

ECO 101 Introductory Microeconomics

Unit- I

Concepts and Definition

Basic Concepts and Definition of Economics: Nature of Economic Laws, Basic Concepts- Micro, Macro, Static, Comparative Static and Dynamic, Margin, Equilibrium and type, Competition and Alternative Definitions of Economics, Optimization and Bounded Rationality, Concept of Pareto Optimality.

Unit- II

Cardinal Utility and Consumer Demand

Meaning and Types of Utility, Assumption and Law of Diminishing Marginal Utility and its practical relevance, Definition of Consumer Demand Curve, Principle of Equilibrium Utility, Consumer's Equilibrium and Concept of Consumer's Surplus.

Unit- III

Demand Function and Elasticity

Law of Demand, Individual and Market Demand Curves, Slope and Shift of the Demand Curve, Concept and Types of Elasticity, Price, Income and Cross Elasticity of Demand, Methods of Measuring the Price Elasticity of Demand, Facts affecting Price Elasticity of Demand.

Unit- IV

Ordinal Utility and Indifference Curve

Preference and Indifference, Indifference Curves, Slope and its Properties, Concept of Budget Line, Equilibrium of the Consumer, Effect of Change in Price on Consumer's Equilibrium, practical relevance of Indifference Curve Approach, Consumer's Surplus through Indifference Curve Approach, Theory of Revealed Preference and Consistency, Transitivity.

Readings

1. Gould and Ferguson: Microeconomics Theory, A.I.T.B.S.
2. Gravell and Rees: Microeconomics, Longman.
3. H.A John Green, Consumer Theory, Macmillan.
4. Hal R. Varian, Intermediate Microeconomics: A Modern Approach, W.W Norton & Company.
5. Jeffrey M. Perloff, Microeconomics, Theory and Applications with Calculus, Pearson.
6. Koutsoyiannis A: Modern Microeconomics, MacMillan Press Ltd.
7. Maddala and Miller: Microeconomics- Theory and Applications
8. Mankiw: Principles of Economics, Cengage Learning.
9. Pindyck and Rubinfeld: Microeconomics, Pearson Education Ltd.
10. Watson and Getz: Price Theory and Its Uses, A.I.T.B.S.

ECO 102 INDIAN ECONOMY-I

Unit I

Historical Evolution of the Indian Economy

Major features of the Indian Economy before Independence, National Income estimates; Debates on Economic development in India; Major policy initiatives and growth patterns before Independence

Unit II

Characteristics of the Indian Economy

Demographic features of India's Population, Demographic trends and issues, Regional contrasts in the basic Demographic characteristics; Natural resources of India; Land and land use; Economic and non-economic factors in Indian economic development.

Unit III

National Income

Growth in National Income in India, Composition of Gross Domestic Product, the Growth Experience of India, Basic features and characteristics of the Primary, Secondary and the Tertiary Sector, Patterns and Trends of Sectoral growth.

Unit IV

Basic Issues and Major Institutions

Poverty in India, Inequality and Unemployment, Strategies for eradicating Poverty and generating Employment; NITI Aayog, Finance Commission.

Readings

1. Agrawal, A. N. and M. K. Agarwal: Indian Economy: Problems of Development and Planning, New Age International Pvt Ltd (Latest edition)
2. Kapila, Uma: Economic Development and Policy in India, Academic Foundation, New Delhi.(Latest edition)
3. Economic Survey: Government of India: Various Issues.

ECO 103 MATHEMATICS FOR ECONOMIC ANALYSIS-I

UNIT I

Preliminaries

Sets and set operations; relations; functions and their properties; Number Systems and Introduction of algebraic series.

UNIT II

Functions of one real variable

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

UNIT 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

UNIT IV

Functions of two or more independent variables

Partial differentiation techniques; Geometric interpretation of partial derivatives; Partial derivatives in Economics; Elasticity of a function – demand and cost elasticity, cross and partial elasticity.

Readings

1. A. C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.
2. Allen, R.G.D (2006): *Mathematical Analysis For Economists*, Macmillan And Company Limited.
3. K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*, Pearson Educational Asia.
4. Mehta and Madnani: *Mathematics for Economists*, New Delhi: Sultan Chand Company.
5. T. Yamane (2012): *Mathematics for Economists*, Prentice-Hall of India.

ECO S101 Introduction to Economic Theory

Unit I

Basic Concepts and Definition of Economics

Micro, Macro, Static, Comparative Static and Dynamic, Margin, Equilibrium and type, and Alternative Definitions of Economics.

Unit II

Demand, Supply and Market Structure

Concept of Utility, Gossen's Laws, Consumer's Equilibrium and Demand. Elasticity of demand and its measurement. Production Function and Laws of Production, Concept and types of Costs, Supply Curve and Equilibrium Price Determination. Market Structures and Characteristics.

Unit III

Introduction to Macroeconomics

National Income and other aggregates, Measurement, Circular flow of income and its implications for the classical theory of full employment.

Unit IV

Neo-classical and Keynesian one sector models

One sector Neo-classical model, One sector Keynesian model, Concept of Consumption & Investment functions, multiplier, and Income Determination.

Readings

1. David begg, Stanley Fischer and R. Dornbusch, Economic, Tata-McGraw-Hill.
2. Gould and Ferguson, Microeconomics Theory, A.I.T.B.S.
3. Harvey and Johnson, An introduction to Macro-Economics, Macmillan.
4. Koutsoyiannis A: Modern Microeconomics, MacMillan Press Ltd. London
5. Mankiw, Principles of Economics, Cengage Learning.
6. Pindyck and Rubinfeld: Microeconomics, Pearson Education Ltd.
7. Uma Datta Roy Choudhary, National Income Accounting, Macmillan Education Ltd.
8. Watson and Getz, Price Theory and Its Uses, A.I.T.B.S.

ECO 201 Introductory Macroeconomics

Unit- I

Basic Concepts in National Income Accounting

Sources of Income, Economic Activities and Inter-relationship, Production, Consumption, Capital Formation, Closed and Open Economy, Gross and Net Value Added, Market Price Vs Factor Cost, Domestic Vs National, Concept of GDP, GNP, NDP and NNP, National Income at Constant and Current Prices, Per Capita Income in Absolute and Growth Terms and Concept of Operating Surplus.

