development Economics*, Oxford University Press, 2009.

Additional Readings

4. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee ,Understanding Poverty, Oxford University Press, 2006.
5. Agarwal and Singh (1958), The Economics of Underdevelopment, Oxford University Press, New Delhi.
6. Amartya Sen, *Development as Freedom*, OUP,2000.
7. Kaushik Basu, *The Oxford Companion to Economics in India*, OUP, 2007.

*Further Readings are available with concerned with concerned teacher

CourseDescription: This is a core course of 06 credits (01 credit for each unit with the last two units as tutorials). The course starts with some basic concepts required for understanding the essence of subject, followed by basic calculus with the topics such as differentiation, partial differentiation, and integration. Overall, the focus of the course is to disseminate knowledge, comprehension and skill among the students.

Course Objectives: To develop a solid foundation and understanding of mathematical tools and techniques. The course enables the students to apply mathematical methods to solve economic problems and analyse economic models.

Learning Outcomes: After completing this course, the student is expected to:

L01: Understand the concepts of sets and functions, including different types of functions and their properties, and apply them to economic models and analysis.

L02: Analyse and apply calculus basics, including limit, continuity, differentiability, and integration techniques, in economic contexts, and solve economic problems using these tools.

L03: Apply the concepts of partial derivatives, marginal analysis, Lagrange multipliers, to solve various optimization problems.

L04: Apply concepts of integration to calculate consumer's & producer's surplus.

Unit 1: Introduction to Mathematical Economics (15 marks/ 1 credit)

Overview of Mathematical Tools in Economics; Mathematical Notation and Symbols Used in Economic Analysis: Number System—Integers, Rational Numbers, Irrational Numbers, Real Numbers and Imaginary Numbers; Gradient and Equation of Straight Line, Parabola and Rectangular Hyperbola; Sets, Relation, Functions, and Their Types and Properties.

Unit II: Differentiation Basics(15 Marks/ 1 Credit)

Limits, Continuity, and Differentiability, Derivatives: Definition and Evaluation, and Their Applications in Economics; Maxima and Minima Using First & Second order Conditions.

Unit III: Multivariable Calculus(15 Marks/ 1 Credit)

Partial Derivatives and Their Applications; Marginal Concept and Elasticities; Constrained Optimization: Lagrange Multipliers; Total Differentials and Total Derivatives; Euler's Theorem.

Unit IV: Integration Basics(15 Marks/ 1 Credit)

Integration: Indefinite Integrals and Definite Integrals, Evaluation and Their Applications in Economics—Consumer's and Producer's Surplus.

Unit V: Tutorial –I(15 Marks/ 1 Credit)

- Applications of differentiation in economics
- Concave and Convex Function, exponential and logarithm function
- Computing partial derivatives of functions and interpretation of partial derivatives as rates of change with respect to various functions used in economics
- Understanding the economic implications of positive, negative, and zero partial derivatives; solving practice problems to compute partial derivatives.

Unit VI: Tutorial – II(15 Marks/ 1 Credit)

- Evaluate constrained and un-constrained optimization problems in economics
- Using integration to calculate consumer's and producer's surplus
- Evaluate production functions and utility functions.

Basic Readings

1. A.C. Chiang and Kevin Wainwright (2017). *Fundamental Methods of Mathematical Economics*. McGraw Hill Education; Fourth Edition (1 July 2017)
2. K. Sydsaeter and P. J. Hammond (2016). *Mathematics for Economic Analysis*. Pearson Education India.
3. G. Renshaw (2021). *Maths for Economics*. Oxford Publication (2021).

Additional Readings

1. E T. Dowling (2011). *Schaum's Outline: Introduction to Mathematical Economics*. McGraw Hill; 3rd Edition (16 November 2011).
2. G.S. Monga(2001). *Mathematics and Statistics for Economists*.S Chand; 2nd Edition (12 April 2001).
3. M. Roser (2003). *Basic Mathematics for Economists*. Routledge; 2nd Edition (13 March 2003).
4. O. Levin (2015). *Discrete Mathematics: An open Introduction*. Create Space Independent Publishing Platform, 1st Edition (2015).
5. T. Bradley (2013). *Essential Mathematics for Economics and Business*. Essential Mathematics for Economics and Business.

*Further Readings are available with concerned with concerned teacher

History of Economic Thought (ECO422J3) Semester IV CT-3 Credits: (4+2=6)

Course Description: This is a core course of 06 credits (04 units of 01 credit each and 2 tutorials of 1 credit each)

Course Objectives: This course aims to survey the history of economic thought, covering Mercantilism and Physiocracy in pre-classical economics, classical theories of Smith, Ricardo, and Malthus, the rise of socialism and Marxian analysis, the Marginalist Revolution, and insights into Welfare Economics and Indian Economic Thought. Students will critically assess key concepts, ideologies, and contributions, fostering a comprehensive understanding of the evolution of economic thinking from early doctrines to modern perspectives.

Learning Outcomes.After completing this course,students are expected to:

L01: Assess early economic doctrines to comprehend their core principles and limitations.

L02: Analyse growth, value, distribution, and population theories proposed by classical economists.

L03: Investigate the emergence of socialism, delve into Marx's surplus value theory, and understand key concepts from the Marginalist Revolution.

L04: Examine welfare economics, Pareto optimality, and the historical and contemporary insights of Indian Economic Thought.

Unit I: Pre-Classical Economic Thought (15 Marks/1 Credit)

Mercantilism - basic tenants of Mercantilist philosophy and its critical appraisal. Physiocracy- natural order, net product and circulation of wealth, taxation, a critical appraisal of Physiocratic school of thought.

Unit II: Classical School of Thought (15 Marks/1 Credit)

Adam Smith– philosophy of naturalism, theory of value and distribution; David Ricardo– theory of value, and theory of rent; Malthus– theory of population; J. B. Say’slaw of market.

Unit III: Socialistic School of Thought and Marginalism (15 Marks/1 Credit)

Rise of socialism; Karl Marx and Engels; Marx’s theory of surplus value; Marx analysis of economic crises.Marginalist revolution; contribution of S.W Jevons, JeonWalras and Karl Manger (a brief sketch) – Jevons theory of marginal utility and exchange; Karl Manger– philosophy and method.

