SREENARAYANAGURU
OPEN UNIVERSITY

MASTER OF ARTS IN ECONOMICS

SCHEME & SYLLABUS

(Semester I, II, III & IV)

Version 2.0

2025 Admissions Onwards

CBCS-PG Regulations 2021

Programme Description

The Master of Arts (M.A.) in Economics program at Sreenarayanaguru Open University is a four-semester post-graduate syllabus (), following the CBCS-PG Regulations 2021 and is designed for admissions from 2025 onwards. The total credit requirement for the program is 72 credits. The curriculum is advanced, focusing on rigorous theoretical and quantitative training, with 12 Discipline Core (DC) courses, 3 Discipline Specific Elective (DE) courses, and a mandatory Dissertation/Project Work (DP).

The core curriculum includes advanced Microeconomics I & II , Macroeconomics I & II , Quantitative Methods for Economics I & II , Indian Economy , Economic Growth and Development , International Economics , Public Finance , Econometrics , and Kerala Economy. The program also incorporates essential skill-building through compulsory courses like Software Packages for Economic Analysis (Spreadsheet) (AECC-DS) , Security Analysis and Portfolio Management (SEC-1) , and Artificial Intelligence and Machine Learning (SEC-2) , reflecting an emphasis on modern quantitative and analytical techniques. The evaluation is split, with 30% for Continuous Internal Evaluation (CIE) and 70% for the End Semester Examination (ESE).

POST GRADUATE PROGRAMME

COURSE CODING SCHEME

Course Coding Index

Degree	Scheme Year	Discipline	Course Number	Course Category
Masters	2023	ECONOMICS	01	Discipline Core
M	**23**	**EC**	**01**	**DC**

Table- A

No.	Discipline	Code
1	Commerce	CM
2	Malayalam	ML
3	English	EG
4	Hindi	HD
5	Arabic	AR
6	Sanskrit	SN
7	History	HS
8	Political Science	PS
9	Sociology	SO
10	Economics	EC
11	Public Administration	PA

Table -B

Course Category	Code
Discipline Core	DC
Discipline Specific Elective	DE
Ability Enhancement Compulsory Courses (Discipline Specific & Institution Specific)	AC (DS&IS)
Skill Enhancement Compulsory Courses	SC
Internship	IN
Dissertation / Project Work	DP
Cross border Discipline Courses	CB
University Code	UC

SREENARAYANAGURU OPEN UNIVERSITY

POST GRADUATE PROGRAMME IN ECONOMICS

Programme Structure and Course Distribution

Sem	Discipline Core Course (4 Credit each)	Discipline Specific Elective Course (4 Credit each)	Ability Enhancement Compulsory Course- Discipline Specific AC (DS) (2 Credit each)	Ability Enhancement Compulsory Course- Institution Specific AC (IS) (2 Credit each)	Skill Enhancement Course (SC) (2 Credit)Compulsory/ Internship	Dissertation/ Project Work (DP) (4 Credit)	Total Credit per Semester
I	M23EC01DC						18
	M23EC02DC		M23EC01AC (DS)				
	M23EC03DC						
	M23EC04DC						
II	M23EC05DC			M21UC01AC (IS)			18
	M23EC06DC						
	M23EC07DC						
	M23EC08DC						

III	M23EC09DC	M23EC01DE / M23EC03DE (Any one)			M23EC01SC		**18**
	M23EC10DC	M23EC02DE/ M23EC04DE (Any one)					
IV	M23EC11DC	M23EC05DE M23EC06DE (Any one)			M23EC02SC	M23EC01DP	**18**
	M23EC12DC						
Total Credit (Total courses *credit)	48(12*4)	12(3*4)	2(1*2)	2(1*2)	4(2*2)	4(1*4)	**72**

SREENARAYANAGURU OPEN UNIVERSITY
POST-GRADUATE PROGRAMME IN ECONOMICS
SEMESTER-WISE DISTRIBUTION OF COURSES

SEMESTER I				
Sl. No.	Course Type	Course Code	Course Name	Credit
1.	Discipline Core Course	M23EC01DC	Microeconomics I	4
2.	Discipline Core Course	M23EC02DC	Macroeconomics I	4
3.	Discipline Core Course	M23EC03DC	Indian Economy	4
4.	Discipline Core Course	M23EC04DC	Quantitative Methods for Economics I	4
5.	Ability Enhancement Compulsory Course (Discipline Specific)	M23EC01AC (DS)	Software Packages for Economic Analysis (Spreadsheet)	2

SEMESTER II				
Sl. No.	Course Type	Course Code	Course Name	Credit
1.	Discipline Core Course	M23EC05DC	Microeconomics II	4

2.	Discipline Core Course	M23EC06DC	Macroeconomics II	4
3.	Discipline Core Course	M23EC07DC	Economic Growth and Development	4
4.	Discipline Core Course	M23EC08DC	International Economics	4
5.	Ability Enhancement Compulsory Course (Institution Specific)	M21UC01AC (IS)	Foundational Skills for Research and Writing	2

SEMESTER III				
Sl. No.	Course Type	Course Code	Course Name	Credit
1.	Discipline Core Course	M23EC09DC	Public Finance	4
2.	Discipline Core Course	M23EC10DC	Quantitative Methods for Economics II	4
3.	Discipline Specific Elective Course (DSE 1) (Choose any one)	M23EC01DE	History of Economic Thought	4
		M23EC03DE	International Finance	4
4.	Discipline Specific Elective Course (DSE 2) (Choose any one)	M23EC02DE	Agricultural Economics	4
		M23EC04DE	Environmental Economics	4

5.	Skill Enhancement Compulsory Course	M23EC01SC	Security Analysis and Portfolio Management	2

SEMESTER IV				
Sl. No.	Course Type	Course Code	Course Name	Credit
1.	Discipline Core Course	M23EC11DC	Econometrics	4
2.	Discipline Core Course	M23EC12DC	Kerala Economy	4
3.	Discipline Specific Elective Course (DSE 3) (Choose any one)	M23EC05DE	Industrial Economics	4
		M23EC06DE	Gender and Development	4
4.	Skill Enhancement Compulsory Course	M23EC02SC	Artificial Intelligence and Machine Learning	2
5.	Dissertation/Project work	M23EC01DP	Dissertation	4

Evaluation:

The evaluation of the programme will be based on two aspects:

1. Continuous Internal Evaluation (CIE)
2. End Semester Examination (ESE)

Out of the total assessment marks of 100, 30 is allocated to CIE and 70 to ESE

CIE has two components viz. Descriptive Assignment and Analytical Assignment carrying 15 marks each.

Programme Outcomes

PO1: Critical thinking

- Analyze information objectively and make a reasoned judgment.
- Draw reasonable conclusions from a set of information to solve problems or make decisions.
- Identify logical flaws in the arguments of others

PO2: Problem-solving

- Analyze a problem, generate and implement a solution and to assess the success of the Plan
- Understand how the solution will affect both the people involved and the surrounding Environment
- Apply the learning to real-life situations to solve different kinds of problems in familiar and no-familiar contexts

PO3: Communication and Presentation Skills:

- Demonstrate the ability to listen and read attentively,
- express ideas with clarity in both oral and written communications as well as effective presentations.

PO4: Teamwork and Leadership:

- Work collaborately in interdisciplinary and multi-cultural teams,
- Demonstrating leadership and responsibility in professional and civic settings.

PO5: Research and Inquiry Skills:

- Design, conduct independent research using appropriate methods, tools and ethical standards to contribute to knowledge generation or practical solution

PO6: Digital and technological skills

- Use ICT in a variety of learning and work situations
- Use appropriate software for analysis of data
- Understand the pitfalls in the digital world and keep safe from them

PO7: Ethical, Social and Environmental Awareness:

- Demonstrate awareness of ethical principles, social responsibilities, and sustainable practices in personal, academic, and professional life.

PO8: Learning 'how to learn' skills

- Acquire new knowledge and skills, including 'learning how to learn skills, that are necessary for pursuing learning activities throughout life, through self-paced and self- directed learning
- Identify appropriate resources required for further learning
- Inculcate a healthy attitude to be a lifelong learner

PO9: Global Perspective:

- Develop a broad awareness of global issues and an understanding of diverse perspective
- Analyse the political, economic, social, technological, and environmental factors influencing global organizations and markets
- Develop the ability to adapt to new scientific developments and technologies in a globalized environment.

Programme Specific Outcomes (PSO) for MA Economics

Upon successful completion of the MA Economics programme, the student will be able to:

1. **PSO 1:** Critically evaluate advanced theories in microeconomics, macroeconomics, and developmental economics to understand their underlying assumptions and policy implications.
2. **PSO 2:** Create and interpret sophisticated econometric models to test economic hypotheses and forecast future trends using appropriate software.
3. **PSO 3:** Design and execute an independent research project by formulating a clear research question, synthesising academic literature, and analysing complex data.
4. **PSO 4:** Analyse the rationale, design, and consequences of public policies, and propose evidence-based policy alternatives.
5. **PSO 5:** Analyse the structural features, sectoral performance, and contemporary policy challenges of the Indian economy within a global framework.
6. **PSO 6:** Synthesise specialised knowledge from various fields of applied economics to develop a nuanced perspective on specific economic issues.
7. **PSO 7:** Communicate complex economic arguments, research findings, and policy recommendations clearly and effectively to both specialist and non-specialist audiences.
8. **PSO 8:** Demonstrate professional ethics in research and engage in self-directed learning by critically reviewing contemporary academic literature.

Semester - I

M23EC01DC

MICROECONOMICS I

CREDITS - 4

Course Objectives:

1. To familiarise with various theories of consumer behaviour and apply them in real life situations
2. To acquaint the learners with producer behaviour, production functions, cost functions, and market structure under microeconomic theory.
3. To get an understanding on game theory and its different forms

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate various pragmatic and dynamic theories of demand and analyze consumer choice under conditions of risk and uncertainty.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO2	Analyze different empirical production functions and evaluate the modern theories of cost, including the concepts of learning curves and economies of scope.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO3	Analyze the strategic decision-making of firms in oligopolistic markets by applying the principles of game theory.	L4 (Analyze)	PSO 1, PSO 4, PSO 6, PSO 7
CO4	Critically evaluate the neoclassical theory of the firm and compare it with alternative managerial and behavioral theories of the firm.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK-1 Theory of Consumer Behaviour
Unit-1-Pragmatic Approach to Demand Theory
The Pragmatic Approach to Demand Theory - Constant Elasticity Demand Function - Dynamic Versions of Demand Function - Nerlove, Houthakker and Taylor - Linear expenditure system.

Unit-2-Consumer Choices Involving Risk and Uncertainty
Consumer Choices Involving Risk and Uncertainty, Time and Characteristics -Bernoulli Hypothesis, Neumann and Morgenstern Index, Friedman and Savage hypothesis

Unit 3: Case Studies of Elasticities of Demand and Consumer Surplus
Case Studies - Elasticity of Demand - Consumer surplus

BLOCK- 2 Production and Cost Analysis
Unit- 1:Production Function

Production function - homogeneous and non-homogeneous production functions - technical progress and production function - capital deepening, labour deepening and neutral technical progress - exogenous and endogenous technical progress

Unit-2: Empirical Production Functions
Empirical production functions - Cobb-Douglas Production Function - Constant Elasticity Substitution Production Function—Variable Elasticity of Substitution (VES) Production Function-- Homothetic Production Function

Unit-3: Modern Cost Theory
Modern Cost Theory - The L shape Scale curve- Engineering production function and Engineering cost curves (with illustration) - Learning Curve- Returns to Scope

Unit -4: Case Studies of Cobb-Douglas Production Functions
Case Studies - Different production functions

BLOCK-3 Market Structures
Unit-1: Monopoly
Monopoly - price discrimination - international price discrimination and dumping – intertemporal price discrimination and peak load pricing - two-part tariff - tying and bundling

Unit-2: Monopolistic competition
Monopolistic competition- Chamberlin's (large group) model - equilibrium with new firms entering the industry- excess capacity – markup over marginal cost - debate over advertising.

Unit-3: Oligopoly and Theory of Games
Oligopoly- Non-collusive oligopoly - Cournot's duopoly, Bertrand duopoly, Chamberlin's small group model - Collusive oligopoly - cartels – price leadership models - Theory of Games - Strategies - Static Games & Dynamic Games- Zero-Sum Game & Non-Zero-Sum Game - Prisoner's Dilemma - Nash Equilibrium

Unit 4: Case Studies of Different Market Structures
Case Studies - Imperfect Markets - Game Theory - Nash Equilibrium - Price Setting Problems

BLOCK-4 Managerial Theories of the Firm
Unit-1: A Critical Analysis on Neoclassical Theory of Firms
Critique of Neoclassical Theory of Firms - basic assumptions of neo classical theory – Hall and Hitch Report and full cost pricing principle – Gorden's attack on marginalism

Unit-2: Pricing Models
Average cost models - Bain's limit pricing – the models of Sylos – Labini

Unit-3: Managerial Decision-Making and Organisational Behaviour
Baumol's Sales maximisation – Marris model of managerial enterprise – Williamson's managerial discretion - Basic ideas of Behavioural Model of Cyert and March

Unit - 4: Case Studies of Full Cost Pricing and CEO Payments
Case Studies - full-cost pricing - CEO Payments

Essential Readings

1. Koutsoyiannis, A. (2013). *Modern Microeconomics*. Macmillan Press.
2. Pindyck, R. S., Rubinfeld, D. L., & Mehta, P. L. (n.d.). *Microeconomics* (6th ed.). Pearson Education.
3. Salvatore, D. (2009). *Principles of Microeconomics*. Oxford University Press.
4. Snyder, C., & Nicholson, W. (2012). *Microeconomic Theory: Basic Principles and Extensions* (11th ed.). Cengage Learning.
5. Varian, H. R. (2010). *Intermediate Microeconomics: A Modern Approach* (10th ed.). East–West Press.

Additional Readings

1. Gravelle, H., & Rees, R. (2004). *Microeconomics* (3rd ed.). Pearson Education Limited.
2. Krugman, P., & Wells, R. (2005). *Microeconomics*. Worth Publishers.
3. Mankiw, G. N. (2012). *Principles of Microeconomics* (6th ed.). Cengage Learning.
4. Perloff, J. M. (2012). *Microeconomics* (6th ed.). Pearson Education.
5. Serrano, R., & Feldman, A. M. (2013). *A Short Course in Intermediate Microeconomics With Calculus*. Cambridge University Press.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✗	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✗	✗	✓	✓	✓
CO4	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	2	-	3	2	2	3	3	2	-	1	-	2	2	1
CO2	3	-	1	2	-	3	2	2	3	3	2	-	1	-	2	2	1
CO3	3	-	-	2	-	2	2	-	3	3	2	-	-	-	1	1	1
CO4	3	-	2	2	-	3	3	3	3	3	3	-	2	-	2	3	1

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23EC02DC

MACROECONOMICS I

CREDITS - 4

Course Objectives:

1. To provide learners with a sound understanding of macroeconomic theory to analyse current economic issues.
2. To analyse the Classical and Keynesian theories of employment and output
3. To critically comprehend the theories of inflation and unemployment
4. To familiarise with various theories of demand and supply of money.

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the classical and Keynesian theories of output and employment and analyze the effectiveness of fiscal and monetary policies using the IS-LM framework.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Critically compare various theories of consumption and investment and analyze their implications for macroeconomic fluctuations.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO3	Analyze the theoretical foundations of the demand for money and evaluate the determinants and control of the money supply.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO4	Critically evaluate the relationship between inflation and unemployment using the Phillips Curve and analyze the role of expectations in modern macroeconomic theories.	L5 (Evaluate)	PSO 1, PSO 2, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO5	Analyze the new microeconomic theories of the labor market, including search and matching theories.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7

COURSE DETAILS

BLOCK 1 Classical Versus Keynesian Approach
Unit-1: Classical and Keynesian Theories of Employment and Output
Classical and Keynesian theories of employment and output.

Unit-2: IS-LM Model
Neoclassical Synthesis - IS-LM Model for three & four sectors - Effectiveness of Fiscal and Monetary policies - AD-AS Framework

Unit 3: Case Studies on Effectiveness of IS-LM Models

Case Studies- effectiveness of IS-LM model - response of the Federal Reserve to the 2008 financial crisis

BLOCK 2 Theories of Consumption and Investment

Unit-1: Theories of Consumption Function

Consumption Demand – Kuznets Consumption Puzzle – Absolute Income Hypothesis- Drift Hypothesis of Smithies and Relative Income Hypothesis - Permanent Income Hypothesis Life Cycle Hypothesis - Robert Hall's Random Walk Hypothesis.