Unit- II

Nature of Goods and Services and Generation of Income

Durability, End-Use Classification and Demand for Intermediate and Final Consumption, Problem of Double counting, Gross Capital Formation and its Components. Primary and Property Income, Domestic Factor Income and its Components, National Income, National Products and other Aggregates- Private Income, Personal Income, Personal Disposable Income. Concept of Transfer Payments Current and Capital Transfers

Unit- III

Growth, Fluctuations and Methods of Measuring National Income

Value Added or Product Method, Income Method and Expenditure Method, Sources of Financing of Gross Domestic Formation, Savings, Provision for Consumption Fix Capital, Capital Transfer and Net Borrowing from Abroad. Calculation of Domestic product in India, Segregating Growth and Fluctuations, Business Cycle and its Characteristics.

Unit- IV

Circular Flow of Income

Two Sector, Three Sector and Four Sectors of the Economy, Equality between leakages and Injections, Linkages between Savings-Investment Gap, Current Account Deficit, Implications for Capital Account transfers (borrowings or sterilization) and Classical Theory of Employment.

Readings

1. David begg, Stanley Fischer and R. Dornbusch, Economic, Tata-McGraw-Hill.
2. David King, An Introduction to National Income Accounting, Edward Arnold.
3. Harvey and Johnson, An introduction to Macro-Economics, Macmillan.
4. Mankiw, Principles of Economics, Cengage Learning.
5. Pindyck and Rubinfeld: Microeconomics, Pearson Education Ltd.
6. Ruggles and Ruggles, National Accounting and Economic Policy, Edward Elgar.
7. Soumen Sikdar, Principles of Macroeconomics, OUP.
8. Uma Datta Roy Choudhary, National Income Accounting, Macmillan Education Ltd.

ECO 202 INDIAN ECONOMY-II

Unit I

Farm Sector of India

Features and Characteristics of Indian Agriculture, Performance and key policy issues in Agriculture, Land Reforms, Agricultural Marketing, Finance, Micro-credit, Farm technology and mechanization; Rural Development and rural infrastructure.

Unit II

Performance and Policies of Industrial sector

Pattern of Industrial Development; Public and Private Sector; Role and Problems of Small and large Scale Industries; Major large scale industries: Government's key protection measures for Small Scale Industries, Industrial Policies; Make in India and other recent initiatives; Some major issues in industrial development.

Unit III

Services Sector and Macroeconomic Policies

Trends and Performances in the Services sector, Services sector led Growth, Foreign Trade and balance of payments in India; Investment Policy, Fiscal and Monetary Policy.

Unit IV

Regional pattern of development

Growth pattern among the states of India; Inter-state inequalities – Farm and industrial outputs and strategies; Inter-state variations in human development; Other major issues in inter-state inequalities.

Readings

1. Agrawal, A. N. and M. K. Agarwal: Indian Economy: Problems of Development and Planning, New Age International Pvt Ltd (Latest edition)
2. Economic Survey: Government of India: Various Issues.
3. Kapila, Uma 2015: Economic Development and Policy in India, Academic Foundation, New Delhi.
4. Nagaraj, R. 2006: Aspects of India's Economic Growth and Reforms, Academic Foundation, New Delhi.
5. Rosen, George 1988: Industrial Change in India 1970 – 2000, Allied Publishers, New Delhi.

ECO 203 MATHEMATICS FOR ECONOMIC ANALYSIS – II

UNIT I

Second order derivatives

Determination of second order differentiation; Interpretation of second derivative; Second order derivative and curvature of a function; Concavity and convexity of functions; Points of inflexion.

UNIT II

Partial and total derivatives

Differentials and derivatives; Partial and Total differentials; Rules of differentials; Total derivatives; Derivatives of implicit functions; Constrained optimisation (Lagrange-Multiplier) .

UNIT III

Determinants

Determinants: concept, properties, solving problems using properties of determinants, solution to a system of equations - Cramer's rule and its economic application

UNIT IV

Matrices

Matrices: concept, types, matrix algebra, transposes of a matrix, inverse of a matrix, rank of a matrix; matrix inversion method and its economic application

Readings

1. A. C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.
2. Allen, R.G.D (2006): *Mathematical Analysis For Economists*, Macmillan And Company Limited.
3. K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*, Pearson Educational Asia.
4. Mehta and Madnani: *Mathematics for Economists*, New Delhi: Sultan Chand Company.
5. T. Yamane (2012): *Mathematics for Economists*, Prentice-Hall of India

ECO S201 Basic Issues in Indian Economy

Unit-I

Economic Systems, Growth and Structure of Indian Economy

Meaning and Types of Economic Systems, Main Features of different Economic Systems, Distinction between developing, emerging market and developed economies. Characteristics of Indian Economy, Objectives and Strategy of Development, Economic growth and Structural change.

Unit-II

Agricultural and Industrial Sectors of the Economy

Agriculture growth and productivity, Technological change and Green Revolution, Agricultural Credit –Role of institutional sources in agricultural credit. Agricultural Marketing –Objectives, Problems and Policies. Structure, composition and growth of Industry, Industrial and Licensing policies, performance of public sector, privatization, industrial sickness.

Unit-III

Demographic Profile and Basic Problems

Demographic features of India's Population, Demographic trends and issues, Regional contrasts in the basic Demographic characteristics; Poverty-concept, types, measurement & magnitude, poverty alleviation programmes. Concept of unemployment, measuring unemployment, magnitude – causes & consequences, major employment programmes. Structure & emerging trends in employment.

Unit-IV

Institutions and Policies

Need and types of Planning, Formulation of Five Year Plans, Brief review of objectives, allocation and achievements of different five year plans. NITI Aayog – Structure, Role and Functions. Finance Commission – Role and recommendations of 14th Finance Commission. RBI –Functions and instruments of monetary policies. SEBI and its functions. Government and Budgetary Policies.

Readings

1. Agarwal A.N and M,K Agarwal (2017), Indian Economy : Problems of Development and Planning, New Age International Private Limited.
2. Datt G. and A. Mahajan (2017), Indian Economy, 72nd edition, S.Chand, New Delhi.
3. Nagaraj, R. 2006: Aspects of India's Economic Growth and Reforms, Academic Foundation, New Delhi.
4. Rosen, George 1988: Industrial Change in India 1970 – 2000, Allied Publishers, New Delhi.
5. Kapila, Uma 2015: Economic Development and Policy in India, Academic Foundation, New Delhi.
6. Economic Survey: Government of India: Various Issues.