Unit IV: Welfare Economics and Indian Economic Thought (15 Marks/1 Credit)

A.C. Pigou – welfare economics, V, Pareto - pareto optimality; The emergence of modern Indian economic thought: DadabhaiNaoroji, Mahatma Gandhi and Dr. B.R. Ambedkar; Recent contributions of AmartyaSen’s– ideas on freedom, capabilities, and justice.

Unit V: Tutorials I (15 Marks/1 Credit)

- Contemporary relevance of Mercantilism
- Anne Turgot and Physiocracy
- Malthus theory of population in Indian context
- Invisible hand – Discourses

Unit VI: Tutorials II (15 Marks/1 Credit)

- Reserve army of unemployed youth
- Keynesian school of thought: A brief sketch
- Externalities with examples
- Major works of Amartya Sen

Basic Readings

1. Batia, H. L. (1985). History of Economic Thought. Vikas Publishing House.
2. T.N Hajela (2009). History of Economic Thought. Ane Books Pvt. Ltd.
3. Brue, Stanley L. and Grant, Randy R. (2013) The Evolution of Economic Thought. South-Western Cengage Learning. 8th Edition
4. Haney, L. H. (1917). History of Economic Thought: A Critical Account of the Origin and Development of the Economic Theories of the Leading Thinkers in the Leading Nations. Surjeet Publications.

Additional Readings:

1. Eagleton, T. (2013). The illusions of postmodernism. John Wiley & Sons.
2. Gurley, J. (1978). The capitalist system, 2nd ed. Prentice-Hall.
3. Tonkiss, F. (2008). Contemporary economic sociology: Globalisation, production, inequality. Routledge
4. Schumpeter, J. (1976). Capitalism, socialism and democracy.. George Allen and Unwin.
5. P. N. Dhar, (1987)
6. The Political Economy of Development in India, Indian Economic Review, Department of Economics, Delhi School of Economics, vol. 22(1), pages 1-18, January
7. Harvey, D. (2005). A brief history of neoliberalism. Introduction, Oxford University Press.

****Further Readings are available with the concerned teacher***

Course Description: This is a course of 04 credits (03 units of 01 credit each and a tutorial of 1 credit).

Course Objectives: This course is framed to provide the students a detailed understanding about the principles that tend to govern global trade. The course stresses mainly on the theoretical aspects of the subject. Beside trade theories, it deals with trade policy and the working and functions of important international organizations that have become relatively more relevant in the present era of globalization and liberalization.

Learning Outcomes: After completing this course, students are expected to:

L01: Comprehend trade theories, theories of protection, trade strategies and role of global trading organizations and understand international trade and its role in shaping and improving economic performance of a country.

L02: Understand the economic implications of various instruments of trade policy and have in-depth knowledge about the contemporary relevance of various international institutions that promote free trade.

L03: Grasp the basic ideas of terms of trade, trade as engine of growth, and trade strategies adopted by India.

Unit I: Trade Theories (15 Marks/ 1 Credit)

International Economics - meaning, scope and importance; trade as an engine of growth; inter-regional and international trade; basis of international trade; the Mercantilist views on trade; the theories of absolute and comparative cost advantage; Haberler's theory of opportunity cost; Mill's theory of reciprocal demand.

Unit II: Free Trade and Protection (15 Marks/ 1 Credit)

Free trade and protection – arguments for and against; Instruments of trade policy— tariffs, quotas, export subsidies, voluntary export restraints. Optimum tariff, effective rate of protection; political economy of protection, GATT, WTO: Principles, functions and agreements, WTO and India; UNCTAD: functions and basic principles.

Unit III: Terms of Trade and Development (15 Marks/ 1 Credit)

Concepts and measurement of terms of trade; factors affecting terms of trade of a country; Prebisch-Singer thesis, globalization, income, wealth, and growth in the world economy, trade as engine of growth, import substitution and export promotion, trade strategies of India.

Unit IV: Tutorials (15 Marks/1 Credit)

- Gains from trade
- Trade equilibrium under different cost conditions
- Marshall- Edgeworth Offer curves
- Commercial policy of India

Basic Readings:

1. Cherunilam F.: International Economics (4th Edition) 2006 Tata McGraw-Hill Companies
2. Salvatore, D.: International Economics, John Wiley

3. Mannur, H. G (1999): International Economics, Vikas Publishing House, New Delhi
4. Carbaugh, R. J. (2008), International Economics, Cengage Learning, New Delhi

Additional Readings:

1. Krugman P. and Maurice O., International Economics: Theory and Policy, Pearson Education
2. Kindleberger C. P., International Economics, RD Irwin Inc.
3. Sawyer W. C. and Sprinkle R. L. International Economics, (Latest ed.) PHI Pvt. Ltd. N. Delhi
4. Sodersten BO & Reed Geoffrey: International Economics, 2003 McMillan Press Ltd.
5. Mithani, D. M.: International Economics, Himalaya Publishing House, New Delhi

**Further Readings are available with the concerned teacher*

Course Description: This is a core course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: The course aims to enable students to understand the principles of consumer choice, including budget constraints and utility functions. It also focuses on demand analysis exploring using ordinal approach. Additionally, students will grasp the theory of production and costs, covering production functions and cost analysis in the short and long run. Finally, the course delves into market structures, including competitive markets, monopoly equilibrium, and the concept of natural monopoly.

Learning Outcomes. After completing this course, students are expected to:

L01: Analyze consumer choices and achieve equilibrium using budget constraints and utility concepts.

L02: Interpret indifference curves, assess price change effects, and apply compensating and equivalent variations.

L03: Comprehend production functions, cost theories, and evaluate profit and cost optimization in producer equilibrium.

L04: Examine competitive and monopoly market dynamics, including price discrimination, and understand dead-weight loss implications

Unit 1: Consumer Choice (15 Marks/ 1 Credit)

Budget constraint – properties of a Budget set, changes in a budget line; Consumer Preferences – assumptions and examples; Preferences and Properties; Cardinal utility – constructing a utility function, Consumer Equilibrium.