Unit-2: Theories of Investment

Investment Demand – Keynesian Approach – MEC – Lags in Investment demand - Accelerator theory of Investment- Capital Stock Adjustment Principles - Interaction of accelerator and multiplier -Jorgenson's Neoclassical Investment Model. Financial theory of investment determination- Modigliani-Miller Theory- Tobin's Q ratio - Post Keynesian Approaches.

Unit 3: Case Studies of Consumption and Investment Theories

Case Study - The Life Cycle Hypothesis and Consumption Patterns of Aging Populations - Analysing the Impact of Financial Market Imperfections on Investment Demand

BLOCK 3 Demand and Supply of Money

Unit-1: Classical Approach to Demand for Money

Classical approach to demand for money- Quantity theory approaches - Fisher's equation - Cambridge quantity theory - Keynes' liquidity preference approach

Unit-2: Approaches to Demand for Money

Post Keynesian approaches to demand for money - Friedman's restatement of Quantity theory of money, -Approaches of Baumol and Tobin - Real Balance Effect - Patinkin and Pigou

Unit-3: Supply of Money

Measures of money supply - The H theory of money supply- Behavioural and endogenous money supply models- Money multiplier process and its determination - Control of Money supply- Methods of Monetary Control- RBI Approach - High Powered Money- Inside and Outside Money

BLOCK 4 Theories of Inflation and Unemployment

Unit-1: Inflation and the Phillips Curve

Inflation - Inflation-unemployment trade off - Phillips Curve – Short run, Long run Phillips Curve -The Natural Rate of Unemployment Hypothesis

Unit 2: Role of Expectations and Theories of Inflation

Role of Expectations- Adaptive Expectation Hypothesis – Rational Expectations hypothesis - Expectations Augmented Phillips Curve - NAIRU - Tobin's View - Monetarist theory of Inflation - Structuralist theory of Inflation - Stagflation - Cost of Inflation- Strategies to control inflation.

Unit-3: New Microeconomic Theories of Labour Market

The new microeconomic theories of labour market - Search theory - DMP (Diamond, Mortenson, Pissarides) model - Matching theory.

Essential Readings

1. Dornbusch, R., Fischer, S., & Startz, R. (2007). *Macroeconomics* (7th ed.). McGraw-Hill.
2. Froyen, R. T. (1990). *Macroeconomics: Theory and Policy*. Macmillan Publishing Co.
3. Levacic, R., & Rebmann, A. (n.d.). *Macroeconomics: An Introduction to Keynesian-Neoclassical Controversies*. The Macmillan Press Ltd.
4. Mankiw, N. G. (2016). *Macroeconomics*. Worth Publishers.
5. Snowdon, B., Vane, H. R., & Wynarczyk, F. (n.d.). *A Modern Guide to Macroeconomics: An Introduction to Competing Schools of Thought*. Edward Elgar Publishing.

Additional Readings

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*. Macmillan.
2. Andrew, B. P., & Bernanke, B. S. (n.d.). *Macroeconomics*. Pearson Education.
3. Culbertson, J. M. (n.d.). *Macroeconomic Theory and Stabilisation Policy*. McGraw-Hill.
4. Dasgupta, A. K., & Hagger, A. J. (1971). *The Objectives of Macroeconomic Policy*. Macmillan.
5. Denberg, T. F. (1985). *Macroeconomics: Concepts, Theories and Policies*. McGraw-Hill.
6. Diulio, E. (n.d.). *Theory and Problems of Macroeconomics*. Schaum's Outline Series. McGraw-Hill.
7. Friedman, M. (n.d.). *Studies in the Quantity Theory of Money*. University of Chicago Press.
8. Gordon, R., & Harris, S. G. (n.d.). *Macroeconomics*. Addison-Wesley.
9. Keynes, J. M. (1961). *The General Theory of Employment, Interest and Money*. Macmillan.

10. Piston, M. H. (1974). *Theory of Macroeconomic Policy*. Philip Allan.
11. Prachowny, M. F. J. (1994). *The Goals of Macroeconomic Policy*. Routledge.
12. Salvatore, D. (1990). *International Economics*. Macmillan.
13. Shapiro, E. (1994). *Macroeconomic Analysis*. Galgotia Publications.
14. Sodersten, B. (1994). *International Economics*. Macmillan.
15. Venieris, Y. P., & Sebold, F. D. (n.d.). *Macroeconomic Models and Policy*.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO5	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✓	✗

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	3	2	3	3	2	3	3	3	-	1	1	2	3	3
CO2	3	-	1	2	2	3	2	-	3	3	2	-	1	-	2	3	2
CO3	3	-	-	3	2	2	2	-	3	3	2	-	1	1	2	3	2
CO4	3	1	2	3	3	3	3	2	3	3	3	-	2	2	2	3	3
CO5	3	-	1	2	1	2	2	-	3	2	2	-	1	-	1	2	-

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

M23ECO3DC

INDIAN ECONOMY

CREDIT - 4

Course Objectives:

1. To understand the structure and nature of the Indian economy
2. To critically evaluate economic reforms since 1991.
3. To comprehend development issues, challenges and policies of Indian economy

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the structural characteristics and transformations of the Indian economy from the colonial period to the present, focusing on planning, demographic shifts, and challenges like poverty and inequality.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Analyze the performance, policy frameworks, and challenges of India's agricultural, industrial, and service sectors.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO3	Critically evaluate the rationale, implementation, and impact of economic reforms in India since 1991, with a focus on industrial, financial, and fiscal sectors.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Analyze India's external sector reforms, the evolution of its foreign trade policy, and the impact of recent developments like demonetization and digital initiatives.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO5	Synthesize knowledge of India's economic development to analyze contemporary policy challenges within a global framework.	L4 (Analyze)	PSO 1, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

Block 1 Introduction to Indian Economy
Unit 1: Indian Economy During the British Period
Indian Economy during the British Period - Drain Theory – Sectoral composition of GDP

Unit 2: Economic Planning
Mixed Economy- Historical background of Planning - Bombay Plan - Planning Commission and Five Year Plans - NITI Aayog

Unit 3: Demographic Features
Demographic features of Indian population - population policy - Demographic dividend - rural-urban migration - Urbanisation

Unit 4: Poverty, Unemployment, Inequality and Regional Disparity in India
Poverty – various poverty estimations - Policies and Programmes of Poverty Alleviations - Unemployment – unemployment estimation- Rural-Urban and Female-Male Unemployment Trends - Causes of Unemployment in India - Inequality -State of Inequality in India Report, 2022 - Regional disparities in India.

Block 2 Sectoral Developments
Unit 1: Sectoral Composition of GDP
GDP - Sectoral contribution of Agricultural, Industrial and Service sectors

Unit 2: Advancements in Indian Agriculture
Agricultural development in India – Land Reforms – Green Revolution, White Revolution, Yellow Revolution – Globalisation and Indian Agriculture - WTO - Support Systems in Agriculture - Crop Insurance - Minimum Support Price system – Subsidies – Public Distribution System - NFSA, 2013 - APMC

Unit 3: Industrial Development in India
Industrial Development in India – Industrial policies since 1991 – Public Private Partnership - MSMEs

Unit 4: Service Sector Development in India
Service Sector Development in India – Trade - Hotel - Transport - Communication - Financial - Real Estate - Public Administrations - Defence and other services.

Block 3 Era of Economic Reforms
Unit 1: First Wave of Liberalisation and Stabilisation Policies
First wave of liberalisation in 1980's - SAP and Stabilisation policies -1991 Economic Crisis

Unit 2: Industrial Sector Reforms
Industrial sector reforms - Liberalisation and Privatisation - FDI - Disinvestment policy

Unit 3: Financial Sector Reforms in India
Financial Sector Reforms in India - Banking Sector Reforms - Narasimham Committee Report, 1991 and 1998 - Mission Indradhanush - financial inclusion - JAM Trinity - Major reforms in Insurance - Pension - Stock market - NCLT - FSLRC

Unit 4: Fiscal and Tax Reforms
Major Fiscal and Tax Reforms – FRBM- GST - Insolvency and Bankruptcy Code (IBC) - Corporate Tax Rate Reduction - Benami Transactions (Prohibition) Act

Block 4 External Sector Reforms and Recent developments
Unit 1: External Sector Reforms
External sector reforms-composition and directions of India's foreign trade - MEIS - SEIS - CECA - Act East Policy - RCEP

Unit 2: Merger of Public Sector Banks
Merger of PSU Banks - Payments Banks - Implementation of Basel III Norms

Unit 3: Recent Developments in Indian Economy
Other Recent developments- Demonetisation - Digital India initiatives- Asset monetization pipeline

Essential Readings

1. Ahluwalia, I. J., & Little, I. M. D. (Eds.). (1999). *India's Economic Reforms and Development: Essays in Honour of Manmohan Singh*. Oxford University Press.
2. Government of India. (Annual). *Economic Survey*. Ministry of Finance. http://indiabudget.nic.in/
3. Jalan, B. (1992). *The Indian Economy: Problems and Prospects*. Viking.
4. Kapila, U. (Ed.). (2016). *Indian Economy Since Independence: A Comprehensive and Critical Analysis of India's Economy 1947–2016*. Academic Foundation.

Additional Readings

1. Ahluwalia, M. S. (2002). Economic reforms in India since 1991: Has gradualism worked? *Journal of Economic Perspectives, 16*(3), 67–88.
2. Banik, N. (2015). *The Indian Economy: A Macro Economic Perspective*. Sage Publications.
3. Basu, K. (Ed.). (2004). *India's Emerging Economy*. Oxford University Press.
4. Bhagwati, J., & Panagariya, A. (2012). *Reforms and Economic Transformation in India*. Oxford University Press.
5. Bhattacharya, A., & Marjit, S. (Eds.). (2004). *Globalization and Developing Economies: Theory and Evidence*. Manohar.
6. Brahmananda, P. R., & Panchamukhi, V. A. (Eds.). (2001). *Development Experience in Indian Economy: Interstate Perspectives*. Bookwell.
7. Chakravarthi, S. (1996). *Development Planning: The Indian Experience*. Oxford University Press.
8. Chandrasekhar, C. P., & Tilak, J. B. G. (Eds.). (2001). *India's Socio-Economic Database: Surveys of Selected Areas*. Tulika.
9. Chugh, R. L., & Uppal, J. S. (1985). *Black Income in India*. Tata McGraw Hill.
10. Jha, R. (Ed.). (2003). *Indian Economic Reforms*. Palgrave Macmillan (Hampshire, U.K.).
11. Joshi, V., & Little, I. M. D. (1999). *India: Macroeconomics and Political Economy, 1964–1991*. Oxford University Press.
12. Krueger, A. O. (Ed.). (2002). *Economic Policy Reforms and the Indian Economy*. Oxford University Press.
13. Mishra, R. K., & Trivikraman, K. (Eds.). (2013). *The Global Financial Crisis: Challenges and Opportunities*. Academic Foundation.
14. Panagariya, A. (2004). *India in the 1980s and 1990s: Triumph of Reforms* (IMF Working Paper No. WP/04/43). International Monetary Fund.
15. Prakash, B. A. (Ed.). (2012). *The Indian Economy Since 1991: Economic Reforms and Performance*. Pearson.
16. Reddy, R. C. (2017). *Demonetization and Black Money*. Orient BlackSwan.
17. Sury, M. M., & Mathur, V. (2013). *Five Year Plans of India: From First Five Year Plan (1951–52 to 1955–56) to Twelfth Five Year Plan (2012–13 to 2016–17)* (Vol. 1). New Century Publications.
18. Balakrishnan, P. (Ed.). (2012). *Economic Reforms and Growth in India*. Orient BlackSwan.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO2	3	-	1	3	3	2	3	-	3	3	3	-	1	1	2	2	2
CO3	3	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO4	3	-	1	3	3	2	3	-	3	3	3	-	1	2	2	2	3
CO5	3	1	3	3	3	3	3	3	3	3	3	-	3	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

M23ECO4DC

QUANTITATIVE METHODS FOR ECONOMICS I

CREDITS - 4

Course Objectives:

1. To develop a strong understanding of differential and integral calculus.
2. To learn the application of optimization techniques to solve real-world economic problems.
3. To gain proficiency in the theory of statistical inference and estimation theory.
4. To critically understand the procedures of hypothesis testing.

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Apply the principles of differential and integral calculus to solve economic problems involving marginal analysis, elasticity, and producer/consumer surplus.	L3 (Apply)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO2	Apply various optimization techniques, including constrained optimization and linear programming, to model and solve economic decision-making problems.	L3 (Apply)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO3	Analyze the properties of statistical estimators and apply different methods of estimation to determine population parameters.	L4 (Analyze)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Formulate and test economic hypotheses using appropriate parametric and non-parametric statistical tests.	L6 (Create)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8
CO5	Evaluate the appropriateness of different quantitative methods for analyzing specific economic questions.	L5 (Evaluate)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS
Block 1: Differential and Integral calculus
Unit 1 : Concept of Sets
Concept of Sets -Relation between Sets - Operation on Sets - Relations and Functions - Ordered Pairs - Different types of functions - Constant Linear, Quadratic, Cubic, Polynomial, Exponential and logarithmic functions - graphs - linear functions in Economics - limit of a function - continuity of a function - Derivative of a function - Rules of Differentiation

Unit 2 : Derivatives
Higher order derivatives - differentiation of logarithmic functions, exponential functions and implicit functions

Unit 3 : Applications of Derivatives
Application of Derivatives- rate of change- slope of a curve- Marginal concepts related to demand, supply, cost, revenue and production functions - Maxima and minima- Economic applications

Unit 4 : Integration
Rules of integration - Integration by Substitution – Integration by Parts – Applicability of integration in Economics - consumer's and producer's surplus

Block 2: Optimisation
Unit 1: Optimisation of Functions
Concavity and Convexity - Optimisation of single and multi- variable functions

Unit 2 : Lagrange Multiplier
Constrained optimisation with Lagrange Multiplier - Significance of Lagrange Multiplier

Unit 3 : Economic Applications
Economic applications - Utility Maximisation - Cost Minimisation and Profit Maximisation

Unit 4 : Linear Programming
Linear programming -Characteristics of Linear Programming Problem (LPP) - Formulation of LPP - Solution of LPP using Simplex method – Duality

Block 3 : Estimation Theory
Unit 1 : Statistical Inference
Statistical Inference - Concept of population, sample - Sampling distributions - Law of large numbers and Central Limit Theorem - Standard error

Unit 2 : Sampling Distribution
Distributions of sample mean - Sample variance - chi square, Student's t and F distributions

Unit 3 : Estimations of Parameters
Small and large sample properties of Z, t, Chi Square and F- Estimations of populations parameters- point and interval estimation- Fisher's properties of estimators

Unit 4 : Methods of Estimation
Confidence interval for Mean and Proportion and variance- Methods of estimation-Methods of least squares, Method of maximum likelihood

Block 4 : Hypothesis Testing
Unit 1 : Testing of Hypothesis
Hypothesis - simple and composite hypothesis - Null and alternative hypothesis - Testing of hypothesis- Parametric and Non-parametric tests of Hypothesis

Unit 2 : Concepts of Hypothesis Testing
Type I and Type II error, Critical region- Level of significance, Power of a test- Test procedure

Unit 3 : Test of Significance
Test of significance in respect of Mean, Proportion, Variance and Correlation coefficient and their differences -Chi Square test of goodness of fit, and test for independence of attributes

Unit 4 : Non-Parametric Tests

Non parametric tests - sign test, Wilcoxon- Mann Whitney U Test, Signed rank test, Kruskal Wallis test, Wald-Wolfowitz test – Analysis of Variance (ANOVA)

Essential Readings

1. Allen, R. G. D. (2008). *Mathematical Analysis for Economists*. AITBS Publishers.
2. Anderson, D., Sweeney, D., & Williams, T. (2013). *Statistics for Business and Economics*. Cengage Learning.
3. Chiang, A. C. (2008). *Fundamental Methods of Mathematical Economics* (4th ed.). McGraw Hill.
4. Dowling, T. E. (2000). *Schaum's Outline of Introduction to Mathematical Economics*. McGraw Hill.
5. Goon, A. M., Gupta, M. K., & Das Gupta, B. (2002). *Fundamentals of Statistics* (Vol. 1). World Press.
6. Gujarati, D. N., & Sangeetha, N. (2007). *Basic Econometrics* (4th ed.). McGraw Hill.
7. Yamane, T. (2012). *Mathematics for Economists: An Elementary Survey*. Prentice Hall of India.