ECO 301 Intermediate Microeconomics

Unit- I

Theory of Production

Production Function, Fixed and variable factors, Short and Long Run Production Theory, Law of Variable Proportion- Short Run Production Analysis, Distinction between Scale and Proportion, Concept of Iso-Quant, Types of Iso-Quants, Its Slope and Properties, Laws of Production in the Long Run, Choice and Optimal Combination of Factors of Production or Producer's Equilibrium, Production Function of a Multiproduction Firm and Production Possibility Curve.

Unit- II

Cost and Revenue

Concept and Types of Cost, Shape of Total Average and Marginal Cost Curves in the Short and Long Run, Interrelationship between Cost Curves. Concept of Revenue, Shape of Revenue Curves and Relationship between them. Break-even Analysis.

Unit- III

Market and Price Determination

Structure of Markets, Perfect Competition- Characteristics, Equilibrium of Firm, Equilibrium of Industry, and Price Determination. Monopoly- Features, Equilibrium and Price or Output Determination under Monopoly, Price Discrimination and its Degrees. Nature of Monopolistic Competition.

Unit- IV

Theories of Distribution

Marginal Productivity Theory and Euler's Theorem, Concept and Theories of Profit, Loanable Fund and Liquidity Preference Theory of Interest, Theories of Rent- Classical and Modern.

Readings:

1. Jeffrey M. Perloff, Microeconomics, Theory and Applications with Calculus, Pearson.
2. Hal R. Varian, Intermediate Microeconomics: A Modern Approach, W.W Norton & Company.
3. Gravell and Rees: Microeconomics, Longman.
4. Mankiw: Principles of Economics, Cengage Learning.
5. Pindyck and Rubinfeld: Microeconomics, Pearson Education Ltd.
6. Maddala and Miller: Microeconomics- Theory and Applications
7. Koutsoyiannis A: Modern Microeconomics, MacMillan Press Ltd.
8. Watson and Getz: Price Theory and Its Uses, A.I.T.B.S.
9. Gould and Ferguson: Microeconomics Theory, A.I.T.B.S.

ECO 302 History of Economic Thought-I

Unit-I

Nature, Importance of Economic thought and Economic Views of Traditionalists

Relativist and Absolute approaches to Economic Thought, Mercantilism- views on trade, money and prices, wages and employment. Physiocracy: Natural Order, net product, Tableau Economique and circulation of wealth.

Unit-II

Classical Political Economy

Adam Smith-natural philosophy and economic philosophy, theories of value, distribution and growth; JB Say- Law of Economics, Value, Free trade and say's law of Market; JS Mill and synthesis of classical ideas.

Unit-III

Ricardian Economics and Malthus

Value analysis, theories of trade and distribution, Malthus- theory of population and glut.

Unit-IV

Historical school and Marginal Revolution

Criticism of classical theory of value and distribution and A case of Social Market Economy. Evolution of new theory of value and distribution - Menger, Walras, Jevons, Wieser and Bohm-Bawerk.

Readings

1. Clair, St. Oswald, A key to Ricardo.
2. Dobb, Maurice, Theories of value and Distribution since Adam Smith.
3. Eric Roll, A History of Economic Thought.
4. Gide and Rist, History of Economic Doctrines
5. J.G Backhaus, Handbook of the History of Economic thought.
6. Mark Blaug, Economic Theory in Retrospect.
7. Meek, RL, Economics of Physiocracy.
8. Meek, RL, Studies in the labor theory of value.
9. O' Brien, Classical theory of value and Distribution.
10. Robert L. Heilbroner, The Worldly Philosophers.
11. Schumpeter, J.A, History of Economic Analysis.
12. Steven Pressman, Fifty Major Economists.
13. Stigler, G.J, Essays in History of Economics.

ECO 303 FUNDAMENTAL OF STATISTICS

UNIT-I

Introduction to Statistics

Nature, Significance and Limitations of Statistics - Collection of data - Primary and Secondary Data - Methods of collecting Primary Data - Classification and Tabulation of Data.

UNIT-II

Diagrammatic and Graphical Representation of Data

Bar diagrams - One dimensional and Two dimensional diagrams, Pictograms and Cartograms, Frequency Distribution - Univariate and Bivariate Frequency Distributions, Histogram, Frequency Curve, Ogive Curves.

UNIT-III

Measures of Central Tendency

Mean, Median and Mode - their Merits and Demerits, Geometric Mean, Harmonic Mean, Relationship between AM, GM and HM, Combined Mean .

UNIT-IV

Measures of Dispersion

Range, Mean deviation, Quartile Deviation, Standard Deviation and Lorenz Curve; Skewness - Karl Pearson's and Bowley's Coefficient of Skewness - Kurtosis.

Readings

1. Murray R. Spiegel, Theory and Problems of Statistics, Schaum Publishing Series.
2. E. Narayanan Nadar, Statistics, PHI Learning Private Limited, New Delhi.
3. S.C Gupta, Fundamental of statistics, Himalya Publishing House, New Delhi.
4. D. N Elhance, Veena Elhance and B.M Agarwal, Fundamental of statistics, Kitab Mahal, Allahabad.

ECO 304 Environmental Economics

UNIT I

Introduction

Environmental Economics – Nature and Scope, Market Failure, Externalities, Economic Development and Environment, Kuznets Curve.

UNIT II

National Resources and Sustainable Development

National Resources and Depletion of Natural Resources; Concept of sustainable development; Uncertainty and rate of resource extraction; living standard and sustainable development.

UNIT III

Global Environmental Challenges and Policies

Global environmental challenges; Global warming, Ozone depletion; Causes and consequences of environmental degradation; Pollution mitigating efforts and policies.

UNIT IV

Domestic Environmental Issues and Policies

Environmental Issues in India; Environmental Policies in India, Forest conservation and protection; Biodiversity: People participation and current issues in environment.

