



Post Graduate Syllabus (Economics)
(Approved in 82nd meeting of AC vide resolution no. AC:82-09:18-19 and
123 meeting of EC vide resolution no. EC:123:11-18:22)

**Department of Economics
Assam University
Silchar**

**Under
Choice Based Credit System**

w.e.f July, 2018

M.A. (Economics)
COURSE STRUCTURE
(Choice Based Credit System with effect from Academic Session 2018-19)

First Semester	
Paper- Core 101	Microeconomic Analysis-I
Paper- Core 102	Macroeconomic Analysis-I
Paper- Core 103	Mathematics for Economics
Paper- Core 104	Indian Economy
Paper- Generic Elective 105	Economics of Social Sector
Second Semester	
Paper- Core 201	Microeconomic Analysis-II
Paper- Core 202	Macroeconomic Analysis-II
Paper- Open Elective 203 (For students of other departments only)	Fundamentals of Economics
Paper- Open Elective 204 (For both internal students and students of other departments)	Money, Banking & Finance
Paper- Generic Elective 205	Statistics for Economics
Third Semester	
Paper- Core 301	Development Economics
Paper- Core 302	Basic Econometrics
Paper- Generic Elective 303	Public Economics
Electives(any two of the following)	
Paper- 304	Mathematical Economics
Paper- 305	Agrarian Economic Theory
Paper- 306	Human Development
Fourth Semester	
Paper- Core 401	Environmental Economics
Paper- Core 402	Demography
Paper- Generic Elective 403	International Economics
Electives(any two of the following)	
Paper- 404	Advanced Econometrics
Paper- 405	State of Agriculture in India
Paper- 406	Economics of Gender and Development

Each course carries 100 marks with the breakup of External Assessment (70 Marks) and Internal Assessment (30 Marks).

As part of Skill Enhancement, internal assessment is composed of following components:
 Class attendance- 5, Field work/Seminar /Home Assignment etc-10, Sessional Test- 15

Paper—101
Microeconomic Analysis—I
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit 1: Theory of Consumer Behaviour

- 1.1. Indifference Curve analysis: Axioms and Consumer Equilibrium; Decomposition of Price Effect: Slutsky vs Hicksian approach; Violation of the premises of the indifference curves analysis; Consumer Surplus: Marshallian vs. Hicksian Approach
- 1.2. Revealed Preference Approach: The Strong and Weak Ordering; Derivation of Demand Curve; Satiation and Lexicographical Ordering.
- 1.3. Recent Developments in Theory of Demand: Indirect Utility Function- Roy's Identity; Dual Properties of Utility and Expenditure Functions; Inverse Demand Functions – Linear Expenditure System; Inter-temporal Consumption decision.

Unit 2: Theory of Cost and Production

- 2.1 Theories of Cost of production: Basic Concepts, Traditional and Modern theories; Elements of Engineering cost curves.
- 2.2. Production Function of a Single Product Firm: Basic Concepts, Stages of Production, Cobb-Douglas, CES, VES and Trans log Production Functions and Their Properties; Derivation of Cost Functions from Production Functions.
- 2.3. Production Function of a Multi-product-firm: Iso-quants- Types and Properties; Producer's Equilibrium- Expansion Path and Factor Substitution; Production possibility curve- Returns to Scale.

Unit 3: Theory of the Firm and Market

- 3.1 Perfect Competition: Short run and Long run Equilibrium of the Firm and Industry; Derivation of Supply Curve.
- 3.2 Monopoly: Short run and Long run Equilibrium; Price Discriminations, Bilateral monopoly, Monopoly Control and Regulations; Criticism of Monopolistic Competition
- 3.3 Oligopoly Market: Collusive vs. Non-Collusive Oligopoly; Collusive Oligopoly Models: Cartels and Price Leadership Model.

Unit 4: Alternative Theories of the Firm:

- 4.1 The Marginalist Controversy; Average Cost Pricing Theory.
- 4.2 Limit Pricing Theory – Bain's Limit Pricing Theory and its recent Developments; Sylos-Labini and Modigliani's model.
- 4.3 Behavioural Model of the Firm; Game Theoretic Models (this part is to be taught after completion of sub-UNIT 5.1).

Unit 5: Game and Economics of Uncertainty:

5.1 Theory of Games: Basic Concepts of Game Theory; Two Person Zero-Sum and Non-Zero Sum Games; Maximin and Minimax Strategies; Saddle Point and Their Properties, Dominant Strategy Equilibrium, Prisoner's Dilemma.

5.2 Risk and Uncertainty: Basic Concept, Choice under Uncertainty and Risk--- Neumann-Morgenstern Utility Index, Axioms, Expected Pay-off and Expected Utility--- Prediction from N—M Utility index.

