



# महात्मा गाँधी केन्द्रीय विश्वविद्यालय

**MAHATMA GANDHI CENTRAL UNIVERSITY**

(Established by an Act of Parliament)

Gandhi Bhawan, Bankat, Motihari, District: East Champaran, Bihar - 845401

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**DEPARTMENT OF ECONOMICS**

**SCHOOL OF SOCIAL SCIENCES**

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**POSTGRADUATE PROGRAMME**

**M. A. ECONOMICS**

**Detailed Course Structure**

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## **ECON4001: Microeconomics-I**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4001**

**Course Title: Microeconomics-I**

**Credits Equivalent: 4 Credits:** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

- ) To familiarise the students with the basic principles guiding consumer behaviour and the resulting impact on their optimising behaviour.
- ) To make students understand the theories of factor earning and the operation of market.

### **Learning Outcomes:**

After completion of the course, the learners should be able to:

- ) appreciate the theoretical foundation of micro behaviour, the role assumptions and the impact of any alteration in assumptions in the final conclusion;
- ) understand the operation framework guiding the factor earnings;
- ) Recognise the role of demand and cost in shaping different market forms.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

### **COURSE CONTENTS:**

#### **Unit I: Theory of Consumption**

**(06 Hours)**

Cardinal Utility Approach - Law of Diminishing Marginal Utility, Equi-Marginal Utility; Ordinal Utility Approach - Indifference curve properties; Consumer's equilibrium; Price, Income & Substitution effects; Derivation of Demand Curve.

**Unit II: Revealed Preference and Consumption****(06 Hours)**

Revealed Preference theory of demand, recent development in demand theory - Hicksian Revised Theory; Consumer's Choice under Risk and Uncertainty; Consumer Surplus, Marshall's Measurement of Consumer Surplus, Measurement of Consumer Surplus through indifference Curve analysis; Elasticity of Demand.

**Unit III: Theory of Production, Cost and Revenue****(10 Hours)**

Economies of Scale, Internal and External Economies and Diseconomies; Production Possibility Curve, Production Function, Law of Variable Proportions; Returns to Scale; Isoquants - Properties, Producer's equilibrium, Expansion Path; Elasticity of substitution, Euler's theorem, Linear Homogenous Production Function, Cobb-Douglas & CES production functions; Concepts & Derivations of Short Run and Long Run Cost Curves; AC & MC Relationship, Revenue Concepts-AR, MR and TR, Revenue and cost relationships.

**Unit IV: Theory of Distribution****(08 Hours)**

Theory of Wage - Marginal Productivity Theory, Modern Theory, Wage Determination under Collective Bargaining; Theory of Rent - Classical and Modern Theory; Theory of Profit - Dynamic Theory, Innovation Theory, Risk and Uncertainty Theory; Theory of Interest - Classical, Loanable Fund Theory, and Liquidity Preference Approach.

**Unit V: Perfect Competition, Monopoly****(10 Hours)**

Perfect Competition; Price Determination, Equilibrium of the Firm and Industry; Monopoly - Price and Output Determination, Comparison between Monopoly equilibrium and Perfect Competition equilibrium; Discriminating Monopoly-Price Discrimination, Equilibrium under Discriminating Monopoly; Bilateral Monopoly and Monopsony; Sources of Monopoly, Regulation of Monopoly-Through Taxation, and Price Regulation.

**READING LIST:**

1. *Koutsoyiannis, A. (1979), Modern Microeconomics, (2<sup>nd</sup> Edition), Macmillan Press, London.*
2. *Varian, H. (2000) Microeconomic Analysis, W.W. Norton*
3. *Pyndyck, R.S. & D.L. Rubinfeld (1999), Microeconomics, (3<sup>rd</sup> Edition) Pentice Hall of India.*
4. *Ahuja, H.L. (2017), Advanced Economic Theory, S. Chand Publication.*
5. *Layard, P.R.G. and A.W. Walters (1979), Microeconomic Theory, McGraw Hill.*
6. *James M. Henderson and Richard E. Quandt, Microeconomic Theory- A Mathematical Approach, McGraw Hill Book Co.*
7. *Baumol, W. J. (1982), Economic Theory and Operations Analysis, Prentice Hall of India, Delhi.*

8. Roychowdhury, K.C. (1980), *Microeconomics*, Tata McGraw Hill, New Delhi.
9. Hugh Gravelle, Ray Rees, *Microeconomics*, Pearson Education Ltd
10. Jehle and Reny, *Advanced Microeconomic Theory*, Pearson India.
11. Kreps, David M. (1990), *A Course in Microeconomic Theory*, Princeton University Press, Princeton.
12. Stigler, G. (1996), *Theory of Price, (4th Edition)*, Prentice Hall of India, New Delhi.

## **ECON4002: Macroeconomics-I**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4002**

**Course Title: Macroeconomics-I**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The objective of the course is to introduce the basic macroeconomic principles to the students and familiarize them about the contributions of various schools of thought in Macroeconomics. The course focuses on the development of 'critical thinking' to analyse macroeconomic problems and an aptitude to relate concepts with research and policy.

### **Learning Outcomes:**

After successful completion of this course, the students will be able to:

- understand and explain the basic macroeconomic principles;
- to appreciate the workings of real and money markets and the nature of equilibrium in each market;
- define and analyse the determinants of macro-economic fluctuations;
- understand the earlier and contemporary macroeconomic events.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*

a. Attendance: 5%

b. Comprehensive Continuous Assessment (CCA): 15%

## **COURSE CONTENT:**

### **Unit-I: Measuring the value of Economic Activity (06 Hours)**

An overview of National Income Accounting, Conventions about National Accounting, Concepts of value added by production, National product at market prices and factor cost, Gross and Net Production; the circular flow of income, methods of income estimation- the product approach, the expenditure approach, and the income approach; Real and nominal GDP, the GDP deflator, accounting for environmental and social dimensions, Environmentally Adjusted Net Domestic Product

### **Unit-II: Behavioural Foundations of Macro Economics (10 Hours)**

Consumption Function- Keynes Psychological law and Absolute Income Hypothesis, Permanent Income Hypothesis, Life Cycle Hypothesis, Relative Income Hypothesis, and Fisher's inter-temporal Choice Model; Investment Function- Neo-Classical theory of Investment, Stock Market and Tobin's q-ratio, Accelerator theory of Investment

### **Unit-III: Classical and Keynesian Approaches to Income and Employment Determination (10 Hours)**

The Classical system- Say's Law, Quantity theory of money, wage-price flexibility and full employment; Main constituents of the Keynesian framework, effective demand, determination of equilibrium level of income and employment

### **Unit-IV: The IS-LM/ AD-AS Model (08 Hours)**

The IS curve and equilibrium in the Goods market, the LM curve and equilibrium in the money market, General equilibrium in the complete IS-LM Model; Aggregate demand and aggregate supply, equilibrium in the AD-AS Model, monetary neutrality in the AD-AS Model

### **Unit-V: Open Economy Macro Economics (06 Hours)**

International flows of goods and capital, capital mobility and the balance of payments, the Mundell-Fleming Model, monetary and fiscal policies under flexible exchange rates and fixed exchange rates

## **READING LIST:**

1. Ackley, G (1978), *Macroeconomics: Theory and Policy*, Macmillan, New York.

2. *Blackhouse, R. and Salansi, A (Eds.) (2000), Macroeconomics and the Real World (2 Vols.), Oxford University Press, London.*
3. *Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.*
4. *Dornbusch, R. and Stanley, F (1997), Macroeconomics, McGraw Hill, Inc., New York.*
5. *Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.*
6. *Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.*
7. *Mankiw, N. G, Macroeconomics, Worth Publishers, 7th edition, 2010.*
8. *Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.*
9. *Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw Hill, New York.*
10. *Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.*
11. *Surrey, M.J.C. (Ed.) (1976), Macroeconomic Themes, Oxford University Press, Oxford.*

## **ECON4003: Mathematics for Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4003**

**Course Title: Mathematics for Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The objective of the course is to familiarize the students with the use of mathematical tools in economic theory. The course will help to develop the aptitude to relate concepts with research and policy.

### **Learning Outcomes:**

After completing this course, the students will be able to:

- ) solve a range of problems relating to basic mathematical tools;
- ) develop mathematical skills used in economic analysis;
- ) make use of mathematical methods in formulating and analysing problems in economics;
- ) make use of mathematics in economic modeling and business applications.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in an examination.

### **Evaluation Criteria:**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

4. *Mid Term Examination: 20%*
5. *End Term Examination: 60%*
6. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

## **COURSE CONTENT:**

### **Unit I: Introduction and Review (06 Hours)**

Introduction and importance of mathematics for economics, Review of the number system, elementary co-ordinate geometry (graph theory), theory of sets, relations and functions; solution of linear and quadratic equations.

### **Unit II: Matrix Algebra and Determinant (06 Hours)**

Basic of matrix, Matrices - Elementary operations, types, Rank of matrix; matrix inversion; Solution of simultaneous equations; Cramer's rule and inverse matrix; the evaluation and properties of determinants, input-output models.

### **Unit III: Differential Calculus (10 Hours)**

Principles of differentiation; rules of differentiation; differentiation of implicit functions; Partial and total differentiation; application of optimization-- maxima and minima without constraints; maxima and minima subject to constraints, Economic application of differentiation, partial differentiation.

### **Unit IV: Anti-differential Calculus and Constrained Optimization (10 Hours)**

Concept of integration, Principles of integration, Indefinite and definite integrals; Application of integrals in economics, Consumer surplus and producer surplus; Concept of Constrained Optimization, Use of Lagrange multiplier; Deriving the condition for consumer equilibrium and producer equilibrium, Homogenous functions and theorem.

### **Unit V: Difference Equations (08 Hours)**

Solving first-order difference equations, Application of first-order difference equations, The Cobweb model; Second-order difference equations, Economic applications of second-order difference equations, Growth models and lagged market equilibrium models.

## **READING LIST:**

1. *Allen, R.G.D. (1967), Mathematical Analysis for Economists, Macmillan.*
2. *Budnick, F.S. (1993), Applied Mathematics for Business, Economics and Social Sciences, McGraw Hill.*

3. *Carl P Simun and Lawrence Blume (2006), Mathematics for Economists, Viva Book PL*
4. *Chiang, A.C. (2005), Fundamental Methods of Mathematical Economics, McGraw Hill, ND.*
5. *Chiang, A. C. and Kevin Wainwright, Fundamental Methods of Mathematical Economics – 4th Edition (2005) - McGraw Hill Publishing Company.*
6. *Dorfman, Samuelson and Solow (1958), Linear Programming and Economic Analysis, McGraw Hill,*
7. *Dowing, Edward T: Introduction to Mathematical Economics, (2/ed.), Schaum's Outlines, McGraw Hill, 1980.*
8. *Henderson (2003), Microeconomic Theory- A Mathematical Approach (3e), McGraw Hill.*
9. *Hoy, Livernois, McKenna, Rees and Stengos (2004), Mathematics for Economics, Prentice Hall, ND.*
10. *Mehta, BC and Madanani GMK: Mathematics for Economists, Sultan Chand and Sons, Delhi.*
11. *Nicholson, R.H. (1986), Mathematics for Business and Economics, McGraw Hill, NY.*

## **ECON4004: Classical Political Economy**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4004**

**Course Title: Classical Political Economy**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The objective of the course is to build understanding of students on the role of political economy in economic development and on classical political economic theories. The course aims to analyse the core theoretical concepts in classical political economy, with illustrations from developing countries.

### **Learning Outcomes:**

After completion of the course, the learners must be able to:

- ) understand the role of political economy in economic development;
- ) understand the theoretical concepts in political economy, with illustrations from developing countries.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.



**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Introduction****(05 Hours)**

Political Economy-Introduction, Class conflict and Classical Political Economy; The Rise of Classical Political Economy: The Institutional and Historical Background; Predecessors of Classical School (*Basic Doctrines of Mercantilists and Physiocrats*).

**Unit II: Political Economic Theories I****(11 Hours)**

Classical theory of value – Adam Smith, David Richard, Malthus and John Stuart Mill; The classical theory of distribution and growth, Smith’s natural philosophy and operation of invisible hand; Smith theory of capital accumulation and growth; Ricardo’s theory of growth and distribution.

**Unit III: Political Economic Theories II****(10 Hours)**

Marxian laws of capitalist economy; The concept of surplus and its emergence; Difference between classical and Marxian Economics; Classical Theories and their relevance to Contemporary conditions (with special reference to developing economies); New classical theories.

**Unit IV: Political Economy and Development****(08 Hours)**

Does Political Economy Matter for Economic Development? The Role of Leaders and Democratic Institutions; Determinants of Economic Development- Macro and Micro Evidences; political economy and social/human development.

**Unit V: Indian Political Economy****(06 Hours)**

Development thinking in Indian Planning; Debate on Centrist Politics and Indian states, Governance - Meaning and Characteristics; Issues related to Civil War, Corruption, Politicians and Firms.