Additional Readings

1. Archibald, G. C., & Lipsey, R. G. (1984). *Introduction to Mathematical Treatment of Economics*. Wiedenfeld & Nicolson.
2. Baumol, W. J. (2003). *Economic Theory and Operations Analysis*. Prentice Hall.
3. Dowling, E. T. (2007). *Introduction to Mathematical Economics*. Schaum's Outline Series, McGraw Hill.
4. Hadley, G. (1969). *Linear Programming*. Addison-Wesley Publishing Co.
5. Henderson, J. M., & Quandt, R. E. (1980). *Microeconomic Theory: A Mathematical Approach*. McGraw Hill.
6. Hoy, M., & John, L. (2004). *Mathematics for Economics*. PHI Learning.
7. Prasad. (2005). *Mathematical Method of Input Output Analysis*. Mahamaya Publishing.
8. Yan. (1969). *Introduction to Input-Output Economics*. Holt, Rinehart and Winston.
9. Yamane, T. (2001). *Mathematics for Economists: An Elementary Survey*. Prentice Hall of India.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✗
CO2	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✗
CO3	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗
CO4	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	3	-	2	-	2	2	-	3	3	2	-	3	2	-	2	-
CO2	3	3	-	2	-	2	2	-	3	3	2	-	3	2	-	2	-
CO3	2	3	3	2	-	2	3	2	3	3	3	-	3	3	2	3	-
CO4	2	3	3	2	-	2	3	2	3	3	3	-	3	3	2	3	-
CO5	3	3	3	3	2	3	3	3	3	3	3	-	3	3	3	3	2

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

ABILITY ENHANCEMENT COMPULSORY COURSE - DISCIPLINE SPECIFIC

M23ECO1AC (DS)
SOFTWARE PACKAGES FOR ECONOMIC ANALYSIS (SPREADSHEET)

CREDITS - 2

Course Objectives:

1. To enable learners to develop a high level of proficiency in utilising spreadsheet application.
2. To provide learners with essential skills and techniques for data entry, manipulation, and visualisation in Excel.
3. To equip learners with the knowledge and abilities to perform descriptive analysis, inferential analysis, and regression analysis using Excel.
4. To equip learners with practical application of statistical concepts.

Course Outcome

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Apply advanced spreadsheet functions for data manipulation, cleaning, and visualization.	L3 (Apply)	PSO 2, PSO 3, PSO 6, PSO 7
CO2	Analyze datasets by generating descriptive statistics and creating pivot tables to summarize information effectively.	L4 (Analyze)	PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7
CO3	Apply inferential statistical techniques, including t-tests and chi-square tests, to perform hypothesis testing on economic data.	L3 (Apply)	PSO 2, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Create and interpret regression models within the spreadsheet environment to analyze the relationship between economic variables.	L6 (Create)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7
CO5	Apply advanced problem-solving tools, such as Solver, to model and solve optimization problems.	L3 (Apply)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7

Course Details
Block 1: Excel Basics and Data Manipulation
Unit 1: Introduction to Microsoft Excel
Overview of Excel interface and features - Understanding workbooks, worksheets, and cells - Navigating and selecting data in Excel - Entering data and formulas in cells - Formatting cells, rows, and columns - Using basic formatting options (font, alignment, borders)

Unit 2 : Fundamentals of Data in Excel
Sorting data in Excel - Filtering and advanced filtering - Using data validation to control input - Understanding basic formulas and operators - Working with built-in functions (SUM, AVERAGE, COUNT, IF, etc.) - Using absolute and relative cell references

Unit 3 : Introduction to Data Visualisation and Analysis

Using conditional formatting for data visualisation - Creating and modifying charts - Introducing pivot tables and pivot charts

Block 2: Descriptive Analysis, Inferential Analysis, and Regression
Unit 1 : Data Analysis and Visualisation
Generating descriptive statistics using Excel functions - Creating advanced charts and graphs - Using data analysis tools (histograms, scatter plots, etc.) - Applying formatting options to enhance visual representation

Unit 2 : Statistical Analysis and Regression in Excel
Introduction to hypothesis testing - Conducting t-tests for means comparison - Performing chi-square tests for categorical data - Building regression models in Excel - Analyzing regression results and interpreting coefficients

Unit 3 : Excel for Advanced Problem Solving and Analysis

Introduction to optimization problems - Using Solver tool for goal-seeking and optimization - Applying Solver to real-world scenarios - Using advanced functions (VLOOKUP, INDEX-MATCH, etc.) - Incorporating logical functions (IF, AND, OR) in analysis - Exploring array formulas and dynamic arrays

Essential Readings

1. Etheridge, D. (2010). *Excel Data Analysis: Your Visual Blueprint for Analyzing Data, Charts, and PivotTables*. Wiley.
2. Foreman, J. W. (2013). *Data Smart: Using Data Science to Transform Information Into Insight*. Wiley.
3. Frye, C. (2019). *Microsoft Excel 2019 Step by Step*. Microsoft Press.
4. McFedries, P. (2022). *Excel Data Analysis for Dummies*. John Wiley & Sons.
5. Middleton, M. R. (2000). *Data Analysis Using Microsoft Excel*. Duxbury.

Additional Readings

1. Albright, S. C., & Winston, W. L. (2014). *Data Analysis and Decision Making*. Cengage Learning.
2. Alexander, M. (2016). *Excel Power Pivot & Power Query for Dummies*. Wiley.
3. Berk, K. N., & Carey, P. M. (2003). *Data Analysis With Microsoft Excel: Updated for Office 365*. Duxbury Press.
4. Harvey, G. (2019). *Excel 2019 All-in-One for Dummies*. Wiley.
5. Microsoft. (n.d.). *Excel*. Microsoft 365. https://www.microsoft.com/en-us/microsoft-365/excel
6. Excel Easy. (n.d.). *Excel Tutorials*. https://www.excel-easy.com/
7. ExcelJet. (n.d.). *Excel Tutorials and Examples*. https://exceljet.net/
8. ExcelIsFun. (n.d.). *ExcelIsFun* [YouTube channel]. YouTube. https://www.youtube.com/user/ExcelIsFun
9. MyExcelOnline. (n.d.). *MyExcelOnline* [YouTube channel]. YouTube. https://www.youtube.com/user/MyExcelOnline
10. Excel Campus. (n.d.). *Excel Campus* [YouTube channel]. YouTube. https://www.youtube.com/user/ExcelCampus
11. Excel on Fire. (n.d.). *Excel on Fire* [YouTube channel]. YouTube. https://www.youtube.com/c/ExcelonFire

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓
CO2	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO5	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✗

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	-	3	3	-	-	2	3	-	3	3	3	-	3	3	-	3	1
CO2	-	3	3	2	2	2	3	-	3	3	3	-	3	3	1	3	2
CO3	-	3	3	2	-	2	3	2	3	3	3	-	3	3	2	3	1
CO4	2	3	3	2	2	2	3	-	3	3	3	-	3	3	2	3	2
CO5	2	3	-	2	-	2	2	-	3	3	2	-	3	3	-	2	-

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

Semester - II

M23ECO5DC

MICROECONOMICS II

CREDITS - 4

Course Objectives:

1. To understand the efficiency condition of competitive equilibrium and its welfare implications
2. Critically understand the fundamental theorems of Welfare economics.
3. Understand the social welfare function and Pareto criteria.
4. To familiarise with the theories of distribution
5. To acquaint the students with the externalities associated with public goods.
6. Analyse decision making of consumer under risk and uncertainty with special emphasis on insurance choice and provide tools for measuring risk and risk aversion.
7. Examine the issues of moral hazard and adverse selection arising from asymmetric information in the real world and how it leads to market failure.
8. Understand how externalities lead to market failure and the issue of under provisioning of public goods

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate both micro and macro theories of distribution to analyze the determination of factor prices.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Analyze the conditions for general equilibrium and critically evaluate various welfare criteria, including Pareto optimality and Sen's capability approach.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO3	Analyze how externalities and public goods lead to market failure and evaluate potential solutions like the Coase theorem and Lindahl pricing.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Analyze individual decision-making under risk and uncertainty, with a focus on the economics of insurance.	L4 (Analyze)	PSO 1, PSO 4, PSO 6, PSO 7
CO5	Critically evaluate the impact of asymmetric information on markets, analyzing problems such as adverse selection and moral hazard.	L5 (Evaluate)	PSO 1, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1 Theories of Distribution

Unit 1: Micro Theories of Distributions

Micro theories of Distribution - Marginal Productivity theory - Euler's theorem and Adding up problem.

Unit 2 : Wages

Wage - Wage under Perfect and Imperfect Competition

Unit 3: Rent

Ricardian theory of Rent - Quasi-rent

Unit 4 :Theories of Interest

Theories of interest - Classical - Neo-Classical - Keynesian

Unit 5 : Profit
Dynamic theory of Profit - Schumpeter's Theory of Profits – Uncertainity theory of Risk Profits
Unit-6 : Macro Theories of Distributions
Macro theories of Distribution - Marxian theory of distribution - Kaleckian and Kaldor's theories

BLOCK 2 General Equilibrium and Welfare Economics
Unit 1 : General Equilibrium
Walrasian system - Graphical treatment of general equilibrium 2×2×2 model
Unit 2 : Welfare Theories
Welfare theories- A C Pigou, The Pareto - Optimality, Kaldor-Hicks, Bergson Samuelson, Scitovsky Double Criteria - Welfare Maximization and Perfect Competition - Arrow and Debreu Social Welfare function -Theory of second best
Unit 3 : Welfare Theories II
Arrow's impossibility theorem -Sen's Capability Theory - equity- efficiency trade off

BLOCK-3 Externalities and Public Goods
Unit 1 : Positive and Negative Externalities
Externalities - Negative and Positive externalities in consumption and production
Unit 2 : Market Failure and Externalities in Resource Allocation
Market failure - Coase theorem - Common property resources - Tragedy of commons
Unit 3 : Public Goods and Market Challenges
Public goods - market failure - Free rider problem - Pareto Efficiency - Lindahl pricing

BLOCK- 4 Economics of Uncertainty
Unit 1 : Risk and Uncertainty
Individual behaviour towards risk - measure of risk and risk aversion
Unit 2 : Risk and Insurance
Economics of insurance - risk pooling and risk spreading
Unit 3 : Asymmetric Information
The economics of search - Market with imperfect asymmetric information search - Uncertainty and the market for Lemons - Akerlof's analysis
Unit 4 : Moral Hazards - The Principal - Agent Problems
Moral Hazards - The principal - Agent problems

Essential Readings

1. Koutsoyiannis, A. (2013). *Modern Microeconomics*. Macmillan Press.
2. Pindyck, R. S., Rubinfeld, D. L., & Mehta, P. L. (n.d.). *Microeconomics* (6th ed.). Pearson Education. *(Publisher added as Pearson is standard for this edition in India.)*
3. Salvatore, D. (2009). *Principles of Microeconomics*. Oxford University Press.
4. Snyder, C., & Nicholson, W. (2012). *Microeconomic Theory: Basic Principles and Extensions*. Cengage Learning.
5. Varian, H. R. (2010). *Intermediate Microeconomics: A Modern Approach* (10th ed.). East–West Press.

Additional Readings

1. Krugman, P., & Wells, R. (2005). *Microeconomics*. Worth Publishers.

2. Mandal, R. K. (2007). *Microeconomic Theory*. Atlantic Publishers (P) Ltd.
3. Mankiw, G. N. (2012). *Principles of Microeconomics* (6th ed.). Cengage Learning.
4. Serrano, R., & Feldman, A. M. (2013). *A Short Course in Intermediate Microeconomics With Calculus*. Cambridge University Press.

CO to PSO & PO Mapping

	PSO								PO								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO4	✓	✗	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✗	✗	✓	✓	✓
CO5	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
CO1	3	-	1	2	1	3	2	2	3	3	2	-	1	-	2	2	2
CO2	3	-	1	3	-	3	3	2	3	3	3	-	1	-	3	3	2
CO3	3	-	1	3	-	3	3	2	3	3	3	-	1	-	3	3	3
CO4	3	-	-	2	-	2	2	-	3	3	2	-	-	-	2	2	1
CO5	3	-	2	3	-	3	3	2	3	3	3	-	2	-	3	3	2

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

M23ECO6DC

MACROECONOMICS II

CREDITS - 4

Course Objectives:

1. To provide a rigorous framework for understanding macroeconomics
2. To give a deep vision on macroeconomic policies, National income Accounting, as well as recent developments in the field.
3. To introduce the student to the economics of Keynes and further to IS LM analytics.
4. Differentiate the perspectives of New Classical Economics from Real Business Cycle theories

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the design and effectiveness of macroeconomic policies, including the debate between rules versus discretion and the impact of policy lags.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Compare and contrast various theories of business cycles, including the models of Samuelson, Hicks, Kaldor, and the Real Business Cycle (RBC) theory.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Critically evaluate the evolution of modern macroeconomic thought by analyzing the contributions and debates between the Monetarist and New Classical schools.	L5 (Evaluate)	PSO 1, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Analyze the core tenets of New Keynesian and Supply-Side economics, focusing on their explanations for phenomena like wage-price stickiness and the role of expectations.	L4 (Analyze)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8

COURSE DETAILS
BLOCK 1 Macroeconomic Policy
Unit 1 : Introduction to Macroeconomic Policy
Macroeconomic policies - Target variable and instrument variable
Unit 2 : Monetary Policy Frameworks
Monetary policy – Rules versus discretion - The Taylor rule-Time inconsistency of policy-Monetary targeting and inflation targeting
Unit 3 : Fiscal Policy, Policy Lags and the Budget Deficit
Fiscal policy- Policy lags - Inside and outside lags- budget deficit

BLOCK 2 National Income Accounting and Business Cycle
Unit 1 : National Income and Business Cycle Theories
National Income – Difficulties in the measurement Phases of Business Cycles- Theories of Business cycle: Sun-Spot Theory; Hawtrey Theory of Business Cycles
Unit 2 : Business Cycle Models

Business cycles models of Samuelson, Hicks, Kaldor
Unit 3 : Real Business Cycle and Kalecki's Theory of Business Cycle
Real Business Cycle theory –Kalecki's Theory of Cycles

BLOCK 3 Frontier Theories and Concepts
Unit 1 : Legacy of Keynesian Economics
Legacy of Keynesian Economics
Unit 2 : Monetarist Counter Revolution
Keynesian Counter Revolution – Monetarist
Unit 3 : New Classical Macroeconomics views of Muth, Wallas,R. E. T. Sargent, and Lucas
New Classical Macroeconomics views of Muth, Wallas, R. E. T. Sargent, and Lucas

Block 4 Post Modern Economic Discourse
Unit 1 : New Classical School of Thought and Supply Side Economics
Supply Side Economics - Wedge model - Laffer curve - The Rational Expectations Hypothesis – Continuous market clearing -The Lucas Supply Curve
Unit 2 : New Keynesian Economics
New Keynesian Economics - Imperfect Competition and Price Setting – Sticky Nominal Wages - Wage-Contract Theory -Sticky Price Model - Menu Costs and Demand Externality
Unit 3 :New Keynesian Models
Implicit wage contract model- Efficiency wage theories - Insider-outsider model, Hysteresis and the NAIRU, Policy implications

Essential Readings

1. Froyen, R. T. (1990). *Macroeconomics: Theory and Policy*. Macmillan Publishing Co.
2. Levacic, R., & Rebmann, A. (1982). *Macroeconomics: An Introduction to Keynesian–Neoclassical Controversies*. The Macmillan Press Ltd.
3. Mankiw, N. G. (2013). *Macroeconomics* (5th ed.). Worth Publishers.
4. Snowdon, B., Vane, H. R., & Wynarczyk, F. (1994). *A Modern Guide to Macroeconomics: An Introduction to Competing Schools of Thought*. Edward Elgar Publishing.

Additional Readings

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*. Macmillan.
2. Andrew, B. P., & Bernanke, B. S. (2001). *Macroeconomics*. Pearson Education.
3. Culbertson, J. M. (1974). *Macroeconomic Theory and Stabilisation Policy*. McGraw-Hill.
4. Dasgupta, A. K., & Hagger, A. J. (1971). *The Objectives of Macroeconomic Policy*. Macmillan.
5. Denberg, T. F. (1985). *Macroeconomics: Concepts, Theories and Policies*. McGraw-Hill.
6. Diulio, E. A. (1990). *Theory and Problems of Macroeconomics*. Schaum's Outline Series, McGraw-Hill.
7. Dornbusch, R., Fischer, S., & Startz, R. (1998). *Macroeconomics*. Tata McGraw-Hill.
8. Friedman, M. (1956). *Studies in the Quantity Theory of Money*. University of Chicago Press.
9. Gordon, R. J., & Harris, S. G. (1978). *Macroeconomics*. Addison-Wesley.

