

**DEPARTMENT OF ECONOMICS
RADHA GOVIND UNIVERSITY,
RAMGARH**



**SYLLABUS FOR B.A. [ECONOMICS]
UNDER CHOICE BASE CREDIT SYSTEM**

B.A. ECONOMICS [HONS.]

Semester I

ECN – CC1: Micro Economics I
ECN – CC2: Money and Banking
ECN – GE1: Elective Course
ECN – AEC1: (Language Paper)

Semester II

ECN – CC3: Macro Economics I
ECN – CC4 Indian Economics
ECN – GE2: Elective Course
ECN – AEC2: (Language Paper)

Semester III

ECN – CC5: Micro Economics II
ECN – CC6: Statistical Methods in
Economics
ECN – CC7: Macro Economics II
ECN – GE3: Elective Course
ECN – SEC1: Financial Economics

Semester IV

ECN – CC8: Mathematical Methods for
Economics
ECN – CC9: International Economics
ECN – CC10: Economic Dev.& Policies in
India
ECN – GE4: Elective Course
ECN – SEC2: Data Analysis

Semester V

ECN – CC11: Growth and
Development
ECN – CC12: History of Economic
Thought
ECN – DSE1: Optional Paper I
ECN – DSE2: Optional Paper II

Semester VI

ECN – CC13: Public Finance
ECN – CC14: Environmental Economics
ECN – DSE3: Optional Paper III
ECN – DSE4: Optional Paper IV

Students will opt for any one of the following groups as DSE Paper

(OPTIONAL PAPERS) Discipline Specific Elective (DSE)

GROUP A: Mathematical Economics (DSE – I & III) and Econometrics (DSE – II & IV).

GROUP B: Agricultural Economics (DSE – I & III) and Demography (DSE – II & IV).

GROUP C: Industrial Economics (DSE – I & III) and Financial Institutions (DSE – II & IV).

Outline of Choice Based Credit System:

1. Core Course: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2. Elective Course: Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

2.1 Discipline Specific Elective (DSE) Course: Elective courses may be offered by the main discipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

2.2 Dissertation/Project: An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.

2.3 Generic Elective (GE) Course: An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

3. Ability Enhancement Courses (AEC): The Ability Enhancement (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement; i. Environmental Science and ii. English/MIL Communication.

These are mandatory for all disciplines. SEC courses are value-based and/or skill based and are aimed at providing hands-on-training, competencies, skills, etc.

3.1 Ability Enhancement Compulsory Courses (AECC): Environmental Science, English Communication/MIL Communication.

3.2 Skill Enhancement Courses (SEC): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.

Introducing Research Component in Under-Graduate Courses Project work/Dissertation is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.

Semester I
ECN: CC - I
Micro Economics – I

Full Marks – 80
Hrs

Time - 3

Unit I: Introduction

- 1.1: Subject Matter of Economics
- 1.2: Nature and Scope of Economics: Micro and macro Economics; Positive and Normative Economics; Dynamic and Comparative Static Economics.
- 1.3: Methodology in Economics: Deductive and Inductive Methods.
- 1.4: Central Economic Problems: Scarcity and Choice; Production Possibility Frontier [PPF].

Unit 2: Consumer Behaviour and Demand

- 2.1: Cardinal Utility Analysis: Total and marginal Utility; Law of Diminishing Marginal Utility; Law of Equi-Marginal Utility; Consumer's Equilibrium.
- 2.2: Ordinal Utility Analysis: Indifference Curves; Budget Constraints; Consumer's Equilibrium.
- 2.3: Price Effect: Substitution Effect [Hicks and Slutsky]; Income Effect.
- 2.4: Income Consumption Curve [ICC] and Price Consumption Curve [PCC]; Normal, Inferior and Giffen Goods.
- 2.5: Consumer's Surplus: Marshall and Hicks.
- 2.6: Theory of Demand: Derivation of Demand Curve under Cardinal and Ordinal Theories; Law of Demand; Factors Influencing Demand; Changes in Demand and Engel's Curve; Elasticity of Demand; Price; Income and Cross Elasticities.

Unit 3: Theory of Production

- 3.1: Production Function: Short Run and Long Run.
- 3.2: Law of Variable Proportions;
- 3.3: Returns to Scale: Economies of Scale.
- 3.4: Cobb-Douglas Production Function: Its Properties.
- 3.5: Isoquant Analysis; Iso-Cost Line; Producer's Equilibrium; Production Decision and Expansion Path.

Unit 4: Theory of Costs and Revenue

- 4.1: Concepts of Costs and their inter-relationship: Short Run and Long Run.
- 4.2: Concepts of Revenue and their inter-relationship; Break-Even Analysis.

Semester I
ECN: CC - II
Money and Banking

Full Marks - 80

Time - 3 Hrs

Unit 1: Money

- 1.1: Money: Meaning and Function: Role of Money in Capitalistic, Socialistic and Mixed Economies.
- 1.2: Quantity Theory of Money: Cash Transactions Approach and Cash Balance Approach.
- 1.3: Keynesian Theory of Money and Prices.

Unit 2: Central Banking

- 2.1: Objectives, Functions and Limitations of Central Bank with reference of RBI.
- 2.2: Supply of Money: Concept, Components and Aggregates; Money Multiplier.
- 2.3: Quantitative and Qualitative Methods of Credit Control.
- 2.4: Objectives, Functions and Limitations of Money Market: Developed and Developing with special reference to India.

Unit 3: Commercial Banking

- 3.1: Meaning, Types, Functions and Principles of Commercial Banks.
- 3.2: Structure and Balance Sheet of a Commercial Bank; Assets and Liabilities.
- 3.3: Process of Credit Creation.
- 3.4: Commercial Banking in India: Evaluation of Banking Sector since Independence; Critical Appraisal of Commercial Banking after Nationalization; Recent Banking Reforms.

Unit 4: Financial Markets

- 4.1: Banking System; Bond Market; Foreign Exchange Market; Equity Market – Concepts.
- 4.2: Introduction to the Concept of Derivatives.
- 4.3: Futures; Options; Call/Put.