**READING LIST:**

1. *Charles Sackrey, Geoffrey Schneider and Janet Knoedler (2013), Introduction to Political Economy, 7th/8th edition, Dollars and Sense.*
2. *Frankel, F. (2005), India’s Political Economy: a gradual revolution, 1947-2004, Oxford University Press.*

3. Bardhan (1999), *Political Economy of Reforms in India*, New Delhi: NCAER.
4. Bardhan, P. (1998), *Political Economy of Development in India*, Oxford: Oxford University Press.
5. Chandrasekhar, C.P. and Jayati Ghosh, (2002), *Market that failed: Decade of neoliberal reforms in India*, New Delhi: Left Word Books.
6. Bhardwaj, Krishna (1979): *Classical Political Economy and Rise to Dominance of Supply and Demand Theories*, Centre for Studies in Social Sciences, Bangalore.
7. Gide, Charles and Rist Charles (1915): *A History of Economic Doctrines*, D.C. Heath & Company, Boston.
8. Roll Eric (1956): *A History of Economic Thought*, Prentice Hall, Englewood Cliffs, NJ.
9. Rudolph, L.I. and Rudolph, S. H. (1987): *In Pursuit of Lakshmi*, Orient Longman Limited, Hyderabad.
10. Sraffa, Piero (1975): *Production of Commodities by means of commodities: Prelude to a critique of Economic Theory*, Cambridge University Press, U.K.

## **ECON4005: Indian Economy**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4005**

**Course Name: Indian Economy**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The objective of the course is to familiarize the students with different aspects of Indian economy. The course aims to provide an assessment of performance and trends of various macroeconomic variables of different sectors in the economy. It aims to provide critical analysis of reforms undertaken in various sectors of the economy; planning undertaken and results therein; challenges confronting the Indian economy in order to have meaningful insights and learnings in further courses of study.

### **Learning Outcomes:**

After completing this course, the students will be able to:

- ) understand the status and performance of Indian economy;
- ) understand various reforms undertaken in different sectors of the economy and results therein;
- ) learn a detailed analysis of challenges faced by and opportunities available for the economy.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Planning in Indian Economy (06 Hours)**

Growth and Structure of Indian Economy, Characterization of Indian Economy as a Developing Economy, Features and Objectives of Economic Planning in India, Economic Reforms in India - Liberalisation, Privatisation and Globalisation, Major developments in Post Economic Reforms Period, NITI Aayog.

**Unit II: Agriculture (10 Hours)**

Performances of Agriculture sector, Causes and measures of low productivity in Indian agriculture; Land reforms, Agricultural inputs and Green Revolution; Agricultural Credit and Marketing; evaluation of Agriculture policy; WTO and Indian agriculture; Food Security and Public Distribution System.

**Unit III: Industry & Services (10 Hours)**

Performances of industrial sector, Problems of small scale and cottage industries and government policy in India; industrial policy in pre and post reform period in India; public enterprises and private sector in the post liberalisation period; Performance of Service Sector in India; Causes of rapid growth of Tertiary Sector in India.

**Unit IV: Miscellaneous (08 Hours)**

External Sector- Composition and Direction of India's Foreign Trade, Recent foreign trade policy in India; Monetary and Fiscal Policy in India, Banking and financial sector reforms, evaluation of Indian tax structure; Goods and Services Tax in India.

**Unit V: Confronting challenges in Indian Economy (06 Hours)**

Confronting issues in Indian economy-Unemployment, Poverty, Inflation and Regional Disparities;  
Impact of Covid-19 on Indian Economy.

**READING LIST:**

1. Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), *India's Economic Reforms and Development (Essays in honour of Manmohan Singh)*, Oxford University Press, New Delhi
2. Datt, R. (Ed.) (2001), *Second Generation Economic Reforms in India*, Deep & Deep Publications, New Delhi.
3. Datt, R. and K.P.M. Sundharam, "Indian Economy", S. Chand & Company Ltd., New Delhi
4. Government of India, *Economic Survey (Annual)*, Economic Division, Ministry of Finance, New Delhi.
5. Kapila U, "Indian economy since independence", Academic foundation, New Delhi
6. Misra, S.K. and V.K. Puri, "Indian Economy — Its Development Experience", Himalaya Publishing House, Mumbai
7. Reserve bank of India Bulletin
8. Reserve Bank of India, *Report on Currency and Finance, (Annual)*.
9. Sen, R.K. and B. Chatterjee (2001), *Indian Economy: Agenda for 21st Century (Essays in honour of Prof. P.R. Brahmananda)*, Deep & Deep Publications, New Delhi

**ECON4006: Microeconomics-II**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4006**

**Course Title: Microeconomics-II**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

- ) To familiarize students with the simple mathematical tools to find out market outcomes and solve other numerical problems.
- ) To introduce the role of normative aspects and value judgement in analysing economic principles.

**Learning Outcomes:**

After completion of the course the learners must be able to:

- ) Make judgement of how theories actually work and how policies should be designed keeping in mind the ethical norms of social justice;
- ) Relate the numerical functions, equation and optimization techniques to theoretical aspects of consumption, production and market operations.

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Monopolistic Competition and Oligopoly (10 Hours)**

Monopolistic Competition – Price and Output Determination; Critique of Chamberlin’s Theory of Monopolistic Competition, Excess Capacity under Monopolistic Competition, Oligopoly–Price and Output Determination; Non-collusive oligopoly, Homogeneous Product Cournot, Stackelberg, Bertrand & Edgeworth models; Non-homogeneous Product, Chamberlin’s model & the kinked demand curve model; Collusive Oligopoly; Cartels, mergers, and price leadership.

**UNIT II: A Mathematical Approach to Market (06 Hours)**

Cost conditions for the existence of perfect competition, solving the price and output for perfect competition and monopoly; Cournot equilibrium as a Nash Equilibrium, Stackleberg Model; comparing price and output under different market conditions.

**Unit III: Alternative Theories of the Firm (06 Hours)**

Critical evaluation of marginal analysis; Baumol’s Model of Sales Revenue Maximization; Williamson’s Managerial Model, managerial discretion; Full cost pricing rule, Bain’s limit pricing theory and its recent developments.

**Unit IV: Welfare Economics (10 Hours)**

Pigovian welfare economics; Pareto optimal conditions; Value judgement; Social welfare function; Compensation principle; Inability to obtain optimum welfare–Imperfections, market failure, externalities, decreasing costs, uncertainty and non-existent and incomplete markets; Theory of second best–Arrow’s impossibility theorem.

## Unit V: General Equilibrium

(08 Hours)

Partial and General Equilibrium, Input-output approaches to general equilibrium, General Equilibrium of consumption, production and exchange, Existence, Stability and uniqueness of equilibrium and general equilibrium.

### READING LIST:

1. *Walter Nicholson, Christopher M. Snyder, Microeconomic Theory: Basic Principles and Extensions, Cengage Learning.*
2. *Jehle and Reny, Advanced Microeconomic Theory, Pearson India.*
3. *Layard, P.R.G. and A.W. Walters (1979), Microeconomic Theory, McGraw Hill.*
4. *Varian, H. (2000) Microeconomic Analysis, W.W. Norton.*
5. *James M. Henderson and Richard E. Quandt, Microeconomic Theory- A Mathematical Approach, McGraw Hill Book Co.*
6. *Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.*
7. *Pyndyck, R.S. & D.L. Rubinfeld (1999), Microeconomics, (3rd Edition) Prentice Hall of India.*
8. *Sen, A.K. (1970), Collective Choice and Social Welfare, Holden Day Inc.*
9. *San Francisco. Stigler, G. (1996), Theory of Price, (4th Edition), Prentice Hall of India, New Delhi.*
10. *Weintrub, E.R. (1974), General Equilibrium Theory, Macmillan, London.*

## ECON4007: Macroeconomics-II

(4 Credits= 3L + 1T)

**Course Code:** ECON4007

**Course Name:** Macroeconomics-II

**Credits Equivalent:** 4 Credits (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### Course Objectives:

The course emphasizes the role of macroeconomic policies that affect internal and external deficits, inflation and employment. The course is designed to introduce advanced macroeconomic models like rational expectation, open economic system and their importance in the transmission mechanism of the various economic instruments meant for stabilisation and economic development.

### Learning Outcomes:

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

After successful completion of this course a student will be able to:

- define and analyse the determinants of macro-economic fluctuations;
- understand and analyse the arguments of different schools of thought in macroeconomics;
- analyse the responses of policy makers to macroeconomic issues relating to inflation and unemployment.
- design a theoretical framework or empirical model for their own research in future.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

### **COURSE CONTENT:**

#### **Unit-I: Revisiting the Open Economy Macroeconomics (10 Hours)**

The open-economy IS-LM-BP Model - the open economy IS curve, the open economy LM curve, the BP line, Balance-of-Payments Adjustment Policy with Fixed and Flexible Exchange Rates, The Mundell-Fleming Model, Imperfect and perfect capital mobility - Policy under fixed and flexible exchange rates

#### **Unit-II: Output, Inflation and Unemployment (08 Hours)**

Inflation - Meaning and theories, The costs of inflation, Fighting inflation - the role of inflationary expectations; Measuring Unemployment, Relating output and unemployment - Okun's law, the costs of unemployment, Evolution of the Natural Rate Concept; Unemployment and inflation trade off - the Phillips Curve, The expectations-augmented Phillips curve, The long-run Phillips curve; The cyclical behaviour of economic variables - Meaning and features of business cycles

#### **Unit-III: The New Classical School (08 Hours)**

A review of the Keynesian position, the rational expectations concept and its implications, the Keynesian counter critique, Real Business Cycle Models, the structure of a real business cycle model, technology shocks, neutrality of money and flexibility of wages and prices, Real Business cycle view on great depression

#### **Unit-IV: The New Keynesian School**

**(08 Hours)**

The fall and rise of Keynesian economics, Keynesian resurgence, proposition and features of new Keynesian economics, Dornbusch's overshooting model, real rigidities, new Keynesian business cycle theory, policy implications, assessment of the new Keynesian economics

#### **Unit-V: The New Political Macroeconomics**

**(06 Hours)**

Political distortions and macroeconomic performance, Political influence on policy choice, The political economy of debts and deficits

#### **READING LIST:**

1. *Ackley, G (1978), Macroeconomics: Theory and Policy, Macmillan, New York.*
2. *Blackhouse, R. and Salansi, A (Eds.) (2000), Macroeconomics and the Real World (2 Vols.), Oxford University Press, London.*
3. *Blanchard, Olivier and Stanley, Fischer (1989), "Lectures on Macroeconomics", The MIT Press.*
4. *Blanchard, Olivier (2000), Macroeconomics, Prentice Hall.*
5. *Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.*
6. *Dornbusch, Rudiger, Fischer, Stanley & Startz, Richard (2004), Macroeconomics, 9th Edition, McGraw Hill.*
7. *Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.*
8. *Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.*
9. *Mankiw Gregory (2002), Macroeconomics, 5th Edition, Worth Publishers.*
10. *Romer, David (2003), Advanced Macroeconomics, 3rd Edition, McGraw Hill Publishers.*
11. *Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.*
12. *Snowdon Brian and Vane Howard R, (2005) Modern Macroeconomics: Its Origin, Development and Current State, Edward Elgar Publishing Ltd.*
13. *Surrey, M.J.C. (Ed.) (1976), Macroeconomic Themes, Oxford University Press, Oxford.*

### **ECON4008: Research Methodology**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4008**

**Course Title: Research Methodology**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.



**Credits Equivalent:** 4 Credits (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

The objective of this course is to develop a research orientation among the students and to acquaint them with the fundamentals of research methods. Specifically, the course aims at introducing them to the basic concepts used in research and to economic research methods and their approach.

**Learning Outcomes:**

After successful completion of this course, the students will be able to:

- develop skills in data analysis and presentation;
- identify the best research design for his/her research questions;
- understand, and apply appropriate research methods to his/her study;
- understand the limitations of a particular research method;
- develop writing skills and presentation skills.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

4. *Mid Term Examination: 20%*
5. *End Term Examination: 60%*
6. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Definition and Characteristics of Research (04 Hours)**

Research – Definition and Objectives; Types of Research, Steps of Research Process, Criteria of Good Research, Defining the research Problems, Research Design.

**Unit II: Descriptive Statistics (08 Hours)**

Measurement and Scaling Techniques, Methods of Data Collection, Processing and Analysis of Data; Measure of Central Tendency, Measures of Dispersion, Skewness and Kurtosis; Correlation and Regression.

**Unit III: Probability Distribution (10 Hours)**

Random variable, Mathematical Expectation, Probability distributions - Binomial, Poisson, Normal and Standard Normal Variate (*Z distribution*); Other distributions - Student's "t", Chi-Square ( $\chi^2$ ) and F-Distribution.

