

**SEMESTER-I, ECONOMICS (H) - CC-I  
: INTRODUCTORY MICROECONOMICS**

**Time – 3hrs    F.M.: 100 [ 80 (End sem) +20 (Int) ]    Credit- 6**

**Course Description**

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

**Module I: Exploring the subject matter of Economics**

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; Graphs in Economics.

**Module II: Supply and Demand: How Markets Work, Markets and Welfare**

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; Equilibrium between supply and demand; elasticity of demand and determinants; computing price elasticity of demand; income and cross elasticity of demand; consumer surplus; producer surplus; market efficiency and market failure.

**Module III: The Households**

The consumption decision - budget constraint, consumption and income/price changes, properties of indifference curves; Equilibrium, income effect, substitution effect and price effect; Derivation of demand curve; Three applications – Demand for Giffen goods, wages and labour supply, interest rate and household saving, Superiority of indifference curve analysis over traditional utility analysis.

**Module IV: The Firm and Market Structures**

Short run costs and output decisions; costs and output in the long run; Cost curves and their shapes in the short-run and in the long-run; Economics and diseconomies of scale; Perfect competition and pure competition; Equilibrium of firm and industry under perfect competition both in the short-run and in the long-run; pricing under monopoly; monopoly power; monopoly control.

**Module V:** Equilibrium in the labour market; The supply of labour- the trade-off between work & leisure. Land as a factor of production; Ricardian theory of rent; modern theory of rent, Linkages among factors of production.

**Readings**

1. N. Gregory Mankiw (2012): *Principles of Economics*, 6<sup>th</sup> edition, Cengage Learning India Private Limited, New Delhi
2. William A McEachern and Simrit Kaur (2012): *Micro Econ: A South-Asian Perspective*, Cengage Learning India Private Limited, New Delhi.
3. Karl E. Case and Ray C. Fair (2007): *Principles of Economics*, 8<sup>th</sup> Edition, Pearson Education Inc.
4. Joseph E. Stiglitz and Carl E. Walsh (2007): *Economics*, 4<sup>th</sup> Edition, W.W. Norton & Company, Inc., New York.

## SEMESTER-I, ECONOMICS(H)-CC-II

### : MATHEMATICAL METHODS FOR ECONOMICS I

**Time – 3hrs F.M.: 100 [ 80 (End sem) +20 (Int) ] Credit- 6**

#### **Course Description**

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

#### **Module I: Preliminaries**

Sets and Set Operations, relations; functions and their properties. Number systems.

#### **Module II: Functions of real variable**

Types of functions- constant, polynomial, rational, exponential, logarithmic; Graphs and graphs of functions; Limit and continuity of functions; Limit theorems

#### **Module III: Derivative of a function**

Rate of change and derivative; Derivative and slope of a curve; Continuity and differentiability of a function; Rules of differentiation for a function of one variable; Application- Relationship between total, average and marginal functions

#### **Module IV: differentiation and Integration:**

Partial differentiation techniques; Geometric interpretation of partial derivatives; Partial derivatives in Economics; Elasticity of a function – demand and cost elasticity, cross and partial elasticity. Integration: indefinite integrals, rules, integration by substitution by parts and partial functions. Economic application of integrals, producer surplus and consumer surplus.

#### **Module V: Matrices and Determinants**

Matrices: concept, types, matrix algebra, transpose, inverse, rank; Determinants: concept, properties, solving problems using properties of determinants, solution to a system of equations - Cramer's rule and matrix inversion method.

#### **Readings:**

1. K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*. Pearson Educational Asia
2. A. C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.
3. T. Yamane (2012): *Mathematics for Economists*, Prentice-Hall of India

**SEMESTER-I/III, ECONOMICS-GE-I**  
**: Money Banking**

**Time – 3hrs    F.M.: 100 [ 80 (End sem) +20 (Int) ]    Credit- 6**

**Unit- I:** Concept and function of money, Alternative measures of money supply-their different components (  $M_1, M_2, M_3, M_4$ ), Value of money-Quantity theory-Cash transaction, Cash balance, Keynesian Theory and Friedman's approaches

**Unit-II:**Inflation, types of inflation, Theories of Inflation Effects of Inflation, Deflation and Stagflation. Phillips Curve, Measures to control inflation, Inflation and unemployment

**Unit-III:** Financial Intermediaries: Concept & functions of banking and non-banking financial Institutions, Role and functions of Commercial bank, Credit Creation, Balance Sheet, Investment Policy of Commercial Banks, Money market-developed and underdeveloped: Indian Money Market

**Unit-IV :** Role and Functions of Central Bank, Credit Control Instruments, Objectives of monetary Policy, Limitations of monetary policy, Monetary policy of Reserve Bank of India.