Semester I

ECN: GE – I

An Elective Course will be chosen by the students from an unrelated discipline/ subject. Student will opt a core paper/subject other than economics being thought in the college, such as

1. Mathematics
 2. Statistics
 3. History
 4. Political science
 5. Psychology/ Geography
 6. English/Hindi
 7. Anthropology/Sociology
- Or any other paper.

ECN – AEC1

Student may opt any language paper such as:
Hindi/Bangali/English/Alternative English/Sanskrit/Regional Language

GE -1 (ARTS)

MICRO ECONOMICS –I

MARKS (Exter- 80, Inter- 20)

Unit -1 : INTRODUCTION

- 1.1 Subject matter of Economics; Central Economic Problem; Production Possibility frontier.
- 1.2 Micro and Macro Economics; Positive and Normative Economics.

Unit -2 : CONSUMER BEHAVIOR AND DEMAND

- 2.1 Cardinal Utility Analysis: Total and Marginal Utility ; Law of Diminishing Marginal Utility; Law of Equi- Marginal Utility; Consumer's Equilibrium,
- 2.2 Ordinal Utility Analysis : Indifference Curves; Budget Constraints; Consumer's Equilibrium
- 2.3 Consumer's Surplus: Marshall and Hicks
- 2.4 Theory of Demand; Elasticity of Demand : Price , Income and Cross

Unit -3 : THEORY OF PRODUCTION

- 3.1 Production Function: Short Run and Long Run
- 3.2 Law of Variable Proportions; Returns to Scale.
- 3.3 Isoquant Analysis ; Iso – Cost Line; Producer's Equilibrium

Semester II

ECN: CC – III

Core Economics III: Principles of Macroeconomics–I

Full Marks - 80

Time - 3 Hrs

Course Description

This course introduces students to the basic concepts in Macroeconomics. Macroeconomics deals with the aggregate economy. In this course the students are introduced to the definition, measurement of the macroeconomic variables like GDP, consumption, savings, investment and balance of payments. The course also discusses various theories of determining GDP in the short run.

1. Introduction

What is macroeconomics? Macroeconomic issues in an economy.

2. National Income Accounting

Concepts of GDP and National Income; measurement of national income and related aggregates; nominal and real income; limitations of the GDP concept.

3. Determination of GDP

Actual and potential GDP; aggregate expenditure; consumption function; investment function; equilibrium GDP; concepts of MPS, APS, MPC, APC; autonomous expenditure; Concept of multiplier.

4. National Income Determination in an Open Economy with Government

Fiscal Policy: impact of changes in government expenditure and taxes; net exports function; net exports and equilibrium national income.

5. Money in a Modern Economy

Concept of money in a modern economy; monetary aggregates; demand for money; quantity theory of money; liquidity preference and rate of interest; money supply and credit creation; monetary policy.

Readings:

1. Case, Karl E. & Ray C. Fair, *Principles of Economics*, Pearson Education, Inc., 8th edition, 2007.

2. Sikdar, Shoumyen, *Principles of Macroeconomics*, 2nd Edition, Oxford University Press, India

Semester II

ECN: CC – IV

Indian Economics

**Full Marks - 80
Hrs**

Time - 3

Unit 1: Structure of Indian Economy

- 1.1: Basic Features of Indian Economy
- 1.2: Natural Resources: Land, Water and Forest Resources.
- 1.3: Broad Demographic Features: Population Size, Structure [Sex and Age]; Characteristics; Change in Population; Rural-Urban Migration; Occupational Distribution; Problem of Over-Population; Population Policy.

Unit 2: Problems and Planning in India

- 2.1: Poverty and Inequality;
- 2.2: Problem of Unemployment;
- 2.3: Problem of Rising Prices;
- 2.4: Objectives, Strategy, Achievements and Failures of Planning in India; Analysis of Current Five Year plan.
- 2.5: New Economic Reforms: Liberalization, Privatization, Globalization and its progress.

Unit 3: Agriculture and Industry

- 3.1: Nature and Importance of Agriculture: Trends in Agricultural Production and Productivity; Factors Affecting Productivity.
- 3.2: Land Reforms.
- 3.3: New Agricultural Strategy, Green Revolution and Agricultural Reforms after 1991.
- 3.4: Rural Credit and Agricultural Marketing.
- 3.5: Industrial Policies of 1948, 1956 and 1991.
- 3.6: Large Scale Industries: Present Position and Problems of Sugar, Iron and Steel, Jute and Cotton Textile Industries.
- 3.7: Cottage and Small Scale Industries: Growth, Importance and Problems.

Unit 4: External Sector and Economics of Jharkhand

- 4.1: Role of Foreign Trade.

- 4.2: Composition and Direction of India's Foreign trade and FDI.
- 4.3: Basic Features of Jharkhand Economy.
- 4.5: Mineral and Forest Resources.
- 4.6: Agriculture in Jharkhand.

Semester II

ECN: GE – II

An Elective Course will be chosen by the students from an unrelated discipline/ subject. Student will opt a core paper/subject other than economics being thought in the college, such as

1. Mathematics
 2. Statistics
 3. History
 4. Political science
 5. Psychology/ Geography
 6. English/Hindi
 7. Anthropology/Sociology
- Or any other paper.

ECN – AEC1

Student may opt any language paper such as:
Hindi/Bangali/English/Alternative English/Sanskrit/Regional Language

GE -2 (ARTS)

MONEY AND BANKING

MARKS (Exter- 80, Inter- 20)

Unit -1 : MONEY

- 1.1 Money: Meaning and Function : Role of Money in Capitalistic , Socialistic and Mixed Economics
- 1.2 Quantity Theory of Money : Transaction approach and Cash Balance Approach

Unit -2 : CENTRAL BANKING

- 2.1 Objectives, Functions and Limitations of Central Bank with reference of RBI.
- 2.2 Quantitative and Qualitative Methods of Credit Control.

Unit -3 : COMMERCIAL BANKING

- 3.1 Meaning, Types Functions and Principles of Commercial Banks.
- 3.2 Process of Credit Creation.
- 3.3 Commercial Banking in India: Evaluation of Banking Sector since Independence; Critical Appraisal of Commercial Banking after Nationalization.