**Unit IV: Sampling Theory and Hypothesis Testing (12 Hours)**

Methods of Sampling, Sampling Design, Sample Size and its Determinants, Concept of Hypothesis, Testing of Hypothesis, degrees of freedom; Small sample tests: t Test,  $\chi^2$  test and F test; Large sample tests - Z test; Non-parametric tests, Analysis of Variance.

**Unit V: Outcomes of Research (06 hours)**

Research paper writing – Relevance, interest, available data, choice of data and analysis of data; interpretation of analysis and generalisation; Preparation of the Research Report, Different stages of writing Report, Precautions in writing Research Reports - Foot notes, Bibliography.

**READING LIST:**

1. Dawson, Catherine, 2002, *Practical Research Methods*, New Delhi, UBS Publishers' Distributors.
2. Kothari, C.R., 1985, *Research Methodology-Methods and Techniques*, New Delhi, Wiley Eastern Limited.
3. Kumar, Ranjit, 2005, *Research Methodology-A Step-by-Step Guide for Beginners*, (2nd.ed), Singapore, Pearson Education.
4. Shrivastava, Shenoy & Sharma, *Quantitative Techniques for Managerial Decisions*, Wiley
5. Goode W J & Hatt P K, *Methods in social research*, McGraw Hill 6
6. *Basic Computer Science and Communication Engineering – R. Rajaram (SCITECH)*
7. M. Cohen and E. Nagal – *An Introduction to logic and Scientific method*, New York 1962
8. Pauling V. Young – *Scientific Social Survey's and Research*, Prentice Hall – (Dorsey Press), New York.
9. Gupta, S. C. (2015), *Fundamentals of Statistics*, Himalaya Publishing House.
10. Gupta. S.C. and Kapoor V.K. (2000), *Fundamentals of Applied Statistics*, S. Chand, New Delhi.

**ECON4009: Development Economics-I (4 Credits= 3L + 1T)**

**Course Code: ECON4009**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Course Title: Development Economics-I**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

- ) To familiarize students with the parameters of measuring economic growth and factors affecting growth.
- ) To introduce the theoretical understanding of growth theories.

**Learning Outcomes:**

Successful completion of this course must enable the students

- ) To perceive economic advancement through the lens of a range of diversified parameters and their implications for developed and developing countries;
- ) To differentiate between the characteristics of growth development and understand different theoretical aspects of growth.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Concepts and Methods of Growth Theory****(06 Hours)**

Economic Growth: Introduction, Variables and Aggregation; Capital and Labour saving Technical Progress, Endogenous Technical Progress.

**Unit II: Growth Accounting****(06 Hours)**

Some Stylized Facts of Economic Growth, The concept of the Steady State, The Production Function Approach to the Analysis of Growth, Growth Accounting.

**Unit III: Growth Theories-I****(12 Hours)**

Classical Growth theory – The Harrod Domar Growth Model; Growth model with exogenous saving rate- the Solow Swan Model, Solow model with technical progress, Solow model with human capital, understanding difference in growth rates and idea of convergence; conditional and unconditional convergence; growth model with endogenous saving rate and consumer optimisation- Ramsey model

**Unit IV: Growth Theories-II****(12 Hours)**

New Growth Theories - Human Capital and Growth; Model of endogenous growth - The AK Model; Growth model with externalities - The Romer Model; Growth through creative destructions - The Schumpeterian Model.

**Unit V: Technology, Trade and Growth****(06 Hours)**

Diffusion of technology, Growth and financial capital flows, impact of institutions on long run growth.

**READING LIST:**

1. Ray, Debraj, (2009), *Development Economics*, Oxford University Press.
2. Mukherjee, A. and Chakrabarti, S., (2016), *Development Economics: A Critical Perspective*, PHI Learning Private Ltd.
3. Myint, Hla, (1965), *The Economics of Underdeveloped Countries*, Preager, New York.
4. Sen, Amartya, (2000), *Development as Freedom*, Oxford University Press.
5. Meier, G. M. and J. E. Rauch, (2008), *Leading Issues in Economic Development*, OUP.
6. Higgins, B. (1959), *Economic Development*, Norton, New York.
7. Kindleberger, C.P., (1977), *Economic Development*, McGraw Hill, New York.
8. Thirlwall, A. P., (2011), *Economics of Development*, Palgrave Macmillan.
9. Taneja, M. L. and Myer, R. M., (2017), *Economics of Development & Planning*, Vishal Publishing Co.
10. Todaro, M. P. and Smith, S. C., (2018), *Economic Development*, Pearson.
11. Y Hayami and Y Godo: *Development Economics, From the Poverty to the Wealth of Nations*(3rd Edition), OUP.

**ECON4010: Public Finance****(4 Credits= 3L + 1T)****Course Code: ECON4010**

**Course Title: Public Finance**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

The objective of the course is to familiarize the students about the concepts of functioning of modern public finance, argue the theoretical basis of public finance and analyse the economic effects of public policy.

**Learning Outcomes:**

After successful completion of this course, the students will be able to:

- critically assess the mechanism of functioning of modern public finance;
- understand different aspect of public economics;
- understand the concepts related to taxation, expenditure and fiscal federalism.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Economic Rationale of Government Activity (08 Hours)**

Individuals, Society and Government, Allocation of resources between government and private use, The role of state in Allocation, Distribution, Regulation and Stabilisation; market failure and the government intervention, Efficiency and Inefficiency in the public sector.

**Unit II: Theoretical Foundations (10 Hours)**

Public goods, private goods, and goods with externalities, Provision of private and public goods, Efficient output of a Pure Public Good, Public Choice and the Political Process, Normative Social

Choice Theories; Positive Social Choice Theories.

### **Unit III: Theory of Taxation**

**(10 Hours)**

Introduction to taxation, Canons of taxation; Approaches to tax equity - Benefit Principle and Ability to Pay, Shifting and Incidence of Tax - the Partial and the General Equilibrium Analysis; Efficiency Issues in Tax Design

### **Unit IV: Public Expenditure**

**(06 Hours)**

Pure theory of Public Expenditure, Public Sector Pricing, Principles of Evaluation of Expenditure - Benefits and Costs Analysis, Balanced Budgets, Deficits and Debt.

### **Unit V: Fiscal Federalism**

**(06 Hours)**

Patterns of Federalism, Centralised and Decentralised Government, Principles of Federal Finance, Principles of Multiunit Finance

### **READING LIST:**

1. Alan Peacock (1979), *The Economic Analysis of Governments*, St. Martin Press, New York.
2. Atkinson, A. and Stiglitz, J. (1980), *Lectures in Public Economics*, McGraw Hill, London.
3. Auerbach, A., and M. Feldstein (1987), *Handbook of Public Economics*, Vol. 1 &2. North Holland, Amsterdam.
4. Boadway, R. (1984), *Public Sector Economics*, 2nd Sub edition, Scott Foresman & Co., London.
5. Due, John F. and Friedlander, Ann F. (1977), *Government finance: Economics of the public sector*, 6th Edition, Richard D. Irwin Inc., Homewood.
6. Helpman, E., Razin, A. and Sadka, E. (1988) Editors, *Economic Effects of the Government Budget*, MIT Press, Cambridge, Mass.
7. Jha, Raghendra (1999), *Modern Public Economics*, Routledge, London and New York.
8. Johansen, Leif, (1965), *Public economics*, North - Holland Publishing Company, Amsterdam.
9. Laffont, Jean-Jacques (1994), *Fundamentals of Public Economics*, MIT Press Cambridge, Mass.
10. Myles, Gareth D. (1995), *Public Economics*, Cambridge University Press, Cambridge.
11. Rosen, Harvey S. (1995), *Public Finance 4th Edition*, Richard D. Irwin, Chicago.
12. Stiglitz, J.E. (1989) *Economics of the Public Sector*, W.W. Norton & Company, London.
13. Thompson, F. And Green, M. T. (1998), *Handbook of Public Finance*, Marcel Dekker, New York.
14. World Bank (1996), *From Plan to Market*, World Development Report, The World Bank, Washington DC.
15. World Bank (1997), *The State in a Changing World*, World Development Report, The World Bank, Washington DC.

## **ECON4011: Development Economics-II**

**(4 Credits= 3L + 1T)**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Course Code: ECON4011**

**Course Title: Development Economics-II**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

- ) To familiarize students with the parameters of measuring economic prosperity that goes beyond GDP.
- ) To introduce the theoretical understanding of development and growth theories.

**Learning Outcomes:**

Successful completion of this course must enable the students

- ) To perceive economic advancement through the lens of a range of diversified parameters and their implications for developed and developing countries;
- ) To differentiate between the characteristics of growth and development and understand different theoretical aspects of both.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

4. *Mid Term Examination: 20%*
5. *End Term Examination: 60%*
6. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Introduction**

**(10 Hours)**

Introduction, meaning and measurement of development; human development and deprivation; the characteristics of under development; goals and challenges of development; Obstacles to development - dualism and regional inequalities.

**Unit II: Development Theories-I**

**(10 Hours)**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

Classical theories of economic development - Adam Smith, Ricardo, and Marx; Malthus; The labour surplus economy and the Lewis Model; Initiating economic development - Big Push Theory and Critical Minimum Effort Thesis.

### **Unit III: Development Theories-II**

**(06 Hours)**

Balanced and Unbalanced Growth Strategies for economic development; Rostow's stages of economic growth; Rural-Urban Migration - Basic Model, Harris-Todaro Equilibrium; dependency school and its critique.

### **Unit IV: Growth, Inequality and Poverty**

**(06 Hours)**

Measuring economic inequality, the inverted-U hypothesis, Income and inequality - uneven and compensatory changes; Inequality, savings, income, and growth; Inequality, capital markets, and development; the Vicious Circle of poverty - Low Level Equilibrium Trap Theories, the Functional impact of poverty.

### **Unit V: Political Economy of Development (06 Hours)**

The role of the state in less developed and under developing countries, rent seeking and government failure, the State as problem and solution, the Washington Consensus; India's experiences with growth and development.

### **READING LIST:**

1. Ray, Debraj, (2009), *Development Economics*, Oxford University Press.
2. Mukherjee, A. and Chakrabarti, S., (2016), *Development Economics: A Critical Perspective*, PHI Learning Private Ltd.
3. Myint, Hla, (1965), *The Economics of Underdeveloped Countries*, Preager, New York.
4. Sen, Amartya, (2000), *Development as Freedom*, Oxford University Press.
5. Meier, G. M. and J. E. Rauch, (2008), *Leading Issues in Economic Development*, OUP.
6. Higgins, B. (1959), *Economic Development*, Norton, New York.
7. Kindleberger, C.P., (1977), *Economic Development*, McGraw Hill, New York.
8. Thirlwall, A. P., (2011), *Economics of Development*, Palgrave Macmillan.
9. Taneja, M. L. and Myer, R. M., (2017), *Economics of Development & Planning*, Vishal Publishing Co.
10. Todaro, M. P. and Smith, S. C., (2018), *Economic Development*, Pearson.
11. Y Hayami and Y Godo: *Development Economics, From the Poverty to the Wealth of Nations*(3rd Edition), OUP.

### **ECON4012: Basic Econometrics**

**(4 Credits= 3L + 1T)**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.



**Course Code: ECON4012**

**Course Title: Basic Econometrics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

The objective of this paper is to introduce basic econometric techniques that the course will equip the students with tools of econometrics for empirical work in economics and other related disciplines.

**Learning Outcomes:**

- ) This course would help the students to learn the basic tools of econometrics that are used to analyse various types of data;
- ) This course will help them to interpret and critically evaluate outcomes of empirical analysis;
- ) It will help them to undertake empirical analysis using the econometrics packages.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Introduction to Econometrics**

**(06 Hours)**

Definition and Scope of Econometrics, Methodology of Econometrics, Types of Econometrics, The nature of Regression Analysis - Interpretation, Causality & Notation, The structure of Economic Data, Concept of Population Regression Function (PRF), Sample Regression Function (SRF).

**Unit II: The Classical Linear Regression Model****(10 Hours)**

Ordinary least squares (OLS) estimation, the Classical assumptions, the Gauss-Markov theorem and properties of the OLS estimators, Hypothesis Testing, Goodness of Fit, Regression through Origin, Scaling and Units of Measurement, Functional Forms of Regression Model, Interpreting regression results, Maximum Likelihood techniques.

**Unit III: Extension to Multivariate Linear Regression Model****(06 Hours)**

Model Specification, Interpretation Multiple Regression Equation, Testing of Hypothesis: Individual Partial Regression Coefficient and Overall Significance, Goodness of Fit – F-tests, R-squared and Adjusted R-squared; CLRM in Matrix Formulation.

**Unit IV: Relaxing Assumptions of Classical Linear Regression Model****(10 Hours)**

Heteroscedasticity - Meaning and Consequences for OLS estimator, Tests for heteroscedasticity, Remedial Measures; Multicollinearity - Meaning and Consequences for OLS estimator, Tests for Multicollinearity, Remedial Measures; Autocorrelation - Meaning and Consequences for OLS estimator, Tests for autocorrelation, Remedial Measures; Types of Specification Errors and Testing Model Specification, Errors of Measurement.