10. Keynes, J. M. (1961). *The General Theory of Employment, Interest and Money*. Macmillan.
11. Piston, M. H. (1974). *Theory of Macroeconomic Policy*. Philip Allan.
12. Prachowny, M. F. J. (1994). *The Goals of Macroeconomic Policy*. Routledge.
13. Salvatore, D. (1990). *International Economics*. Macmillan.
14. Shapiro, E. (1994). *Macroeconomic Analysis*. Galgotia Publications.
15. Södersten, B. (1980). *International Economics*. Macmillan.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO4	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	2	3	2	3	3	3	3	3	3	-	2	1	3	3	3
CO2	3	-	2	3	2	3	3	2	3	3	3	-	2	-	2	3	2
CO3	3	-	3	3	-	3	3	3	3	3	3	-	3	-	2	3	3
CO4	3	-	2	3	-	3	3	3	3	3	3	-	2	-	2	3	2

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23EC07DC

ECONOMIC GROWTH AND DEVELOPMENT

CREDITS - 4

Course Objectives:

1. To bring learners attention to development aspects of the world.
2. To understand the indicators and approaches to development
3. To get familiarised with the traditional theories of development
4. To be able to get introduced to theories explaining development experiences of LDCs
5. To understand the developmental issues in the economy and act on it.

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate various measures of development and inequality, and analyze the role of institutions and migration in the development process.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Critically compare classical, neoclassical, and endogenous growth models to understand the diverse determinants of economic growth.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO3	Analyze partial theories of development, including structural change models, and evaluate the strategic debates between balanced and unbalanced growth.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Analyze the structural factors affecting development and evaluate the impact of globalization, terms of trade, and institutional settings on developing countries.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS:

Block 1: Economic Growth and Development
Unit 1 : Measures of Development
Growth and Development - Multidimensional Poverty Index - Utilitarian - Social indicators - Sustainable development
Unit 2 : Understanding Income Inequality
Inequalities in income distribution -Lorenz curve and Gini coefficient - Inverted U-hypothesis
Unit 3 : Institutions and Development
Institutions and economic development - Market - State - Civil Society - Behavioural development economics - Migration and development - Todaro Model

Block 2: Theories of Growth and Development
Unit 1 : Classical Theories of Development
Classical theory - Adam Smith, Ricardo, Malthus, Marx
Unit 2 : Growth Models

Theory of Schumpeter - Harrod - Domar - Neo-Classical Model - Joan Robinson - Solow-Swan model - Convergence Hypothesis

Unit 3 : Development Theories

Mahalanobis model - Rostow's Stage Theory - Technical progress function of Kaldor - - Endogenous theories of growth – A K Model

Block 3 : Partial Theories of Growth and Development

Unit 1 : Theories of Structural Change

Structural Models - Lewis theory of development with unlimited supply of labour - Fei-Ranis theory

Unit 2 : Balanced and Unbalanced Growth Theories

Balanced growth - Rosenstein Rodan, Nurkse, and Lewis - Unbalanced Growth

Unit 3 : Equilibrium Trap and Dependency Theories

Low level equilibrium trap - Critical minimum effort thesis – dependency theories

Block 4 : Structural Aspects of Growth and Development

Unit 1 : Indicators of Development

Macro Indicators of Development - Population - Dual role – Migration –capital - Technical progress

Unit 2 : LDCs and Terms of Trade

The case of LDCs and deteriorating terms of trade – Singer – Prebisch views - Globalisation and Development

Unit 3 : Factors of Development

Political Institutions and Development – Geographical settings for Development

Unit 4 : Approaches to Development

Neo-Marxist approach - Basic principles of Neoliberalism

Essential Readings:

1. Thirlwall, A. P. (2006). *Growth and development: With special reference to developing economies*. Macmillan.
2. Todaro, M. P., & Smith, S. C. (2014). *Economic development*. Pearson Education.
3. Ray, D. (1998). *Development economics*. Princeton University Press.

Additional Readings:

1. Cooke, B., & Kothari, U. (Eds.). (2004). *Participation: The new tyranny?* Zed Books.
2. Fukuda-Parr, S., & Kumar, S. (Eds.). (2003). *Readings in human development*. Oxford University Press. *(Year assumed as it was missing; please verify.)*
3. Khan, S. R. (2014). *A history of development economics thought: Challenges and counter challenges*. Routledge.
4. Krugman, P. (1995). The fall and rise of development economics. In *Development, geography and economic theory* (Chap. 1). MIT Press.
5. Piketty, T. (2014). *Capital in the twenty-first century*. Harvard University Press.
6. Schuurman, F. J. (Ed.). (2004). *Beyond the impasse: New directions in development theory*. Zed Books.
7. Sen, A. (1999). *Development as freedom*. Oxford University Press.
8. Shorrocks, A., & van der Hoeven, R. (Eds.). (2004). *Growth, inequality and poverty*. Oxford University Press.
9. Stiglitz, J. E. (2002). *Globalisation and its discontents*. W. W. Norton & Company.

10. UNDP. (1991, 1994, 1995, 1997, 2000, 2010). *Human development report*. United Nations Development Programme.
(Note: You may list each year separately with full titles, or cite as a group like this.)
11. World Bank. (2015). *World development report 2015: Mind, society, and behaviour*. World Bank Publications.

CO to PSO & PO Mapping

	PSO								PO								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
CO1	3	-	2	3	3	3	3	2	3	3	3	-	2	1	3	3	3
CO2	3	-	2	3	-	3	3	2	3	3	3	-	2	-	2	3	3
CO3	3	-	2	3	2	3	3	2	3	3	3	-	2	-	2	3	3
CO4	3	-	2	3	3	3	3	2	3	3	3	-	2	-	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23ECO8DC
INTERNATIONAL ECONOMICS

CREDITS - 4

Course Objectives:

1. To get basic understanding on fundamental concepts of international trade
2. To get introduced to theories of trade
3. To develop knowledge on various concepts related to free trade and protectionism
4. To be aware of theories related to imposition of tariff
5. To know about Foreign Exchange Market and concepts related to it

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate traditional and modern theories of international trade, including the Heckscher-Ohlin model and its empirical challenges.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Analyze the economic effects of tariffs and non-tariff barriers on trade, welfare, and income distribution using partial and general equilibrium models.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO3	Critically evaluate the arguments for free trade versus protectionism and analyze the implications of various forms of economic integration.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Analyze the functioning of the foreign exchange market, including the roles of speculation, hedging, and arbitrage.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO5	Critically evaluate different policy approaches for correcting Balance of Payments (BOP) disequilibrium under fixed and flexible exchange rate systems.	L5 (Evaluate)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

Block 1 : Foundations of International Trade
Unit 1 : General Equilibrium in Closed and Open Economies
General equilibrium in closed and open economies - Autarky - International Trade Absolute and Comparative Advantage theories

Unit 2 : Opportunity Cost
Opportunity Cost - Production possibility frontier -– Gains from exchange versus gains from specialization - Offer Curve - Types of Terms of Trade

Unit 3 : Factor Models and Trade Theories
H-O-S Model – Factor Price Equalisation – Leontief Paradox – Factor Intensity Reversal - Rybczynski theorem

Block 2 : Trade Policies I
Unit 1 : Tariff and Non-Tariff Barriers
Free Trade and Protectionism - Trade restriction – Tariff – and non-tariff barriers - Theory of Immiserising growth - Dutch disease

Unit 2 : Tariff
Tariff - Stolper-Samuelson Theorem – Metzler Paradox-Lerner Symmetry theorem - Optimum Tariff - Effective Rate of Protection

Unit 3 : Economic Integration and Global Trade
Forms of economic integration – FTA, Customs Union, Common Market, Economic Union, Trade Creating and Trade Diverting Customs Unions - Theory of Second Best

Unit 4 : Effects of Tariffs
Export Promotion vs Import Substitution - Effects of tariff – Partial and General Equilibrium Analysis

Block 3 : Trade Policies II
Unit 1 : Non-Tariff Barriers
Non-tariff barriers -Import Quotas - Differentiate between Import Quota and Import Tariff

Unit 2 : New Protectionism
New Protectionism - Exchange control- Export subsidies- Countervailing tariff- Voluntary export restraints -Technical standards other regulations

Unit 3 : Dumping, Cartels, and Infant Industry Argument
Dumping- Persistent, Predatory, Sporadic Dumping - Anti-dumping duties - International Cartels - Infant Industry Argument

Block 4 : Foreign Exchange Market and BOP
Unit 1 : Foreign Exchange Market
Foreign Exchange Market - Speculation, Hedging, and arbitrage - role of expectations, currency swaps, future and options

Unit 2 : Balance of Payments
BOP – Exchange Rate - Exchange rate overshooting - BOP disequilibrium – Adjustment mechanism – Automatic mechanism – Fixed and flexible Exchange Rate system

Unit 3 : Policy Measures to Correct Balance of Payments
Policy measures –Elasticity approach – J curve effect - Absorption approach – monetary approach and devaluation

Essential Readings:

1. Feenstra, R. C. (2016). *Advanced International Trade: Theory and Evidence* (2nd ed.). Princeton University Press.
2. Krugman, P. R., & Obstfeld, M. (2009). *International Economics: Theory and Policy* (8th ed.). Pearson, Dorling Kindersley (India) Pvt. Ltd.
3. Salvatore, D. (2008). *International Economics* (8th ed.). Wiley India.
4. Södersten, B., & Reed, G. (1994). *International Economics* (3rd ed.). Macmillan Press.

Additional Readings:

1. Appleyard, D. R., & Field, A. J. (2014). *International Economics* (8th ed.). McGraw Hill.
2. Bhagwati, J., & Srinivasan, T. N. (1983). *Lectures on International Trade*. The MIT Press.
3. Bhagwati, J. N. (1987). *International Trade: Selected Readings* (2nd ed.). The MIT Press.
4. Caves, R. E., Johnson, H. G., & American Economic Association. (1968). *Readings in International Economics*. R. D. Irwin.
5. Grimwade, N. (2001). *International Trade* (2nd ed.). Routledge.
6. Grubel, H. G., & Lloyd, P. J. (1975). *Intra-Industry Trade*. Macmillan.
7. Haberler, G. (1961). *A Survey of International Trade Theory*. International Finance Section, Department of Economics, Princeton University.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO4	✓	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	2	3	2	3	3	3	3	3	3	-	2	-	2	3	3
CO2	3	-	-	3	2	2	3	-	3	3	3	-	2	1	2	2	3
CO3	3	-	1	3	2	3	3	2	3	3	3	-	1	-	3	3	3
CO4	3	-	-	2	2	2	2	-	3	3	2	-	1	1	2	2	3
CO5	3	2	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

Semester - III

M23ECO9DC

PUBLIC FINANCE

CREDITS 4

Course Objectives:

1. To explore different forms of taxation and government expenditure and public finance in the context of the Indian economy.
2. To understand various theories of public expenditure
3. To analyse the nature of Indian tax structure and the understanding of the form of GST adopted in India
4. To familiarise the theoretical and empirical dimensions of public goods and public choice, fiscal instruments.
5. To analyse the objectives and recommendations of finance commission of India

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the role of government in a market economy, analyzing the challenges posed by public goods, externalities, and the mechanisms of public choice.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO2	Critically evaluate the principles of taxation, including optimal taxation and the incidence of taxes, and analyze the structure of the Indian tax system.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Critically compare various theories of public expenditure and public debt, and apply cost-benefit analysis to evaluate public investment projects.	L5 (Evaluate)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Analyze the principles of fiscal federalism and evaluate the mechanisms of inter-state financial relations, fiscal decentralization, and the budget process in India.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1 Public goods and Externalities
Unit 1 : Government and Public Goods
Role of Government in Market Economy - Characteristics of Public Goods - Pure and Impure Public Goods
Unit 2: Public and Private Finance
Difference between Public and Private Finance – PPP model – Local Finance
Unit 3 : Club Goods and Common Property Resources
The Theory of Clubs: Buchanan Model-Tiebout Model, Common property Resources; Tragedy of the commons.

Unit 4 : Voting Mechanisms and Public Choice
Voting and Public Choice – Reasons for Public Choice- Public Choice under Direct Democracy unanimity rule –Wicksell approach

BLOCK 2 Public Revenue
Unit 1: Public Revenue
Public Revenue – Sources of revenue-Tax and Non tax sources
Unit 2 : Taxation
Principles of Taxation: Benefit and ability to pay approaches; Impact and Incidence of Taxation- Theory of optimal Taxation- Dead Weight Loss – Equity Vs Efficiency - Theory and measurement of dead weight losses- The Problem of Double Taxation.
Unit 3 : Shifting Theories of Taxation
Theories of Shifting- Diffusion Theory, Concentration Theory, Demand and Supply Theory
Unit 4 : Distributional Aspects of Public Finance
Distributional considerations in public finance- Fiscal and monetary policies -Comparative analysis- Balanced budget multiplier- Zero based budgeting

BLOCK 3 Public Expenditure and Debt
Unit 1 : Public Expenditure
Structure and growth of public expenditure – role of public expenditure – criteria for public expenditure
Unit 2 : Theories Of Public Expenditure
Theories of Public Expenditure: Pure Theories of Public Expenditure, Wagner, and Wiseman Peacock Hypothesis.
Unit 3 : Public Investment And Cost Benefit Analysis
Criteria of public Investment; Social cost- benefit analysis- Public Expenditure Management & Control.
Unit 4 : Public Debt
Theories of Public debt: classical and Compensatory views; Sources of Public debt; Burden of Public Debt; Principles of Management and Repayment

BLOCK 4 : Fiscal Federalism
Unit 1: Centre-State Financial Relations and Fiscal Imbalances In India
Centre-state financial relations in India-Vertical and horizontal imbalance in inter-governmental transfers in India
Unit 2: Finance Commission and its Role in Fiscal Federalism
Finance Commission – Recommendations of Fifteenth Finance Commission - Challenges
Unit 3 : Sources and Composition of Revenue and Public Debt in India
Sources of revenue in the union, states and local bodies in India – Composition and Sources of public debt in India- VAT and GST in federal set-up
Unit 4: Fiscal Responsibility and Budgetary Framework
Fiscal imbalance: Revenue, Fiscal and Primary Deficits; Fiscal Responsibility and Budget Management Act- Budget Process

Essential Readings:

1. Brown, C. V., & Jackson, P. M. (1990). *Public Sector Economics* (Vol. 76). Basil Blackwell.
2. Cullis, J., & Jones, P. (2009). *Public Finance and Public Choice: Analytical Perspectives* (3rd ed.). Oxford University Press.

3. Musgrave, R. A., & Musgrave, P. B. (1989). *Public Finance in Theory and Practice*. McGraw Hill.
4. Stiglitz, J. E. (2000). *Economics of the Public Sector* (3rd ed.). W. W. Norton and Company.