Unit II: Demand Analysis (15 Marks/ 1 Credit)

Indifference Curve Analysis, Income-Consumption Curve and Price-consumption Curve, Effects of a Price Change –Income and Substitution Effects with a Normal/Inferior Good, Compensating Variation and Equivalent Variation, Slutsky Equation, Samuelson's revealed preference theory (Weak and Strong Axioms)

Unit III: Theory of Production and Costs (15 Marks/ 1 Credit)

Production functions - Cobb-Douglas and CES; Expansion path and Ridge Lines; Producer's Equilibrium - Profit maximization and Cost minimization; Costs –Traditional Theory of Cost - Short run and Long run; Modern Theory of Costs – Short Run and Long Run.

Unit IV: Market Structure (15 Marks/ 1 Credit)

Competitive Markets – Demand and Supply analysis; Short-run versus Long-run; Competitive Market Equilibrium; Monopoly- Market Equilibrium, Price discrimination – first, second and third degree; Natural Monopoly & Economies of Scale.

Unit V: Tutorials -I (15 Marks/1 Credit)

- Introduce cardinal utility and guide students in constructing a utility function
- From Preference to Revealed Preference: A comparison
- Economic & Technical Efficiency of a Production Function
- Implications of dead-weight loss on social welfare and economic well-being.

Unit VI: Tutorials -II (15 Marks/1 Credit)

- Demonstrate how changes in preferences impact the shape and slope of indifference curves
- Illustrate how revealed preferences help derive consumer demand
- Hypothetical Example of Cobb-Douglas Production Function
- Illustrate Price Discrimination in Auctioning

Basic Readings

1. Koutsoyiannis, A. (1979). Modern microeconomics. Macmillan Education.
2. Perloff, J. M. (2015). Microeconomics: Theory and Applications with Calculus. Pearson.
3. Pindyck R.S., D. Rubinfeld and P.L.Mehta(2012), Microeconomics, Pearson Education, South Asia.
4. Varian H. R. (2010). Intermediate Microeconomics – A Modern Approach. EWP and WW Norton and Co, Inc.: New York

Additional Readings:

1. Salvatore, D. (2010), Microeconomics; Theory and Applications, Oxford University Press, New Delhi.
2. Varian H. R. (2010), Microeconomic Analysis –EWP and WW Norton and Co, Inc, New York
3. Samuelson, P., & Nordhaus, W. (1985). Principles of economics. McCraw-hill, New York, any edition.

**Further Readings are available with the concerned teacher*

Course Description:

This is a core course of 06 credits (01 credit for each unit with the last two units as tutorials). The course provides a comprehensive understanding of the Indian financial system, covering its fundamental components, banking and financial services, financial markets, and stock exchanges.

Course Objective:

To acquaint students with understanding of working and functioning of Financial System and the role of Indian Financial System in development of different sectors of the economy **Learning**

Outcomes:

After completing this course, the student is expected to:

LO1: Understand the fundamental components of the financial system, including financial markets, institutions, instruments, and services.

LO2: Analyze the structure and functions of different types of banks and financial services, including commercial, cooperative, regional rural, investment, and payment banks, as well as services like merchant banking, underwriting, and venture capital.

LO3: Demonstrate a comprehensive understanding of money and capital markets, including their features, functions, and instruments such as treasury bills, commercial papers, equity shares, and debentures.

LO4: Critically evaluate the role and functions of stock exchanges in India, including major stock exchanges like BSE, NSE, and OTCEI, and understand the role of SEBI in regulating these exchanges.

Unit I: Financial System: Introduction

(15 Marks/ 1 Credit)

Meaning of Financial System; Components of Financial System—Financial Markets, Financial Institutions, Financial Instruments and Financial Services; Functions of Financial System;

Unit II: Banking System and Financial Services

(15 Marks/ 1 Credit)

Types of Banks: Commercial Banks, Cooperative Banks, and Regional Rural Banks, Investment Banks, Payment Banks; Financial Services: Merchant Banking, Underwriting, Credit Rating; Venture Capital,

Unit III: Financial Markets

(15 Marks/ 1 Credit)

Money Market—Features and Functions; Instrument of Money Market (Call Money, Notice Money, Treasury Bills, Commercial Papers, CDs); Capital Markets—Features and Functions; Instruments of Capital Market (Equity Shares, Preference Shares, Debentures, Bonds); Primary Capital and Secondary Capital Markets.

Unit IV: Stock Exchanges

(15 Marks/ 1 Credit)

Meaning, Functions and Players in Stock Exchange; Stock Exchanges in India—BSE, NSE, OTCEI; Major Stock Indices in India; Role and Function of SEBI.

Tutorial-I

- Use appropriate formulas and calculations for interest rate, discount, and maturity amounts based on:
(a) Call money investment, (b) Notice money investment (c) Treasury Bills
(d) Commercial Papers (e) Certificate of deposits.

- The sale and purchase mechanisms of (a) Equity Shares (b) Preference Shares (c) Debentures (d) Bonds.

Tutorial-II

- Listing and trading mechanisms involved in Bombay Stock Exchange (BSE).
- The roles and responsibilities of different trading participants in the BSE, such as: (a) Brokers, (b) Sub-Brokers, (c) Jobbers.

Basic Reading:

Mishkin, Frederic S. (2019). *The Economics of Money, Banking, and Financial Markets*. 12th edition, Pearson.

Pathak, Bharati V.(2018). *The Indian Financial System: Markets, Institutions and Services*, 5/e. Pearson.

Bhole, L. M. (2009). *Financial Institutions and Markets*. Tata McGraw Hill Comp: New Delhi.

Khan, M. Y. (2015). *Indian Financial System*. Tata McGraw Hill: New Delhi.

Additional Readings:

Bhasin, N. (2009). *Monetary Banking and Financial Developments in India*. New Century Publications: New Delhi.

Gordon E. and K Natarajan. (2009). *Financial Markets and Institutions*, Himalayan Publishing House: New Delhi.

Reddy Y. V. (2001). *Monetary and Financial Sector Reforms in India*. UBS Publishers and Distributors Ltd.: New Delhi.