Unit -4 : INFATION

- 4.1 Definition , Types, Causes and Effects of Inflation.
- 4.2 Measures to Control Inflation
- 4.3 Concept of Inflationary gap.

Semester III

ECN: CC – V

Micro Economics – II

Full Marks - 80

Time - 3 Hrs

Unit 1: Market Structure

- 1.1: Forms of Market: perfect and Imperfect Markets: Salient Features.
- 1.2: Equilibrium of the Firm and Industry [Short Run and Long Run] under Perfect Competition; Derivation of Supply Curve.
- 1.3: Monopoly: Price and Output Determination [Short Run and Long Run]; Price Discrimination;
- 1.4: Monopolistic Competition: Price and Output Determination (Individual and Group Equilibrium); Importance of Selling Costs.
- 1.5: Oligopoly: Kinked Demand Curve Theory.

Unit 2: Factor Pricing

- 2.1: Marginal Productivity Theory of Distribution; Adding-Up Problem [Euler's Theorem].
- 2.1: Theories of Wage determination: Demand and Supply Theory; Collective Bargaining.
- 2.3: Rent: Ricardian and Modern Theory.
- 2.4: Interest: Classical and Keynesian Theories.
- 2.5: Profit: Innovation, Risk and Uncertainty Theories.

Unit 3: Welfare Economics

- 3.1: Concept of Welfare: Value Judgement; Problems in Measuring Welfare.
- 3.2: Classical Welfare Economics: Pigou.
- 3.3: Pareto's Criterion of Measuring Welfare;

Semester III

ECN: CC – VI

Statistical Methods in Economics

Full Marks - 80

Time - 3 Hrs

Unit 1: Introduction to Statistics

- 1.1: Basic Concepts: Population and Sample, Parameter, Statistic, Primary and Secondary Data.
- 1.2: Classification and Tabulation.
- 1.3: Diagrammatic and Graphical Representation of Data.

Unit 2: Central Tendency and Dispersion

- 2.1: Measures of Central Tendency: Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean.
- 2.2: Measures of Dispersion: Mean Deviation, Quartile Deviation, Standard Deviation, Coefficient of Variation.
- 2.3: Measures of Skewness.

Unit 3: Correlation and Regression

- 3.1: Correlation; Coefficient of Correlation – Karl Pearson and Rank Correlations.
- 3.2: Regression Analysis: Linear Regression; Interpretation of Regression Coefficients.

Unit 4: Time Series and Index Numbers

- 4.1: Time Series Analysis: Concept; Components; Least Square Method of Determination of Trend.
- 4.2: Index Numbers: Concept; price relative; quantity relative; weighted index number.
- 4.3: Methods of Construction of Index Numbers: Laspeyre, Paasche and Fisher.
- 4.4: Tests for Adequacy of Index Number.

Unit 5: Probability

- 5.1: Probability: Concept.
- 5.2: Rules of Probability: Addition and Multiplication Theorems.

Semester III

ECN: CC – VII

Macro Economics – II

**Full Marks - 80
Hrs**

Time - 3

Unit 1: National Income and Social Accounting

- 1.1: Concept of Circular Flow
- 1.2: Concept and Measurement of National Income
- 1.3: Concept of Social Accounting
- 1.4: Environmental Concerns in National Income; Green Accounting.

Unit 2: Theory of Output and Employment

- 2.1: Say's Law of Market and Classical Theory of Employment: Critical Analysis and Keynes' Objections.
- 2.2: Consumption Function and Savings Function: APC; MPC; APS and MPS; Factors Affecting Consumption Function; Psychological Law of Consumption.
- 2.3: Investment Function: Autonomous and Induced Investment; MEC and Rate of Interest.
- 2.4: Principle of Effective Demand: Equality and Equilibrium of AD/AS and S/I; Paradox of Thrift.
- 2.5: Investment Multiplier and its Effectiveness in Less Developed Countries.
- 2.6: Theory of Acceleration.

Unit 3: Trade Cycles

- 3.1: Nature and Characteristics of Trade Cycle.
- 3.2: Hawtrey's Monetary Theory of Trade Cycle.
- 3.3: Hayek's Over-Investment Theory of Trade Cycle.
- 3.4: Keynesian Views on Trade Cycle.

Unit 4: Inflation

- 4.1: Definition, Types, Causes and Effects of Inflation.
- 4.2: Measures to Control Inflation.
- 4.3: Concept of Inflationary Gap.

Semester III

ECN: SEC – I

FINANCIAL ECONOMICS

Full Marks - 80

Time - 3 Hrs

Candidates will have to answer **four** questions out of total of **eight** questions.

Question no. 1 will be compulsory, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

Course Description

This course introduces students to the economics of finance. The course does not require any prior knowledge of economics. This course should be accessible to anyone with an exposure to elementary mathematics. The course is designed to impart the essential aspects of financial asset valuation. The students will be introduced to numerical techniques in finance using spreadsheet programmes such as Microsoft Excel. The course will impart skills that will be useful in a variety of business settings including investment banks, asset management companies and in the field of financial and business journalism.

Course Outline

1. Deterministic cash-flow streams

Basic theory of interest; discounting and present value; internal rate of return; evaluation criteria; fixed-income securities; bond prices and yields; interest rate sensitivity and duration; immunisation; the term structure of interest rates; yield curves; spot rates and forward rates.

2. Single-period random cash flows

Random asset returns; portfolios of assets; portfolio mean and variance; feasible combinations of mean and variance; mean-variance portfolio analysis: the Markowitz model and the two-fund theorem; risk-free assets and the one-fund theorem.

3. Capital Asset Pricing Model (CAPM)

The capital market line; the capital asset pricing model; the beta of an asset and of a portfolio; security market line; use of the CAPM model in investment analysis and as a pricing formula.

Readings

1. David G. Luenberger, *Investment Science*, Oxford University Press, USA, 1997.
2. Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, McGraw-Hill, 7th edition, 2002.
3. Burton G. Malkiel, *A Random Walk Down Wall Street*, W.W. Norton & Company, 2003.
4. Simon Benninga, *Financial Modeling*, MIT Press, USA, 1997.