Readings

1. Baumol, W.J. and W.E. Oates (1988), *The Theory of Environmental Policy*, (2nd Edition), Cambridge University Press, Cambridge.
2. Bromely, D.W. (Ed) (1995), *The Handbook of Environmental Economics*, Wiley-Blackwell, London.
3. Charles D. Kolstad (2009), *Intermediate Environmental Economics*, OUP.
4. Charles D. Kolstad (2011), *Environmental Economics*, OUP.
5. Fisher, C. (1993), *Resource and Environmental Economics*, Cambridge University Press, Cambridge, digitally reprinted, 2008.
6. Hanley, N., J.F. Shogren and B. White (1997), *Environmental Economics in Theory and Practice*, Macmillan.
7. Hussen, A.M. (1999), *Principles of Environmental Economics*, Routledge, London
8. M. Karpagam (2010), *Environmental Economics*, Sterling publishers, 2nd edition.
9. T Eugene (2005), *Environmental Economics*, Paperback edition, Vrinda Publications, New Delhi.

ECO 305 ECONOMICS OF GROWTH AND DEVELOPMENT-I

Unit I

Conception of Development

Economic Growth and Development-Definition, Distinction and Measurement, Traditional Economic Measures- GNP, GDP, income per capita, Sen's capabilities approach, Fundamental Human Needs Approach- Core values of Development

Unit II

Economic Growth and Development

Economic Growth and development- Theory and Empirics: Stages of Economic Development

Growth and Development- Rostow and Marx, Importance of non-economic factors in development, A holistic approach to development: Human Development Index

Unit III

Alternative Approaches to Development

Structural Transformation models: Lewis, Ranis-Fei, Harris-Todaro models and Empirical contributions by Chenery.

Unit IV

Dependence- Dominance Approach to Development

Neo-Colonial Dependence model, False-Paradigm model and Dualistic Development Thesis.

Readings

1. A.P Thirlwal, Economics of Development, Palgrave macmillan, Ninth Edition, 2014.
2. Charles I. Jones Introduction to Economic Growth, Viva-Norton Student Edition, second edition, 2013.
3. Gerald M. Meier, Leading Issues in Economic Development, OUP, Eighth edition, 2010.
4. Todaro and Smith, Economic Development, Pearson Education Ltd.,Eighth Edition,2009.

ECO 401 Intermediate Macroeconomics

Unit- I

Classical Theory of Employment

Classical Theory in a Barter, Monetary and Labour Market Framework, Modifications in the Labour Market Framework and Keynes Theory of Employment, Bottlenecks in consumption and investment demand functions, importance of fiscal instruments in employment generation, Limitations of Classical and Keynesian Theory of Employment.

Unit- II

Consumption and Income Determination

Keynesian Consumption Function, Autonomous Investment, Simple Income Determination Model, Multiplier, factors affecting aggregate consumption, Alternative Approach to Income Determination- Planned Savings and Planned Investment. Paradox of Thrift.

Unit- III

Investment Function and Trade Cycle

Autonomous Investment, Induced Investment and its determinants, Marginal Efficiency of Capital, Marginal Efficiency of Investment and Rate of Interest, Relationship between Investment and Income- Accelerator theory of Investment, Cyclical Fluctuations, Multiplier-Accelerator Relationship, Role of Monetary factors in Cyclical Fluctuations, Hicks Theory of Trade Cycle.

Unit- IV

Extension of the Simple income determination model

Interaction of the Real Sector and Monetary Sectors of the Economy, IS-LM Model, Keynesian version and Neo-Classical Version, Role and Relative Effectiveness of Fiscal and Monetary Policy.

Readings

1. Abel and Bernanke: Macroeconomics, Pearson Education.
2. Blanchard and Johnson, Macroeconomics, Pearson.
3. David King, An Introduction to National Income Accounting, Edward Arnold.
4. Dornbusch, Fischer, Startz, MACRO ECONOMICS McGraw-Hill.
5. G. Ackley, Macroeconomics: Theory and Policy, Macmillan.
6. N. Gregory Mankiw- Macroeconomics, Macmillan Worth Publishers.
7. Richard T. Froyen, Macroeconomics, Pearson.
8. Ruggles and Ruggles, National Accounting and Economic Policy, Edward Elgar.
9. Soumen Sikdar, Principles of Macroeconomics, OUP.
10. Thomas F.Dernburg, Macro-Economics: Concepts, Theories & Policies, McGraw-Hill.
11. Uma Datta Roy Choudhary, National Income Accounting, Macmillan Education Ltd.

ECO 402 ECONOMICS OF GROWTH AND DEVELOPMENT-II

Unit I

Introduction to Growth Economics

Potential Output and Concept of Steady State, Stylized Facts of Growth, Harrod-Domar growth models and its limitations.

Unit II

Role of Complementarities and Coordination in Development

Importance of Complementarities and Coordination in Development, Rosenstein Rodan's theory of Big Push, Kremer's O-Ring theory of Economic Development.

Unit III

Major Concerns of Development

Poverty and Inequality- Concept of Vicious Circle of Poverty, Measuring Absolute Poverty, Poverty Line, Poverty Gap, FGT poverty measure and HPI
Concept of Inequality, Measuring Inequality- Lorenz curve and Gini's Coefficient, Economic Growth and Inequality- Kuznets inverted U- Hypothesis.

Unit IV

Policies for Mitigating Poverty and Inequality

Policy Mechanisms for Curtailing Incidence of Poverty and Inequality- Methods of targeting Transient and Chronic poverty, Evaluating targeted interventions.

Readings

1. A.P Thirlwal, Economics of Development, Palgrave macmillan, Ninth Edition, 2014.
2. Charles I. Jones Introduction to Economic Growth, Viva-Norton Student Edition, second edition, 2013.
3. Gerald M. Meier, Leading Issues in Economic Development, OUP, Eighth edition, 2010.
4. Todaro and Smith, Economic Development, Pearson Education Ltd., Eighth Edition, 2009.

ECO 403 Statistical Methods

UNIT I

Probability and Sampling

Meaning of Probability, Concept and types of events, Addition and Multiplicative theorems of probability. Concept of sampling, Census vs sampling, Laws concerning theory of sampling – Laws of statistical regularity and inertia of large numbers. Random and Non-random sampling methods, sampling and non-sampling errors.