Machiraju, M. R. (1999). *Indian Financial System*, Vikas Publishing House, New Delhi.

Note: *Further Readings are available with concerned teacher

Course Description: This is a core course of 04 credits (03 units of 01 credit each and a tutorial 1 credit).

Course Objectives: This course aims at giving students a reasonable introduction to Indian economy and will concentrate on both the achievements and issues of the economy post 1947. The course aims at providing a background to the various undergoing transformations in the Indian Economy.

Learning Outcomes: After completing this course, students are expected to:

L01. Have an overview of the basic characteristics of Indian economy.

L02. Explain the growth trajectory and recent developments in the Indian economy.

L03. Identify the various issues in a developing economy like India.

L04. Have a broad understanding of the policy framework.

Unit I: Structure of Indian Economy (15 Marks/1 Credit)

Basic features of Indian economy at independence; growth and development under different policy regimes- Nehruvian, early liberalization & new economic reforms; structural transformation in India.

Unit II: Agriculture and Industry (15 Marks/1 Credit)

Trends in agricultural production and productivity; factors determining productivity in Indian agriculture; green revolution and new agriculture strategy; agricultural price policy; industrial policy of 1948, 1956 and 1991; micro, small and medium enterprises: problems, policy response and prospects.

Unit III: Major Issues- their Dimensions and Categories (15 Marks/1 Credit)

Poverty- extent and incidence; unemployment – types, causes and consequences; inequality- extent, consequences and remedies; regional inequality- extent, consequences and remedies.

Unit IV: Tutorials (1 Credit)

- Databases of Indian Economy
- Food security and public distribution system
- Rural credit and role of NABARD
- Review of MGNREGA in India

Basic Readings

1. Dutt & Mahajan. India Economy, S. Chand & Company Ltd., 68th Edition
2. Kapila, Uma. Indian Economy since Independence Academic foundation, New Delhi, 2020.
3. Misra & Puri. Indian Economy, Himalaya Publishing House, 30th Edition.
4. Panagariya, A. (2008). India the Emerging Giant. Oxford University Press: USA.

Additional Readings:

1. Government of India. Economic Survey (Relevant Issue).
2. Dreze, J., Sen, A. (2013). India: An uncertain glory. Allen Lane.
3. Joshi, V. (2016). India's long road: The search for prosperity. Allen Lane.
4. Krueger, A. (2003). Economic Policy Reforms and the Indian Economy. Oxford University Press: USA.
5. Dandekar, V. M. (2004). The Indian Economy (1947-97): Transforming Traditional Agriculture Vol. I.: New Delhi.

***Further Readings are available with the concerned teacher.**

Course Description: This is a core course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: This course provides a comprehensive exploration of macroeconomic theories and their real-world applications. Beginning with an in-depth analysis of the Classical model, students will examine production, labor markets, wage determination, and the concept of monetary neutrality. The focus then shifts to Keynesian theory, addressing income determination, macroeconomic multipliers, and the Keynesian view of the labor market, with a specific emphasis on involuntary unemployment and post Keynesian theories of demand for money.

Learning Outcomes: After completing this course, students are expected to:

L01: Understand the characteristics of the Classical theory of income determination.

L02: Comprehend the characteristics of Keynes's theory of income determination.

L03: Gain knowledge about various theories of the demand for money.

L04: Understand various theories of trade cycle.

Unit I: Classical Macroeconomic Model (15 Marks/1 Credit)

Characteristics of the Classical model – production in Classical system; employment – labour demand and labour supply functions; equilibrium output and employment; Classical aggregate curve, Classical dichotomy and monetary neutrality; Classical theory of interest rate.

Unit II: Keynesian Macroeconomic Model (15 Marks/1 Credit)

Keynes theory of income determination: open and closed economy, macroeconomic multipliers; contrast between the Classical & Keynes income determination, Keynesian view of labour market.

Unit III: Demand for Money (15 Marks/1 Credit)

Classical theory of demand for money; Keynesian theory of the interest rate and theory of demand for money; Tobin's portfolio balance approach to demand for money; Baumol's inventory approach to money demand.

Unit IV: Trade Cycle Theories (15 Marks/1 Credit)

Trade cycle: meaning, types and phases, theories of business cycle: Keynes and Samuelson and Hicks - Interaction between multiplier and accelerator.

Unit V: Tutorials I (15 Marks/1 Credit)

- Determination of wage rate.
- Wage rigidity-causes.
- Concept of Involuntary unemployment.
- Great depression (Keynesian analysis).

Unit VI: Tutorials II (15 Marks/1 Credit)

- Various types of bonds.
- Maturity, risk, liquidity and yield/interest rate on bonds.
- Internet Banking and demand for money.
- 2008 Depression- Causes and Consequences.

Basic Readings:

1. Blanchard O (2017). Macroeconomics, 7th Edition Pearson
2. Mankiw, N. (2016). Macroeconomics, 9th ed. Worth Publishers.
3. Froyen, R.T., “Macroeconomics” Theories and Policies, Pearson Education, 10th Edition, 2013
4. D’Souza E., “Macroeconomics”, Pearson Education, 2009
5. Dornbusch, R., Fischer, S., Startz, R. (2018). Macroeconomics, 12th ed. McGraw-Hill
6. Rosalind Levacic and Alexander Rebmann. (1982). Macroeconomics: An Introduction to Keynesian- neoclassical Controversies (2nd ed.) Macmillan Education Limited: London.

Additional Readings:

1. Abel, A., Bernanke, B. (2016). Macroeconomics, 9th ed. Pearson Education.
2. Branson, W. H. (2005). Macroeconomic Theory and Policy. Harper & Row: New York.
3. Snowden, B., Vane, H.R. (2005). Modern Macroeconomics: its Origins, Development and Current State. United Kingdom: Edward Elgar Publishing.
4. Pierce, D. G., & Tysome, P. J. (2014). Monetary economics: theories, evidence and policy. Butterworth-Heinemann.