GE -3 (ARTS)

INDIAN ECONOMICS

MARKS (Exter- 80, Inter- 20)

Unit -1 : STRUCTURE OF INDIAN ECONOMY

- 1.1 Basic Features of Indian Economy
- 1.2 Natural Resources : Land, Water and Forest Resources
- 1.3 Broad Demographic Features

Unit -2 : PLANNING IN INDIA

- 2.1 Objectives, Achievements and Failures of Planning: Analysis of Current Five Year Plan
- 2.2 New Economic Reforms: Liberalization, Privatization and Globalization ; Their progress

Unit -3 : IMPORTANT AREAS OF CONCERN

- 3.1 Poverty and Inequality
- 3.2 Problem of Unemployment
- 3.3 Problem of Rising Prices.

Semester IV

ECN: CC – VIII

Mathematical Methods for Economics

Full Marks - 80

Time - 3 Hrs

Unit 1: Basic Concepts

- 1.1: Set Theory: Concepts and set operations.
- 1.2: Variables and Functions; Equations and Systems of Equations;
- 1.3: Elements of Coordinate Geometry: Straight Line.
- 1.4: Homogeneous Functions.

Unit 2: Calculus

- 2.1: Concept of Limit and Differentiation [Simple and Partial] of a Function.
- 2.2: Maxima and Minima; Its applications in Economics.
- 2.3: Pricing under Monopoly and Perfect Competition.
- 2.4: Inter-Relationships among Total, Marginal and Average Cost and Revenues.
- 2.5: Integration of a Function: Definite and Indefinite.
- 2.6: Economic Applications of Integrals: Obtaining Total Function from Marginal Function: Revenue, Cost and Product; Consumer's Surplus.

Unit 3: Matrix and Determinants

- 3.1: Various Types of Matrices.
- 3.2: Matrix Operations.
- 3.3: Determinants.
- 3.4: Inverse of a Matrix.
- 3.5: Cramer's Rule.

Semester IV

ECN: CC – IX

International Economics

Full Marks - 80

Time - 3 Hrs

Unit 1: Scope of International Economics

- 1.1: International Economics: Definition, Nature and Importance.
- 1.2: Gains from Trade: Their Measurement and Distribution.
- 1.3: Comparative Cost Advantage [Ricardian] and Heckcher-Ohlin Theory of International Trade.

Unit 2: International Trade Policy

- 2.1: Free Trade vs. Protection.
- 2.2: Methods of Trade Restriction: Tariff and Quotas - Their Impact.

Unit 3: Foreign Exchange

- 3.1: Exchange Rate Determination: Gold Standard [Mint Parity]; Purchasing Power Parity Theory.
- 3.2: Devaluation and Appreciation of currency.

Unit 4: Balance of Trade and Balance of Payment

- 4.1: Concepts and Components of Balance of Trade and Balance of Payment.
- 4.2: Equilibrium and Disequilibrium in Balance of Payment; Consequences of Disequilibrium in Balance of Payment; Measures to Correct Deficit in Balance of Payment.

Unit 5: International Financial Institutions and India

- 5.1: Functions of IMF; World Bank; WTO with reference to India.
- 5.2: Balance of Payment Crisis; Need and Importance of Foreign Capital.

Semester IV

ECN: CC – X

Economic Development and Policy in India–I

Full Marks - 80

Time - 3 Hrs

Course Description

This course reviews major trends in aggregate economic indicators in India and places these against the backdrop of major policy debates in India in the post-Independence period.

Course Outline

1. Issues in Growth, Development and Sustainability

2. Factors in Development

Capital formation (Physical and Human); technology; institutions.

3. Population and Economic Development

Demographic trends; urbanisation.

4. Employment

Occupational structure in the organised and the unorganised sectors; open under and disguised unemployment (rural and urban); employment schemes and their impact.

5. Indian Development Experience

Critical evaluation of growth, inequality, poverty and competitiveness, pre and post reforms era; savings and investment; mobilisation of internal and external finance; monetary and fiscal policies; centre-state financial relations.

Readings:

1. Michael P Todaro and Stephen Smith. *Economic Development*, Pearson, 11th edition(2011).
2. Uma Kapila, *Indian Economy since Independence*, Academic Foundation, 19th edition (2009).
3. United Nations Development Programme, *Human Development Report 8 2010*, Palgrave Macmillan (2010).

4. Government of India, *Economic Survey* (latest)
5. Government of India, *Five Year Plan* (latest)
6. Government of India, *Finance Commission Report* (latest)

Semester IV

ECN: GE – IV

An Elective Course will be chosen by the students from an unrelated discipline/ subject. Student will opt a core paper/subject other than economics being thought in the college, such as

1. Mathematics
 2. Statistics
 3. History
 4. Political science
 5. Psychology/ Geography
 6. English/Hindi
 7. Anthropology/Sociology
- Or any other paper.

Semester IV

ECN: SEC - II

DATA ANALYSIS

Full Marks - 80

Time - 3 Hrs

Candidates will have to answer **four** questions out of total of **eight** questions.

Question no. 1 will be compulsory, comprising **5** multiple choice questions of **2** marks each and **2** short answer questions carrying **5** marks each.

Course Description:

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline:

1. Sources of data. Population census versus sample surveys. Random sampling.
2. Univariate frequency distributions. Measures of central tendency: mean, median and mode; arithmetic, geometric and harmonic mean. Measures of dispersion, skewness and kurtosis.
3. Bivariate frequency distribution. Correlation and regression. Rank correlation.
4. Introduction to probability theory. Notions of random experiment, sample space, event, probability of an event. Conditional probability. Independence of events. Random variables and probability distributions. Binomial and normal distributions.
5. Estimation of population parameters from sample data. Unbiased estimators for population mean and variance.
6. Basics of index numbers: price and quantity index numbers.

Readings:

1. P.H. Karmel and M. Polasek (1978), *Applied Statistics for Economists*, 4th edition, Pitman.
2. M.R. Spiegel (2003), *Theory and Problems of Probability and Statistics* (Schaum Series).