Additional Readings:

1. Atkinson, A. B., & Stiglitz, J. E. (2015). *Lectures on Public Economics*. Princeton University Press.
2. Auerbach, A. J. (1985). The Theory of Excess Burden and Optimal Taxation. In A. J. Auerbach & M. Feldstein (Eds.), *Handbook of Public Economics* (Vol. 1, pp. 61–127). Elsevier.
3. Bagchi, A. (2005). *Readings in Public Finance*. Oxford University Press.
4. Boadway, R. W. (1979). *Public Sector Economics*. Winthrop.
5. Cullis, J., & Jones, P. R. (2009). *Public Finance and Public Choice: Analytical Perspectives* (3rd ed.). Oxford University Press.
6. Dalton, H. (2003). *Principles of Public Finance* (Vol. 1). Psychology Press.
7. Due, J. F., & Friedlaender, A. F. (1973). *Government Finance: Economics of the Public Sector*. Richard Irwin.
8. Harvey, R., & Gayer, T. (2013). *Public Finance*. McGraw-Hill Higher Education.
9. Hyman, D. N. (1973). *Economics of Government Activity*. Holt, Rinehart and Winston.
10. Jha, R. (1998). *Modern Public Economics*. Routledge.
11. Laffont, J.-J. (1988). *Fundamentals of Public Economics*. MIT Press.
12. Mundle, S. (Ed.). (1997). *Public Finance: Policy Issues for India*. Oxford University Press.
13. Peacock, A. T. (1979). *The Economic Analysis of Governments and Related Themes*. St. Martin's Press.
14. Finance Commission of India. (2020–2026). *Reports of the 15th Finance Commission (2020–21 and 2021–2026)*.
15. Ministry of Finance, Government of India. (n.d.). *Budget at a Glance* (latest ed.). Retrieved from https://www.indiabudget.gov.in

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	3	-	3	3	2	3	3	3	-	1	-	3	3	3
CO2	3	-	1	3	3	3	3	2	3	3	3	-	1	-	3	3	3
CO3	3	2	2	3	-	3	3	2	3	3	3	-	2	1	3	3	2
CO4	3	-	2	3	3	3	3	2	3	3	3	-	2	-	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23EC10DC
QUANTITATIVE METHODS FOR ECONOMICS II

CREDITS - 4

Course Objectives:

1. To acquire the knowledge of matrices and determinants to use it in input-output models
2. To understand the tools of differential and integral calculus
3. To understand the basic statistical concepts as a foundation for economic analysis
4. To be aware of probability distribution and various theories related to the same

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Apply matrix algebra and determinant analysis to solve systems of equations and evaluate the viability of static and dynamic input-output models.	L5 (Evaluate)	PSO 1, PSO 2, PSO 4, PSO 5, PSO 6, PSO 7
CO2	Formulate and solve first-order differential and difference equations to analyze the stability of dynamic economic models like the Cobweb and Harrod models.	L6 (Create)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO3	Apply descriptive statistical measures, including correlation and regression, to summarize, analyze, and interpret economic data.	L4 (Analyze)	PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Apply the fundamental concepts of probability theory and various probability distributions to model and analyze uncertain economic events.	L3 (Apply)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8

COURSE DETAILS
Block 1: Linear Algebra and Matrix
Unit 1 : Matrix Operations
Matrix Operations - Inverse of 3x3 matrix, rank of a matrix, Solution of simultaneous equations by Cramer's rule and inverse method

Unit 2 : Matrix Applications in Economic Modeling
Uses of matrices- Input- output models (static and dynamic, open and closed models)- Hawkin-Simon condition

Unit 3 : Determinants and Hessian Matrix
Determinants and their properties, Evaluation of higher order Determinant- Laplace method, Hessian determinant

Block 2 : Differential and Difference Equations
Unit 1 : First Order Differential Equations
First order Differential equations -Definitions and concepts, general formula for Differential equations – Economic Applications-Differential equations for limited and unlimited growth

Unit 2 : Solutions of First-Order Linear Difference Equations
Solution of first order difference equations – General formula for First order Linear Difference equations

Unit 3 : Applications of Difference Equations in Economics –Dynamic Stability Conditions
Applications of Difference Equations in Economics – Dynamic stability conditions

Unit 4 : Cobb-Web and Harrod model- Lagged Income Determination Model
Cobb-Web and Harrod model - lagged income determination model

Block 3: Statistics
Unit 1:Introduction to Statistics and Data Collection
Definition of Statistics - Statistics in Economics - Methods of collecting data – census and sampling – Merits and Demerits

Unit 2 : Measures of Central Tendency
Measures of Central Tendency - Mean, Median, Mode - Measures of Dispersion - Range, Interquartile range, Standard Deviation – Variance

Unit 3 : Skewness and Kurtosis
Skewness and Kurtosis - measures of skewness and kurtosis - Lorenz curve and Gini coefficient

Unit 4 : Correlation and Regression Analysis
Correlation – Karl Pearson, Rank Correlation – Regression

Block 4 : Probability
Unit 1 : Probability
Concept of Probability Distributions - Set theory- Permutations and Combinations, Definitions of Probability - classical, empirical and axiomatic approaches

Unit 2: Probability and Random Variables
Addition and multiplication laws, conditional probability- Bay's theorem, Random variables-probability distribution- Mathematical expectation- moments- Two random variables, joint, Marginal and conditional probability functions, expectation of two random variables

Unit 3 : Applications of Discrete Distributions
Discrete Probability Distributions, Binomial, Poisson, Uniform - simple applications

Unit 4 :Continuous Probability Distributions: Foundations and Applications
Continuous probability distributions- Normal, Lognormal and Exponential Distributions (Concept only)

Essential Readings:

1. Anderson, D., Sweeney, D., & Williams, T. (2013). *Statistics for Business and Economics*. Cengage Learning.
2. Chiang, A. C. (2008). *Fundamental Methods of Mathematical Economics* (4th ed.). McGraw-Hill.
3. Goon, A. M., Gupta, M. K., & Das Gupta, B. (2002). *Fundamentals of Statistics* (Vol. 1). World Press.
4. Gujarati, D. N., & Sangeetha, N. (2007). *Basic Econometrics* (4th ed.). McGraw-Hill.

5. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2nd ed.). Macmillan Press.
6. Yamane, T. (2012). *Mathematics for Economists: An Elementary Survey*. Prentice Hall of India.

Additional Readings:

1. Agarwal, Y. P. (1986). *Statistical Methods: Concepts, Application and Computation*. Sterling Publishers.
2. Allen, R. G. D. (1976). *Mathematical Economics*. Macmillan.
3. Baruah, S. (2012). *Basic Mathematics and Its Applications in Economics*. Macmillan India Ltd.
4. Baumol, W. J. (2003). *Economic Theory and Operations Analysis*. Prentice Hall.
5. Dowling, E. T. (2007). *Introduction to Mathematical Economics* (Schaum's Outline Series). McGraw-Hill.
6. Dowling, E. T. (2011). *Introduction to Mathematical Economics* (3rd ed., Schaum’s Outlines). Tata McGraw-Hill Publishing Co. Ltd.
7. Gupta, S. P. (2014). *Statistical Methods*. Sulthan Chand & Sons.
8. Hoel, P. G. (1971). *Introduction to Mathematical Statistics* (4th ed.). John Wiley & Sons.
9. Hooda, R. P. (n.d.). *Statistics for Business and Economics*. Macmillan.
10. Joseph, K. X. (2006). *Quantitative Techniques*. CUCCS Ltd, Calicut University.
11. Mohammed, A. H. (2003). *Introductory Mathematical Economics*. PHI.
12. Olive, D. (2014). *Statistical Theory and Inference*. Springer International Publishing.
13. Siegel, S., & Castellan, N. J. (1988). *Nonparametric Statistics for the Behavioral Sciences* (2nd ed.). McGraw-Hill.
14. Tulsian, P. C., & Pandey, V. (n.d.). *Quantitative Techniques*. Pearson Education.
15. Yamane, T. (1973). *Statistics: An Introductory Analysis* (3rd ed.). Harper & Row.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓
CO2	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓
CO3	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	3	-	2	1	2	2	-	3	3	2	-	3	3	-	2	1
CO2	3	3	-	2	-	2	2	-	3	3	2	-	3	3	-	2	1
CO3	-	3	3	3	3	3	3	2	3	3	3	-	3	3	2	3	2
CO4	2	3	2	2	-	2	2	2	3	3	2	-	3	3	2	3	-

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

DISCIPLINE SPECIFIC ELECTIVES

M23EC01DE

HISTORY OF ECONOMIC THOUGHT

Course Objectives:

1. To give a detailed account on the development of economic thought in a global perspective
2. To have a good understanding on various traditions and schools of economics, which influenced the shaping of present world in its current state

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Analyze the evolution of economic ideas from ancient civilizations through the Mercantilist and Physiocratic schools, placing them in their historical and philosophical context.	L4 (Analyze)	PSO 1, PSO 6, PSO 7, PSO 8
CO2	Critically evaluate the core tenets of the British Classical School and its subsequent critiques, analyzing the major monetary controversies of the period.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Critically evaluate the paradigm shifts introduced by the Marxian, Marginalist, and Keynesian revolutions in economic thought.	L5 (Evaluate)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Compare and contrast modern schools of thought, including the Chicago school and various heterodox schools, to analyze contemporary economic issues.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS
BLOCK 1: Early Economic thoughts

Unit 1: Foundations of Economic Thought
Why Study History of Economic Thought? A Very Brief Introduction to Epistemology, Methodology and the Philosophy of Science

Unit-2: Economic Ideas in Ancient Civilisations
Economic Thought in Ancient Civilizations: Egypt, China, India, Greece, the Hebrews and the Bible, Rome

Unit-3: Economic Thought in Religious and Medieval Contexts
Early Christianity and Economic Thought – The Middle Ages: Islamic Contributions – Aquinas and the Scholastics

Unit-4: Mercantilism, Cameralism, and Early Scientific Traditions in Economics
Mercantilism and Cameralism – The Natural Law-Natural Rights Tradition - Cantillon, Turgot and the Physiocrats

BLOCK 2 Classical and Keynesian Thoughts
Unit-1: The Scottish Enlightenment and The Rise of Political Economy
Scottish Enlightenment - Origin of Political Economy – Influence of Newton on Adam Smith

Unit-2: Adam Smith and The British Classical School
Adam Smith – British Classical School (Ricardo, Malthus, Bentham and Mill)

Unit-3: Critics of Ricardian Economics and The French Liberal Tradition
British Anti- Ricardians – The French Liberal School: from Say to Molinari

Unit-4: Monetary Controversies and Medieval Indian Economic Institutions
The Banking School-Currency School Debate – Connecting the Economic History of Medieval Indian Society

BLOCK 3 Marx and Marginalism
Unit-1: From Classical Foundations to Marginalist Breakthroughs
The Origins of "the Dismal Science" – Karl Marx – Pre-Marginalism (French, German, and Italian contributions) - The Marginal Revolution: From Aggregate Macro Economic Issues to Micro Analytical Issues – Response to Marxian Economic Thought – Early Contributions of Nassau Senior – Foundations of Marginalism

Unit-2: Marginalist Foundations and Challenges in Economic Analysis
Jevons, Menger, and Walras – Marginalist Controversy – Marginal Pricing versus Full Cost Pricing

Unit-3: The Neoclassical Economics: Value, Capital, and Monetary Foundations
Alfred Marshall and Neo-Classicalism – Capital Theory – Wicksell, Fisher and the Development of the Quantity Theory

Unit-4: Markets, Crises, and Rise of Macroeconomics
Mises and Hayek: On Socialism and Business Cycles – Keynes and the "Keynesian Revolution"

BLOCK 4 New Schools of Thought
Unit-1: Chicago School and Constitutional Economics
Friedman and the New Chicago School – Public Choice and Constitutional Economics

Unit-2: Macroeconomic Developments
Further Developments in Macroeconomics – Competition and Knowledge: Perfect, Imperfect and Rivalrous

Unit-3: Mathematical, Econometric and Heterodox Developments in Economics
The Rise of Mathematical Economics and Econometrics – Development of Heterodox Economics

Unit-4: Alternative Schools of Economic Thought
Views of Gandhian Economics, Institutional Economics, Feminist Economics, Post Keynesian and Marxists Economics

Essential Readings:

1. Ahmad. (n.d.). *Islam And Markets*. Acton Institute. http://www.acton.org/publicat/randl/print_article.php?id=193
2. Aristotle. (n.d.). *Politics & Nichomachean Ethics* [Reader].
3. Backhouse, R. E. (2004). *The Ordinary Business Of Life: A History Of Economics From The Ancient World To The Twenty-First Century*. Princeton University Press.
4. Bastiat, F. (n.d.). *A Petition*. Library of Economics and Liberty. http://www.econlib.org/library/Bastiat/basSoph3.html#S.1,%20Ch.7,%20A%20Petition
5. Bastiat, F. (n.d.). *What Is Seen And What Is Not Seen*. Library of Economics and Liberty. http://www.econlib.org/library/Bastiat/BasEss1.html
6. Blaug, M. (1997). *Economic Theory In Retrospect*. Cambridge University Press.
7. Böhm-Bawerk, E. (1884–1889). *Capital And Interest* (Vols. 1–3).
8. Böhm-Bawerk, E. (n.d.). *Karl Marx And The Close Of His System*. https://www.marxists.org/subject/economy/authors/bohm/index.htm
9. Böhm-Bawerk, E. (n.d.). *The Positive Theory Of Capital* [Reader].
10. Cambridge University Press. (2003). *The Cambridge Companion To The Scottish Enlightenment*.
11. Lawson, T. (2013). What Is This “School” Called Neoclassical Economics? *Cambridge Journal Of Economics, 37*(5), 947–983. http://www.jstor.org/stable/23601776
12. Lee, F. S. (1984). The Marginalist Controversy And The Demise Of Full Cost Pricing. *Journal Of Economic Issues, 18*(4), 1107–1132. http://www.jstor.org/stable/4225508
13. Montes, L. (2008). Newton's Real Influence On Adam Smith And Its Context. *Cambridge Journal Of Economics, 32*(4), 555–576. https://doi.org/10.1093/cje/bem056
14. Paganelli, M. P. (2019). Adam Smith And The Origins Of Political Economy. *Social Philosophy & Policy*, forthcoming. https://ssrn.com/abstract=3356022
15. Pollis, A., & Koslin, B. L. (1962). On The Scientific Foundations Of Marginalism. *The American Journal Of Economics And Sociology, 21*(2), 113–130. http://www.jstor.org/stable/3484427

Additional Readings:

1. Buchanan, J. M., & Tullock, G. (1962). *The Calculus Of Consent: Logical Foundations Of Constitutional Democracy*.
2. Clark, J. B. (n.d.). *The Origin Of Interest*. http://socserv2.mcmaster.ca/~econ/ugcm/3ll3/clarkjb/clarkjb003.html
3. Clayton. (n.d.). *Cicero (106–43 B.C.)*. Internet Encyclopedia of Philosophy. http://www.utm.edu/research/iep/c/cicero.htm#On%20the%20Laws
4. Dasgupta, A. K. (1993). *A History Of Indian Economic Thought*. Routledge.
5. De Mariana. (n.d.). *A Treatise On The Alteration Of Money*. Acton Institute. http://www.acton.org/publicat/m_and_m/2002_fall/mariana/
6. De Soto. (n.d.). *Juan De Mariana: The Influence Of The Spanish Scholastics*. https://www.mises.org/content/juandemariana.asp
7. Dutt, R. C. (n.d.). *The Economic History Of India* (Vols. 1–2).
8. El-Ashker, A. A.-F., & Wilson, R. (2006). *Islamic Economics: A Short History*. Brill Publishing.
9. Essid, Y. (1995). *A Critique Of The Origins Of Islamic Economic Thought*. Brill Publishing.

10. Friedman, M., & Schwartz, A. (1963). *A Monetary History Of The United States, 1867–1960*.
11. Ghazanfar, S. M., & Islahi, A. A. (n.d.). *Economic Thought Of An Arab Scholastic: Abu Hamid Al-Ghazali (AH 450–505 / 1058–1111 AD)*. In *Medieval Islamic Economic Thought*.
12. Habib, I. (2001). *The Economic History Of Medieval India: A Survey*. Tulika Books.
13. Habib, I. (2004). *The Agrarian System Of Mughal India*. Oxford University Press.
14. Habib, I. (2008). *Medieval India: The Study Of A Civilization*. National Book Trust.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	2	-	-	3	2	3	3	2	2	-	2	-	2	3	2
CO2	3	-	2	2	2	3	3	3	3	3	3	-	2	-	2	3	3
CO3	3	-	2	3	-	3	3	3	3	3	3	-	2	-	2	3	3
CO4	3	-	2	3	2	3	3	3	3	3	3	-	2	-	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23EC02DE

AGRICULTURAL ECONOMICS

Course Objectives:

1. To provide basic understanding of agriculture from an economic angle.
2. To examine the interdependence of agriculture with development, other sectors of the economy
3. To familiarise with the price policies in agriculture
4. To analyse the effect of globalisation in Indian agriculture

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the role of agriculture in economic development and analyze various farming systems and principles of land utilization.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Apply production function and supply response models to analyze resource efficiency and output determination in agriculture.	L4 (Analyze)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO3	Analyze the sources and challenges of agricultural finance and evaluate the effectiveness of agricultural pricing and marketing systems in India.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Critically evaluate contemporary issues in Indian agriculture, such as rural indebtedness and climate change, and analyze recent government policy interventions.	L5 (Evaluate)	PSO 1, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

Block 1: Introduction to Agricultural Economics

Unit 1: Agricultural Economics
Nature and scope of agricultural and rural economics - Traditional agriculture and its modernization - organic farming - Role of agriculture in economic development - interdependence between agriculture and industry

Unit 2 :Farm Management
Farming System – Types – Subsistence, Industrial, Intensive and Extensive, Commercial, Plantation, Mixed Farming – Organic Farming – Zero Budget Natural Farming – The One-Straw Revolution

Unit 3 : Land Use Pattern in India
Land Use Pattern in India – Land Size and Productivity - Principles of land utilization – land distribution – structure and trends – land tenures – Big Farmers and Small Farmers

Block 2: Production and Management in Agriculture

Unit 1:Agricultural Production Function
Production Function – Relation between Factors and Products, products and products, factors and factors – efficient use of resources - labour absorption and gender issues in agricultural services

Unit 2 : Supply Response Models in Agriculture
Supply response models – Cobweb production model - Nerlove model

Unit 3 : Farm Management Principles
Farm management – principles, need, relevance - Principles of factor substitution - Cost principles - opportunity cost - comparative advantage - Limitations of farm management

Block 3 : Agricultural Finance, Pricing and Marketing

Unit 1 : Agricultural Finance
Sources of rural credit – NABARD - Agricultural credit - challenges, opportunities and strategies

Unit 2 : Agriculture Pricing
Behaviour of agricultural prices –Demand and supply of agricultural products –Supply response in Agriculture

Unit 3: Agricultural Marketing
Agricultural marketing system in India - current scenario, problems, measures - Institutional set up - support systems - Regulated Markets – Co-operative markets.