***Further Readings are available with the concerned teacher**

Course Description: This is a core course of 06 credits (04 units of 01 Credit each and Tutorials of 2 credits). The course starts with some basic concepts required for understanding the essence of subject, followed by Theory of Probability, Concept of Random Variable along with the various types of Discrete and Continuous Random Variable Distribution. The course concludes with the Concept, and Measurement of Correlation and Index Numbers. Over all focus of the course is to foster intuition and capacity to analyze Statistics in everyday life.

Course Objectives: The course is designed to introduce the students with basic concepts and terminology that are fundamental to Statistical Analysis and Inference. It sets a necessary foundation for the Econometrics courses within the programme.

Learning outcomes: After completing this course, the student is expected to:

L01: Develop the basic understanding of role and types of data in day-to-day life along with the concept and use of Methods of Sampling.

L02: Exhibit a broader understanding of Concept of Probability and be in a position to apply these concepts in everyday life.

L03: Acquire the skills that are fundamental to the Statistical Analysis and Inference.

L04: Acquire the skills required to extract information from Descriptive Data.

Unit I: Descriptive Statistics and Sampling (15 Marks/1 Credit)

Data Sets in Economics, Measures of Central Tendency; Measures of Dispersion: Absolute and Relative Measures of Dispersion. Population and Sample; Sampling Methods: Probability & Non-Probability Sampling Methods.

Unit II: Elementary Probability Theory (15 Marks/1 Credit)

Probability: Definitions of Probability – Classical, Statistical, and Axiomatic. Conditional Probability, Laws of Addition and Multiplication, Independent Events, Theorem of Total Probability, Bayes' Theorem and Its Applications. Random Variables: Discrete and Continuous Random Variables.

Unit III: Probability Distributions (15 Marks/1 Credit)

Bernoulli, Binomial, Poisson, Normal and Standard Normal along With Their Properties and Limiting/Approximation Cases.

Unit IV: Correlation and Index Numbers (15 Marks/1 Credit)

Correlation – Meaning and Scope; Karl Pearson's Coefficient of Correlation; Rank Correlation; Partial and Multiple Correlation. Index Numbers: Concept and Uses. Types Of Index Numbers-Price, Quantity and Value Index Numbers. Methods of Constructing Index Numbers: Simple Aggregate Method and Weighted Aggregate Method, Time Reversal & Factor Reversal Tests; Fischer's Ideal Index Number.

Unit V: Tutorials (15 Marks/1 Credit)

- Problem Sets on Different Measures of Central Tendency.
- Problem Sets on Different Measures of Central Dispersion.
- Working Problems on Probability and Conditional Probability.
- Working Problems on Bayes Theorem.

Unit VI: Tutorials

(15 Marks/1 Credit)

- Problem Set on Area Under Curve Property of Standard Normal Curve.
- Problem Sets on Different Measures of Correlation.
- Problem On Laspeyre, Paasche and Fisher Quantity Index Number Using Real Time Data from RBI And CSO.
- Problem On Laspeyres, Paasche and Fisher Price Index Number Using Real Time Data from RBI And CSO.

Basic Readings

1. Hogg R. V. & A. T. Craig Hogg. (1970). Introduction to Mathematical Statistics. Macmillan Publishing & Co.: New York.
2. Lee, C. F., Lee, J. C., & Lee, A. C. (2000). Statistics for business and financial economics. Singapore: World Scientific.
3. Gupta, S.C and V.K. Kapoor: Fundamentals of Applied Statistics, Sultan Chand & sons
4. Elhance, D.N, Elhance, V., and Aggarwal, B.M: Fundamentals of Statistics, Generic, 2011 edition.
5. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.

Additional Readings

1. Floyd J. E. (2010). Statistics for Economists: A Beginning. University of Toronto.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Miller, I., Miller, M. (2017). *J. Freund's mathematical statistics with applications*, 8th ed. Pearson.
4. Nagar and Das: Basic statistics. Oxford University Press.

*Further Readings are available with concerned with concerned teacher

Course Description: This is a core course of 04 credits (03 units of 01 credit each and tutorial of 1 credit).

Course Objectives: This course aims to provide a concise yet comprehensive understanding of economic growth concepts, measurement techniques, and factors influencing growth. Students will explore economic growth models, including the Harrod-Domar, Robinson's, and Meade's models, addressing issues of instability and capital accumulation. The Solow model will be examined, emphasizing the impact of population, saving, and technology on economic growth, and covering topics such as the steady state and the golden rule of consumption. Overall, the course equips students with essential theoretical knowledge and analytical skills to grasp and evaluate economic growth dynamics.

Learning Outcomes: After completing this course, students are expected to:

L01: Grasp economic growth concepts, measurement methods, and factors shaping growth.

L02: Analyze instability in growth models like Harrod-Domar, Robinson's Golden Rule, and Meade's models.

L03: Understand Solow's model, assessing impacts of population, savings, technology, and long-term growth theories.

Unit I: Concept and Measurement (15 Marks/1 Credit)

Economic growth: concept and measurement, factors affecting economic growth. Production-function approach to causes of growth; growth accounting; technological progress: meaning, nature and classification.

Unit II: Economic Growth I (15 Marks/1 Credit)

Harrod—Domar model: basic structure, problem of instability; Robinson's model-golden rule of capital accumulation; Meade's model.

Unit III: Economic Growth II (15 Marks/1 Credit)

Solow model: basic structure, impact of population, saving and technology; steady state and the golden rule of consumption; convergence hypotheses.

Unit IV: Tutorials (15 Marks/1 Credit)

- Population & economic growth in India
- Exercises related to finding the steady state
- Harrod&Domar model & India's first five-year plan.

Basic Readings:

1. Thirlwall, A. P. (2014), Growth and development, Palgrave MacMillan, U.K.
2. Jones, C.I, Introduction to Economic Growth, W. W Norton & Co. 2002
3. Todaro, M. P., & Smith, S. C. (2012). Economic development 11th edition.
4. Jhingan, M. (2012) Economics of Development and Planning. Vrinda Publications, Delhi.

Additional Readings:

1. Barro, Robert J. and Sala-i-Martin, Xavier. Economic Growth, Prentice Hall of India Private Limited, 2nd edition, 2007.