GE -4 (ARTS)

DEVELOPMENT ISSUES OF INDIAN ECONOMY

MARKS (Exter- 80, Inter- 20)

Unit -1 : AGRICULTURE

- 1.1 Nature, Importance and Trends of Indian Agriculture
- 1.2 Land Reforms.
- 1.3 New Agriculture Strategy and Green Revolution
- 1.4 Rural Credit

Unit -2 : INDUSTRY

- 2.1 Industrial Development during the planning Period
- 2.2 Industrial Policies of 1948 , 1956 and 1991
- 2.3 Large Scale Industries: Sugar, Iron and Steel , Jute and Cotton Textile Industries.
- 2.4 Small Scale Industries : Growth , Importance and Problems.

Unit -3 : EXTERNAL SECTOR

- 3.1 Role of Foreign Trade
- 3.2 Trends in Export and Import
- 3.3 Composition and Direction of India's Foreign Trade

Semester – V

ECN: CC – XI

Growth and Development

Full Marks - 80

Time - 3 Hrs

Unit 1: Introduction to Economic Growth and Development

- 1.1: Economic Growth and Development: Concepts and Contrasts.
- 1.2: Factors Affecting Economic Growth.
- 1.3: Development and Under-Development; Obstacles to Under-Development.
- 1.4: Concept of Poverty Line.
- 1.5: Theory of Demographic Transition.
- 1.6: Capital Formation.

Unit 2: Theories of Growth and Development

- 2.1: Classical Theories of Development: Adam Smith and David Ricardo.
- 2.2: Harrod-Domar Growth Model.
- 2.3: Schumpeter and Capitalistic Development.
- 2.4: Lewis Model.
- 2.5: Rostow's Model of Growth.

Unit 3: Macro Economic Policy and Economic Development

- 3.1: Role of Monetary and Fiscal Policies in Developing Countries, including India.
- 3.2: External Resources: FDI, AID vs. Trade; Technology Inflow, MNC activity in India.

Semester – V

ECN: CC – XII

History of Economic thought

Full Marks - 80

Time - 3 Hrs

Unit 1: Early Period

- 1.1: Mercantilism.
- 1.2: Physiocracy.

Unit 2: Development of Classical Economics

- 2.1: Adam Smith: Division of Labour, Theory of Value, Capital Accumulation, Distribution, Views on Trade, Economic Progress.
- 2.2: David Ricardo: Value, Theory of Rent, Distribution, Ideas on Economic Development and International Trade.
- 2.3: T.R.Malthus: Theory of Population, Theory of Gluts.
- 2.4: Karl Marx: Dynamics of Social Change, Theory of Value, Surplus Value, Profit and Crisis of Capitalism.
- 2.5: J.B.Say: Economic Ideas.

Unit 3: The Marginalist Revolution

- 3.1: Jevons and Walrus.
- 3.2: Neo-Classical Thought: Alfred Marshall.

Unit 4: the Keynesian Revolution

- 4.1: Economic Ideas of J. M. Keynes.

Unit 5: Indian Economic Thought

- 5.1: Economic Ideas of Mahatma Gandhi.
- 5.2: Economic Ideas of Amartya Sen.

Semester V

OPTIONAL PAPERS (DSE)

GROUP A

ECN: DSE – I

MATHEMATICAL ECONOMICS AND ECONOMETRICS

Mathematical Economics – I

Full Marks - 80

Hrs

Time - 3

Unit 1: Elementary Mathematics in Economics

- 1.1: Role of Mathematics in Economics.
- 1.2: Functions and its Graphs.
- 1.3: Set Theory: Kinds of Sets; Operation of Sets; Venn Diagrams; Cartesian Products.

Unit 2: Limits and Differentiation

- 2.1: Limits and Continuity.
- 2.2: Differentiation: Rules of Differentiation; Higher Order Derivatives.
- 2.3: Application of Derivatives: Differentiation of a Function; Concavity and Convexity; Maxima and Minima; Inflection Points; Perfect Competition; Monopoly; Elasticity.

Unit 3: Calculus and Multi-Variable Functions

- 3.1: Functions of Several Variables and Partial Derivatives.
- 3.2: Rules of Partial Differentiation; Second Order Partial Derivatives.
- 3.3: Application of Partial Derivatives in Economics.

Unit 4: Integration and Its Applications

- 4.1: Concept; Rules of Integration; Integration by Substitution.
- 4.2: Definite and Indefinite Integrals.
- 4.3: Economic Applications of Integration.
- 4.3: Consumer's Surplus.

Semester V

OPTIONAL PAPERS (DSE)

GROUP A

ECN: DSE – II

MATHEMATICAL ECONOMICS AND ECONOMETRICS

Econometrics – I

Full Marks - 80

Hrs

Time - 3

Unit 1: Introduction

- 1.1: Definition and Scope of Econometrics.
- 1.2: Importance of Error Term.
- 1.3: Desirable Properties of Estimators: Unbiasedness; Efficiency; Consistency and Sufficiency; properties of Ordinary Least Squares.

Unit 2: Probability and Mathematical Expectation

- 2.1: Probability: Concepts.
- 2.2: Additional and Multiplication Theorems of Probability; Baye's Theorem.
- 2.3: Mathematical Expectation: Meaning and Properties.

Unit 3: Simple Regression Analysis and Theoretical Distribution

- 3.1: Correlation and Regression; Coefficient of Determination.
- 3.2: Theoretical Frequency Distribution: Binomial and Normal Distributions; Their uses and Properties.

Semester V

OPTIONAL PAPERS (DSE)

GROUP B

ECN: DSE – I

**AGRICULTURAL ECONOMICS AND DEMOGRAPHY
AGRICULTURAL ECONOMICS – I**

Full Marks - 80

Time - 3 Hrs

Unit 1: Rural Economy of India

- 1.1: Composition of Indian Rural Economy: Farm and Non-Farm Sector.
- 1.2: Place of Agriculture in Rural Economy.
- 1.3: Diversification of Agriculture: Agriculture and Allied Activities [Fisheries, Horticulture, Floriculture].
- 1.4: Forestry in India: Growth, Problems and State Policies.
- 1.5: Rural Industrialization: Food Processing and Agro-Based Industries.
- 1.6: Development of Rural Infrastructure.