**Unit V: Dummy Variable Regression Models****(08 Hours)**

Concept of dummy variable, Dummy independent variable, Dummy dependent variable: LPM, Logit, Probit, Multinomial Logit, Multinomial Probit and Tobit models.

**READING LIST:**

1. Gujarati, D (1995), *Basic Econometrics, 4th Edition, New York: McGraw Hill*
2. Johnston, J (1991), *Econometric Methods, 3rd edition, New York: McGraw Hill.*
3. Koutsoyiannis, A. (2001), *Theory of Econometrics, 2nd edition, Palgrave Macmillan.*
4. Pindyck, Robert S. and Daniel L. Rubinfeld (1995), *Econometric Models and Economic Forecasts, 4th Edition, Irwin McGraw-Hill, New York.*
5. Wooldridge, J. (2009), *Introductory Econometrics, 4th Edition, South-Western College Pub.*

**ECON4013: International Economics****(4 Credits= 3L + 1T)****Course Code: ECON4013****Course Name: International Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

- ) To enable students to have deep understanding of the theoretical analysis that governs the trade among countries, their basis and contribution to economic development.
- ) To familiarize the learners with the dynamics of foreign exchange and balance of payments that determines the macroeconomic fundamentals.

**Learning Outcomes:**

- ) Learners will have clear understanding of importance of international trade, methods of controlling export and import and macro policies in an open economy;
- ) Students will have the advantage to have holistic understanding of the four sector economy and the impact of macro policies.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: The Pure Theory of International Trade (10 Hours)**

Introduction to the international economics; Trade based on absolute advantage, comparative advantage and opportunity costs; Factor endowment and Heckscher – Ohlin model, theorem of factor price equalization, Leontief paradox; Standard trade model; demand and supply, Offer curves; Trade as an engine to growth; Terms of trade and economic growth-secular deterioration of terms of trade hypothesis-a critical review.

**Unit II: New Theories of International Trade (10 Hours)**

New Theories: Economies of scale, Imperfect competition -trade based on product differentiation and intra-industry trade, dynamic technological differences-product cycle model; Economic growth and international trade - Growth of factors of production- Rybczynski theorem, Technical progress; Growth and trade-small country and large country; Immiserizing growth; changes in taste.

**Unit III: Theories of Interventions and Economic Integration (10 Hours)**

Theory of intervention- Free trade and protection; Trade restriction-Tariffs (*Partial and general equilibrium analysis*), Stolper-Samuelson theorem; optimum tariff and effective rate of protection; Non -tariff barriers: Quotas, Voluntary export restraints, international cartels, dumping, export subsidies. Free Trade Areas versus Customs Union, custom union-Trade Creation and Trade Diversion; Static and dynamic benefit from custom unions Trade policy and reforms in India.

**Unit IV: Foreign Exchange (05 Hours)**

The Market for Foreign Exchange: demand and supply of foreign exchange; the case for fixed vs. flexible exchange rate; theories of exchange rate determination; spot and forward markets; flexible exchange rate and uncertainty; flexible exchange rate and inflation; speculation and the stability of the exchange rate; optimum currency areas.

**UNIT V: Balance of Payment (05 Hours)**

The Balance of Payments: the balance of trade, the balance of current and capital account, balance of payment; equilibrium and disequilibrium in BoP; autonomous and accommodating capital flows; BoP and economic policy; Adjustment in BoP: automatic adjustment; expenditure reducing and switching policy; devaluation and the trade balance, the absorption approach; the monetary approach to the BoP adjustment.

**READING LIST:**

1. Salvatore D (1998), *International Economics*, Prentice Hall.
2. Sodersten, Bo (1991). *International Economics*, The Macmillan Press
3. Paul, R. K & Obstfeld, M (1999), *International Economics: Theory and Policy*, Addison-Wesley
4. Bhagwati, J. (Ed.) (1981), *International Trade, Selected Readings*, Cambridge, University Press Massachusetts
5. Chacholiades, M (1990), *The Pure Theory of International Trade*, McGraw Hill.
6. Cherunilam F, *International Economics, Fifth Edition*, the Tata McGraw-Hill Companies, 2011
7. Dunn, R.M. and Mutti, J.H (2000), *International Economics*, Routledge Publishers, London
8. Kindleberger, C.P. (1973), *International Economics*, R.D. Irwin, Homewood.
9. King, P.G. (1995), *International Economics and International Economic Policy: A Reader*, McGraw Hill International, Singapore.

## **ECON4014: Software Applications of Econometrics (4 Credits= 2L + 0T + 2P)**

**Course Code:** ECON4014

**Course Title:** Software Applications of Econometrics

**Credits Equivalent:** 4 Credits (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

- ) To learn applications of various econometric tools for data analysis using econometric software packages like SPSS, EViews and Stata.
- ) To provide hands-on training to the students for applications of econometric software packages for the purpose of data analysis.
- ) To know the methods of interpretation and presentation of results of econometric exercises.

### **Learning Outcomes:**

After completing this course, the students will be able to use Statistical packages such as Excel, SPSS, EViews, STATA used in the economic data analysis. The course will provide an opportunity to learner to equip with tools required for statistical and economic analysis. The students with data analysis skills would be able to compete for jobs in the corporate sectors.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

## **COURSE CONTENT:**

### **Unit I: Simple Statistical Analysis using SPSS/EViews/STATA (05 Hours)**

- ) Tabular and Graphical Representation of data with interpretation.
- ) Displaying graphs on the screen – Saving and operating graphs, Printing graphs, labelling graphs, Overlay (two scales) graphs, Multiple graphs on a page.
- ) Descriptive Statistics - Central Tendency, Mean, median and mode.
- ) Variance and Standard Deviation; Skewness and Kurtosis.
- ) Covariance – Correlation.
- ) t-test procedures, F-test, normality test.
- ) Growth rate calculation, Trend Analysis

### **Unit II: Linear Regression-Interpretation using SPSS/EViews/STATA (05 Hours)**

- ) Two-Variable Regression Model, Multiple Regression.
- ) Functional Forms.
- ) Testing for Multicollinearity, Heteroscedasticity, and Autocorrelation and remedial measures.
- ) Interpretation and presentation of regression results.

### **Unit III: Regression models with dummy variables using SPSS/EViews/STATA (10 Hours)**

- ) Dummy variables models.
- ) Qualitative Response Models: Estimation of LPM, logit and probit models.
- ) Inference issues; goodness of fit measures and diagnostic tests.
- ) Interpretation of results

### **Unit IV: Application of SPSS/EViews/Stata for Analysis of Time Series Data (10 Hours)**

- ) Correlogram analysis and stationarity tests
- ) Test of cointegration and estimation of ECM; forecasting; estimation of VAR model; test of causality. Estimation of ARCH/GARCH models for testing volatility
- ) ARDL model and Interpretation and presentation of results.

### **Unit V: Estimation of Simultaneous Equations Systems (SES) and panel data analysis using SPSS/EViews/Stata (10 Hours)**

- ) Estimation of SES (ILS, 2SLS, IV regression, 3SLS, SURE).

- ) Fixed Vs. random effect models and Hausman test
- ) Panel unit root tests, co-integration tests.
- ) Panel VECM/VAR and panel ARDL model.

**READING LIST:**

1. HGL - R. Carter Hill, William E. Griffiths and Guay C. Lim (2007) *Principles of Econometrics, 3rd Edition, November*; (ISBN 978-0-471-72360-8) John Wiley & Sons Inc.
2. GHL - William E. Griffiths, R. Carter Hill and Guay C. Lim (2008) *Using EViews for Principles of Econometrics, 3rd Edition, February*; (ISBN: 978-0-471-78711-2) John Wiley & Sons Inc.
3. AH - Lee C. Adkins and R. Carter Hill (2007) *Using Stata for Principles of Econometrics, 3rd Edition, December*; (ISBN: 978-0-470-18546-9) John Wiley & Sons Inc.
4. GM - Darren George and Paul Mallery (2010) *SPSS for Windows Step by Step: A Simple Study Guide and Reference, 17.0 Update, 10th Edition*; (ISBN: 9788131762257) Pearson Education.
5. Adkins, Lee C & R Carter Hill, *Using Stata for Principles of Econometrics*, John Wiley & Sons, New York, 2011.
6. Cameron, A Colin & P K Trivedi, *Microeconometrics Using Stata*, Stata Press, USA, 2009.

**ECON4015: Master Dissertation**

**(4 Credits= 0L + 0T + 4P)**

**Course Code: ECON4015**

**Course Title: Master Dissertation**

**Credits Equivalent: 4 Credits**

**Course Objectives:**

- ) To expose the students to the realities to relate their theoretical understandings of the subject to practical situations.
- ) To develop critical perspectives to evaluate the alternative theoretical paradigms in economics.
- ) To encourage the students to think of alternative theories that may be developed in the light of their research and field experiences.

**Learning Outcomes:**

After completing this course, the students will be able to:

- ) This course would enhance the students' skills for undertaking studies to evaluate various developmental policies.

- J It would train the students to analyse various socio-economic issues using empirical data from the field or secondary sources.
- J The students would be able to frame policies for economic development in the light of their findings.

**Attendance Requirements:**

In this Course, the students are required to be in constant touch with his/her Supervisor in order to perform the research dissertation in time bound manner.

**Conduct of the Course:**

- J The dissertation work may be undertaken either by an individual student or by a group of students having a common interest in the topic after the approval of the department.
- J Each student/group will be assigned a Supervisor from the available faculties by the Department before the start of the Final Semester. The Department may allot Supervisors for Master Dissertation in the beginning of third Semester keeping in view of providing enough time for students to carry out the research work. However, the credits shall be counted in the last semester only.
- J The students will work under the over-all guidance of allotted Supervisor and in his/her consultation; finalise the Title of Master Dissertation, prepare Review of Literature, Objectives, perform Research Methodology and Data Analysis as partial fulfillment of the preparing Dissertation as per University rules and regulations.
- J The students will be required to complete the research work related to Dissertation before the completion of the End-Semester Examinations of final Semester.
- J The students shall be required to submit Dissertation in the Format as approved by the University and according to guidelines issued by the University in this regard after performing required formalities.

**Assessment and Evaluation Criteria:**

The Master Dissertation shall be evaluated on the basis of followings:

S. No.	Task/Activity	Assessment	Weightage
1.	Selection of Topic, Review of Literature, Objectives, Methodology & Data Analysis	Departmental Committee	30% (30 Marks)
2.	Assessment of Dissertation (on submission of Final Report)	Supervisor	20% (20 Marks)



3.	Assessment of Dissertation (on submission of Final Report)	Faculty Member other than Supervisor	20% (20 Marks)
4.	Final Seminar/Presentation	Departmental Committee	30% (30 Marks)
5.	<b>Total</b>	<b>100% (100 Marks)</b>	

**Note: The guidelines issued by the University pertaining to Master Dissertation will be strictly followed by the Department in Assessment and Evaluation of Master Dissertation.**

## **ECON4016: Environmental Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4016**

**Course Title: Environmental Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The course is meant to define the field of environmental economics and provide insights into the application of economic theory in the design of public policy related to the management of environmental issues and problems.

### **Learning Outcomes:**

After successful completion of this course a student will be able to:

- recognise the role of economic activity in deterioration of environmental quality;
- do environmental valuation of various services performed by the natural ecosystem;
- apply the tools of conventional economics in resolving environmental problems;
- understand the nature and context of contemporary environmental debates;
- recognise the local and global economic responses to environmental damage;
- Understand the issue of sustainability and behave accordingly.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit-I: Introduction****(06 Hours)**

The natural environment and the human economy - The neoclassical economic perspective and the ecological perspective, the Material Balance Model, Trade-offs - Economic versus environmental quality, Externalities in consumption and production, Public goods, The anatomy of market failure, Institutional arrangements addressing market failure, The absence of property rights and the Coase Theorem.

**Unit-II: Environmental Values****(08 Hours)**

Meaning of environmental values, User and Non-user values, Option value, Valuation Methods - Revealed preference and Stated preference valuation methods.

**Unit-III: Policy Instruments****(08 Hours)**

The economic theory of pollution control - The optimal level of pollution; Economic solutions to environmental problems - Pollution taxes, Environmental subsidies, Deposit and Refund systems, Pollution permit trading systems; Conventional solutions to environmental problems - Command-and-Control approach.

**Unit-IV: Environmental Planning****(08 Hours)**

Environmental risk analysis - Defining environmental risk, Classifying risk - voluntary and involuntary risk, Risk assessment and risk management; Environmental costs - explicit and implicit environmental costs, estimation methods for measuring explicit costs; Economic appraisal of environmental projects - Cost-Benefit analysis, Environment Impact Assessment.