**References:**

- 1.L.V.Chandler and S.M.Goldfed- The Economics of Money and Banking,7<sup>th</sup> Edition,1977
- 2.G. Crowther- An Outline of money
3. R.G.Sayers- Modern Banking, 1967 Oxford
4. Reserve Bank of India: Functions and Working,1970
5. S.B.Gupta- Monetary Economics, Chand Publication
6. S.K.Basu-a review of Current Banking Theory and Practices(Revised Macmillan)-1994
- 7.M. L. Seth- Money Banking & International Trade
8. R.R. Paul- Money Banking & International Trade, Kalyani Publishers, 2008
9. G. Krishnan Kutty- Money Banking, Concept Publishing Company, New Delhi, 1979

**SEM.-I,ECO.-DSC-I IS SAME AS SEM-I, ECO.-CC-I**

**SEMESTER-II, ECONOMICS(H)-CC-III  
: INTRODUCTORY MACROECONOMICS**

**Time – 3hrs F.M.: 100 [ 80 (End sem) +20 (Int) ] Credit- 6**

**Course Description**

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money and inflation.

**Module I: Basic Concepts**

Macro vs. Micro Economics; Why Study Macroeconomics? Limitations of Macroeconomics ; Stock and Flow variables, Equilibrium and Disequilibrium, Partial and General Equilibrium Statics – Comparative Statics and Dynamics ; National Income Concepts – GDP, GNP, NDP and NNP at market price and factor cost; Personal Income and Disposable personal Income; Real and Nominal GDP

**Module II: Measurement of Macroeconomic Variables**

Output, Income and Expenditure Approaches ; Difficulties of Estimating National Income; National Income Identities in a simple 2- sector economy and with government and foreign trade sectors; Circular Flows of Income in 2, 3 and 4-sector; economies; National Income and Economic Welfare ; Green Accounting.

**Module III: Money**

Evolution and Functions of Money, Quantity Theory of Money – Cash Transactions, Cash Balances and Keynesian Approaches, Value of Money and Index Number of Prices

**Module IV: Inflation, Deflation, Depression and Stagflation**

Inflation – Meaning, Causes, Costs and Anti-Inflationary Measures; Classical, Keynesian, Monetarist and Modern Theories of Inflation, Deflation- Meaning, Causes, Costs and Anti-Deflationary Measurers, Depression and Stagflation; Inflation vs. Deflation

**Module V: Determination of National Income**

The Classical Approach - Say's Law, Theory of Determination of Income and Employment with and without saving and Investment; Basics of Aggregate Demand and Aggregate Supply and Consumption- Saving – Investment Functions, The Keynesian Approach – Basics of Aggregate Demand and Aggregate Supply and Consumption, Saving, Investment Functions; The Principle of Effective Demand; Income Determination in a Simple 2-Sector Model; Changes in Aggregate Demand and Income.

**Readings:**

1. N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi
2. Richard T. Froyen (2005): *Macroeconomics*, 2<sup>nd</sup> Edition, Pearson Education Asia, New Delhi.
3. Errol D'Souza (2009): *Macroeconomics*, Pearson Education Asia, New Delhi.
4. Shapiro
5. D N Dwivedi

## SEMESTER-II, ECONOMICS(H)-CC-IV

### : MATHEMATICAL METHODS FOR ECONOMICS II

**Time – 3hrs F.M.: 100 [ 80 (End sem) +20 (Int) ] Credit- 6**

#### **Course Description**

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

#### **Module I: Linear models:**

Input- Output Model: Basic concepts and structure of Leontief's open and static Input-Output model; solution for equilibrium output in a three industry model; The closed model. Linear programming problem; Graphic solution of Linear programming problem. Game theory-the Payoff matrix of a game; Saddle solution; mixed strategies.

#### **Module II: Second and higher order derivatives:**

Technique of higher order differentiation; Interpretation of second derivative; Second order derivative and curvature of a function; Concavity and convexity of functions; Points of inflection

#### **Module III: Differentials and total derivatives:**

Differentials and derivatives; Total differentials; Rules of differentials; Total derivatives; Derivatives of implicit functions

#### **Module IV: Single and multivariable optimisation:**

Optimum values and extreme values; Relative maximum and minimum; Necessary versus sufficient conditions - First and Second derivative tests; Economic applications thereof, First and second order condition for extremum of multivariable functions; Convex functions and convex sets

#### **Module V: Optimisation with Equality Constraints:**

Effects of a constraint; Finding stationary value - Lagrange-Multiplier method (Two variable single constraint case only): First and second order condition; The Bordered Hessian determinant.