5.3 Relationship between the Shape of Utility Function and Behaviour towards Risk-- Elasticity of Marginal Utility and Risk Aversion, Absolute and Relative risk aversion.

Essential Readings

1. A. Koutsoyiannis: Modern Microeconomics
2. J.M. Handerson and R.E. Quant: Micro economic theory: A Mathematical approach
3. W.J. Baumol: Economic theory and operations analysis
4. Hal. R. Varian: Microeconomic Analysis

Additional Readings

1. G.S. Maddala and Ellen Miller 'Micro economic theory and applications' McGraw Hill Company
2. P.R.G. Langard and A.A. Walters 'Micro economic theory' McGraw Hill
3. H. Grawelle and R. Rus. 'Micro economics' Longman
4. Jach Hirshlifer and Amihai Glazer: Price theory and applications
5. Gould and Lazier: Micro Theory Ferguson and Gould: Micro Theory.

Course – 102
Macroeconomic Analysis – I
Full Marks- 100 (70 Theory Paper + 30 Internal)
Pass Marks- 40 percent (separately)
Credit – 6

Unit – 1: Classical and Keynesian Economics

- 1.1 Classical Economics: Say's Law, real and monetary sectors, dichotomy and neutrality of money, policy implications.
- 1.2 Keynesian Economics: Theory of effective demand, output and employment determination, theory of interest.
- 1.3 Keynes vs. the Classics, crisis in Keynesian economics and rise of monetarism.

Unit – 2: General Framework for Macroeconomic Analysis

- 2.1 IS-LM Framework: IS curve and good market equilibrium, LM curve and money market equilibrium, General equilibrium.
- 2.2 AD-AS Framework: AD curve, its derivation and shifting; AS curve, its derivation and shifting; Equilibrium.
- 2.3 Evaluating effectiveness of macroeconomic policies: IS-LM and AD-AS frameworks.

Unit – 3: Consumption

- 3.1 Keynes' Psychological Law of Consumption and its implications, short run and long run consumption function, stylized facts of consumption.
- 3.2 Absolute Income Hypothesis, Relative Income Hypothesis.
- 3.3 Permanent Income Hypothesis, Life Cycle Hypothesis.

Unit – 4: Investment

- 3.1 Capital: user cost, optimum capital stock, Marginal Efficiency of Capital.
- 3.2 Investment: Components of investment, investment multiplier, Marginal Efficiency of Investment, process of capital accumulation.
- 3.3 Theory of investment: Neoclassical theory, Acceleration theory, Tobin's Q.

Unit – 5: Demand for Money

- 5.1 Real Balance Effect and Patinkin's theory.
- 5.2 Theory of Baumol and Tobin: Inventory Theoretic Approach and Portfolio Balance Approach.
- 5.3 Friedman's Restatement of Quantity Theory of Money.

Essential Readings

1. N. G. Mankiw: Macroeconomics, Pearson.
2. A. B. Abel and B. S. Bernanke: Macroeconomics, Pearson.
3. Brian Snowdon and Howard R. Vane: Modern Macroeconomics – Its Origins, Development and Current State, Edward Elgar.
4. R. T. Froyen: Macroeconomics – Theories and Policies, Pearson.

Additional Readings

1. W.A. Branson: Macroeconomic Theory and Policy, Harper & Row.
2. Raghendra Jha: Contemporary Macroeconomic Theory and Policy, New Age International.
3. R. Levacic and A. Rebman: Macroeconomics, MacMillan

Course – 103
Mathematics for Economics
Full Marks - 100 (70 Theory Paper + 30 Internal)
Pass Marks - 40 percent (separately)
Credit - 6

Unit -1 Differential Calculus

- 1.1 Concept of function and types of functions
- 1.2 Function of several variables and partial derivatives: first order and higher order
- 1.3 Application of partial derivatives in economics

Unit-2 Integral Calculus

- 2.1 Integration Calculus: rules and economic applications
- 2.2 Introduction to first order differential equation
- 2.3 Difference equations – Solution of first order and second order difference equations; Applications in trade cycle models; Growth models and lagged market equilibrium models.

Unit-3: Optimisation

- 3.1 Condition for maximum and minimum – Concavity and convexity, criteria for checking Concavity and convexity function, concept of local and global extremum
- 3.2 Unconstrained optimization with multiple variable(s): rules and applications
- 3.3 Constrained optimization: rules and applications

Unit 4: Linear programming

- 4.1 Linear programming: Concept and formulation of LP problems
- 4.2 Solution Techniques: Graphical and Simplex methods
- 4.3 Dual formulation and interpretation, Duality theorems, Shadow prices and their uses.