Block 4: Issues in Agriculture and Agricultural Policies

Unit 1 : Agriculture and Rural Indebtedness
Agriculture and environment - Rural indebtedness - causes, effects countermeasures - infrastructural constraints in agriculture – credit problems

Unit 2 : Climate Change and Its Impact on Agriculture
Climate Issues – Loss of Biodiversity – Land Degradation – Farmers Distress – Adaptive Agricultural Practices

Unit 3: Agricultural Storage, Financial and Credit Support for Farmers
National Ware Housing Facility – Krishi Udan – Kisan Rail - PM Kisan – Soil Health Card – KISAN Card

Essential Readings:

1. Dandekar, V. M. (1994). *Indian Economy 1947–92: Vol. I: Agriculture*. Sage Publications.
2. Dantwala, M. L., Sharma, R. M., Desai, B. M., & Patel, M. I. (1991). *Indian Agricultural Development Since Independence*. Oxford & IBH Publishing.
3. Das Gupta. (1977). *The New Agrarian Technology And India*. Macmillan.
4. Hanumantha Rao, C. H. (1994). *Agricultural Growth, Rural Poverty And Environmental Degradation*. Oxford University Press.
5. Soni, R. N. (2004). *Leading Issues In Agricultural Economics*. Vishal Publishing Co.

6. Government of India. (Various years). *Economic Survey*. Ministry of Finance, Government of India.

Additional Readings:

1. Acharya, S. S., & Argwall, N. (1998). *Agricultural Marketing in India*.
2. Bharadwaj, K. (1974). *Production Conditions in Indian Agriculture: A Study Based on Farm Management*. Cambridge University Press.
3. Bilgrami, S. A. I. (1996). *Agricultural Economics*. Himalaya Publishing House.
4. Heady, E. O. (1952). *Economics of Agricultural Production and Resource Use*. Prentice Hall.
5. Heady, E. O. (1961). *Economics of Agricultural Production and Resource Use*. Prentice Hall.
6. Hansra, P., & Chandrakarn. (n.d.). *Modernization of Indian Agriculture in 21st Century: Challenges, Opportunities and Strategies*. Concept Publishing Company.
7. Joshi, P. C. (1975). *Land Reforms in India: Trends and Consequences*. Allied Publishers.
8. Kahlon, A. S., & Tyagi, D. S. (n.d.). *Agricultural Price Policy in India*. Heritage Publishers.
9. Khusro, A. M. (1968). *Readings in Agricultural Economics*. Allied Publishers.
10. Norten, M., & Allwanding. (n.d.). *The Introduction to Economic and Agricultural Development*. McGraw Hill.
11. Ommen, M. A. (1974). *Land Reforms and Socio-Economic Change in Kerala*. Christian Institute for the Study of Religion and Society.
12. Prasad, C. S. (2006). *Sixty Years of Indian Agriculture: 1947–2007*. New Century Publications.
13. Rath, N. K. (1985). Prices, Costs of Production and Terms of Trade of Indian Agriculture. *Indian Journal of Agricultural Economics*, October–December.
14. Reddy, S. S., Raghu Ram, P., Neelakanda Sastry, T. V., & Bhavani Devi, I. (2004). *Agricultural Economics*. Oxford & IBH Publishing Co.
15. Sadhu, A. N., & Singh, A. (n.d.). *Fundamentals of Agricultural Economics*. Himalaya Publishing House.
16. Sidhu, D. S. (1990). Some Aspects of Agricultural Marketing and Pricing Policies in India. *UAE*, October–December.
17. Soni, R. N. (2004). *Leading Issues in Agricultural Economics*. Vishal Publishing Co.
18. Subbaran, K., & Janvry, D. E. (1985). *Agricultural Price Policy and Income Distribution in India*. Oxford University Press.
19. Tyagi, D. S. (1974). *Farmers' Responses to Agricultural Prices in India: A Study in Decision Making*. Heritage Publishers.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	3	3	3	3	2	3	3	3	-	1	-	3	3	3
CO2	3	3	-	2	-	2	2	-	3	3	2	-	2	2	2	2	2
CO3	3	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO4	3	-	3	3	3	3	3	3	3	3	3	-	3	1	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23EC03DE

INTERNATIONAL FINANCE

CREDITS - 4

Course Objectives:

1. To explore the theories and frameworks that underpin international finance.
2. To analyze the factors influencing exchange rates and their implications for international financial markets.
3. To examine the impact of trade policies on domestic industries, employment, and economic growth
4. To assess the involvement of international institutions in supporting economic development

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Analyze the principles of international investment and evaluate the risks associated with international finance.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Analyze the structure and instruments of various international financial markets, including bond, equity, and money markets.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO3	Critically evaluate the evolution and functioning of the international monetary system, including the Bretton Woods system and the theory of optimum currency areas.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Analyze the causes and consequences of international financial crises and evaluate the policy responses.	L5 (Evaluate)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO5	Critically evaluate the role of international financial institutions in India's economic development and analyze the country's position in global investment and trade.	L5 (Evaluate)	PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS
Block 1 : Introduction to International Finance

Unit 1 : Overview of International Finance
International Finance - Need and importance - Difference between international trade and international finance- Benefit of studying international finance

Unit 2: Understanding International Financial Risk: Types and Implications
Risk of International Finance

Unit 3 : International Investment and Financing Decisions

Investment and borrowing with transaction costs - International dimension of cash management, portfolio investment - international capital asset pricing - capital budgeting for foreign direct investment

Block 2 : International Financial Markets: Segments and Instruments

Unit 1: International Financial Markets

Foreign Exchange Market - International Bond Market - International Equity Market - International Money Market - International Credit Market

Unit 2 : International Bonds and Other Various Instruments

International Bonds-Foreign bonds & Euro bonds - global bonds - Floating rate notes, convertible bonds, and cocktail bonds - Short term and medium term instruments- Euro notes, Euro Commercial papers and Medium term Euro notes

Unit 3 : Global Capital Market and International Reserves

Global capital market- International Reserves–Euro Currency Markets–GDRs– ADRs–FIIs–FDIs

Block 3 : International Monetary Systems

Unit 1 : International Macroeconomic Policy under Gold Standard -The Bretton Woods System and IMF

International macroeconomic policy under gold standard - The Bretton Woods system and IMF

Unit 2 : The Rise of Global Trade Co-operation

GATT - WTO - Concept of Triffin Dilemma – Beggar Thy Neighbour Policy

Unit 3 : Regional Economic Integration and Currency Arrangements

Theory of optimum currency areas - Currency unions – Customs Union - Policy coordination with floating exchange rates

Unit 4 : The International Monetary System: Crisis and Reform

Financial Crisis and International Monetary System – Chronology of Economic Crisis in Emerging Markets – 2008-09 Global Financial Crisis and Great Recession - Other Current International Economic Problems

Block 4 : International Financial Institutions and India

Unit 1 : International Financial Institutions

International Financial Institutions and functions – ADB, UNCTAD, IDA, AIIB

Unit 2 : New International Economic Order and Debt Crisis

New International Economic Order – International Debt Problem – Debt Relief Measures – North-South Dialogue

Unit 3 : India's Global Investment, Trade, and Debt

International investment in India – India and External debt - Developments in India's trade - Role of international institutions in the economic development of India.

Essential Readings

1. Krugman, P. R., Obstfeld, M., & Melitz, M. (2018). *International Economics: Theory and Policy* (11th ed.). Pearson.
2. Levi, M. D. (1996). *International Finance: The Markets and Financial Management of Multinational Business* (3rd ed.). McGraw-Hill International Editions.
3. Salvatore, D. (2013). *International Economics* (11th ed.). John Wiley & Sons.
4. Södersten, B. O., & Reed, G. (2006). *International Economics*. Palgrave Macmillan.

Additional Readings:

1. Appleyard, D. R., & Field, A. J. (2014). *International Economics* (8th ed.). McGraw Hill.
2. Bhagwati, J. N. (1981). *International Trade: Selected Readings*. Cambridge University Press.
3. Bowen, H. P., Hollander, A., & Viaene, J. M. (1998). *Applied International Trade Analysis*. University of Michigan Press.
4. Carbaugh, R. J. (2008). *International Economics* (11th ed.). Thomson South-Western.
5. Carbaugh, R. J. (2009). *International Economics* (12th ed.). South Western Cengage Learning.
6. Caves, R. E., Frankel, J. A., & Jones, R. W. (1996). *World Trade and Payments: An Introduction*. Addison-Wesley.
7. Copeland, L. (2014). *Exchange Rates and International Finance* (6th ed.). Prentice Hall.
8. Davis, D. (n.d.). *Notes on Competitive Trade Theory* (pp. 1–16). Columbia University. http://www.columbia.edu/~drd28/Text.pdf
9. Feenstra, R. C. (2016). *Advanced International Trade: Theory and Evidence* (2nd ed.). Princeton University Press.
10. Gerber, J. (2012). *International Economics* (5th ed.). Pearson.
11. Ghosh, J., & Chandrasekhar, C. P. (2001). *Crisis as Conquest: Learning from East Asia*. Orient Longman.
12. Grubel, H. G., & Lloyd, P. J. (1975). *Intra-Industry Trade: The Theory and Measurement of International Trade in Differentiated Products*. Wiley.
13. Kindleberger, C. P. (1973). *International Economics*. Routledge.
14. Kindleberger, C. P., & Lindert, P. H. (1953). *International Economics* (8th ed.). R. D. Irwin.
15. Kenen, P. B. (1994). *The International Economy* (3rd ed.). Cambridge University Press.
16. Leamer, E. E. (1984). *Sources of International Comparative Advantage: Theory and Evidence*. MIT Press.
17. Markusen, J. R. (2002). *Multinational Firms and the Theory of International Trade*. MIT Press.
18. Markusen, J. R., Melvin, J. R., Kaempfer, W. H., & Maskus, K. E. (1995). *International Trade: Theory and Evidence*. McGraw-Hill.
19. Ruffin, R. J. (2003). *Oligopoly and Trade: What, How Much, and for Whom? Journal of International Economics, 60*(2), 315–335.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO5	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	3	2	3	2	2	3	3	2	-	1	1	2	2	3
CO2	3	-	-	2	2	2	2	-	3	2	2	-	1	2	2	2	3
CO3	3	-	1	3	3	3	3	2	3	3	3	-	1	-	3	3	3
CO4	3	2	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO5	-	-	3	3	3	3	3	2	3	3	3	-	3	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

M23EC04DE

ENVIRONMENTAL ECONOMICS

CREDITS - 4

Course Objectives:

1. To provide an insight into the environmental issues and problems and also aids in framing policies to overcome it.
2. To analyse the economic assessment of development projects of policies and institutions which have a significant bearing on the environment
3. To manage common property effectively
4. To understand environmental problems by using economic theory

Course Outcome

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the interlinkages between the economy and the environment, applying concepts like the material balance approach, externalities, and intergenerational equity.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Analyze the principles of sustainable development, evaluate methods for creating environmentally adjusted national income accounts, and analyze major global environmental issues.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Apply various non-market valuation techniques, such as contingent valuation and travel cost methods, to estimate the economic value of environmental goods and services.	L3 (Apply)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7
CO4	Critically evaluate different environmental management and policy instruments, including emission taxes and tradable permits, in the Indian context.	L5 (Evaluate)	PSO 1, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1 : Economy and environment
Unit 1 : Economy, Ecology, and the Environment
Environment and Economy- Environmental Economics, Ecological Economics and Resource Economics- Interlinkages between the Economy and the Environment

Unit 2 : Natural Resources
Material Balance Approach- criteria of Natural Resource Use-Principles of uncertainty and irreversibility – Inter generational equity- intra generational equity

Unit 3 : Environmental Economics and Sustainability

Environmental economics- Property rights in environment- Pollution rights - Collectively consumed goods and services- Spill over costs Sustainability- Bio-diversity-Ozone layer Environmental quality- Environmental accounts- Externalities

Unit 4 : Impact of Climate Change
Global environment issues – climate change: positive and normative analysis of climate change- Economics of Global Warming and Climate Change

BLOCK 2 : Sustainable Development
Unit 1: Environmental Sustainability
Sustainable development – Indicators of sustainability; ENP/AENP (Environmentally Adjusted or Approximate Environmentally Adjusted National Product) and Green GNP Indicator

Unit 2 : Theories of Resource Use and Environmental Accounting
Theories of optimal use of exhaustible and renewable resources; Environment and development trade off - Environmental accounting and the measurement of Environmentally corrected GDP – Green GDP

Unit 3 : Sustainable Development Goals: India and Kerala
Sustainable Development Goals - India - Kerala

Unit 4 : Global Environmental Issues
World Summit on Sustainable Development – Global Environmental Issues - Global Warming, Bio Diversity Loss, Acid Rain, Deforestation, Environmental Pollution

BLOCK 3 : Environmental Valuation
Unit 1 : Valuation of the Environment
Valuing the Environment: The Economic Concept of Value - Types of Value: Use- Value, Option Value and Non-use or Passive Use Values

Unit 2 : Environment Valuation Methods
Valuation methods-Method observed market behaviour, Hedonic property values -Household models (travel cost method and household health production function)

Unit 3 : Stated Preference Methods and Cost-Benefit Analysis
Stated Preference Methods—Contingent Valuation – Cost-Benefit Analysis

BLOCK 4 : Environmental management
Unit 1 : Approaches for Environmental Protection
Methods of Environment Protection - Emission taxes, tradable pollution permits, Pigouvian fee - Emission standards and Environmental Protection

Unit 2 : Environmental Regulations and Assessment in India
Environmental regulations and assessment in Indian context.

Unit 3 : Solid Waste Management: A Case Study from Lucknow City, India
Identify an environmental issue from your locality (eg:Water, Forest, Biodiversity, Climate change, etc.) and develop a plan outlining the different approaches that may be required to address this challenge.

Essential Readings

1. Harris, J. M., & Roach, B. (2017). *Environmental and Natural Resource Economics: A Contemporary Approach* (4th ed.). Routledge.
2. Hussen, A. M. (1999). *Principles of Environmental Economics*. Routledge.
3. Kolstad, C. D. (1999). *Environmental Economics*. Oxford University Press.
4. Tietenberg, T. (2004). *Environmental and Natural Resource Economics* (6th ed.). Pearson Education.

Additional Readings

1. Besman, P. (Ed.). (1995). *Health Sector Reform in Developing Countries: Making Health Development Sustainable*. Harvard Series on Population and International Health.
2. Blaug, M. (1972). *Introduction to Economics of Education*. Penguin.
3. Bromley, D. W. (Ed.). (1995). *Handbook of Environmental Economics*. Blackwell.
4. Cohn, E., & Geske, T. (1989). *Economics of Education*. Pergamon Press.
5. Fisher, A. C. (1981). *Resource and Environmental Economics*. Cambridge University Press.
6. Hanley, N., Shogren, J. F., & White, B. (1997). *Environmental Economics in Theory and Practice*. Macmillan.
7. Klasman, I. E. (1965). *The Economics of Health*. Columbia University Press.
8. Pearce, D. W., & Turner, R. K. (1990). *Economics of Natural Resource Use and Environment*. Johns Hopkins University Press.
9. Perman, R., & McGilvray, J. (1996). *Natural Resource and Environmental Economics*. Longman.
10. Schultz, T. W. (1971). *Investment in Human Capital*. Free Press.
11. Shankar, U. (Ed.). (2001). *Environmental Economics*. Oxford University Press.
12. van den Bergh, J. C. J. M. (Ed.). (1999). *Handbook of Environmental and Resource Economics*. Edward Elgar Publishing.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	3	2	3	3	2	3	3	3	-	1	1	3	3	3
CO2	3	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO3	2	3	3	2	-	2	3	-	3	3	3	-	3	3	2	3	2
CO4	3	-	2	3	3	3	3	3	3	3	3	-	2	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

SKILL ENHANCEMENT COMPULSORY COURSE

M23EC01SC
SECURITY ANALYSIS & PORTFOLIO MANAGEMENT
CREDITS - 2

Course Objective:

1. To develop the necessary skills for Investment in Security Market
2. To understand the fundamental concepts, theories and opportunities of security market investments
3. To maximize the investment return through the process of Diversification.