Unit 2: Development of Agriculture

- 2.1: Role and Importance in Economic Development: Linkages between Agricultural Sector and Non-Agricultural Sector; Changing Nature of Linkages.
- 2.2: Irrigation in India.
- 2.3: Trends in Agricultural Growth and Agricultural Productivity.

Unit 3: Agrarian Relations and Land Reforms in India

- 3.1: Agrarian Relations: Land Reforms Programme during 1950s and 1960s.
- 3.2: Land Reforms Programme and Performance during 1970s and after.

Semester V

OPTIONAL PAPERS (DSE)

GROUP B

ECN: DSE – II

**AGRICULTURAL ECONOMICS AND DEMOGRAPHY
DEMOGRAPHY – I**

Full Marks - 80

Time - 3 Hrs

UNIT 1: Introduction

- 1.1: Demography: Concepts; Definitions; Nature; Scope and Importance.
- 1.2: Population Study and Demography: Similarities and Dissimilarities.
- 1.3: Relationship of Demography with other Disciplines.

Unit 2: Theories of Population

- 2.1: Malthusian Theory of Population.
- 2.2: Optimum Theory of Population.
- 2.3: Theory of Demographic Transition.

Unit 3: Sources of Demographic Data in India

- 3.1: Population Census.
- 3.2: Civil Registration System.
- 3.3: Demographic Surveys.
- 3.4: Merits and Demerits of Sources of Population Data.

Unit 4: Structure of Population

- 4.1: Population Trends: Historical Evidence of Growth of Population and its Distribution in India.
- 4.2: Age and Sex Structure of Population in India: Pattern; Determinants; Age Pyramids; Individual and Population Ageing; Temporal and Spatial Variations in Sex Ratios.
- 4.3: Population Explosion in India: Causes and Consequences.

Semester V

OPTIONAL PAPERS (DSE)

GROUP C

ECN: DSE – I

INDUSTRIAL ECONOMICS AND FINANCIAL INSTITUTIONS INDUSTRIAL ECONOMICS – I

Full Marks - 80

Hrs

Time - 3

Unit 1: Introduction

- 1.1: Industry and Economic Development.
- 1.2: Industry and Sectoral Linkages.
- 1.3: Industrial Classification and Information.

Unit 2: Industrial Organization and Ownership Structure

- 2.1: Public; Private; Joint and Cooperative Sectors.
- 2.2: Private Corporate Sector.
- 2.3: Industrial Competition and Monopoly.

Unit 3: Location and Dispersion

- 3.1: Location of Industries.
- 3.2: Theories of Location.
- 3.3: Diversification, Integration and Merger of Industrial Units.
- 3.4: Dispersion and Problems of Regional Imbalance.

Unit 4: Composition of Industrial Sector

- 4.1: Significance of Size.
- 4.2: Major Large Scale Industries: Sugar; Cement; Cotton; Iron and Steel; Jute Industries.
- 4.3: Agro-processing Industries.
- 4.4: Small-Scale Industries; Cottage and Village Industries and Rural Industrialization.

Semester V
OPTIONAL PAPERS (DSE)
GROUP C

ECN: DSE – II

INDUSTRIAL ECONOMICS AND FINANCIAL INSTITUTIONS
FINANCIAL INSTITUTIONS – I

Full Marks - 80

Time - 3 Hrs

Unit 1: Money

- 1.1: Money: Meaning; Functions and Types.
- 1.2: Supply of Money: Concept, Components and Aggregates.
- 1.3: Money Market and Capital Market.

Unit 2: Commercial Banks

- 2.1: Commercial Banks: Objectives; Functions; Types.
- 2.2: Role of Commercial Banks in Economic development of India.
- 2.3: Liabilities and Assets of Commercial Banks.
- 2.4: Mechanism of Credit Creation by Commercial Banks: Purpose and Limitations.
- 2.5: Pre-Requisites of Sound Commercial Banking System.

Unit 3: Foreign Exchange Markets

- 3.1: Foreign Exchange; Foreign Exchange Rate; Foreign Exchange Market.
- 3.2: Concepts of Spot Exchange Rates and Forward Exchange Rates.
- 3.3: Determination of Exchange Rates under Fixed and Flexible Exchange Rate Regimes.

Semester VI

ECN: CC – XIII

Public Finance

Full Marks - 80

Time - 3 Hrs

Unit 1: Nature and Scope of Public Finance

- 1.1: Meaning and Scope of Public Finance.
- 1.2: Distinction between Private and Public Finance, Public goods and Private goods.
- 1.3: Principle of Maximum Social Advantage.

Unit 2: Public Expenditure

- 2.1: Meaning, Classification and Principle of Public Expenditure.
- 2.2: Effects of Public Expenditure on production and distribution.
- 2.2: Trends in Public Expenditure and Causes of Growth of Public Expenditure in India.

Unit 3: Taxation

- 3.1: Sources of Public Revenue.
- 3.2: Taxation: Meaning and Classification of Taxes.
- 3.3: Principles of Taxation: Benefit and Ability to Pay Approaches.
- 3.4: Impact and Incidence of Taxes.
- 3.5: Taxable Capacity.
- 3.6: Characteristics of a good Tax System.
- 3.7: Effects of Taxation on production and distribution.

Unit 4: Public Debt and Financial Administration

- 4.1: Public Debt: Meaning, Types, Sources and Need.
- 4.2: Effects and Burden of Public Debt.
- 4.3: Methods of Debt Redemption.
- 4.4: Public Budget: Economic and Functional Classification of Budget.
- 4.6: Preparation of Budget in India.
- 4.7: Centre-State Financial Relations in India.

Semester VI

ECN: CC – XIV

Environmental Economics

Full Marks - 80

Time - 3 Hrs

Unit 1: Environmental Issues

- 1.1: Elementary Ecology, Entropy Law.
- 1.2: Two-Way Environment-Economy Linkage.

Unit 2: Basic Concepts

- 2.1: Basic Concepts: Elements of Capital Theory; Externality; Public Goods; Renewable and Non-renewable resources; Common Property Resources.
- 2.2: Social Cost-Benefit Analysis.

Unit 3: Environmental Degradation

- 3.1: Causes and Effects of Environmental Degradation; Degradation of Land, Forest and Natural Resources.
- 3.2: Pollution from Energy Use: Effects on Health, Land, Water and Air.
- 3.3: Pollution prevention, control and Abatement.