Unit- 5: Game Theory and applications

- 5.1 Basic concepts of Game theory; Types of game; Payoff Matrix; Saddle point solution; Nash equilibrium; Mixed strategies.
- 5.2 Games of Coordination- Prisoner's dilemma, Battle of sexes; Assurance game.
- 5.3 Games of Commitment- The frog and the scorpion, The Kindly Kidnapper, Pigs pressing levers, Intergeneration conflict over saving.

Essential Readings

1. A. C. Chiang: Fundamental methods of Mathematical Economics.
2. Edward T. Dowling: Schaum's Easy Outline of Introduction to Mathematical Economics
3. Taro Yamane: Mathematics for Economists: An Elementary Survey.
4. W . Novshek: Mathematics for Economists.
5. B. Mukerjee and V. Pandit: Mathematical Methods for Economic Analysis.
6. C.P.Simon and L.Blume: Mathematics for Economists.
7. D. Wade Hands: Introductory Mathematical Economics.

Additional Readings

1. R.G.D. Allen: Mathematical Analysis for Economists.
2. Hal R. Varian: Intermediate Microeconomics: A Modern Approach.
3. M. Hoy, et. al.: Mathematics for Economics.

Paper—104
Indian Economy
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit I: People and its Dynamics

1.1 Purpose of decentralized planning-evaluation of devolution of power; People's participation and planning- role of the Panchayat in promoting basic needs and quality of life.

1.2 Migration in India – occupational and distressed migration; rural-urban migration in India and associated policy issues.

1.3 Demographic transition- population explosion, rising population density-causes and concerns, recants demographic trends; An assessment of population policies in India.

Unit II: Sectoral Profiles and Development Strategy

2.1 Institutional Structure of Agriculture; Land reform- a critical evaluation. Technological change in Indian agriculture and related policy issues, new areas of green revolution.

2.2 Productivity and stagnation in Industry since planning era- causes of slowdown and recovery; total factor productivity growth in Indian industry; Inter-state and inter industry comparisons.

2.3 India's foreign trade- trends in exports and imports, Balance of payments- crisis and recovery, global oil price shocks and BPO crisis; an appraisal of trade policy.

Unit III: Economic Reforms

3.1 Structural adjustment programme- a critical appraisal; overall impact on growth and distribution.

3.2 Financial sector reforms- role of RBI and SEBI. New financial reforms for banking system, performance of financial institutions since reforms

3.3 Fiscal deficit and sickness of state finances, policies and programme since reforms; expenditure reforms- existing concerns.

Unit IV: Important Areas of Concern

4.1 Areas of market failure in India – problems of optimum intervention. Globalisation and its impact in India

4.2 WTO-Foreign capital, MNCs; Emerging issues and concerns for India.

4.3 Poverty and inequality; Unemployment; Rising prices.

Unit V: Food Security issues

5.1 Public Distribution System in India- Historical back ground and performances, Targeted Public Distribution System (TPDS) in India.

5.2 Integrated Child Development Services and Mid-Day Meal Programme.

5.3 Issues related to diversion of food grain, Cash Transfer vs Food Transfer debate.

Basic Readings:

1. I.J. Ahluwalia and IMD Little (1999) (ed), India's economic reforms and development; Oxford University Press, New Delhi.

2. P.R. Brahmananda and V.R. Panchmukhi (2001) (eds), Development Experience in Indian Economy: Inter State Perspective; Bookwell, Delhi.

3. M.L. Dantwala (1996), Dilemmas of growth: Indian experience, Sage Publications, New Delhi.

4. K.S. Parikh (1999), India Development Report – 1999-2000; Oxford University Press, New Delhi

5. T.J. Byres (1998) (ed), The Indian Economy: Major debates since independence; Oxford University Press, New Delhi.

6. Mihir Rakshit (2006), Macroeconomics vol. 1 and 2, Oxford University Press

7. Uma Kapila (1992) ed., Indian Economy, Oxford University Press

Course – 105(GE)
Economics of Social Sector
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit - 6

Unit-1: Economics of Education

- 1.1 Concept and components of human capital; Physical capital vs human capital; Meaning, scope and importance of Economics of Education
- 1.2 Demand and supply of education- Concepts and types; Determinants of demand for education; Wastage and stagnation in the context of demand for and supply of education
- 1.3 Costs of education and their determinants; Expenditure vs cost in the context of education; Benefits and returns to education; Cost-benefit analysis in education

Unit-2: Educational Planning and Financing

- 2.1 Educational Planning- Meaning, components, objectives and importance
- 2.2 Basic Models of Educational Planning- Manpower requirement Model, Inter-industry Model
- 2.3 Sources of finance for education: private, public, fees, donations; Endowments and grants-Grant-in- aid principles and practices with special reference to higher education.