2. Jones, H.G, An Introduction to the Modern Theory of Economic Growth, Thomas Nelson, and Sons.
3. Acemoglu, Daron. (2009). *Introduction to Modern Economic Growth*. Princeton University Press: USA.

****Further Readings are available with the concerned teacher.***

Course Description: This is a core course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: This course is a sequel to Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers game theory, imperfect markets and topics under factor pricing, and market failure and uncertainty.

Learning Outcomes. After completing this course, students are expected to:

L01: Apply game theory concepts to analyze strategic decision-making, including dominant strategies and Nash equilibrium.

L02: Understand different market structures, focusing on oligopoly and monopolistic competition, and analyze market equilibriums.

L03: Grasp factor pricing mechanisms, particularly the marginal productivity theory, and analyze efficient allocations in competitive markets.

L04: Identify market failures, analyze issues of asymmetric information and the principle-agent problem, and assess uncertainty and attitudes towards risk.

Unit I: Game Theory (15 Marks/ 1 Credit)

Basic concepts- game and its types - Prisoner's dilemma; dominant strategy, Nash equilibrium, minimax and maximin strategies; mixed strategy; sequential games

Unit II: Imperfect Markets (15 Marks/1 Credit)

Oligopoly-quantity leadership; price leadership; models of oligopoly - Cournot, Bertrand and Stackelberg; monopolistic competition – key characteristics; equilibrium in short run and long-run.

Unit III: Factor Pricing and Theory of Exchange (15 Marks/1 Credit)

Factor pricing in perfectly competitive markets; marginal productivity theory of input pricing; factor pricing in imperfectly competitive markets; Pareto optimal allocations – productive, allocative and mix; Pareto optimal allocation and competitive markets; fundamental theorems of welfare economics.

Unit IV: Market Failure and Uncertainty (15 Marks/1 Credit)

Market failure- concept; asymmetric information, adverse selection, principle-agent problem - moral hazard; uncertainty – assessing risk, attitudes towards risk – risk aversion, risk neutral and preference.

Unit V: Tutorials –I (15 Marks/1 Credit)

- Explore the concept of Nash equilibrium through a real-world example
- Case study on oligopoly model (Cournot/Bertrand/Stackelberg)
- Pareto optimality in real world.
- Real-world examples of lemon market

Unit VI: Tutorials – II (15 Marks/1 Credit)

- Explore dominant advertising strategies by corporates.

- example of barometric leadership in oligopoly - organization of the petroleum exporting countries (OPEC)
- Interdependence between product and factor market
- Real estate agency and principle-agent problem

Basic Readings

1. Koutsoyiannis, A. (1979). Modern microeconomics. Macmillan Education.
2. Perloff, J. M. (2015). Microeconomics: Theory and Applications with Calculus. Pearson.
3. Pindyck R.S., D. Rubinfeld and P.L. Mehta (2012), Microeconomics, Pearson Education, South Asia.
4. Varian H. R. (2010). Intermediate Microeconomics – A Modern Approach. EWP and WW Norton and Co, Inc.: New York.

Additional Readings:

5. Nicholson W. (1992), Microeconomic Theory: Basic Principals and Extensions, The Driden Press, USA.
6. Salvatore D., (2010), Microeconomics; Theory and Applications, Oxford University Press, New Delhi.
7. Varian H. R (2010), Microeconomic Analysis –EWP and WW Norton and Co, Inc, New York

****Further Readings are available with the concerned teacher.***

Public Economics (ECO722J3) Semester VII CT-3 Credits: (4+2=6)

Course Description: This is a core course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: The objective of the course is to develop an understanding of public sector, financial resources, role and functions of the Government in an economy, issues pertaining to public goods, different aspects of revenue and taxation, distribution of income, etc. Further, the existence of externalities, inequalities in the distribution of income and wealth etc., require political processes for their solution in a manner which combines individual freedom and justice. The course aims to facilitate an understanding of these issues.

Learning Outcomes: After completing this course, students are expected to:

L01: Identify critical key issues in public economics through the principles of public finance.

L02: Identify the tax principles that are relevant to economic development.

L03: Analyze the budget process.

L04: Be familiar with various aspects of public expenditure and debt.

Unit I: Fundamentals of Public Economics (15 Marks/1 Credit)

Public Economics: conceptual framework; scope and schools of thought; market failure; externality theory; internalizing an externality; Coase theorem; merit goods.

Unit II: Public Goods (15 Marks/1 Credit)

Optimal provision of private and public goods; free riders problem; problems of allocating resources – preference revelation and aggregation; political economy- Lindahl pricing; Arrow's impossibility theorem; optimal fiscal federalism and Tiebout model.

Unit III: Taxation (15 Marks/1 Credit)

Structure of public budget; classification of taxes; allocation of tax burden-benefit and ability to pay theories; direct and indirect taxes; measuring fairness of tax systems; incidence and shifting of tax burden, taxation and economic efficiency; dead weight loss and distortion; theory of optimal taxation.

Unit IV: Public Expenditure and Debt (15 Marks/1 Credit)

Public expenditure: meaning and importance; Wagner's hypothesis, Peacock-Wiseman hypothesis, Colin-Clarks critical limit theory, Pure theory of public expenditure; public debt: meaning, types, sources of internal and external debt; trends in India, FRBM Act.

Unit V: Tutorial I (15 Marks/1 Credit)

- Preparing and understanding budgets
- Club goods
- Rent seeking
- Median voter theorem

Unit VI: Tutorial II (15 Marks/1 Credit)

- Indian tax system
- Understanding GST in India
- Reforms in public expenditure
- Fiscal federalism in India

Basic Readings

1. J. Gruber, (2016), Public Finance and Public Policy, MIT.
2. H. Rosen (2013), Public Finance. MIT Press.
3. J. E. Stiglitz(2015), Economics of Public Sector, Norton, New York.
4. B.P. Tyagi (1992), Public Finance, Jai PrakashNath Co.
5. Hindriks, J., & Myles, G. D. (2013). Intermediate public economics. MIT press.
6. Musgrave and Musgrave (2005), Public Finance in Theory and Practice, Tata McGraw Hill, New Delhi.