**Unit-V: Limits to Growth and Sustainability Debate****(10 Hours)**

Climate change - ecological impacts, Stern Review, The economics of global warming and policy implications; Economic growth and the environment - the environmental Kuznets curve; Economics of sustainability, The neoclassical and ecological economics approach to sustainability; Green accounting and alternative indicators of sustainability.

## READING LIST:

1. *Bhattacharya, R. N. (Ed.) (2001), Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.*
2. *Hanley, N., J. Shogren, and B. White (1997), Environmental Economics in Theory and Practice, Macmillan Press.*
3. *Kolstad, C. D. (1999), Environmental Economics, Oxford University Press, New Delhi.*
4. *Perman, R. Y. Ma, J. McGilvray, and M. S. Common (1999), Natural Resources and Environmental Economics, Longman.*
5. *Sankar, U. (Ed.) (2001), Environmental Economics, Oxford University Press, New Delhi.*
6. *Tietenberg, T. (1994), Environmental Economics and Policy, Harper Collins, New York.*

## ECON4017: Financial Economics

**(4 Credits= 3L + 1T)**

**Course Code: ECON4017**

**Course Title: Financial Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### Course Objectives:

The course on Financial Economics is designed to familiarize students with the financial system and its components viz. financial instruments, financial institutions, financial markets and financial regulations. The course covers contemporary theories of different financial markets including money market, capital markets and derivative markets.

### Learning Outcomes:

- ) Describe how financial markets work and understand the features of different financial assets.
- ) Calculate and interpret key concepts related to financial markets and assets.

### Attendance Requirements:

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

### Evaluation Criteria:

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

## **COURSE CONTENT:**

### **Unit I: Introduction to Financial Markets (06 Hours)**

Financial assets versus non-financial assets, Role of financial assets in an economy Basic concepts of cash flow and maturity, interest rate, investment and market, bank and other financial institutions; Characteristics of financial market instruments – main types of financial instruments – definitional introduction - fixed deposits, stocks, derivatives, bonds, coupons and options

Capital market, consumption and investment with and without capital market; Market place and transaction costs; Fisher separation theorem; the agency problem, The problems of moral hazard and adverse selection.

### **Unit II: Theory of Uncertainty and Mean-Variance Portfolio Theory (06 Hours)**

Axioms of choice under uncertainty; utility functions; expected utility theorem; certainty equivalence, measures of risk-absolute and relative risk aversions.

Types of risks, Measurement of risk; Bivariate distributions–Conditional probabilities and expected values; Estimating the mean and variance of returns – Expected utility. Feasible set and Markowitz model.

### **Unit III: Securities markets and their efficiency (08 Hours)**

Stock market operations – Market Microstructure, The demand and supply of securities; Valuation of Stocks. Trading strategies.

Efficient Market Hypothesis(EMH), The weak, semi-strong and the strong form of EMH; The Capital Asset Pricing Model (CAPM) – The simplest form, Estimating betas, Implications for portfolio management, Validity of CAPM – Arbitrage Pricing theory.

### **Unit IV: Derivatives and Futures prices (10 Hours)**

Uses of Derivatives – Futures contracts and futures markets, Forward contracts, elements and organization of futures contracts; Relation among spot and futures prices, financial futures, commodity futures; Closing out with futures – Hedgers, speculators, market equilibrium – the role of expectations, Futures and portfolio management.

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

## Unit V: Options and Swaps

(10 Hours)

Institutional aspects – Exchange traded stock options, The pay offs from buying and selling options; Boundary conditions on option prices, The put-call parity theorem, Brownian Motion process, Pricing – What the hedge ratio ('Delta'), Gamma, Vega Theta, Rho means. Interest Rate Swaps – Swaptions, Other types of swaps.

### READING LIST:

1. Bruce Tuckman (2002), *Fixed Income Securities*, Willey Finance.
2. Chandra, Prasanna (2008), *Investment Analysis and Portfolio Management*, Tata McGraw Hills
3. David A. Dufresne and Thomas W. Miller (2003), *Derivatives: Valuation and Risk Management*, OUP.
4. E. J. Elton and M.J. Gruber (1995), *Modern Portfolio Theory and Investment Analysis*, Wiley, London.
5. J. C. Hull (2004), *Options, Futures and other Derivatives*, Prentice- Hall, New Jersey
6. J. Cvitanic and Zapatero F (2004), *Introduction to Economics and Mathematics of Financial Markets*, MIT Press, Cambridge, London.
7. John Y. Campbell, Andrew W. Lo and A. Graig Mackinlay, (1997) *The Econometrics of Financial Markets*, Princeton University Press.
8. McGraw Hills, , Prentice-Hall of India
9. Shapiro, Alan C. (1999), 4th edition, *Multinational Financial Management*, International
10. Z. Bodie, A. Kane and A.J. Marcus (2004), *Investments*, Irwin McGraw – Hill, London.

## ECON4018: Optimization Techniques

(4 Credits= 3L + 1T)

**Course Code:** ECON4018

**Course Title:** Optimization Techniques

**Credits Equivalent:** 4 Credits (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### Course Objectives:

The objective of this course is to apply basic concepts of mathematics to formulate an optimization problem.

### Learning Outcomes:

The course will illustrate how these techniques are useful in various applications drawing on many economic examples.

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Unconstrained & Constrained Optimizations (06 Hours)**

Unconstrained and constrained optimizations; Optimum values and relative maximum and minimum – First derivative test – Second derivative test – Second and higher order derivatives; Dynamics and integration – Indefinite integrals – Definite integrals – Improper integrals – Domar growth model.

**Unit II: Linear Programming (10 Hours)**

Basic concept, formulation of a linear programming problem – It's structure and variables – Nature of feasible, basic and optimal solution – Solution of linear programming through graphical – Formulation of the dual of a programme and its interpretation – Concept of duality and statement of duality theorems. Simplex method – Statement of basic theorems of linear programming – Shadow prices and their uses

**Unit III: Non-Linear Programming (10 Hours)**

Non-linear programming – nature, Kuhn-Tucker conditions, constrained qualification, Kuhn-Tucker sufficiency theorem – Economic applications.

**Unit IV: Input-Output Analysis (06 Hours)**

Assumptions - Technological Co-efficient Matrix; Closed and open Model; Solution of Open Model – Hawkins-Simon Conditions, Dynamic Input-Output Model – Production Function Approach to Input Output Model.

**Unit V: Game Theory (08 Hours)**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

Game Theory: Basic concepts -Two-person Zero Sum Games - The Maximum Minimax Principle – Games without Saddle Points – Mixed Strategies – Graphical solution of  $2 \times n$  and  $m \times 2$  Games – Dominance property – The Modified Dominance Property – Reducing the Game Problem as a Linear Programming Problem.

#### **READING LIST:**

1. Allen, R.G.D (2008). - *Mathematical Analysis for Economists*, Macmillan Press, New Delhi.
2. Chiang, A.C (2005)- *Fundamental Methods of Mathematical Economics*, McGraw Hill, New York.
3. Handry, A.T (1995). - *Operations Research*, PHI, New Delhi.
4. Mehta, BC and Madanani GMK: *Mathematics for Economists*, Sultan Chand and Sons, Delhi.
5. Sydsaeter, Knut and Peter Hammond (2002) - *Essential Mathematics for Economic Analysis*, Prentice Hall: Harlow, England.
6. Yamane, Taro (1962) - *Mathematics for Economists*, Prentice Hall,

#### **ECON4019: GAME THEORY**

**(4 Credits= 3L + 1T)**

**Course Code: ECON419**

**Course Title: GAME THEORY**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

#### **Course Objectives:**

- ) To make students analyse the individual behaviour through different experiments
- ) To demonstrate different behavioural aspects of economic agents through general framework of different games and their solution.

#### **Learning Outcomes:**

Finishing the course successfully will enable students to

- ) Appreciate the long-run behavioural outcome arrived at through Nash equilibrium for a range of games.
- ) Use the probabilities to demonstrate strategies and repeated games to ascertain long-run behaviour distinct from short-run.

#### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Introduction**

**(06 Hours)**

What is Game Theory; History of Game Theory; Basic concepts of Game Theory: Game, Player, Strategy, Payoff, Pay off Matrix; Models: Certainty and Uncertainty Model, Zero-sum game and Non-zero-sum Game; Two-person Zero-sum Game: Concept, Assumptions, Choice of strategies, Maxmin and Minimax principle, Two-person Zero-sum game: Uncertainty model. Non-zero-sum Game: concept, assumptions.

**Unit II: Games with Perfect Information**

**(06 Hours)**

Games with perfect information: The Prisoners Dilemma, Bach or Stravinsky, Matching Pennies, Stag Hunt; Nash equilibrium in different kinds of games; Pure strategy, Nash Equilibrium, Applications of Nash equilibrium, Cournot's and Bertrand's model of oligopoly.

**Unit III: Mixed Strategy Equilibrium**

**(10 Hours)**

Mixed strategy Nash equilibrium in different kinds of games; Expected Payoff functions; Dominated actions; pure equilibria when randomization when randomization is allowed; Symmetric mixed strategy Nash equilibrium; Reporting of Crime: Social psychology and Game Theory. Finding all mixed strategy Nash Equilibrium.

**Unit IV: Extensive Games with Perfect Information**

**(06 Hours)**

Extensive Games with perfect information: Theory; Introduction; Strategies and Outcome; Nash Equilibrium; Subgame perfect equilibrium; Finding subgame perfect equilibrium of finite horizon games; Backward induction; Stackleberg's model of Duopoly and Buying Votes; Games with imperfect information: Introduction and Examples.



## **Unit V: Repeated Games**

**(12 Hours)**

The main idea; Preferences; Infinitely repeated games; Strategies; Some Nash equilibria of the infinitely repeated Prisoner's Dilemma; Nash equilibrium payoffs of the infinitely repeated Prisoner's Dilemma when the players are patient; Subgame perfect equilibria and the one-deviation property; Some subgame perfect equilibria of the infinitely repeated Prisoner's Dilemma; Nash equilibria of general infinitely repeated games; Subgame perfect equilibria of general infinitely repeated games; Axelrod's experiments; Reciprocal altruism among sticklebacks; Finitely repeated games.

### **READING LIST:**

1. Osborne, J. Martin (2000), *An Introduction to Game Theory*, OUP.
2. Koutsoyiannis, A. (2003), *Modern Microeconomics (2nd ed.)*, Palgrave Macmillan.
3. Varian, Hal R. (2010), *Intermediate Microeconomics*, Affiliated East-West Press Pvt. Ltd.
4. Datta, Prajit K. (1999), *Strategies and Games*, The MIT Press (February 16, 1999).

## **ECON4020: Institutional Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4020**

**Course Name: Institutional Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

- ) To familiarize the learners with the role of institutional settings in shaping the economic outcomes.
- ) To introduce the theoretical underpinning that relates institutions to economic development.

### **Learning Outcomes:**

- ) Learners will have clear understanding of role of institutional arrangement in economic performance.
- ) Students will be able to perceive various institutional failures that need government intervention.

### **Attendance Requirements:**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Introduction (08 Hours)**

Institutional Economics as a departure from Neo-Classical and Marxian Economics, Historic development of Institutional Economics, Old and New Institutional Economics, Core issues in New Institutional Economics.

**Unit II: Problems of Information Asymmetry (08 Hours)**

Prisoner's dilemma and Nash equilibrium, Assurance problem, Principal-Agent Problem, Problem of Adverse Selection, Problem of Moral Hazard, Market for Lemons, Market Signalling.

**Unit III: Property Rights Issues (08 Hours)**

Concepts of Property and defining Property Rights, Problems of Ill-defined Property rights, Externalities-Market failure and property rights, Issues relating to ill-defined property rights,

**Unit IV: Transaction Costs and Bounded Rationality (08 Hours)**

Issues relating to transaction costs, Social cost vis-à-vis individual costs, Identification and measurements of transaction costs, Coase Theorem, Bounded Rationality, Public Policy, Insurance Sector, Social issues, Ecological and Environmental Issues.

**Unit V: Miscellaneous (08 Hours)**

Social vis-à-vis Individual Choices; Neo-classical Maximisation vis-à-vis Methodological Individualism; Prisoner's Dilemma, Hardin's Tragedy of Commons, Collective Action, Assurance Problem.

**READING LIST:**

1. *Furber & Richter, 'Institutions and Economic Theory', Dryden Press.*

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

2. Pindyck, Robert S., Rubinfeld, Daniell L., & Mehta, Prem L., "Microeconomics", 7th Edition,(2009), Pearson.
3. Frank, Robert H., "Micro Economics and Behaviour", McGraw Hill International Editions,(1991).
4. Eggertson, Thrainn, "Economic Behaviour and Institutions", Cambridge University Press,(1999).
5. North, Douglas C., "Institutional Change and Economic Performance", Cambridge University Press, (2004).
6. Olson Mancur (1965), *The Logic of Collective Action*, Harvard University Press, Cambridge.
7. Shaw, M E. (1971). *Group Dynamics: The Psychology of Small Group Behaviour*, McGrawHill, New York.
8. Ahuja H. L., "Advanced Economic Theory – Microeconomic Analysis", 17th Revised Edition,(2008), S. Chand & Company Ltd.