Unit 4: Environmental Policies

- 4.1: Pollution Control System and Policy in India.
- 4.2: Concepts and Indicators of Sustainable Development.
- 4.3: Environmental Accounting.

Semester VI

OPTIONAL PAPERS (DSE)

GROUP A

ECN: DSE – III

MATHEMATICAL ECONOMICS AND ECONOMETRICS

Mathematical Economics – II

Full Marks - 80

Time - 3 Hrs

Unit 1: Basic Matrix Algebra

- 1.1: Matrices: Types.
- 1.2: Addition, Subtraction and Multiplication of Matrices.
- 1.3: Order of Matrices; Transpose of a Matrix; Minor, Cofactors and Inverse of a Matrix.
- 1.4: Determinants: Properties and Value of a Determinant.
- 1.5: Rank of a Matrix.
- 1.6: Solution of Equations by Matrix Inversion.

Unit 2: Game Theory

- 2.1: Game Theory: Introduction and Concepts.
- 2.2: Pure Strategy: Saddle Point Solution.
- 2.3: Mixed Strategy: Optimal Expected Payoff.
- 2.4: Minimax Theorem.

Unit 3: Linear Programming

- 3.1: Linear Programming: Basic Concepts; Primal and Dual.
- 3.2: Basic Theorems of Linear Programming.
- 3.3: Graphical Solution of Linear Programming.

Unit 4: Input-Output Analysis

- 4.1: Input-Output Analysis: Simple Static Model; Concept and Measurement.

Semester VI

OPTIONAL PAPERS (DSE)

GROUP A

ECN: DSE – IV

MATHEMATICAL ECONOMICS AND ECONOMETRICS

Econometrics – II

Full Marks - 80

Time - 3 Hrs

Unit 1: Sampling Distribution and Testing

- 1.1: Sampling: Simple; Random and Stratified.
- 1.2: Sampling Distribution: Distribution of Sample Mean and Variance.
- 1.3: Testing of Hypothesis: Point and Interval Estimation.
- 1.4: Type-I and Type-II Errors; Standard Errors.
- 1.5: Tests based on t and Chi-Square Statistics.

Unit 2: Estimation Theory

- 2.1: Ordinary Least Squares [OLS]: Two Variable Linear Method; Assumptions.
- 2.2: Properties of OLS Estimators; Gauss-Markov Theorem.

Unit 3: Problems in OLS Estimation

- 3.1: Problem of Heteroscedasticity: Their Consequences.
- 3.2: Problem of Auto-Correlation [First Order]: Their Consequences, Tests and Remedies; First order Autoregressive scheme, Mean, Variance and CoVariance of auto-correlated U's.
- 3.3: Problem of Multicollinearity: Their Consequences.

Semester V

OPTIONAL PAPERS (DSE)

GROUP B

ECN: DSE – III

**AGRICULTURAL ECONOMICS AND DEMOGRAPHY
AGRICULTURAL ECONOMICS – II**

Full Marks - 80

Time - 3 Hrs

Unit 1: Technological Change in Agriculture

- 1.1: Technology in Agriculture: Traditional Techniques and Practices; HYV Seeds; Fertilizers; Water Technology [Green Revolution].
- 1.2: Sustainable Agriculture.
- 1.3: Emerging Trends in Agricultural Technology; Dry Land Farming.

Unit 2: State and Agriculture – I

- 2.1: Agricultural Finance in India: Importance; Types of Requirements; Institutional and Non-Institutional Sources of Finance; Existing Rural Credit Delivery System [Multi-agency Approach].
- 2.2: Agricultural Marketing in India: Markets and Marketing Functions.
- 2.3: Role of Cooperatives in Agriculture.

Unit 3: State and Agriculture – II

- 3.1: Agricultural Planning in India: Decentralized Planning and Indicative Planning.
- 3.2: Incentives in Agriculture: Price and Non-Price Incentives; Input Subsidies.
- 3.3: Agricultural Price Policies [APP]: Nature of Demand and Supply of Agricultural Products; Need for State Intervention; Objectives of APP; Instruments of APP and their Evaluation.
- 3.4: Food Security in India and Public Distribution System.

Unit 4: Indian Agriculture since Independence

- 4.1: Agricultural Development in India.
- 4.2: Underemployment and Disguised Unemployment in Rural Economy.
- 4.3: Globalization of Indian Economy and its Effects on Indian Agriculture.

Semester VI
OPTIONAL PAPERS (DSE)
GROUP B

ECN: DSE – IV

AGRICULTURAL ECONOMICS AND DEMOGRAPHY
DEMOGRAPHY – II

Full Marks - 80

Time - 3 Hrs

Unit 1: Techniques of Analysis

- 1.1: Crude Birth and Death Rates; Age-specific Birth and Death Rates; Standardized Birth and Death Rates: Concepts, Relative Merits and Demerits.
- 1.2: Study of Fertility: Concepts of Total Fertility Rate, Gross Reproduction Rate and Net Reproduction Rate; Their Relative Merits and Demerits; Factors Affecting Fertility.
- 1.3: Marriage and Marital Status: Concept and Measurement.
- 1.4: Reproductive and Child Health [RCH] in India.

Unit 2: Population Projection

- 2.1: Meaning, Types and Uses of Population Projection.
- 2.2: Techniques of Population Projection: Their Relative Merits and Demerits.
- 2.3: Concept of Stationary, Stable and Quasi-Stationary Population.
- 2.4: Ageing of Population: Concept, Status and Assessment with reference to India.
- 2.5: Changes in Family Structure and Old Age Security in India.

Unit 3: Population Policy of India

- 3.1: Evolution of Population Policy in India.
- 3.2: New National Population Policy: Assessment.
- 3.3: Family Planning and Family Welfare Programme: Achievements and Failures; Shift from Population Control to Family Welfare and Women Empowerment.
- 3.4: Demographic Status and Household Behaviour: Education, Women's Autonomy and Fertility; Population; Health; Poverty and Environment Linkage.
- 3.5: Salient Features of Recent Census.

4.4: WTO and Indian Agriculture.