UNIT II

Correlation and Regression

Meaning and Definition of Correlation, Types of Correlation, Measurement of Correlation- scatter diagram, Correlation graph, Karl Pearson coefficient of Correlation, Spearman's Rank Correlation coefficient, coefficient of concurrent deviations. Probable and Standard Errors of coefficient of correlation, Correlation ratio. Meaning of regression, Linear regression lines – X on Y and Y on X, estimation of regression coefficients, relationship between correlation and regression coefficients, standard error of estimate.

UNIT III

Index Number

Meaning and Types of Index Number, Problems involved in the construction of index number, Laspeyres, Paasche, Fisher, Dorbish-Bowley, Marshall-Edgeworth and Kelly's Index Numbers. Concept of ideal index number – Time and Factor reversal tests, index number and concept of Base shifting, splicing and deflating.

UNIT IV

Time Series

Meaning and components of time series – Trend, Seasonal, Cyclical and Irregular variations, Methods of measurement of trend and seasonal components.

Readings

1. D. N Elhance, Veena Elhance and B.M Agarwal, Fundamental of statistics, Kitab Mahal, Allahabad.
2. E. Narayanan Nadar, Statistics, PHI Learning Private Limited, New Delhi.
3. Murray R. Spiegel, Theory and Problems of Statistics, Schaum Publishing Series.
4. S.C Gupta, Fundamental of statistics, Himalya Publishing House, New Delhi.

ECO 404 Research Methodology in Economics

Unit I

Introduction

Meaning, nature, scope and objectives of social research; Identification of Research problem- objectives, hypothesis, stages of scientific research; Motivating factors of social research.

Unit II

Research Design

Meaning and need of research design; Types of research design (only introduction) – descriptive, exploratory, diagnostic and experimental

Unit III

Data Collection

Facts-features; Primary data collection methods – Direct observation, questionnaire, schedule, interview; Secondary data collection methods – Personal documents, Public documents and Limitations.

Unit IV

Data Presentation, Analysis and Report Writing

One- dimensional diagrams; Two- dimensional diagrams; Graphs of time series; Graphs of frequency distribution, Types of Reports- Research Report Format- Documentation: Footnotes and Bibliography- Writing the Report- Presentation.

Readings

1. Ghosh, B.N. : Scientific Methods and Social Research, Sterling Publishers Pvt. Ltd, New Delhi, 1982.
2. Goode William J. and Hatt, Paul, Methods in Social Research, McGraw Hill, New York.
3. Gopal M.H. : An Introduction to Research Procedure in Social Sciences, Asia Publishing House, Bombay, 1964.
4. Gupta S.P (1988) –Statistical Methods- Sultan Chand & Sons , Delhi.
5. Gupta, S. C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.
6. Hans Raj : Theory and Practice in Social Research, Surjeet Publication, New Delhi, 1979.
7. Kothari C.R, (1988) Research Methodology Method and Techniques, Wiley Eastern Limited ,New Delhi
8. Sadhu A.N. and Singh Amarjit : Research Methodology in Social Sciences, Himalaya Publishing House, Bombay, 1980.
9. Tandon B.C. : Research Methodology in Social Science, Chaitanya Publishing House, Allahabad, 1979.
10. Wilkinson T.S. and Bhandarkar P.L. : Methodology and Techniques of Social Research, Himalaya Publishing House, Bombay 1979.

ECO 405 History of Economic Thought-II

Unit-I

Marxian Economics

Dialectical materialism, theory of value, theory of capital accumulation, theories of crisis, simple reproduction scheme and Frederick Engels contribution. Veblen's theory of leisure class.

Unit-II

Neo-classicals

Marshall – fusion of demand and supply, politico-philosophical background, AC Pigou: The Economics of welfare, stationary states and socialism.

Unit-III

Economic Thoughts on Demand Composition, Aggregate Demand and Income Redistribution

Schumpeter- theory of Economic Development, Theory of Business Cycle, Profit , Capitalism and Socialism, JM Keynes- Macro analysis, Monetary economics and Depression Economics, Individualism, Liberalism and utilitarianism

Unit-IV

Indian thinkers

Kautilya, Dadabhai Naoroji, M.G Ranade, M N Roy, Mahatma Gandhi, Jk Mehta and B R Ambedkar. Recent contributions with reference to selected Nobel Laureates.

Readings

1. Clair, St. Oswald, A key to Ricardo.
2. Dobb, Maurice, Theories of value and Distribution since Adam Smith.
3. Eric Roll, A History of Economic Thought.
4. Gide and Rist, History of Economic Doctrines
5. J.G Backhaus, Handbook of the History of Economic thought.
6. Mark Blaug, Economic Theory in Retrospect.
7. Meek, RL, Economics of Physiocracy.
8. Meek, RL, Studies in the labor theory of value.
9. O' Brien, Classical theory of value and Distribution.
10. Robert L. Heilbroner, The Worldly Philosophers.
11. Schumpeter, J.A, History of Economic Analysis.
12. Steven Pressman, Fifty Major Economists.
13. Stigler, G.J, Essays in History of Economics.

ECO 501 Public Finance

UNIT I

Meaning and Scope of Public finance

Meaning and Scope, Public and Private Finance, Principles of Maximum Social Advantage, Concepts of Public Goods, Private Goods, Mixed Goods and Merit Goods.

UNIT II

Public Expenditure

Meaning and Importance – Reasons for the Growth of Public Expenditure – Wagner's Hypothesis, Peacock - Wiseman Hypothesis, Canon's of Public Expenditure – Effects of Public Expenditure.

UNIT III

Public Revenue

Meaning and Sources of public revenue, Taxes -Classification of Taxes, Canons of Taxation, Principles of Taxation, Ability and Benefit approach, Impact, Incidence and shifting of Tax Burden, Effects of Taxation, Major Taxes in India. Value Added Tax and the concept of goods and service tax (GST) in India.

UNIT IV

Public Debt and Budget: Meaning

Types of Public Debt, Debt Redemption. Budget, Meaning, Types of Budget: Revenue and Capital Budget, Revenue Expenditure and capital expenditure, Revenue Deficit, Fiscal Deficit, Primary Deficit, Budget Deficit, Fiscal Policy – Contra Cyclical Fiscal Policy, Deficit financing, Preparation of Budget in India and contemporary important fiscal issues.