## **ECON4021: Financial Econometrics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4021**

**Course Title: Financial Econometrics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The objective of this course is to provide a comprehensive and systematic account of financial econometric models and their applications to modeling and prediction of financial time series data.

### **Learning Outcomes:**

- ) The students will learn the spectrum of quantitative financial economics.
- ) The course will discuss important results in the empirical finance literature.
- ) The course will provide comprehensive knowledge to do empirical work in financial practice.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Predicting Financial Return (06 Hours)**

Financial time series, asset returns, distributional properties of financial returns, Market efficiency, Principle component analysis, factor analysis

**Unit II: Models of Volatility (06 Hours)**

Modeling volatility, ARCH, GARCH and various versions of GARCH; Long-memory and stochastic volatility models; Recent developments in volatility estimation using high frequency data, Markov Switching Model.

**Unit III: Risk and Return Models for Multiple Assets (10 Hours)**

Multivariate time series analysis, Weak stationarity and cross correlations, Vector autoregressive models- VAR, Vector moving average models-VMA, ARMA and Model evaluation Vector models for mean, Time varying variance-covariance matrix and the dynamic conditional correlation models.

**Unit IV: Random Walks, Cointegration and Markov Chain Simulation (10 Hours)**

Pitfalls-Spurious regression, Cointegration and error correction models, Threshold cointegration and arbitrage models, Markov Chain Monte Carlo Methods with applications.

**Unit V: Value at Risk (VaR) Models (08 Hours)**

Value at risk-VaR, An econometric approach to VaR calculations, Quantile estimation, Extreme value theory, An extreme value approach to VaR, A new approach based on the extreme value theory.

**READING LIST:**

1. *Pattersan Kerry (2000), An Introduction to Applied Econometrics: A Time Series Approach, Palgrave Macmillan*
2. *Tsay, Ruey S (2001), Analysis of Financial Time Series, John Wiley and Sons, Macmillan Press.*
3. *Cochrane, John (2005), Asset Pricing, Princeton University Press, Princeton*

**ECON4022: Advanced Econometrics (4 Credits= 3L + 1T)**

**Course Code: ECON4022**

**Course Title: Advanced Econometrics**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Credits Equivalent:** 4 Credits (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course objectives:**

This course is designed with additional econometrics tools that are often used in the analysis of economic research.

**Learning Outcomes:**

Students shall learn about use of simultaneous equations, analysis of cross section, time series and panel data, the role of time or lag in economic relationship, principal component analysis, non-linear regression, etc.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Simultaneous-Equation Models**

**(10 Hours)**

Introduction, Structural, reduced form and final form model, Rational behind the use of SEM - simultaneous bias and inconsistency of the OLS estimator, Problem of Identification: Rank and Orders conditions, Methods of estimation: ILS, 2SLS, Instrumental Variable, LIML, Mixed estimation Method, 3 SLS and FIML methods.

**Unit II: Time Series Analysis**

**(10 Hours)**

Basic Concepts in Time Series Econometrics, Stochastic Time Series Models, Stationarity and Testing for Unit Root, Co-integration, ARIMA Models, Stationarity, The Autocorrelation Function, The Partial Autocorrelation Function, Box-Jenkins Model Selection, Properties of Forecasts, ARCH and GARCH models.

**Unit III: Dynamic Econometric Models****(10 Hours)**

Autoregressive and Distributed Lag models: Role of Lag in Economics – Estimation of Distributed Lag Models: Koyck Approach, adaptive Expectation and partial Adjustment Models, Causality in Economics, Vector Auto-Regression (VAR) Models, Cointegration and Error-correction Models, Impulse Response Function, Variance Decomposition, ARDL model.

**Unit IV: Panel Data Regression Models****(05 Hours)**

Introduction, The Fixed Effects Model, The Random Effects Model, Fixed vs Random, Maximum Likelihood Estimation, Prediction, Hausman's Specification Test, Panel Unit Root and Co-integration, Panel ARDL model, GMM Estimation of Linear Panel Models.

**Unit V: Other Topics****(05 Hours)**

Seemingly Unrelated Regression (SURE): Estimation by OLS, GLS and FGLS; testing for structural change and aggregation bias; case of autoregressive errors; The Method of Principal Component Analysis; Nonlinear Regression Functions; Estimation of Nonlinear Regression.

**READING LIST:**

1. Baltagi, B. H. (2008), *Econometric Analysis of Panel Data, 4th Edition*, Wiley.
2. Gujarati, D (1995), *Basic Econometrics, 4th Edition*, New York: McGraw Hill.
3. Hamilton, JD (1994), *Time Series Analysis*, Princeton University Press, New Jersey.
4. Hsiao, C. (2003), *Analysis of Panel Data*, Cambridge University Press, Cambridge.
5. Johnston, J (1991), *Econometric Methods, 3rd edition*, New York: McGraw Hill.
6. Koutsoyiannis, A. (2001), *Theory of Econometrics, 2nd edition*, Palgrave Macmillan.
7. Lutkepohl, Helmut (2007), *New Introduction to Multiple Time Series Analysis*, Springer, New York.
8. Pindyck, Robert S. and Daniel L. Rubinfeld (1995), *Econometric Models and Economic Forecasts, 4th Edition*, Irwin McGraw-Hill, New York.
9. Walter Enders (2008), *Applied Econometrics Time series*, Wiley India.
10. Wooldridge, J. (2009), *Introductory Econometrics, 4th Edition*, South-Western College Pub.

**ECON4023: International Finance****(4 Credits= 3L + 1T)****Course Code: ECON4023****Course Name: International Finance****Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Course Objectives:**

The aim of the course is to make students aware of the role of international finance in affecting the process of development and also its impact on market volatility. The course provides a brief account of international organisation engaged in financial system and their relevance.

**Learning Outcomes:**

After successful completion of the course, the learners will be able to understand the role of international finance in affecting the process of development and also its impact on market volatility. They will be able to understand the policies regulated by international financial organisations.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Balance of Payments-I****(05 Hours)**

Meaning and Components of balance of payments; Measurement of Balance of Payments, Surpluses and Deficits; General Theory of Balance of Payments-the types and causes for disequilibrium.

**Unit II: Balance of Payments-II****(05 Hours)**

The process of adjustment under Gold Standard, Fixed exchange rates and flexible exchange rates, devaluation; Expenditure-reducing and Expenditure-switching policies and direct control for adjustment.

**Unit III: Foreign Exchange Market****(10Hours)**

Theories of exchange rate determination; Purchasing Power Parity theory, Monetary and Portfolio

balance approaches; Equilibrium exchange rates; Stability in the exchange market and market intervention policy. Exchange rates volatility; reasons and consequences.

#### **Unit IV: International Capital Movements**

**(10 Hours)**

International Capital movements; The transfer problem-The Euro currency market-International Development Agencies; Theory of Short-term capital movements and East Asian crisis and lessons for developing countries; FDIs and FIIs roles in international capital mobility; Currency crises, Foreign exchange reserve in India.

#### **Unit V: International Monetary System**

**(10 Hours)**

Rise and fall of gold standard and Bretton-Woods system; Need, adequacy and determinants of International reserves; Conditionality clause of IMF; Role of International Finance agencies (IMF, World and ADB) in solving International liquidity problem; Reforms in International Monetary System, Emerging International monetary system with special reference to post Maastricht development and developing countries.

#### **READING LIST:**

1. Bhagwati, J. (Ed.) (1981), *International Trade, Selected Readings*, Cambridge, University Press, Massachusetts.
2. Carbaugh, R.J. (1999), *International Economics*, International Thompson Publishing, New York.
3. Chacholiadas, M. (1990), *International Trade: Theory and Policy*, McGraw Hill, Kogkusha, Japan.
4. Dana, M.S. (2000), *International Economics: Study Guide and Work Book (5th Edition)* Toutledge Publishers, London.
5. Kenen, P.B. (1994), *The International economy*, Cambridge University Pres, London.
6. Kindleberger, C.P. (1973), *International economics*, R. D. Irwin, Homewoor.
7. Kind, P.G. (1995), *International Economics and International Economic Policy: A Reader*, McGraw Hill International, Singapore.
8. Krugman, P.R and M. Obstfeld (1994), *International Economics: Theory and Policy*, Glenview, Foresman.
9. Salvatore, D. (1997), *International Economics*, Prentice Hall, Upper Saddle River, N.J. New York.
10. Soderston, BN.O (1991), *International Economics*, the Macmillan Press Ltd., London.
11. Tirole, Jean (2002), *Financial Crises, Liquidity and the International Monetary System*, New Jersey: Princeton University Press.



## **ECON4024: Applied Econometrics**

**(4 Credits= 3L + 1T)**

**Course Code:** ECON4024

**Course Title:** Applied Econometrics

**Credits Equivalent:** 4 Credits (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course objectives:**

The course on Applied Econometrics is designed to introduce the basic tools to analyse the relationship among economic and financial variables. Economic theory will be supported and complemented by empirical exercises.

### **Learning Outcomes**

- ) Proficiently use econometric software for econometric and statistical analysis
- ) Conduct independent data analysis and inquiry using the tools of statistics and econometrics
- ) Use econometric methods in economic theory
- ) Present and discuss methodology and results in group

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

### **COURSE CONTENT:**

#### **Unit I: Demand Analysis and Consumption Function**

**(06 Hours)**

Consumer Demand Analysis - Specification and Estimation of Demand Equations, Engel Functions and Curves; Linear Expenditure System, Review of Empirical Studies; Estimates of the simple

consumption function, Relative Income Hypothesis, Life Cycle Hypothesis, Permanent Income Hypothesis, Review of some empirical studies.

### **Unit II: Production and Cost Functions**

**(10 Hours)**

Properties of the neoclassical production functions, Specification and Estimations of Production Function: Cobb-Douglas, CES, Trans-log, Review of Empirical studies, Functional forms and Estimation of Cost Functions, Estimation of Factor demand Equations, Estimation of productivity and efficiency, Review of Empirical Studies.

### **Unit III: Investment Function and Macro Econometric Models**

**(10 Hours)**

Accelerator models, Distributed lag function, Macro Econometric Models, Forecasting, dynamic multipliers and policy analysis, Klein Model, Macro Econometric models for India, Review of some empirical studies.

### **Unit IV: Impact Evaluation**

**(06 Hours)**

Introduction to Impact Evaluation, Causal Inference and Counterfactuals, Randomisation method, Regression Discontinuity Design, Propensity score matching (PSM) method, Difference-in-Differences (DD) Design, Instrumental Variable (IV) Method, Review of Empirical Studies.

### **Unit V: Other Topics**

**(08 Hours)**

Models of Money Demand and Supply, Structure of Interest Rates, Phillips Curve, Review of Empirical Studies; Missing Data and Imputation, Sample-selection Bias-Heckman correction: benefits, problems and alternatives; Median and Quantile Regression; Decomposition technique for linear regression models; Review of Empirical Studies.

### **READING LIST:**

1. Colin Cameron, A. and Trivedi, Pavin K. (2003), *Microeconometrics: Methods and Applications*, Cambridge.
2. Deaton A. and John Muellbauer (1987), *Economics and Consumer Behaviour*, Cambridge University Press.
3. Kenneth F. Wallis (1979), *Topics in Applied Econometrics*, 2nd Edition, Blackwell Publisher, Oxford.
4. Paul Gertler, Christel M.J. Vermeersch, Laura B. Rawlings, Patrick Premand, Sebastian Martinez (2010), *Impact Evaluation in Practice*, The World Bank.
5. Pindyck, Robert S. and Daniel L. Rubinfeld (1997), *Econometric Models and Economic Forecasts*, 4th Edition, Irwin McGraw-Hill, New York.
6. Ramanathan, Ramu (2001), *Introductory Econometrics with Applications*, 5th Edition, Cengage Learning India Pvt. Ltd., New Delhi.
7. Thomas, R.L (1993), *Introductory Econometrics: Theory and Applications*, Longman, London.

## **ECON4025: Money, Banking and Finance**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4025**

**Course Title: Money, Banking and Finance**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The course aims to familiarize students with concepts of money and role of money in economic development. The course provides a brief overview of structure of banking system and credit creation therein. The course aims to familiarize students with financial system and its components viz. financial instruments, financial institutions, financial markets and financial regulations.

### **Learning Outcomes:**

After completion of the course must make the learners able to

- ) Understand the role of money in economic development;
- ) Understand the structure of banking system in India and mechanism of credit creation by banking system;
- ) Understand the basic of financial system and instruments and markets therein.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

### **COURSE CONTENT:**

**Unit I: Demand for Money**

**(08 Hours)**

Definition of Money, Nature and functions of money, Classical Quantity Theory of Money, Keynesian Theory of Demand for Money, Milton Friedman's Modern Quantity Theory of Money, Post-Keynesian Theories of Demand for Money.