#### **Readings:**

1. K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*. Pearson Educational Asia
2. A. C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.
3. T. Yamane (2012): *Mathematics for Economists*, Prentice-Hall of India

**SEMESTER-II/IV, ECONOMICS-GE-II  
: Indian Economy**

**Time – 3hrs F.M.: 100 [ 80 (End sem) +20 (Int) ] Credit- 6**

**Course Description**

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

**Module I: Introduction to Indian Economy**

British Rule: exploitation and under development in India; features of Indian economy – natural resources, infrastructure, population;

**Module II: Population and Human Development**

Demographic trends and issues; education; health and malnutrition

**Module III: National Income in India**

National income: trends, sectoral composition and Sectoral Contribution to national income.

**Module IV: Economic Planning in India**

Economic planning: Planning Commission and its functions, Planning exercises in India, Objectives, Strategies and achievements and failure. NitiAyoga.

**Module V: Current Challenges**

Poverty: definition and estimate, poverty line, poverty alleviation programs; Inequality: income and regional inequality – causes and corrective measures; Unemployment: concepts, measurement, types, causes and remedies; Environmental challenges: Land, water and air.

**Readings:**

1. U. Kapila (2010): *Indian economy since Independence*. Academic Foundation, New Delhi
2. S. K. Misra and V. K. Puri (Latest Year): *Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. S. Chakraborty ( ): *Development Planning: The Indian Experience*. Clarendon Press.
4. R. Dutt and K. P. M, Sundharam(Latest Year): *Indian Economy*, S. Chand & Company Ltd., New Delhi.
5. A. Panagariya (2008): *India: the Emerging Giant*, Oxford University Press, New York
6. S. Acharya and R. Mohan (Eds.) (2010): *India's Economy: Performance and Challenges*, Oxford University Press, New Delhi.
7. I. J. Ahluwalia and I. M. D. Little(Eds.) (1998): *India's Economic Reforms and Development: Essays for Manmohan Singh*, Oxford University Press, New Delhi.

**SEMESTER-II, ECONOMICS-DSC-II  
: MICROECONOMICS I**

**Time – 3hrs F.M.: 100 [ 80 (End sem) +20 (Int) ] Credit- 6**

**Course Description**

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

**Course Outline**

**Module I: Consumer Theory I**

Economic Models: Theoretical Model, Verification of Economic Model, General Feature of Economic Model, Development of Economic Theory of Value, Modern Developments; Consumer Preferences-indifference curves, case of perfect substitutes, complements, neutrals. The marginal rate of substitution, marginal utility and MRR, Estimating utility functions; The Many-Good case; Utility Maximization and Choice: The Two-Good Case (Graphical Analysis), The n-Good Case, Indirect Utility Function; Optimal choice and consumer demand; implications of MRS condition; Income offer curve and Engel curve; ordinary goods and Giffen goods; the offer curve and the demand curve.

**Module II: Consumer Theory II**

Slutsky Equation-Income and Substitution Effects: Demand Functions, Changes in Income, Changes in a Good's Price, The Individual's Demand Curve, Compensated (Hicksian) Demand Curves and Functions, Demand Elasticities, Consumer Surplus; Demand Relationships among Goods: The Two-Good Case, Substitutes and Complements, Net (Hicksian) Substitutes and Complements, Substitutability with Many Goods, Composite Commodities; Interpretations of consumer's surplus and producer's surplus; Calculation of consumers surplus and producer's surplus; Calculating gains and losses.

**Module III: Production Theory**

Marginal Productivity, Isoquant Maps and the Rate of Technical Substitution, Production with One Variable Input (labour) and with Two-Variable Inputs, Returns to Scale, Four Simple Production Functions (Linear, Fixed Proportions, Cobb-Douglas, CES).

**Module IV: Cost Functions**

Definition of Costs, Cost Functions and its Properties, Shift in Cost Curves, Cost in the Short-Run and Long-Run, Long-Run versus Short-Run Cost Curves, Production with Two Outputs – Economies of Scope

**Module V: Profit Maximization**

The Nature and Behaviour of Firms, Profit Maximization, Marginal Revenue, Short-Run Supply by Price-Taking Firm, Profit Functions and its Properties, Profit Maximization and Input Demand – Single-Input Case and Two-Input Case.

**Readings:**

1. C. Snyder and W. Nicholson (2012): Microeconomic Theory: Basic Principles and Extensions, 11<sup>th</sup> Edition, Cengage Learning, Delhi, India.
2. R. S. Pindyck, D. N. Rubinfeld and P. L. Meheta (2009): Microeconomics, 7<sup>th</sup> Edition, Pearson, New Delhi.
3. H. R. Varian (2010): Intermediate Microeconomics: A Modern Approach, 8<sup>th</sup> Edition, W.W. Norton and Company/Affiliated East-West Press (India). The workbook by Varian and Bergstrom may be used for problems.