Readings

1. D.K Srivastava, Issues in Indian Public Finance, New Century Publications, 2005.
2. Hugh Dalton, Principles of Public Finance, Rotledge, reprinted, 2013.
3. Jonathan Gruber, Public Finance and Public Policy, Worth Publishers, 2009.
4. R.A Musgrave and PB Musgrave, Public finance in Theory and Practice, Tata MacGraw Hill.
5. Raghendra Jha, Modern Theory of Public Finance, New Age International publishers, 2010.

ECO 502 Monetary Economics

Unit I

Money

Concept, Definition, functions, Monetary Standards; Gresham's Law, Monetary and Liquidity measures, Value of Money: Fisher and Cambridge approaches; Introduction to Modern Quantity Theory, Demonetization and its Effects.

Unit II

Inflation

Inflation: Definition and Types, Inflationary Gap, Demand Pull vs Cost Push inflation, Structural theories of Inflation, Effects of inflation and Concept of Stagflation, Monetary targeting and Inflation Targeting.

Unit III

Commercial Banking System

Meaning and types; Functions of commercial banks; the process of credit creation and its limitations; Balance sheet and Portfolio management, Indian banking system: Changing role and structure; Banking sector reforms.

Unit IV

Central Banking and Monetary Policy

Functions of a central bank; Quantitative and qualitative methods of credit control, monetary policy: objectives, indicators and instruments of monetary control, monetary management in an open economy, current monetary policy of India, liquidity adjustment facility (LAF), MSF, limitations of monetary policy.

Reading List

1. Carl E. Walsh, *Monetary Theory and Policy*, MIT Press, Cambridge, 3rd edition, 2010.
2. Jadhav Narendra, *Monetary Economics For India*, Macmillan, 1994.
3. Jagdish Handa, *Monetary Economics*, Routledge, 2nd edition, 2009.
4. K.K Kurihara, *Monetary Theory and Public Policy*, Routledge, paperback edition, 2010.
5. M. R. Baye and D. W. Jansen, *Money, Banking and Financial Markets*, AITBS, 1996.
6. Rakesh Mohan, *Growth with Financial Stability- Central Banking in an Emerging Market*.
7. S.B Gupta, *Monetary Economics*, S. Chand & Company, New Delhi, third edition, reprint, 1995.

ECO 503 International Trade: Theory and Policy

Unit 1

Introduction

Importance of the study of international economics, Inter-Regional and international trade, Concept of autarky and Free Trade, Free trade and Protection, Gains from international trade, An Overview of World trade.

Unit 2

Theories of International Trade

Mercantilist Viewpoint, Adam Smith's theory of absolute advantage, Ricardian theory, Heckscher-Ohlin model, New trade theories.

Unit 3

Trade Policy

Trade policy instruments, quota, tariff, non-tariff barriers, subsidies in a partial equilibrium framework, political economy of trade policy, WTO and trade policies in developing countries.

Unit 4

Terms of Trade

Meaning, types – Net Barter, Gross Barter, Income, Single Factoral, Double Factoral, Real Cost and Utility Terms of Trade. Concept of offer curve, determination of terms of trade, trends of terms of trade, terms of trade with respect to developing countries, international commodity agreements, prebisch-singer thesis.

Readings

1. Dominick Salvatore, International Economics: Trade and Finance, John Wiley International Student Edition, 10th edition, 2011.
2. Paul Krugman, Maurice Obstfeld and Marc Melitz, International Economics: Theory and Policy, Addison-Wesley(Pearson Education India Edition), 9th edition, 2012.
3. Peter B Kenen, The International Economy, Cambridge University Press, 2000, Fourth Edition.
4. Sodersten and Reed , International Economics, Macmillan, 1994, Third Edition.

ECO 504 Basic Econometrics

Unit I

Introduction to Econometrics

Definition and scope of Econometrics, Branches of Econometrics (Theoretical and Applied), Goals of Econometrics, Random variables and its rationale, Deterministic and Stochastic models. Econometric model and its stages - specification, estimation, evaluation of parameters and forecasting power of model.

Unit II

Statistical Inference

Normal Distribution (Properties, Probability Density Function, its Parameters), Estimation of Parameters, Formulation of Hypothesis, Testing of Hypothesis, Type I and Type II error, Power of a test.

Unit III

Simple Linear Regression

Classical Assumptions- Stochastic and other assumptions, OLS method and Estimation of parameters by OLS, Properties of a good estimator, Gauss Markov Theorem, Goodness of fit of the econometric model, standard error test, t and F tests.

Unit IV

Two Variable Relationships: Additional Aspects

Transformation of Variables – Log-Log transformation and estimation of elasticity, Semi-log Transformation and estimation of growth rate, Reciprocal Transformations – Cases of rectangular hyperbola and Phillips curve. Autoregressive model, its estimation, Stationary and Non-Stationary series and concept of unit root.

Readings

1. A. Koutsoyiannis, Theory of Econometrics, 2nd edition, Macmillan.
2. Damodar Gujarati , Dawn C Porter and Sangeetha Gunasekar, Basic Econometrics , 5th edition, Tata McGraw-Hill Education Pvt. Ltd,2013.
3. J. Johnston, Econometric Methods, 2nd edition, McGraw-Hill.
4. Johnston & Dinardo, Econometric Methods, 4th edition, The McGraw-Hill Companies, Inc.
5. Nagar, A.L and R.K Das, Basic Statistics, 2nd edition, Oxford University Press, 1976.

ECO E505 Economics of Agriculture

Unit-I

Definition, scope and nature, need for a separate study of Agricultural Economics, Agriculture linkages to other sectors, role of agriculture in economic development.

Unit-II

Production function Analysis- factor-product, factor-factor, product-product relationship, types of farm organization and their comparative production efficiency.

Unit-III

Transformation of Agriculture- Schultz thesis of transformation of traditional agriculture and Green Revolution in Indian Agriculture.

Agriculture Markets- Aim, types and functions of agriculture markets, criteria for judging efficiency of agricultural market systems, Agricultural Marketing in India.

Unit-IV

Agriculture Credit- Importance of credit, Types of Credit, Non-Institutional and Institutional sources of agriculture credit, Various schemes catering credit requirements of Indian Farmer. Agriculture Price Policy- Need, objectives and Instruments of Agriculture price policy, agriculture price policy in India.