**Unit II: Supply of Money**

**(08 Hours)**

Introduction, Sources of Money Supply, The H Theory of Money Supply, The Money-Multiplier Process, Issues regarding endogenous and exogenous supply of money, measurers of Money supply in India.

**Unit III: Banking**

**(06 Hours)**

Structure of banking system in India; Origins, structure and functions of the Reserve Bank of India; Credit creation by banking system; goals of monetary policy, Conventional and non-conventional monetary policy tools.

**Unit IV: Financial Markets**

**(10 Hours)**

Financial System, An overview of financial markets, Money Markets, instruments of the money market; Bond Markets-an overview, Stock Market – an overview, Mortgage Market - an overview, Foreign Exchange Market-an overview; International Financial System.

**Unit V: The Financial Institutions Industry**

**(06 Hours)**

The Banking Industry – an overview, Bank Balance Sheet, Bank Consolidation; Mutual Fund Industry – an overview; Insurance Companies and Pension Funds.

**READING LIST:**

1. *M.Y. Khan, Indian Financial System, Tata Mc Graw Hill, New Delhi.*
2. *Vasant Desai, Indian Financial System, Himalaya Publications, Bombay.*
3. *Peter. S. Rose, Money and Capital Market: Financial Institutions and Instruments, Tata McGraw Hill, London.*
4. *S. C. Kucchal, Corporation Finance, Chaitanya Publishing, Allahabad.*
5. *S. L. N. Sinha, Capital Market in India, Vora & Co, Bombay.*
6. *Hendrik. S. Houthakker, The Economics of Financial Markets, Oxford University Press, New Delhi.*
7. *Mishkin, Frederic (2007), The Economics of Money Banking and Financial Markets, 8th ed. Addison Wesley Longman Publishers.*
8. *Bain, Keith & Howells, Peter (2009), Monetary Economics: Policy and Its Theoretical Basis, Palgrave.*
9. *Friedman, Ben & Hahn F.H. (Eds.) (1990), Handbook of Monetary Economics, Vols. 1, 2, & 3, North Holland Publishers.*

10. Gupta, S. B. (2006), *Monetary Economics: Institutions, Theory and Policy*, S. Chand & Company Ltd.
11. Vaish, M. C. (2010), *Monetary Theory*, Vikas Publishing House Pvt Ltd.
12. Handa, Jagdish (2009), *Monetary Economics*, Routledge, London & New York.

## **ECON4026: Health Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4026**

**Course Title: Health Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The objective of this course is to familiarize students with the theories and methods of health economics and how they can be applied to analyse the functioning of the health system. The course also focuses on the determinants of health and use of health services.

### **Learning Outcomes:**

After successful completion of this course a student will be able to:

- apply economic concepts and models to the fields of demand for health, demand for health services, demand for health insurance, provision of health insurance and provision of health care;
- understand and analyse the economic theories and models of health programme evaluations;
- have a comprehensive understanding of health care in India.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Introduction, Demand for Health and Health Care (08 Hours)**

Welfare economics of medical care, production of health, demand for health and health care, equity, efficiency and the need, link between development and health, investing in health for economic development, public-private partnership and the role of state.

**Unit II: Health Production Function (10 Hours)**

Nature of production function, different types of production function and their applications, national and international perspective, distributional inequities in opportunity and commercialization of medical and para-medical education, cost escalation in the health care system, easy access and availability to appropriate technology, need for regulation and control.

**Unit III: Health Care Incentives and Financing (08 Hours)**

Goals of health care provision and financing, competitive health insurance and risk adjustment, demand and supply of health insurance, asymmetric information and agency, market insurance, self-insurance and protection, employment based insurance, health insurance in India.

**Unit IV: Measuring and Valuing Health Outcomes (06 Hours)**

Measurement of health state utilities, QALYs and its alternatives- different approaches of valuing health; multi-attribute utility instruments and their development.

**Unit V: Health Care in India (08 Hours)**

Various health indicators and its recent trend, health care expenditures, target of health care and achievements, different options for financing healthcare, taxation, user fees, health insurance, role of urban and rural local bodies, role of non-governmental organizations, economic impact of HIV/AIDS in India and gender issues.

**READING LIST:**

1. *Anthony J. Culyer and Joseph P.(ed) (2000), Handbook of Health Economics, Newhouse, North-Holland, Elsevier Science.*
2. *CII-Mckinsey Report, Healthcare in India: The Road Ahead, 2004.*
3. *Clewar, Ann, and David Perkins, (1998), Economics for Health Care Management, London: Prentice Hall.*
4. *Culyer, A. J. and J.P. Newhouse (eds.), (2000), Handbook of Health Economics, Volumes 1A & B, North-Holland.*

5. *Folland, S., A.C. Goodman and M. Stano (2006), Economics of Health and Health Care, fifth edition, Pearson Prentice Hall.*
6. *Jack William, (1999), Principles of Health Economics for Developing Countries, World Bank Institute Development Studies.*
7. *Rice, Thomas, (1998), The Economics of Health Reconsidered. Chicago: Health Administration Press.*
8. *Santerre and Neun, (2004), Health Economics: Theories, Insights, and Industry Studies, Thomson/South Western.*
9. *Sherman Folland, Allen C. Goodman, and Miron Stano, (2004), The Economics of Health and Health Care, 4th Edition, Prentice Hall.*
10. *World Development Report, Investing in Health, The World Bank, 1993.*
11. *Zweifel, P., (1997), Health Economics, Oxford University Press.*

## **ECON4027: Labour Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4027**

**Course Title: Labour Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

This course provides an introduction to labour economics and applies economic analysis to understanding the functioning of labour markets. The course is both empirical and theoretical. It emphasises on labour market institutions and government policies that regulate the labour market.

### **Learning Outcomes:**

After successful completion of the course, the learners will be able to understand the core fundamentals of labour economics and markets. They will be able to analyse the policies pertaining to regulations of labour market.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*

3. *Continuous Internal Assessment (CIA): 20%*

a. *Attendance: 5%*

b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Supply of and Demand for Labour and Equilibrium (12 Hours)**

Static Labour-Leisure Choice, Effects of Social Programmes and Income Taxes, The Life-Cycle Model Investments in Human Capital, Collective Models of Household labour supply, Occupational Choice; Static cost, profit and labour demand functions, Elasticity of derived demand - the Hicks-Marshall rules, Adjustment costs and dynamic labour demand; Compensating differences, Evidence on premium for risky or nasty jobs, Efficiency wages, Segmented labour markets, migration.

**Unit II: Macroeconomics of Labour Market (04 Hours)**

Classical analysis, Neoclassical analysis, Keynesian analysis, Dual and segmented labour market theory, Marxian alternative, Human capital theory, Flexibility and institutions in labour market

**Unit III: Wage Structure and Earnings (08 Hours)**

Industry wage differentials, Productivity and real wages, Returns to education, Signaling, Pensions and retirement, Training, Minimum wage laws; Economic effects of prejudice, Wage differentials by race and sex; Equilibrium models of employment fluctuations, real wages over the Business cycle; Earnings by size, The Roy model, Functional distribution, Intergenerational income mobility.

**Unit IV: Unemployment and Labour Contracts (06 Hours)**

Definition and measurement of unemployment, variations over time and space, job search, effects of unemployment insurance; Employment determination, Allocation of risk, Compensation, Bonding, Incentive pay, Multi-tasking, Team production, Relational contracts, Career concerns, Wages and promotions.

**Unit V: Unions, Regulations and International Labour Standards (10 Hours)**

Objectives and political structure, Bargaining theories, Relative wage effects, Strikes, Union growth and decline, Unions in the public sector, Union-Oligopoly models; Regulation of labour, Experience of India vis-s-vis other countries, Entry and product market; International labour standards, Comparative analysis, International trade and labour markets.

**READING LIST:**



1. *Ashenfelter, O. and Layard, R., (1999), The Handbook of Labor Economics, Volumes 1 & 2, North-Holland, 1986, Volume 3A, 3B & 3C, 1999.*
2. *Borjas, G., (1996), Labor Economics, McGraw-Hill Companies, New York.*
3. *Fine, Ben, (1998), Labour Market Theory: A Constructive Reassessment, Routledge, New York.*
4. *Kaufman, B. E. and Hotchkiss, J. L., (1999), The Economics of Labor Markets, Fort Worth: TX: Dryden Press.*
5. *Killingsworth, M., (1983): Labor Supply, Cambridge University Press, Chapters 1,2 & 7.*
6. *Hamermesh, D., (1993), Labor Demand, Princeton University Press.*
7. *Seth, V. K. and S. C. Aggarwal, (2004), The Economics of Labour Markets: Policy Regime Changes and The Process of Labour Adjustment in the Organised Industry in India, Ane Books, New Delhi.*

## **ECON4028: Indian Public Finance**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4028**

**Course Name: Indian Public Finance**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

### **Course Objectives:**

The course analyses the experience of calibrating public finance policies in India. It focuses on a comprehensive analysis of public spending and its financing. The course aims to familiarise the students with the macroeconomics of Indian public finance and issues in Indian fiscal federalism.

### **Learning Outcomes:**

After successful completion of this course a student will be able to:

- analyse the Indian tax system and its role in the process of economic development;
- have a comprehensive understanding of public spending and its financing in India;
- understand and analyse the macroeconomic issues, viz. elevated levels of deficits and debt, and sustainability;
- analyse the issues in Indian fiscal federalism and evaluates the effectiveness of intergovernmental transfers.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course.

A minimum of 75% attendance is a must failing which a student may not be permitted to appear in End-Semester Examinations.

**Evaluation Criteria:**

1. *Mid Semester Examination: 20%*
2. *End Semester Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****UNIT-I: Introduction and Public Expenditure in India (08 Hours)**

Introduction, The Contours of the State – Need of Governments, Indian Development Strategy and the Role of the State; Public Expenditures in India – Composition, Trends and Issues, Productivity in Public Expenditures.

**UNIT-II: Indian Tax System (12 Hours)**

Introduction and Constitutional Assignment of Taxation Powers, Characteristics of a sound tax system, Direct and Indirect Taxes in India – Features and Assessments, Tax Revenue Trends in India; Issues with the Indian Tax System – Constitutional assignment and the narrow base, tax exemptions and preferences, tax abuse and tax evasion, low capacity of tax administration; Direct and Indirect tax reforms in India, Recent reforms and the way forward; Goods and Services Tax in India – Introduction, salient features, Impact of GST on cost savings, productivity gains and Revenues; GST and Continuing Distortions – Multiple Rates, Tax Anomalies and Cascading Element.

**UNIT-III: Macroeconomics of Indian Public Finance: Deficits and Debts (08 Hours)**

Alternative measures of Deficit in India – Trends and Issues; The Rule-Based Fiscal Policy Regime; Public Debt – Meaning and Composition; Rapid Growth and its Causes; Public Debt Management in India and Issues; Public Debt and the Future Generation debate in India.

**UNIT-IV: Indian Fiscal Federalism (06 Hours)**

Evolution of Indian Federalism, Centralisation in Indian Federalism, Emerging Environment in Union-State Relations; Intergovernmental Transfers in India, Fiscal Transfer Systems in India and the Role of the Finance Commission; Recommendations of the latest Finance Commission.

**UNIT-IV: Government of India Finances (06 Hours)**

Revenue and Capital Accounts – major components, Deficit financing and macroeconomic consequences, Indian Public Finances in Pandemic Times – The Lockdown, Economic Contraction and Fiscal Impact.

**READING LIST:**

1. *Bhatia, H. L. (2018), Public Finance, Vikas Publishing House.*
2. *Chelliah, R.J. (1989) - Towards Sustainable Growth: Essays in Fiscal and Financial Sector Reforms in India, Oxford University Press.*
3. *Chelliah, R.J. (1990) et al - Primer on Value Added Tax, NIPFP. Government of India, Reports of the Tax Reform Committees.*
4. *Government of India, Budget Documents (Various years).*
5. *Govinda Rao M. and Sen Tapas K. (1996), Fiscal Federalism in India: Theory and Practice, Macmillan India.*
6. *Lekhi, R. K. & Singh, J. (2016), Public Finance, Kalyani Publishers.*
7. *Ministry of Finance, Indian Public Finance Statistics (Various Issues).*
8. *Ministry of Finances, Economic Survey (Various Issues).*
9. *Mundle, Sudipto (ed.) (2000), Public Finance-Policy Issues for India, OUP.*
10. *Singh, S. K. (2010), Public Finance in Theory and Practice, S. Chand, New Delhi.*
11. *Srivastava, D. K. (Ed.) (2000), Fiscal Federalism in India: Contemporary Challenges and Issues before Eleventh Finance Commission.*

**ECON4029: Industrial Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4029**

**Course Title: Industrial Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

This course intends to provide knowledge to the students on the basic issues such as productivity, efficiency, capacity utilisation and debates involved in the industrial development. The objective is to provide a thorough knowledge about the economics of industry in a cogent and analytical manner.