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Analyze the risk-return trade-off for various investment securities and apply fundamental and technical analysis for valuation.	L4 (Analyze)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO2	Apply modern portfolio theories, including the Markowitz and Sharpe models, to construct and analyze investment portfolios.	L3 (Apply)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO3	Evaluate the performance of an investment portfolio using various measures like Treynor's ratio and tracking error.	L5 (Evaluate)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Differentiate between passive and active portfolio management strategies and their application in portfolio construction.	L4 (Analyze)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1: Investment and valuation

Unit 1 : Understanding Investment

Investment – definition – Nature and Characteristics – Investment process –Institutions and markets

Unit 2: Securities and Money Market Instruments

Securities – money market instruments

Unit 3 : Risk and Return in Investments

Investment vs. Speculation - Risk-Return-Different types -Risk Measurement - Total Risk-Systematic Risk - Use of Beta, Variance – Computation of Risk and Return- Risk Premium – Expected Return - Risk Return Trade Off

Unit 4 : Valuation And Analysis of Securities

Valuation of Securities – Security Analysis – Valuation, Fundamental analysis – Economy analysis- Industry Analysis – company analysis. Technical analysis

Block 2: Portfolio theories

Unit 1 : Risk And Return In Portfolios

Measurement of Expected Risk and Return of Portfolio- Alternative Measures of Risk

Unit 2 : Portfolio Development

Steps in Portfolio Building - Portfolio Theory –- portfolio analysis, portfolio selection - portfolio Revision- Portfolio Evaluation

Unit 3 : Portfolio Theories and Measures
Theory and Measures - Markowitz Portfolio Theory, Sharpe's Single Index Model, Treynor 's ratio
Unit 4 : Portfolio Strategies and Index Construction
Passive Equity Portfolio Management Strategy Index - Portfolio Construction Techniques - Tracking Error

Essential Readings:

1. Avadhani, V. A. (2008). *Security Analysis and Portfolio Management*. Himalaya Publishing House.
2. Bhalla, V. K. (2008). *Investment Management*. S. Chand Corporations.
3. Chandra, P. (2008). *Investment Analysis and Portfolio Management*. Tata McGraw-Hill.
4. Fisher, E. D., & Jordan, R. J. (2008). *Security Analysis and Portfolio Management*. PHI Learning.
5. Goldman Sachs. (2007). *Introducing GS Sustain*.
6. Kevin, S. (2008). *Security Analysis and Portfolio Management*. PHI Learning.

Additional Readings:

1. Graham, B. (n.d.). *The Intelligent Investor: Chapter 1 – Investment Versus Speculation*. http://www.focusinvestor.com/Graham1.pdf

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	3	-	2	-	3	2	-	3	3	2	-	2	3	2	2	2
CO2	2	3	-	2	-	3	2	-	3	3	2	-	2	3	2	2	2
CO3	2	3	-	2	-	3	3	2	3	3	3	-	2	3	2	3	2
CO4	2	-	-	2	-	3	2	2	3	3	2	-	2	-	2	3	2

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

Semester - IV

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M23EC11DC

ECONOMETRICS

CREDITS - 4

Course objective

1. To create an understanding among the students on basic econometric methodology
2. To train the students in applying economic theories to real economic data by means of empirical models
3. To familiarise about time series data

Course Outcome

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Apply the Ordinary Least Squares (OLS) method to estimate simple and multiple linear regression models and evaluate the model's goodness of fit.	L5 (Evaluate)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Critically evaluate the consequences of violating the Classical Linear Regression Model (CLRM) assumptions and apply appropriate diagnostic tests and remedial measures.	L5 (Evaluate)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8
CO3	Create and interpret econometric models that include dummy variables to capture qualitative effects and analyze variance.	L6 (Create)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7
CO4	Formulate and estimate qualitative response models (LPM, Logit, Probit) to analyze choices and discrete outcomes in economic data.	L6 (Create)	PSO 1, PSO 2, PSO 3, PSO 4, PSO 6, PSO 7
CO5	Analyze time series data for stationarity, apply unit root tests, and develop appropriate ARIMA models for forecasting economic variables.	L6 (Create)	PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO6	Create and interpret panel data models using both fixed and random effects approaches to analyze data with cross-sectional and time-series dimensions.	L6 (Create)	PSO 2, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1 Introduction to Econometrics
Unit 1: Scope, Methodology and Limitations of Econometrics
Definition and scope of Econometrics — methodology of econometrics - Nature and sources of data for econometric analysis — contribution of econometric methods to the development of Economics — limitations of econometric methods

Unit 2: Regression Functions and Functional Forms

Sample Regression Function and Population Regression Function - Simple linear Regression Model – Assumptions - Regression through the origin-Functional forms of regression models, log-log, log-lin, lin-log and reciprocal models

Unit 3: OLS Estimation and Hypothesis Testing
Estimation through Ordinary Least Squares (OLS) Approach - Assumptions-Gauss-Markov Theorem-Goodness of the Fit-R- Estimation and Testing of Hypothesis-Standard Error

BLOCK 2 Violation of the CLRM Assumptions
Unit 1: Heteroscedasticity
Heteroscedasticity- Nature, Consequences, Tests, and Remedial Measures

Unit 2: Multicollinearity
Multicollinearity-Nature, consequences, detection and remedial measures

Unit 3: Autocorrelation
Autocorrelation-Nature, consequences, detection, and remedial measures

Unit 4: Model Specification Errors and Consequences
Model Specification and Errors - Consequences - Underfitting and Overfitting - Measurement Errors

BLOCK 3 Econometric Modelling
Unit 1: Three-Variable Model and OLS Estimation
The three variable model-OLS estimation of partial regression coefficients-Multiple coefficient of determination R2 and adjusted R2

Unit 2: Dummy Variables and ANOVA Models
Qualitative Explanatory Variables—Dummy Variable—Use of dummy variables- Regression on dummy variables - ANOVA models-ANCOVA models- Interpretation of Regression Results Dummy variable trap

Unit 3: Qualitative Response Models
Qualitative Response Models – LPM, Logit, Probit, Tobit

BLOCK 4 Time Series and Panel Data Econometrics
Unit 1: Time Series Properties and Autocorrelation
Time Series Analysis – Stationarity, Non-Stationarity - Random Walk Models – Autocorrelations, Partial Autocorrelation Functions

Unit 2: Unit Root Testing and ARIMA Models
Unit roots and Units roots tests; AR, MA, Integrated Process, ARMA, ARIMA modelling

Unit 3: Panel Data Models: Fixed and Random Effects
Estimation of Panel data Regression Models – Fixed Effects Approach - Estimation of Panel data Regression Models – The Random Effects Approach – Fixed Effects (LSDV) versus Random Effects Model

Essential Readings

1. Gujarati, D. N., & Sangeetha, N. (2007). *Basic Econometrics* (4th ed.). McGraw Hill.
2. Guthrie, G. (2012). *Basic Research Methods*. Sage Publications.
3. Kothari, C. R. (2004). *Research Methodology: Methods & Techniques*. New Age International Publishers.
4. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2nd ed.). The Macmillan Press.
5. Wooldridge, J. M. (2018). *Introductory Econometrics: A Modern Approach* (7th ed.). Thomson South-Western.

Additional Readings

1. Baltagi, B. H. (2011). *Econometrics* (3rd ed.). Springer.
2. Bhaumik, S. K. (2015). *Principles of Econometrics: A Modern Approach Using EViews*. Oxford University Press (India).
3. Davidson, R., & MacKinnon, J. G. (2009). *Econometric Theory and Methods*. Oxford University Press.
4. Dougherty, C. (2016). *Introduction to Econometrics*. Oxford University Press (Indian Edition).
5. Greene, W. H. (2018). *Econometric Analysis* (8th ed.). Pearson Education (India).
6. Gujarati, D. N., & Porter, D. C. (2017). *Basic Econometrics* (5th ed.). McGraw Hill.
7. Johnston, J. (1997). *Econometric Methods* (4th ed.). McGraw-Hill Higher Education.
8. Kennedy, P. (2008). *A Guide to Econometrics* (6th ed.). Wiley-Blackwell.
9. Kmenta, J. (1976). *Elements of Econometrics* (2nd ed.). Macmillan.
10. Maddala, G. S., & Lahiri, K. (2012). *Introduction to Econometrics* (4th ed.). John Wiley & Sons (Indian Edition).
11. Mukherjee, C., White, H., & Wuyts, M. (1998). *Econometrics and Data Analysis for Developing Countries*. Routledge.
12. Pindyck, R. S., & Rubinfeld, D. L. (n.d.). *Econometric Models and Economic Forecasts* (4th ed.). McGraw-Hill Publishing Co.
13. Ramanathan, R. (2002). *Introductory Econometrics With Applications* (3rd ed.). Thomson Learning Inc.
14. Stock, J. H., & Watson, M. W. (2017). *Introduction to Econometrics* (3rd ed.). Pearson Education (Indian Edition).
15. Studenmund, A. H. (2017). *Using Econometrics: A Practical Guide* (7th ed.). Pearson (India).
16. Bailey, M. (2016). *Real Econometrics: The Right Tools to Answer Important Questions*. Oxford University Press.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO5	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO6	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	3	3	3	2	3	3	2	3	3	3	-	3	3	2	3	2
CO2	3	3	3	3	-	3	3	3	3	3	3	-	3	3	3	3	2
CO3	2	3	3	2	-	2	3	-	3	3	3	-	3	3	2	3	2
CO4	2	3	3	2	-	2	3	-	3	3	3	-	3	3	2	3	2
CO5	-	3	3	3	3	3	3	3	3	3	3	-	3	3	2	3	3
CO6	-	3	3	3	3	3	3	3	3	3	3	-	3	3	2	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓
CO 5	✓	✓	✓

M23EC12DC

KERALA ECONOMY

CREDITS – 4

Course Objective

1. To get an idea about the state of the Kerala Economy during 1950s
2. To understand the Kerala Model of Development
3. To understand the issues and challenges in agriculture, Industry and service sector
4. To evaluate the genesis of financial crisis in Kerala
5. To analyse decentralised planning in Kerala

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Critically evaluate the 'Kerala Model of Development,' analyzing its historical evolution, achievements in human development, and contemporary challenges.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Analyze the performance and structural issues within Kerala's agricultural, industrial, and service sectors, including the impact of globalization and climate change.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO3	Critically evaluate the fiscal health of the Kerala state government, analyzing trends in revenue, expenditure, and the implications of fiscal decentralization.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO4	Analyze the key contemporary economic, social, and environmental challenges facing Kerala, including migration, unemployment, and disaster management.	L4 (Analyze)	PSO 1, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1 Structural Changes of Kerala Economy
Unit 1: Growth Trends of Kerala Economy since 1956
Kerala Economy – Growth Trends from 1956 onwards – GSDP – Percapita – Inflation

Unit 2: Kerala Model of Development and Human Indicators
Kerala Model of Development – Social Indicators – Human Development Index – Comparison with other Indian States

Unit 3: Revisiting the Kerala Model and Development Challenges
Revisiting Kerala Model –Lopsided Development - Human Development Issues – Unemployment, Poverty, Gender Gap - Nava Kerala Mission

BLOCK 2 Structural Performance of Kerala Economy
Unit 1: Agriculture Sector and Emerging Challenges
Agriculture Sector – Land reforms - Agrarian Crisis – Land use and Cropping Pattern - Globalisation and agriculture – Climate Change and agriculture

Unit 2: Industrial Growth and Infrastructure Development
Industry – IT sector – MSME - Sunrise Industries in Kerala – Bio-Tech – Development of Infrastructure Facilities

Unit 3: Service Sector and Its Economic Significance
Service Sector – Health, Education, Tourism – Importance of Service sector in the State

BLOCK 3 State Finance

Unit 1: Revenue, Expenditure and Fiscal Trends in Kerala
Sources of Revenue and Expenditure of the State – Trends – Fiscal Deficit – Fiscal Crisis – Off Budget Borrowing - FRBM

Unit 2: Centre-State Finance, Fiscal Federalism and GST
Centre-State Financial Trends – Role of Finance Commission – Fifteenth Finance Commission – Fiscal Federalism – GST and allocation of Taxes between Centre and States

Unit 3: Fiscal Decentralisation and Local Government Finance
Decentralisation – Evaluation of Decentralisation – Issues of Fiscal Decentralisation – State Finance Commission – Fiscal Situation of Local Self Government Bodies

BLOCK 4 Contemporary Challenges and Responses of the State

Unit 1: Infrastructure and Energy Challenges in Kerala
Economic Challenges – Infrastructure – Energy – Renewable and Non-Renewable

Unit 2: Human Development Challenges and Migration Issues
Human Development Challenges – Employment – Start-Up Mission – Knowledge Economy Mission – Migration – Reverse Migration – Brain Drain & Brain Gain – Role of NOTA

Unit 3: Social Challenges and Inclusive Development Initiatives
Social Challenges – Status of Marginalised Sections – Gender – Kudumbashree- Gender Neutral Schemes of the Government –– Poverty Mission

Unit 4: Environmental Challenges and Disaster Management
Environmental Challenges – Biodiversity Challenges – Disasters – Flood – Landslides – Adaptation and Mitigation Responses – DMP 2010 - Early Warning System – Maps – Local Self Government Disaster Management Plans

Essential Readings

1. Franke, R. W., & Chasin, B. H. (1994). *Kerala: Radical Reform as Development in an Indian State*. Institute for Food and Development Policy.
2. Kannan, K. P. (2023). Revisiting the Kerala 'model' of development: A sixty-year assessment of successes and failures. *The Indian Economic Journal, 71*(1), 120–151. https://doi.org/10.1177/00194662221145290

3. Prakash, B. A. (Ed.). (2004). *Kerala's Economic Development: Performance and Problems in the Post-Liberalisation Period*. Sage Publications.
4. Prakash, B. A., & Alwin, J. (Eds.). (2023). *Kerala Economic Development*. Pearson.
5. Government of Kerala. (Annual). *Economic Review and Budget Documents*. Kerala State Planning Board.
6. United Nations Development Programme. (n.d.). *Human Development Reports: Kerala*. [Various years].
7. Kerala State Planning Board. (n.d.). *Kerala Perspective Plan 2030* (Vols. I–IV).
8. State Planning Board. (Annual Issues). *Kerala Economic Review*.
9. Government of India. (Annual Issues). *Economic Survey*. Ministry of Finance. http://indiabudget.nic.in/
10. Oommen, M. A. (Ed.). (1999). *Rethinking Development: Kerala's Development Experience*. Sage Publications.
11. Mani, S. (Ed.). (2020). *Kerala and the World Economy*. Centre for Development Studies.
12. Centre for Development Studies (CDS). (1975). *Poverty, Unemployment and Development Policy: A Case Study of Selected Issues With Reference to Kerala*. UN Department of Economic and Social Affairs.
13. Rajasenan, D., & De Groot, G. (Eds.). (2005). *Kerala Economy: Trajectories, Challenges and Implications*. Cochin University of Science and Technology (CUSAT).
14. Kurian, M., & John, R. (Eds.). (2014). *Kerala Economy and Its Emerging Issues*. National Book Stall.
15. Asokan, A., Oommen, M., & Priyesh, C. A. (Eds.). (2016). *Kerala Economy in Retrospect and Prospect*. Kerala Economic Association.
16. Kerala State Disaster Management Authority. (n.d.). https://sdma.kerala.gov.in/
17. Prakash, B. A. (Ed.). (1999). *Kerala's Economic Development: Issues and Problems*. Sage Publications.
18. Pillai, P. P. (1994). *Kerala Economy: Four Decades of Development*. John Mathai Foundation.
19. Oommen, M. A. (1993). *Essays on Kerala's Economy*. Oxford & IBH.
20. Zachariah, K. C., Kannan, K. P., & Irudaya Rajan, S. (Eds.). (2002). *Kerala's Gulf Connection*. Centre for Development Studies.

Additional Readings

1. Drèze, J., & Sen, A. (Eds.). (1997). *India: Selected Regional Perspectives*. Oxford University Press.
2. Parayil, G. (Ed.). (2000). *Kerala: The Development Experience*. Zed Books.
3. Tharamangalam, J. (2006). *Kerala: The Paradoxes of Public Action and Development*. Orient Longman.
4. Economic and Political Weekly. (Various years). *Special Issues on Kerala*.
5. Ramachandran, V. K. (2011). On Kerala's development achievements. In J. Drèze & A. Sen (Eds.), *Indian Development: Selected Regional Perspectives* (pp. 205–356). Oxford Academic. https://doi.org/10.1093/acprof:oso/9780198292043.003.0004
6. Directorate of Environment and Climate Change. (2022). *Kerala State Action Plan on Climate Change 2023–2030*.
7. Alwin, J. (2014). *Recent Trends in Kerala State Finances*. Serials Publications.
8. National Council of Applied Economic Research (NCAER). (1962). *Techno Economic Survey of Kerala*. NCAER.