Readings

1. Acharya, S. S. and Agarwal, N. L.(1994). Agricultural Price Policy. Oxford and IBH Publishing Co. New Delhi.
2. Acharya, S. S. and Agarwal, N. L.(1999). Agricultural Marketing in India. Oxford and IBH Publishing Co. New Delhi.
3. G. E. Shephard. Agricultural Price Analysis. Iowa State University Press, Ames, Iowa.
4. G.Datt and A. Mahajan (2017), Indian Economy, 72nd edition, S.Chand, New delhi.
5. Kohls, R. L. and Joseph, N. Uhl. (1980). Marketing of Agricultural Products, Collier Macmillan, New York.
6. Reddy, S. and Raghu Ram, P. Agricultural Finance and Management. Oxford and IBH, New Delhi.
7. Singh,Sadhu and Singh (2013), Fundamentals of Agricultural Economics, Himalya Publishing house, Delhi.

ECO E506 Economics of Infrastructure

Unit- I

Infrastructure and Economic Development

Infrastructure as a public good; Economic Characteristics and types- social and physical infrastructure; Public utilities- Rationale of state provision.

Unit- II

Pricing Methods

Public private partnership investment, Peak-Load, Off-load problem, Marginal cost pricing vs. other methods of pricing in public utilities.

Unit- III

Transport and communication

The structure of transport costs and location of economic activities, Demand for transport, models of freight and passenger demand, the supply of transport, pricing policy, cost levels and structure-road transport, introduction to the setting of postal tariffs; criteria for fixation of postal tariffs, block pricing for Indian postal services.

Unit- IV

Energy and Electricity

Primacy of energy in the process of economic development, factors determining demand for energy, effects of energy shortage, energy conservation, renewable and non-conventional sources of energy, the relative economies of thermal, hydro and nuclear power plants, the case for a national power grid, the exploitation of natural gas, pricing problem, environmental implications.

Readings:

1. Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, Macmillan, London.
2. Indian Council of Social Sciences Research (ICSSR) (1976), Economics of Infrastructure, Vol. VI, New Delhi,
3. National Council of Applied Economic Research (NCAER) (1976), India Infrastructure Report: Policy Implications for Growth and Welfare, NCAER, New Delhi.
4. Parikh, K.S. (Ed) (1999), India Development Report 1999-2000.
5. Parikh, K.S. (Ed.) (1997), India Development Report 1997, Oxford, New Delhi.

ECO 601 Economics of Social Sector

Unit- I

Role of Health and Education in Human Development

Importance of Health and Education in macroeconomics, Importance of Health and education in human development, Human Development Index and other related indices, Importance in Poverty Alleviation.

Unit- II

Economics of Education

Demand for Education and its determinants, Investment in human capital, Rate of return to education, Private and Social quality of Education,

Unit- III

Economics of Health

Demand for Health; Costing, cost effectiveness and cost-benefit analysis; burden of disease, uncertainty and health insurance market; alternative insurance mechanisms; market failure and rationale for public intervention;

Unit- IV

Education and Health Sector in India

Literacy rate, school participation, school quality measures, education policies, health planning and policies in India, social security measures.

Readings

1. Ronald G., Ehrenberg and Robert S., Smith, Modern Labor Economics: Theory and Public Policy, Addison Wesley, 2005.
2. William, Jack, Principles of Health Economics for Developing Countries, World Bank Institute Development Studies, 1999.
3. World Development Report, Investing in Health, The World Bank, 1993

ECO 602 Uttar Pradesh Economy

UNIT I

Introduction

Overview of Uttar Pradesh Economy – Nature, Features, Demographic Profile, Status of Natural Resources, Major Factors affecting growth and development in Uttar Pradesh: economic and non-economic factors in economic development of Uttar Pradesh.

UNIT II

Pattern of Growth

Growth pattern of Uttar Pradesh economy; Sectoral pattern of Growth pattern in Uttar Pradesh; Economic growth in Uttar Pradesh and Indian economy: A comparison; Infrastructural development of Uttar Pradesh.

UNIT III

Agricultural and Rural Development

Agricultural and Rural development in Uttar Pradesh; Pattern of land-holding and irrigation; production and productivity in agriculture, Farm mechanization, agricultural credit, Agricultural policy and strategies in Uttar Pradesh, Rural Development – Problems and Policies.

UNIT IV

Industry and Service Sectors

Industrial and service sector development in Uttar Pradesh. Major industries in Uttar Pradesh, Pattern of Industrial Development in Uttar Pradesh, Industrial Policy in Uttar Pradesh, Growth pattern of Services sector.

Readings

1. M K Agarwal , Uttar Pradesh ka Arthik Vikas.
2. Publications of the Government of Uttar Pradesh.
3. Uttar Pradesh Human Development Report, UNDP, 2008.
4. Uttar Pradesh State Development Report, Volume I & II, State Plan Division, Planning Commission, Government of India, 2014.

ECO 603 Financial Economics

Unit I

Investment Theory and Portfolio Analysis

Basic Theories of interest, discounting and present value concept, rate of return, evaluation criteria, types of securities, bond prices and yield, interest rate sensitivity and duration, term structure of interest rates, yield curves, spot rates and forward rates.

Unit II

Risk and Capital Asset Price model (CAPM)

Random asset returns, portfolios of assets (mean and variance), feasible combination of mean and variance, risk of securities, CAPM, beta of an asset and of a portfolio, security market line, use of CAPM in investment analysis and as a pricing formula.

Unit III

Options and Derivatives

Introduction to derivatives and options, future and forward contracts, options. Forward and future prices, futures stock indices. Interest rate futures, Use of futures for hedging, duration based hedging strategies, option markets, option trading strategies: spreads.

Unit III

Corporate Finance

Pattern of corporate financing, common stock, debt, preferences, convertibles, capital structure and cost of capital, corporate debt dividend policy, Modigliani-Miller theorem.

Readings

1. John C Hull, Options futures and other derivatives, Pearson education, 6th edition, 2005.
2. Thomas C Copland, J Fred Weston and Kuldeep Shastri, Financial Theory and Corporate Policy, Prentice Hall, 4th edition, 2003.
3. Richard A Brearley and Stewart C Myers, Principles of Corporate Finance, McGraw-Hill, 7th edition, 2002.