Additional readings:

1. Jha, R. (1998), Modern Public Economics, Routledge London.
2. H. Dalton (2009), Principles of Public Finance, Routledge.
3. Hindriks, J., & Myles, G. D. (2013). Intermediate Public Economics. MIT press.
4. J. Cullis and P. Jones (1998), Public Finance and Public Choice, Oxford University Press.

****Further Readings are available with the concerned teacher***

Course Description: This is a course of 04 credits (03 units of 01 credit each and tutorial of 1 credit).

Course Objectives: This course provides the students a thorough understanding about the principles that tend to govern international finance. This course discusses importance aspects of global finance. The underlying topics in the syllabus is of great relevance to a nation in modern liberalized world. The course addresses that foreign exchange market, balance of payments and different phases of international monetary system.

Learning Outcomes: After completing this course, students are expected to:

L01: Analyse foreign exchange markets, demonstrate proficiency in exchange rate determination, quotations, and hedging strategies.

L02: Assess Balance of Payments structures, interpret deficits or surpluses, and propose corrective measures for economic equilibrium.

L03: Evaluate different exchange rate regimes, comparing flexible versus fixed systems, and explain the functioning and roles of international monetary organizations like the IMF.

Unit I: Foreign Exchange Markets (15 Marks/ 1 Credit)

Foreign exchange markets – structure and functions, exchange rate determination, spot, forward, option and futures markets; purchasing power parity of exchange rate determination; foreign exchange quotations; forward premium and forward discount; cross exchange rate; hedging, speculation and arbitrage.

Unit II: Balance of Payments (15 Marks/ 1 Credit)

Balance of payments – meaning and importance; double entry accounting; balance-of-payments structure; bop deficit and surplus, equilibrium, disequilibrium; methods of correcting disequilibrium.

Unit III: Exchange Rate Regimes (15 Marks/ 1 Credit)

Exchange rate regimes; flexible versus fixed exchange rates; types of international monetary system; gold standard, Breton-Woods standard, managed floating exchange rate system; IMF: role functions and operation.

Unit IV: Tutorials (15 Marks/1 Credit)

- Effects of exchange rates changes
- Working of spot, forward markets (with real life examples)
- India's balance of payments
- Exchange rate bands, adjustable peg system and crawling peg system

Basic Readings:

1. Salvatore, D.: International Economics, John Wiley
2. Carbaugh, R. J. (2008), International Economics, Cengage Learning, New Delhi
3. Mannur, H. G (1999): International Economics, Vikas Publishing House, New Delhi

Additional Readings:

1. Cherunilam F.: International Economics (4th Edition) 2006 Tata McGraw-Hill Companies
2. Krugman P. and Maurice O., International Economics: Theory and Policy, Pearson Education
3. Kindleberger C. P., International Economics, RD Irwin Inc.
4. Sodersten BO & Reed Geoffrey: International Economics, 2003 McMillan Press Ltd.
5. Mithani, D. M.: International Economics, Himalaya Publishing House, New Delhi

***Further Readings are available with the concerned teacher**

Course Description: This is a core course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: This course delves into advanced macroeconomic models and their implications for policy analysis. It focuses on IS-LM model, and central propositions of Monetarist revolution. Finally, the course explores the microeconomic foundations of macroeconomics.

Learning Outcomes: After completing this course, students are expected to:

L01: Develop a comprehensive understanding of the IS-LM model for a closed economy.

L02: Gain proficiency in applying the IS-LM model to an open economy.

L03: Explore the Monetarist counter-revolution by examining the central propositions of Monetarism.

L04: Delve into the microeconomic underpinnings of macroeconomics.

Unit I: IS-LM Model for Closed Economy (15 Marks/1 Credit)

IS-LM curves – derivation, slope & shift factors; monetary and fiscal policy effectiveness in is–lm model.

Unit II: IS-LM Model for Open Economy (15 Marks/1 Credit)

IS, LM & BP schedules; slope & shift factors; policy effectiveness under perfect & imperfect capital mobility in flexible & fixed exchange rate regimes.

Unit III: Monetarist Counter-revolution(15 Marks/1 Credit)

Monetarism; central propositions; quantity theory reformulation; wage setting and price setting relation; Philips curve analysis-Keynesian and Monetarist approach.

Unit IV: Microeconomic Foundations of Macroeconomics (15 Marks/1 Credit)

Fisher's theory of optimal inter temporal choice; life cycle, permanent income hypothesis; new classical economics – central propositions, rational expectations and policy conclusions. Keynesian critique of new classicals.

Unit V: Tutorials I (15 Marks/1 Credit)

- Hypothetical numericals for deriving the parameters of IS-LM Curve
- Hypothetical numericals for deriving the parameters of IS-LM-BP Curve
- Calculating various multipliers in IS-LM framework in both closed and open economy

Unit VI: Tutorials II (15 Marks/1 Credit)

- Evolution of concept of natural rate of unemployment.
- Okun's law.
- Role of liquidity constraints.
- Lucas aggregate surprise supply function.

Basic Readings:

1. Blanchard O (2017). Macroeconomics, 7th Edition Pearson
2. Mankiw, N. (2016). Macroeconomics, 9th ed. Worth Publishers.
3. Froyen, R.T., "Macroeconomics" Theories and Policies, Pearson Education, 10th Edition, 2013

4. D'Souza E., "Macroeconomics", Pearson Education, 2009.
5. Branson, W. H. (2005). Macroeconomic Theory and Policy. Harper & Row: New York.
6. Dornbusch, R., Fischer, S., Startz, R. (2018). Macroeconomics, 12th ed. McGraw-Hill

Additional Readings:

5. Abel, A., Bernanke, B. (2016). Macroeconomics, 9th ed. Pearson Education.
6. Snowdon, B., Vane, H.R. (2005). Modern Macroeconomics: its Origins, Development and Current State. United Kingdom: Edward Elgar Publishing.
7. Rosalind Levacic and Alexander Rebmam. (1982). Macroeconomics: An Introduction to Keynesian- neoclassical Controversies (2nded.) Macmillan Education Limited: London.