**Learning Outcomes:**

After successful completion of the course, the learners will be able to understand basic issues such as productivity, efficiency, capacity utilisation and debates involved in the industrial development.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:**

**Unit I: Framework of Industrial Economics and Market Structure (08 Hours)**

Concept and organisation of a firm - ownership, control and objectives of the firm; Elements of market structure - seller's concentration, product differentiation, entry conditions, economies of scale, market structure and profitability; Measurement of market concentration and Monopoly Power; Determinants of Profitability; Growth of the firm - the need for growth, conceptual framework for the theory of the growth of the firm.

**Unit II: Mergers, Antitrust, Research, Development and Advertising (08 Hours)**

Theories of mergers - Horizontal mergers with homogeneous goods, differentiated goods mergers, Vertical restraints, Incomplete contracts and the boundaries of the firm; Patents and R&D incentives, network effects and technology adoption; Views on advertising - persuasive view, informative view, and complementary view, direct and indirect effects of advertising, Monopoly advertising, advertising and quality, entry deterrence and firm conduct.

**Unit III: Project Appraisal (06 Hours)**

Methods of Project evaluation, Cost-benefit Analysis - Net Present Value (NPV) and Internal Rate of Return (IRR) criteria; balancing private and social returns.

**Unit IV: Indian Industrial Growth and Pattern (10 Hours)**

Classification of industries, Industrial policy in India, Role of public and private sectors; Recent trends in industrial growth in India, MNCs and transfer of technology; Liberalization and privatization; Regional industrial growth in India, Industrial economic concentration and remedial measures; Issues in industrial proliferation and environmental preservation; Labour market reforms.

**Unit V: Industrial Finance in India and Regulation of Industry (08 Hours)**

Role, nature, volume and types of institutional finance, Sources of institutional finance - IDBI, IFCI, SFCs, SIDC, and commercial banks; Theories of regulation, the Regulation of entry, Competition Act, 2002, Puzzle of jobless growth in Indian manufacturing.

**READING LIST:**

1. *Armstrong, M. and R. H. Porter (Eds.), Handbook of Industrial Organisation, North Holland Elsevier, Vol. 3, 2007.*
2. *Barthwall, R. R., Industrial Economics, New Age International Publishers, 2010.*
3. *Clarkton, D. W. and S. M. Perloff, Modern Industrial Organisation, N.Y., Harper-Collins Publishers, 1994.*
4. *Davies, J. R. and S. Hughes, Managerial Economics, Estover, Plymouth: Macdonald and Evans, 1977.*
5. *Hay, D. and D. J. Morris, Industrial Economics: Theory and Evidences, Oxford University Press, London, 1979.*
6. *Martin, S., Industrial Economics: Economic Analysis and Public Policy, London, Macmillan Pub Co., 1989.*
7. *Martin, S., Advanced Industrial Economics, Oxford, Blackwell, 2002.*
8. *Needham, D., Economic Analysis and Industrial Structure, Holt, Rinehart and Winston, New York, 1969.*
9. *Reekie, W. D., Industrial Economics, Edward Elger, 1989.*
10. *Shepherd, W. G., The Economics of Industrial Organisation, Prentice Hall Inc., Englewood Cliffs, 1979.*
11. *Speight, H., Economics and Industrial Efficiency, Macmillan & Co., London, 1970.*

**ECON4030: Education Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4030**

**Course Title: Education Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

This course provides an introduction to the economic analysis of the investment in and provision of education. The course aims to analyse the various aspects related to education industries in India.

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

**Learning Outcomes:**

After successful completion of the course, the learners will be able to understand the fundamentals of education sector in India. They will be able to understand the policies regulating education sector in school education and higher education.

**Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination..

**Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

**COURSE CONTENT:****Unit I: Introduction****(08 Hours)**

The economist's approach to the study of education and education policy, the organisation of educational markets, the economic rationale for government involvement in education, applying theoretical concepts and microeconomic models to the education sector; Measures of education attainment and achievement in India and abroad, Achievement gaps by race/ ethnicity, gender, immigrants, and socioeconomic background.

**Unit II: Educational Production****(08 Hours)**

Concepts of the production function in economics - inputs, outputs, input substitution, diminishing marginal returns, approaches to allocation of scarce resources in the production of education; Evidence on returns to class size, the Tennessee STAR experiment, Methodological challenges associated with evaluating the effects of peers and other educational inputs.

**Unit III: Human Capital and the Return to Schooling****(08 Hours)**

Human capital theory and the demand for education, the "signaling" model of schooling and wages, economists' measure of private returns to schooling and difficulties in measurement

Applications of economics to the study of higher education, Differences in college access by race, ethnicity, gender, and socioeconomic status, the role of primary and secondary schools, expectation and information, price, and financial aid in college access and success.

**Unit IV: Financing Schools and School Accountability (08 Hours)**

An introduction to education finance in India and abroad, Federalism and the financing of public education, the impact of Right to Education (RTE) Act in India; The use of test outcomes to evaluate school performance and to promote the efficient use of school resources, Difficulties in measurement of school quality, and the unintended consequences of test-based accountability.

**Unit V: Teacher Labour Markets and School Choice (08 Hours)**

Measuring teacher quality and teaching effectiveness, Correlation between different measurable attributes of teachers and student outcomes, Compensation to teachers, Factors that influence the demand for and supply of teachers, Teachers unions, Analysis of merit pay policies, Teacher labour markets in developing nations; The economic rationale for school choice, Framework for evaluating school choice policies, Market-based school choice policies, private schools versus public schools.

**READING LIST:**

1. *Becker G.S., (1964), Human Capital: A theoretical and empirical analysis with special reference to education, Columbia University Press, NY.*
2. *Belfield, C. R., (2000), Economic Principles for Education: Theory and Evidence, Edward Elgar Publishing Inc.*
3. *Brewer, D. J. and Patrick J. McEwan, (2010), Economics of Education, Elsevier.*
4. *Johnes, G. and J. Johnes, (2004), International Handbook on the Economics of Education, Edward Elgar Publishing Ltd, Cheltenham, UK.*
5. *Ladd, Helen F. and Margaret Goertz (eds.), (2015), Handbook of Research in Education Finance and Policy, 2nd edition, New York: Taylor & Francis.*

**ECON4031: Agricultural Economics**

**(4 Credits= 3L + 1T)**

**Course Code: ECON4031**

**Course Title: Agricultural Economics**

**Credits Equivalent: 4 Credits** (One credit is equivalent to 1 hour of lecture/tutorial/practical per week)

**Course Objectives:**

Discussed and Approved in 5<sup>th</sup> Meeting of BoS conducted on 27<sup>th</sup> February 2023.

- ) To analyse the basic features of India agricultural sector and discuss the causes of agrarian distress.
- ) To analyse the policies and issues surrounding their implementation within the framework of major debates related to agricultural sector.

### **Learning Outcomes:**

After completion of the course must make the learners able to

- ) Integrate the general economic understanding to the problems of agricultural sector;
- ) Critically examine the policies meant for agricultural reform and integrate the rural economy to agricultural sector in meaningful way.

### **Attendance Requirements:**

Students are expected to attend all lectures in order to be able to fully benefit from the course. A minimum of 75% attendance is a must failing which a student may not be permitted to appear in examination.

### **Evaluation Criteria:**

1. *Mid Term Examination: 20%*
2. *End Term Examination: 60%*
3. *Continuous Internal Assessment (CIA): 20%*
  - a. *Attendance: 5%*
  - b. *Comprehensive Continuous Assessment (CCA): 15%*

### **COURSE CONTENT:**

#### **Unit I: Introduction**

**(12 Hours)**

Scope and subject matter of Agricultural Economics, Nature and utility of Agricultural Economics, Role and Importance of agriculture in economy - source of livelihood, employment, industrial development and trade; Agriculture production processes, Measuring efficiency in agricultural production, yield-gap analysis; Understanding the Supply chain in agriculture, drivers and metrics, distribution networks and application to e-business; Demand forecasting in a supply chain, planning and managing inventories in a supply chain; designing and planning transportation in a supply chain; information technology in a supply chain.

#### **Unit II: Agricultural Finance and Agricultural Risk**

**(06 Hours)**

Importance of agricultural finance, Role of credit in agricultural development, Economic principles applied to financial management of the farm, Economic feasibility test of credit; Types of risk in



agriculture - climate risk, production risk; Risk management through agricultural insurance, Crop insurance - benefits and constraints, Insurance and credit linkage; Agriculture insurance-support services - scope for using satellite imagery, Delivery strategies.

### **Unit III: International Trade in Agriculture**

**(08 Hours)**

Globalisation and case for free trade and for protectionism in agriculture, Instruments of trade policy, GATT-provisions relating to Agri-trade, WTO agreement on agriculture - main provisions, market access, domestic support, export subsidies, special and differential treatment, sanitary and phytosanitary provisions, Doha impasse, Emergence of various groups or alliances and their participation in negotiations, Issues for further negotiations; World agricultural trade - changing structure and pattern, status of developing economies, multilateralism and regionalism, factors affecting international trade.

### **Unit IV: Indian Agricultural Economics**

**(06 Hours)**

National resource base of Indian agriculture, Factors responsible for agricultural development in India, Land utilisation pattern, Changes in agrarian structure in India, Capital formation in Indian agriculture; Credit in Indian agriculture, Sources of agricultural finance, Factors determining demand for credit; Agricultural wages in India; Characteristics of primary agricultural markets in India, Regulated markets and market intervention.

### **Unit-V: Agricultural Policy Framework in India**

**(08 Hours)**

Land reforms, National seed policy, Biodiversity Act, WTO and seed policy; Protection of plant varieties and Farmers' Right Act; Fertilizer policy, New pricing scheme, Fertilizer subsidy, National Water Policy, water and electricity subsidy; Agriculture Price Policy, Agriculture marketing, Agricultural Produce Marketing Committee Act, eNAM, Scheme for crop insurance in India, WTO and Indian agriculture

### **READING LIST:**

1. *Acharya and Agarwal, 1992, Agricultural Marketing in India, Oxford & IBH Publishing Company.*
2. *Agricultural Research Data Book 2009, Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012.*
3. *Agricultural Statistics at a Glance 2010, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.*
4. *Bhalla, G. S. and Singh G., 2001, Indian Agriculture: Four Decades of Development, Sage Publications.*
5. *Bhalla, G.S., 2007, Indian Agriculture since Independence, National Book Trust, India.*

6. *Chadha, G.K.; S. Sen and H.R. Sharma, 2004, Land Resources, State of the Indian Farmer, Vol. 2, Academic Foundation, New Delhi.*
7. *Chakaravathi, R. M. (1986), Under Development and Choices in Agriculture, Heritage Publication, New Delhi.*
8. *Dantwala, M. L. and Others, 1991, Indian Agricultural Development since Independence: A Collection of Essays, Oxford & IBH Publishing Co., New Delhi.*
9. *Datta Samar K. and Satish Y. Deodhar (2001), Implications of WTO Agreements for Indian Agriculture, Oxford and IBH Pub. Co., New Delhi.*
10. *Dhawan, B. D., 1988, Irrigation in India's Agricultural Development, Sage Publications Pvt. Ltd.*
11. *Dhondyal, S.P. "Farm Management -An Economic Analyst", Friends Publications. Meerut.*
12. *Doll, J.P. and O. Frank (1978), Production Economics - Theory & Applications, John Wiley and Sons.*
13. *Eicher K.C. and J. M. Staatz (1998), International Agricultural Development, Johns Hopkins Univ. Press.*
14. *Gardner, B.L. and G.C. Rausser (2001), Handbook of Agricultural Economics, Vol. I., Elsevier.*
15. *GOI (2007), Report of The Working Group on Risk Management in Agriculture for the Eleventh Five Year Plan (2007-2012), GOI, New Delhi.*
16. *Heady, E.O. (1968), Economics of Agricultural Production and Resource Use, Prentice- Hall.*
17. *Hooda and Gulati (2007), WTO Negotiations on Agriculture and Developing Countries, Oxford University Press, New Delhi.*
18. *Ramaswami, Bharat; Shamika Ravi And S.D. Chopra (2004), Risk Management, State of the Indian Farmer- A Millennium Study, Volume 22, Academic Foundation, New Delhi.*
19. *Reddy, Subba S. and R. Raghu Ram (1996), Agricultural Finance and Management, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.*
20. *Report of the Working Group on Agricultural Marketing Infrastructure, Secondary Agriculture and Policy Required for Internal and External Trade for the XII Five Year Plan 2012-17, 2011, Agriculture Division, Planning Commission, GOI.*
21. *Sankayan, P.L. (1983), Introduction to Farm Management, Tata McGraw Hill.*
22. *Singh, Surjit and Vidya Sagar (2004), Agricultural Credit in India, State of the Indian Framers, Vol. 7, Academic Foundation, New Delhi.*
23. *Vaidyanathan, A., 1988, India's Agricultural Development in a Regional Perspective, Longman Limited.*