ECO 604 Foreign Trade and Exchange Management

Unit 1

Foreign trade

Foreign trade - meaning, distinction between balance of trade and balance of payments, direction and composition of foreign trade of India, foreign trade policy of India.

Unit 2

Foreign Exchange

Concept of foreign exchange , methods of exchange rate determination ,monetary approach under fixed exchange rate and flexible exchange rate, gold standard, mint parity theory, PPP theory, hedging, speculation, arbitrage, interest parity, concept of spot exchange rate and forward exchange rate, exchange rate dynamics (exchange rate overshooting)

Unit 3

Exchange control

Meaning and objectives, unilateral exchange control Methods – Regulation of Bank rate, foreign trade, foreign exchange, exchange pegging, exchange equalization fund and blocked accounts. Bilateral exchange control Methods – Transfer Moratoria, Private Compensation, Clearing, Standstill and payments agreements.

Unit 4

International Financial Institutions

International Monetary System -Brettonwoods system and IMF, objectives, working-quota, SDR, financing facilities and financing methods. Reforms of international financial institutions, effect of international monetary system on developing countries, IBRD and its associate institutions.

Readings

1. Dominick Salvatore, International Economics: Trade and Finance, John Wiley International Student Edition,10th edition, 2011.
2. Paul Krugman, Maurice Obstfeld and Marc Melitz, International Economics: Theory and Policy, Addison-Wesley(Pearson Education India Edition), 9th edition,2012.
3. Peter B Kenen, The International Economy, Cambridge University Press, 2000, Fourth Edition.
4. Sodersten and Reed , International Economics, Macmillan, 1994, Third Edition.

ECO E605 INDUSTRIAL ECONOMICS

UNIT-I

FRAMEWORK OF INDUSTRIAL ECONOMICS

Concept and Organization of a firm - Ownership control and objectives of a firm, Passive and active behavior of firm, Size, Growth, Profitability, Productivity, Efficiency and Capacity Utilization - Concept and measurement. Industrial policy, Classification of industries in India, Role of Public and private sectors; Recent trends in Indian industrial growth.

UNIT-II

INDUSTRIAL LOCATION AND REGIONAL DEVELOPMENT

Determinants of Industrial Location - Technical, economic, infrastructural and other factors. Theories of industrial location - Weber, August Losch, Sargant Florence, Development of Backward Regions - Government Policy and approach for the development of backward regions.

UNIT-III

INDUSTRIAL STRUCTURE AND LABOUR

Alternative Patterns of Industrialization - Hoffman's hypothesis of capitalistic economies - Simon Kuznet's interpretation - Industrialization and planned economies - Cheney's Patterns of industrial changes . Structure of industrial labour, Industrial relations, Exit policy, Social Security Measures and Labour Reforms in Indian Context.

UNIT-IV

PROJECT APPRAISAL AND INDUSTRIAL FINANCE

Project Appraisal Techniques – CBA, NPV and IRR, Sources of Industrial Finance - Owned, external and components of funds; Nature, Volume and Types of institutional finance – IDBI, IFCI, SFCs, SIDC, Commercial Banks, etc.;

Reading List

1. Ahluwalia, I.J: Industrial Growth in India (Oxford University Press, New Delhi, 1985)
2. Barthwal, R.R: Industrial Economics (Wiley Eastern Ltd, New Delhi, 1985)
3. Cherunilam F: Industrial Economics: Indian Perspective (3rd Edition) (Himalaya Publishing House, Mumbai, 1994)
4. Desai B: Industrial Economy in India (3rd Edition) (Himalaya Publishing House, Mumbai, 1999)
5. Divine P.J & R.M Jones et. Al: An Introduction to Industrial Economics (George Allen and Unwin Ltd, London, 1976)
6. Hay D and D J Morris: Industrial Economics: Theory and Evidence (Oxford University Press, New Delhi, 1979)
7. Kuchhal S.C.: Industrial Economy of India (5th Edition) (Chaitanya Publishing House, Allahabad, 1980)
8. Singh. A and A.N Sadhu: Industrial Economics (Himalaya Publishing House, Bombay, 1988).

ECO E606 Political Economy

Unit- I

Introduction and Historical Overview

Perspective on Political Economy with a historical overview-Method of historical materialism, transition from feudalism to capitalism, capitalism as a historical process and alternative perspectives.

Unit- II

Changing Dynamics of Capitalistic Production

Organizational Form and the Labour Process-Fordist and post-fordist production; changing dynamics of organization of production, markets and labour process; the changing nature of job security and labour rights.

Unit- III

The State in the Era of Globalization

Welfare, Development and Autonomy- Globalization and the limits of the welfare state, development and state autonomy.

Unit- IV

The Changing Role of Finance

The changing role of finance in capital accumulation and corporate structure; finance and globalization- financial liberalization, Securitization and financial crisis.

Reading List

1. Michel Beaud, A History of Capitalism, 1500-2000, trans. by Tom Dickman and Anny Fefebvre, New Yourk: Monthly Review Press, 2001.
2. Ash Amin (ed.), Post-Fordism: A Reader, Blackwell, 1994.
3. Fran Tonkiss, Contemporary Economic Sociology: Globalization, Production, Inequality, Chapter 4 (Fordism and After),outledge India 2008 reprint, 2006.
4. S Hymer, "The Multinational Corporation and the Law of Uneven Development" in H. Radice (ed.) International Firms and Modern Imperialism Penguin Books, 1975.
5. G. Gereffi, J. Humphrey and T. Sturgeon, 2005, - The Governance of Global Value Chains, Review of International Political Economy, Volume12: 78-104.
6. Narsimha Reddy, - Economic Globalization, Past and Present- The Challenges to Labour in Jomo K.S. & Khoo Khay Jin (ed.) Globalization and its Discounts, Revisited, Sephis- Tulika Books, 2003.
7. David Harvey, A Brief History of Neoliberalism, OUP, 2005.
8. Andrew Glyn, - Challenges to Capital, in Capitalism Unleashed: Finance Globalization and Welfare, Oxford: Oxford University Press, (Ch. One, pp. 1-24), 2006.
9. G Dumenil and D Levy, The Crisis of Neoliberalism, Harvard University Press, 2011.
10. K.S.Jomo (ed.), The Long Twentieth Century: The Great Divergence: Hegemony, Uneven Development and Global Inequality, OUP, 2006.