Semester VI
OPTIONAL PAPERS (DSE)

GROUP C

ECN: DSE – III

INDUSTRIAL ECONOMICS AND FINANCIAL INSTITUTIONS
INDUSTRIAL ECONOMICS – II

Full Marks - 80

Hrs

Time - 3

Unit 1: Industrial Productivity

- 1.1: Concept and Measurement of Productivity: Productivity in Indian Industries.
- 1.2: Industrial Sickness.
- 1.3: Under-Utilization of Capacity: Factors Accounting for it and Consequences.

Unit 2: Financing of Industry

- 2.1: Mode of Financing: Equity and Debt.
- 2.2: Institutional Finance: Bank Finance.

Unit 3: Indian Industry in the International Context

- 3.1: Globalization and Indian Industry.
- 3.2: International Competitiveness of Indian Industry.
- 3.3: Privatization and Issues Relating to Disinvestment Policy.

Unit 4: Industrial Development in India

- 4.1: Industrial Structure at the Time of Independence.
- 4.2: Industrial Policy [Role of State].
- 4.3: New Industrial Policy and Economic Reforms.
- 4.4: Industrial Growth and Pattern.

Unit 5: Industrial Labour in India

- 5.1: Structure of Industrial Labour.
- 5.2: Employment Dimension of Indian Industries.

5.3: Industrial Legislation.

5.4: Industrial Relations.

5.5: Issues of Social Security: Wages; Bonus; Exit Policy and Social Security.

Semester V

OPTIONAL PAPERS (DSE)

GROUP C

ECN: DSE – IV

**INDUSTRIAL ECONOMICS AND FINANCIAL INSTITUTIONS
FINANCIAL INSTITUTIONS – II**

Full Marks - 80

Hrs

Time - 3

Unit 1: Central Bank

- 1.1: Central Bank: Functions and Objectives.
- 1.2: Instruments of Credit Control: Quantitative and Qualitative Methods.
- 1.3: Role and Functions of RBI: Development and Regulatory Functions.
- 1.4: Monetary Policies: Objectives and Limitations; Recent Monetary Policies of RBI.

Unit 2: Financial Institutions in India

- 2.1: Importance of Financial System in India.
- 2.2: Financial Institutions in India: Function and Growth.
- 2.3: Measures to Liberalize Financial System.
- 2.4: Banking and Financial Sector Reforms: Impact on Economic Growth in India.

Unit 3: Development Banking

- 3.1: Structure of Cooperative Institutions and Development Banks in India [SIDBI, IDBI] Objective; Role and Limitations.
- 3.2: Definition and Types of NBFs: Mutual Funds; LIC; Investment Companies; Venture Capital.
- 3.3: Growth and Importance of NBFs.
- 3.4: Recent Measures taken by RBI and SEBI to regulate Working of NBFs.

Unit 4: Financial Markets

- 4.1: Structure of Financial Markets: Call Money; Treasury bills, Commercial Bills.

4.2: Stock market and Market for Gilt-Edged Securities.

4.3: Unregulated Credit Markets.

4.4: SEBI and Working of Capital Markets in India.

BASIC READING LIST

- Banerjee (2001): Economic Valuation of Environmental Benefits/ Costs in Bhattacharyya (ed.)
Environmental Economics: Indian Perspective, OUP.
- Baumol & Oates (1988): Theory of Environmental Policy (2/e), Chs 3,4,11 12.
- Bhattacharyya, R.N. (2001)(ed.) Environmental Economics: Indian Perspective, OUP.
- Chakraborty (2001): Global Environmental Issues and Initiatives in Bhattacharyya (ed.) op.cit.
- Chattopadhyay (2006): Dirtier Trade for India? The Story of Globalization in Arthaniti
- Chichilinsky (1994): North-South Trade and the Global Environment, AER.
- Forest Reinhardt and Patia McGrath. 2002. "Global Climate Change After Marrakech (A)",
Harvard Business School Case 9-702-075.
- Gerking & Stanley (1986): An Economic Analysis of Air Pollution and Health: The Case of St.
Louis. REStat.
- Harrington & Portney(1987): Valuing the Benefits of Health and Safety Regulations, J. of
Urban
Economics.
- IEA: World Energy Outlook: International Energy Organization, Paris, 2002.
- India Development Report – Recent Issues
- IPCC Reports
- J. B. Taylor: Principles of Macroeconomics, 3rd Edition, Houghton Mifflin, Boston, 2001.
- John P. Weyant (ed.), Energy and Environmental Policy Modeling, Kluwer Academic
Publishers,
Boston, 1999.
- K.G. Maler (2000): International Environmental Problems in Kolstad (ed): Environmental
Economics, OUP
- M. Munasinghe and P. Meier: Energy Policy Analysis and Modelling, Cambridge University
Press,
1993.
- M. S. Bazaraa and J. J. Jarvis: Linear Programming and Network Flows, John Wiley and Sons,
N.
Y., 1990.
- Markandya & Murty (2001): Measuring Non-user Benefit from Cleaning ganges in Cleaning
up
the Ganges: a Cost-benefit Analysis of the Ganga Action Plan, OUP.
- Metz, Bert (2010) Controlling Climate Change, CUP
- Murty, et al (2005): Measuring benefits from reduced air pollution in the cities of Delhi and
Kolkata in India using hedonic property prices model in Bhattacharyya & Mitra (ed.) Studies in
Macroeconomics and Welfare, Academic Press.
- P. Newman and J. Kenworthy. 1988. "The transport energy trade-off: Fuel efficient traffic
versus
fuel efficient cities," Transportation Research Part A: General, 22(3): 163-174.
- Parikh, et. al (2005): Economic Valuation of Air Quality Degradation in Chembur, Mumbai in
Bhattacharyya & Mitra (ed.) Studies in Macroeconomics and Welfare, Academic Press.
- Parry (1997): Reducing Carbon Emissions: Interactions with the Tax System, Resources

4.3 Demand Forecasting - Baseline Analysis, Trend Analysis, Process Modelling Approach, Econometric Energy Demand Modelling

4.4 Area of Interventions for Energy Demand Management – Technology, Pricing, Regulations; Examples from Indian context