***Further Readings are available with the concerned teacher**

Course Description: This is a course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: The course introduces the students to the basic concepts of environmental economics. The students would be familiarized with nature of environmental goods and problems associated with their use as well as various theories associated with the study of environmental economics. The course will also help in developing an understanding of various environmental issues, their consequences, concept of climate change as well as various national and international environmental policies

Learning Outcomes: After completing this course, students are expected to:

L01: Develop understanding about the basic concepts of environmental economics, grasp the concept of environmental accounting and its measurement.

L02: Understand the relationship between environment and market failure, and their remedial measures.

L03: Understand the various methods of environmental valuation.

L04: Develop awareness about the contemporary developments in the field of climate change.

Unit I: Introduction (15 Marks/1 Credit)

Environmental economics- evolution, scope, and importance; environment-economy interaction; environment and Economic Growth- environmental Kuznet's Curve; environmental accounting: concept, objectives, role & measurement.

Unit II: Environment and Market Failure (15 Marks/1 Credit)

Environment goods – characteristics, consumption and demand, production and supply; environment as a public good, concept of market failure; free rider problem, common pool resources and 'tragedy of the Commons', environment externalities and their consequences; solution to externalities – Coase theorem and Pigouvian tax approach.

Unit III: Environmental Valuation (15 Marks/1 Credit)

Valuation of environmental assets – market pricing approach, contingency valuation method, replacement cost approach, Hedonic approach; methods of abatement of externalities, social cost-benefit analysis; cost-effectiveness analysis.

Unit IV: Economics of Climate Change (15 Marks/1 Credit)

Climate change- concept, evolution & recent developments; trans-boundary environmental problems; contemporary global response to climate change- inter-governmental panel on climate change (IPCC) 1992; earth summit; Kyoto protocol; Paris agreement.

Unit V: Tutorials – 1 (15 Marks/1 Credit)

- Concept of Green Accounting
- Environmental externality: a case of public health and climate change
- India's environmental policy
- A case study of evaluation of natural disasters in India

Unit VI: Tutorials – II (15 Marks/1 Credit)

- A case of Kuznet's curve in Indian context
- The economic impact: the 1990 clean air act amendments
- Contingency valuation method and eco-tourism

- Environmental application of Coase theorem

Basic Readings

1. Singh, Katar and Shishodia, Anil (2007). Environmental Economics. Theory and Applications. Sage Publication, New Delhi.
2. Hussen, Ahmed. M. (2002). Principles of Environmental Economics. Routledge Press.
3. Kolstad. C. D. Intermediate Environmental Economics, 2nd Edition, Oxford, University Press, 2012.
4. Hanley. N, Shogrin. J.F and White. B. Introduction to Environmental Economics, Oxford University Press, Oxford, 2001.

Additional Readings:

1. Romm, J. Climate Change: What Everyone Needs to Know, 1st Edition, Oxford, University Press, USA, 2015.
2. Tietenberg, T and Lewis. L: Environment and Natural Resource Economics, 10th Edition, Prentice Hall, USA, 2014.
3. Perman. R, Ma. Y, Common. M, Maddison. D., Mcgilvray. J :Natural Resource and Environmental Economics, Pearson Education, 4th Edition, Adison Wesley, 2011
4. Harris. J. M and Roach. B.Environmental and Natural Resource Economics: A Contemporary Approach, 3rd Edition, Routledge Publications, 2013.

****Further Readings are available with the concerned teacher.***

Course Description: This is a course of 06 credits (04 units of 01 credit each and tutorials of 2 credits).

Course Objectives: The course assumes that students have a basic knowledge of statistics, mathematics as well as basic econometric theory. It builds on the compulsory Introductory Econometrics course and teaches students a broad set of commonly used econometric methods. These include estimating models with limited dependent variables and the use of instrumental variables to estimate models with endogenous regressors.

Learning Outcomes: After completing this course, students are expected to:

L01: Estimate and interpret linear regression models and distinguish between economic and Statistical importance.

L02: Understand the violations of the assumptions of the classical linear regression models.

L03: Use a statistical/econometric computer package to estimate an econometric model.

Unit I: Nature and Scope of Econometrics (15 Marks/1 Credit)

Nature and scope of econometrics; methodology of econometrics; nature, types and sources of data for econometric analysis; measurement scales of variables; nature of regression analysis; population & sample regression functions.

Unit II: Simple Regression Model (15 Marks/1 Credit)

The method of ordinary least squares, assumptions, properties: gauss- markov theorem (BLUE), statistical interference, goodness of fit of the model- R^2 and adjusted R^2 , basic functional forms of regression model.

Unit III: Relaxing the Assumptions of CLRM (15 Marks/1 Credit)

Multicollinearity, heteroskedasticity, autocorrelation: meaning, consequences, detection and remedial measures, types of specification error; specification tests.

Unit IV: Tutorials (15 Marks/1 Credit)

- Data analysis using MS Excel
- Estimation of simple regression equation using Stata/E-Views
- Working with various identification tests of regression problems.

Basic Readings

1. Gujarati, D., Porter, D. (2012). *Basic econometrics, 5th ed.* McGraw-Hill.
2. Wooldridge, J. (2014). *Introduction to econometrics: A modern approach, 5th ed.* Cengage Learning.
3. Asteriou, D., & Hall, S. G. (2021). *Applied econometrics.* Bloomsbury Publishing.
4. Brooks, C. (2002). *Introductory Econometrics for Finance.* Cambridge.

Additional readings:

1. Ender, W. (1995). *Applied Econometric Time Series.* New York. Wiley Publication
2. Dhrymes, P. J., & Guerard, J. B. (1978). *Introductory econometrics* (Vol. 218). New York: Springer-Verlag.
3. Baltagi, B. H. (2008). *Econometric Analysis of Panel Data.* John Wiley and Sons. UK.
4. Gujarati, D. (2014). *Econometrics by example, 2nd ed.* Palgrave Macmillan.

5. Davidson, R., & MacKinnon, J. G. (2004). Econometric theory and methods (Vol. 5). New York: Oxford University Press.
6. Maddala, G. S., & Lahiri, K. (1992). Introduction to econometrics (Vol. 2). New York: Macmillan.

****Further Readings are available with the concerned teacher.***