9. Mathew, E. T. (1997). *Employment and Unemployment in Kerala*. Sage Publications.
10. George, K. K. (1993). *Limits to Kerala Model of Development*. Centre for Development Studies.
11. Zachariah, K. C., Mathew, E. T., & Irudaya Rajan, S. (2003). *Dynamics of Migration in Kerala*. Orient Longman.
12. Rajan, K. (Ed.). (2009). *Kerala Economy: Trends During the Post-Reform Period*. Serials Publications.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO2	3	-	-	3	3	3	3	-	3	3	3	-	2	2	3	2	3
CO3	2	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3
CO4	2	-	3	3	3	3	3	3	3	3	3	-	3	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

DISCIPLINE ELECTIVE COURSES

M23EC05DE

INDUSTRIAL ECONOMICS

CREDITS - 4

Course Objectives:

1. To introduce the learners to the field of Industrial Organisation and prepare them to pursue research in this field.
2. To provide thorough knowledge on nature and scope of industrial organisation along with the conduct and performance of industries.
3. To understand India's industrial growth pattern
4. To identify various policies and performance of public sector undertakings.

Course Outcome

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Analyze the relationship between market structure, industrial organization, productivity, and economic development.	L4 (Analyze)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7
CO2	Critically evaluate various theories of industrial location and their implications for regional development and policy.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Evaluate different corporate strategies, including pricing decisions, diversification, mergers, and investment appraisal methods.	L5 (Evaluate)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO4	Critically evaluate the evolution of India's industrial policy, the role of industrial finance, and the impact of recent labor reforms.	L5 (Evaluate)	PSO 1, PSO 3, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1 Basics of Industrial Economics

Unit 1: Nature, Scope and Role of Industrialisation
Nature and scope of industrial economics- - concepts - plant, firm, cartel, MRTP company, industry Industrial structure - Role of Industrialisation in Economic Development - Factors for and against industrial development

Unit 2: Forms of Industrial Organisation
Industrial organisation: Different forms of Industrial Organisation, Proprietorship, partnership, Joint Stock Companies, Holding Companies, and Industrial Co-Operative Organisations – Corporation – Public Sector Companies: departmental, govt. companies, joint-sector

Unit 3: Theories of Industrial Growth
Theories of Industrial Growth – Dronis Theory – Pentrisis, Marris

Unit 4: Industrial Productivity and Influencing Factors
Industrial productivity – its importance, distinction between production and productivity, factors influencing industrial productivity

BLOCK 2 Industrial Location

Unit 1: Market Structure and Innovation
Market Structure: Meaning of the market structure- product differentiations – its sources and its implications, entry conditions, economies of scale, market structure & innovation

Unit 2: Determinants and Approaches to Industrial Location
Industrial location - general determinants - approaches to Industrial Locational analysis-

Unit 3: Theories and Policy of Industrial Location
Theories of Industrial Location (Weber's Theory, August Losch and Sargent Florence's Theory) – Industrial Location Policy

Unit 4: Industrial Location Pattern and Regional Imbalance in India
Industrial location pattern in India-Regional growth - measure of regional imbalance and backwardness- - SEZ

BLOCK 3 Pricing and Performance

Unit 1: Pricing Decisions, Policies and Procedures
Pricing Decisions: Pricing goals: maximisation of profit, sales, rate of return, sales, and market shares—Pricing policies: marginal cost and full-cost pricing-Pricing procedures: Penetrating, skimming, price discriminations and transfer pricing.

Unit 2: Diversification, Integration and Mergers
Diversification and Vertical Integration, Merger – Definitions, Types & Motives, Implication for Public Policies

Unit 3: Determinants and Conditions of Industrial Efficiency
Industrial efficiency –determinants efficiency levels - efficiency conditions - constrained output maximisation and cost minimisation

Unit 4: Investment Decisions and Project Evaluation Methods
Investment decisions: – profile of the project, methods of project evaluation - the payback method, the average of accounting rate of return method, the net present value method, the internal rate of return method, ranking of projects

BLOCK 4 India's Industrial Policies and Performance

Unit 1: Industrialisation Trends and Policy Reforms in India
Pattern of industrialization since independence-Industrial Policies (from 1948 to till now) – Trends in Industrial Growth after NEP-Public sector enterprises in India – Policy on Disinvestment-Privatisation – Missing Middle – Dualism in Indian Context

Unit 2: Sources and Patterns of Industrial Finance
Industrial Finance -Sources of Industrial Finance - Private, Public and Co-operative Sector - Shares, Debentures, Bonds, Deposits, Loans ,Foreign Direct Investment and Foreign Institutional Investment

Unit 3: Industrial Sickness, Exit Policy and MNCs
Industrial sickness- Exit policy- Role of BIFR – Role of MNCs in India.

Unit 4: Industrial Relations and Labour Code Reforms
Industrial Relations – Industry Disputes - Labour Reforms – Code on Wages - Industrial Relations Code - Social Security Code - Occupational Safety, Health and Working Conditions Code

Essential readings

1. Ahluwalia, I. J. (1986). *Industrial Growth in India*. Oxford University Press.
2. Barthwal, R. R. (1985). *Industrial Economics*. Wiley Eastern Ltd.
3. Nayyar, D. (1977). *Trade and Industrialisation*. Oxford University Press.

Additional Readings:

1. Balakrishnan, P., & Pushpangadan, K. (1994). Total factor productivity growth in Indian manufacturing – A fresh outlook (Working Paper No. 259). Centre for Development Studies.
2. Brahmananda, P. R., & Panchamukhi, V. R. (Eds.). (1987). *The Development Process of the Indian Economy*. Himalaya Publishing House.
3. Cherunilam, F. (1994). *Industrial Economics: Indian Perspective* (3rd ed.). Himalaya Publishing House.
4. Clarke, R. (n.d.). *Industrial Economics*. Basil Blackwell.
5. Desai, B. (1999). *Industrial Economy of India*. Himalaya Publishing House.
6. Kuchhal, S. C. (1980). *Industrial Economy of India* (5th ed.). Chaitanya Publishing House.
7. Martin, S. (1993). *Advanced Industrial Economics*. Basic Blackwell.
8. Mishra, S. K., & Puri, V. K. (2022). *Indian Economy*. Himalaya Publishing House.
9. Mookherjee, D. (1997). *Indian Industry: Policies and Performances*. Oxford University Press.
10. Nayyar, D. (1994). *Industrial Growth and Stagnation*. Oxford University Press.
11. Seth, R. (2010). *Industrial Economics*. Ane Books Pvt. Ltd.
12. Shy, O. (1995). *Industrial Organization: Theory and Applications*. MIT Press.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓
CO3	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	-	2	2	3	2	-	3	3	2	-	1	-	2	2	2
CO2	3	-	1	3	3	3	3	1	3	3	3	-	2	-	3	3	3
CO3	3	2	-	3	-	3	3	-	3	3	3	-	2	2	2	2	2
CO4	3	-	2	3	3	3	3	2	3	3	3	-	2	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

M23EC06DE

GENDER AND DEVELOPMENT

CREDITS - 4

Course Objectives:

1. To understand various issues in the gendered analysis of development
2. To know the various approaches and theories related to gender and women development

Course Outcomes

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Analyze the social and economic construction of gender, and evaluate the developmental costs of gender inequality in rights, resources, and voice.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO2	Critically compare various theoretical approaches to gender and development (WID, WAD, GAD) and evaluate different gender-related development indices.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Apply gender analysis frameworks, including gender planning and gender budgeting, to the design and implementation of development projects and policies.	L3 (Apply)	PSO 2, PSO 3, PSO 4, PSO 6, PSO 7, PSO 8
CO4	Critically evaluate the complexities of women's work and economic status using frameworks like the capability approach and the feminization 'U' hypothesis.	L5 (Evaluate)	PSO 1, PSO 4, PSO 5, PSO 6, PSO 7, PSO 8

COURSE DETAILS

Block 1 Gender related Concepts and Devices

Unit 1: Core Concepts of Gender and Identity
Gender Concepts – Sex – Gender - Sexual Orientations – Gender Identity - Gender Equality and Equity - Gender Balance - Gender Blindness - Gender relations - Gender Neutrality – Gender Bias and Discriminations – Gender Rights – Gender Voice and Responsibilities

Unit 2: Gender Divides in Society and Economy
Gender Divide – Gender Digital Divide – Gender Access to Resources and Inputs Divide – Gender Mobility Divide – Gender Wage Divide – Gender Needs

Unit 3: Gender Inequality
Gender Inequality in Rights, Resources, and Voice

Unit 4: Developmental Costs of Gender Inequality

Gender Inequality hinders Development - Cost of Wellbeing – Cost to Productivity and Growth – Cost to Governance

Block 2 Theories and Approaches

Unit 1: Theories of Women's Role in Development
Theories of Women's Issue in Development – WID, WAD, GID, GAD, DAWN

Unit 2: Approaches to Women's Development
Approaches to Development of Women – Welfare, Equity, Anti-Poverty, Efficiency, Empowerment

Unit 3: Gender Analysis Tools and Indices
Gender Analysis – Techniques and Tools – Measuring how women fair – HDI, Gender related Development Index, Gender Empowerment Measures, GII

Block 3 Gender Planning and Mainstreaming

Unit 1: Caro Moser's Gender Planning Framework
Gender Planning – Caro Moser's Gender Planning Framework

Unit 2: Gender Mainstreaming and Project Design
Gender Mainstreaming – Strategies – Implementation of Women Development Project – Gender Equality Action Planning and Project Design

Unit 3: Gender Budgeting and Auditing
Gender Budgeting and Gender Auditing
Block 4 Entitlement and Labour Force Participation

Unit 1: Capability Approach
Capability Approach by Amartya Sen and Martha Nussbaum

Unit 2: Economic Entitlements and Risk Coverage
Ensuring Entitlements – Ensuring Economic Independence and Risk Coverage – Access to Credit and Insurance Market

Unit 3: Concepts and Valuation of Women's Work
Concept and Analysis of Women's Work – Valuation of Productive and Unproductive Work – Visible and Invisible Work – Paid and Unpaid Work – Economically Productive and Socially Productive Work

Unit 4: Economic Status and Feminisation 'U' Hypothesis
Economic Status - Property rights, access to and control over economic resources & assets – Power of decision making at household, class, community level – Feminisation 'U' Hypothesis

Essential Readings

1. Babcock, L., & Laschever, S. (2003). *Women Don't Ask: Negotiations and Gender Divide*. Princeton University Press.

2. Benarìa, L. (2003). *Gender Development and Globalisation: Economics as If All People Mattered*. Routledge.
3. Blau, F. D., Winkler, A. E., & Ferber, M. A. (2009). *The Economics of Women, Men and Work*. Prentice Hall.
4. Boserup, E. (2007). *Women's Role in Economic Development*. George Allen and Unwin.
5. Ghosh, J. (2009). *Never Done and Poorly Paid: Women's Work in Globalizing India*. Women Unlimited. https://www.jetir.org/papers/JETIR2201557.pdf
6. Mason, A. D., & King, E. M. (n.d.). *Engendering Development Through Gender Equality in Rights, Resources, and Voice*. World Bank Group.

   http://documents.worldbank.org/curated/en/512911468327401785/Engendering-development-through-gender-equality-in-rights-resources-and-voice

Additional Readings

1. Angrist, J. (2002). How do sex ratios affect marriage and labor markets? Evidence from America's second generation. *Quarterly Journal of Economics, 117*(3), 997–1038.
2. Bettio, F., & Verashchagina, A. (2008). *Frontiers in the Economics of Gender*. Routledge.
3. Hoffman, S. D., & Averett, S. (2010). *Women and the Economy: Family, Work and Pay*. Prentice Hall.
4. Kabeer, N. (1995). *Reversed Realities: Gender Hierarchies in Development Thought*. Verso.
5. Kapadia, K. (Ed.). (2002). *The Violence of Development: The Politics of Identity, Gender and Social Inequalities in India*. Zubaan.
6. Matari, E., Boushey, H., & Fraher, W., IV. (1997). *Gender and Political Economy: Incorporating Diversity Into Theory and Policy*. M. E. Sharpe.
7. Rai, S. M. (2013). *Gender and the Political Economy of Development*. Polity Press.
8. Visvanathan, N., Duggan, L., Nisonoff, L., & Wiegersma, N. (Eds.). (1997). *The Women, Gender and Development Reader*. Zubaan.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO4	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	3	-	1	3	3	3	3	3	3	3	3	-	1	1	3	3	3
CO2	3	-	2	3	3	3	3	3	3	3	3	-	2	1	3	3	3
CO3	-	2	3	3	-	3	3	3	3	3	3	-	3	2	3	3	3
CO4	3	-	1	3	3	3	3	3	3	3	3	-	1	-	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓

SKILL ENHANCEMENT COMPULSORY COURSE

M23EC02SC

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

CREDITS-2

Course Objectives:

1. To understand the basic concepts of Artificial intelligence
2. To analyse the applications of AI in Economics
3. To familiarise with data processing methods
4. To understand about Basics of Coding in Python
5. To familiarize with Exploratory data analysis

Course Outcome

CO No.	Upon successful completion of this course, the learner will be able to:	Cognitive Level	PSOs Addressed
CO1	Apply fundamental Machine Learning algorithms, such as linear regression and classification, to economic problems and evaluate their performance using appropriate metrics.	L5 (Evaluate)	PSO 1, PSO 2, PSO 4, PSO 6, PSO 7
CO2	Apply data pre-processing and exploratory data analysis techniques to clean, transform, and visualize economic datasets using Python.	L3 (Apply)	PSO 2, PSO 3, PSO 5, PSO 6, PSO 7, PSO 8
CO3	Use Python and its libraries to implement basic data structures, control flow, and data visualizations for economic analysis.	L3 (Apply)	PSO 2, PSO 3, PSO 6, PSO 7
CO4	Analyze the ethical and societal implications of deploying artificial intelligence and machine learning in economic contexts.	L4 (Analyze)	PSO 1, PSO 4, PSO 6, PSO 7, PSO 8

COURSE DETAILS

BLOCK 1: Artificial Intelligence and Machine Learning: Concepts and Applications

Unit 1: Introduction to AI and ML in Economics
Introduction to Artificial Intelligence and Machine Learning - Basic concepts of AI and ML - Types of ML algorithms - Applications of AI/ML in economics

Unit 2: Data Pre-processing and Exploratory Data Analysis
Data Pre-processing and Exploratory Data Analysis - Data cleaning and transformation - Data visualization and exploratory data analysis

Unit 3: Basics of AI and ML
Basics of AI and ML - Linear regression - Classification - Clustering - Dimensionality reduction

Unit 4: Evaluation Metrics
Evaluation Metrics - Accuracy, Precision, Recall, F1 Score, ROC Curve

BLOCK 2: Data Analysis using Python

Unit 1: Python Basics and Data Structures
Introduction to Python- Writing Python programs, Executing Commands in Python - Data structures in Python

Unit 2: Decision Making, Loops and Modules
Decision making and Loops - Modules and Packages

Unit 3: Data Visualisation in Python
Constructing Bar graphs using python - Constructing contingency tables - Constructing histogram using Python

Unit 4: Exploratory Data Analysis with Statistics
Exploratory data analysis – Descriptive Statistics and Inferential Statistics

Essential Readings

1. Maini, V. (n.d.). *Machine Learning for Humans*. https://medium.com/machine-learning-for-humans/why-machine-learning-matters-6164faf1df12
2. Theobald, O. (2021). *Machine Learning for Absolute Beginners: A Plain English Introduction* (3rd ed.). AI, Data Science, Python & Statistics for Beginners Book.
3. Larose, C. D., & Larose, D. T. (2019). *Data Science Using Python and R*. Wiley.
4. Ledolter, J. (2013). *Data Mining and Business Analytics with R*. Wiley.

Additional Readings:

1. Agrawal, A., Gans, J., & Goldfarb, A. (2019). *The Economics of Artificial Intelligence*. Oxford University Press.
2. Knight, K., Rich, E., & Nair, S. B. (2017). *Artificial Intelligence* (3rd ed.). McGraw Hill Education.
3. Patterson, D. W. (2010). *Introduction to Artificial Intelligence & Expert Systems*. PHI.

CO to PSO & PO Mapping

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO2	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CO3	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓
CO4	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

CO-PSO-PO Correlation Matrix

	PSO								PO								
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	9
CO1	2	3	-	3	-	3	3	-	3	3	3	-	3	3	2	3	3
CO2	-	3	3	2	2	3	3	2	3	3	3	-	3	3	2	3	2
CO3	-	3	2	-	-	2	3	-	2	3	3	-	3	3	-	3	2
CO4	2	-	2	3	-	2	3	3	3	3	3	-	2	2	3	3	3

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Mapping of COs to Assessment Rubrics

	Assignment	Quiz / Project	End Semester Examination
CO 1	✓	✓	✓
CO 2	✓	✓	✓
CO 3	✓	✓	✓
CO 4	✓	✓	✓