Unit -3: Selected Issues in Economics of Education

- 3.1 Role of Education on Economic growth
- 3.2 Role of Education on Economic development
- 3.3 Education, equity and income distribution

Unit-4 Economics of Health

- 4.1 Meaning and significance of Health Economics, Measures of health status, production function of health
- 4.2 Economic Evaluation of Health care, Demand for Health care and Supply side considerations
- 4.3 Market for health insurance

Unit-5 Public Policy on Health and Development Dimensions

- 5.1 Public policy in health care delivery- role of state; Hale and DALY, Health dimension of development
- 5.2 Poverty and Malnutrition; Inequalities in health – Class and gender perspectives
- 5.3 Health care in India: Post Reform Scenario

Essential Readings

- 1. Todaro, P. Michael and Smith, C. Stephan: Economic Development
- 2. Psacharopoulos, G: Economics of Education, Research and Studies
- 3. McPake, B., Normand, C., and Smith, S.: Health Economics: An International Perspective
- 4. Berman, P. (Ed.) (1995): Health Sector Reform in Developing Countries: Making Health Development Sustainable, Boston: Harvard series on population and International Health.
- 5. Blaug, M. (1972): Introduction to Economics of Education, Penguin, London.
- 6. Cohen, E. and T. Gaske (1989): Economics of Education, Pergamon Press, London.
- 7. Henderson, J. W. (2007): Health Economics & Policy, (3e), Thomson South-Western, U.K.
- 8. Klarman, H.E. (1965): The Economics of Health, Columbia University Press, NY.

Additional Readings

- 1. Peter, Zweifel, Friedrich Breyer and Mathias Kifmann: Health Economics
- 2. Baru, R.V. (1998): Private Health Care in India: Social Characteristics and Trends, Sage, ND
- 3. Becker, G.S. (1974): Human Capital (2e), National Bureau of Economic Research, NY
- 4. Berman, P. and M.E. Khan (1993): Paying for India's Health Care, Sage, ND

Paper—201
Microeconomic Analysis—II
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit 1: Managerial Theory and Alternative Theory of the Firm

- 1.1 Baumal's theory of sales revenue maximization: Static and Dynamic model.
- 1.2 Williamson's model of managerial discretion, Morris model of managerial enterprise.
- 1.3 Full cost pricing rule, behavioural model of the firm.

Unit 2: Welfare Economics

- 2.1 Pareto Optimality: The Fundamental Theorems of Welfare Economics.
- 2.2 Market Failure: Causes and instances, externality and public good, Welfare Effects of Non-price Allocations and Price Control.
- 2.3 Problem of Welfare Maximization: Compensation Principle, Social Welfare Function and Social Choice, Arrow's contribution, Trade protection and Economic Welfare.

Unit 3: General Equilibrium

- 3.1 Meaning of General Equilibrium, Partial vs General Equilibrium, Walrasian General Equilibrium System: Tatonnement, Existence, Stability and Uniqueness of the Equilibrium.
- 3.2 Critique of General Equilibrium Theory – Non-tatonnement Process. Contributions of Arrow and Debreu
- 3.3 Dynamic Stability of General Equilibrium.

Unit 4: Economics of Information

- 4.1 Information and decision making under uncertainty--- Attitude towards risk---Insurance and Gambling, Asymmetric Information: Market for lemons.
- 4.2 Problems of Adverse Selection, Moral Hazards, Signaling and Screening.
- 4.3 The Economics of Search: Different models, the efficient market hypothesis, stochastic models of inventory demand.

Unit-5 Financial Microeconomics

- 5.1 Lending- Borrowing Equilibrium, Saving- Investment Equilibrium, Investment Decisions, Determinants of Interest Rates
- 5.2 Cost of Debt, Cost of Capital, Risk Free Rate Plus Premium, The Dividend Valuation Model, CAPM Model, Weight Cost of Capital, Derivatives
- 5.3 Effects of Foreign Investment on the Receiving Nation, Investment in Human Capital, Pricing of Exhaustible Resources, Management of Non-exhaustible Resources.

Essential Readings

1. Koutsoyiannis, A.: Modern Microeconomics.
2. Varian, H.: Microeconomic Analysis.
3. Gravelle and Rees: Microeconomics.
4. Quirk and Saposnik: General Equilibrium and Welfare Economics.
5. Domonick Salvatore: Microeconomics-Theory and Application.
6. G.S. Maddala and Ellen Miller: Microeconomic Theory and Applications.

Additional Readings

1. Anjan Mukherjee: General Equilibrium.
2. Kreps, David M.: A Course in Microeconomic Theory

Paper—202
Macroeconomic Analysis—II
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit – 1: Inflation

- 1.1 Demand-Pull and Cost-Push inflation.
- 1.2 Classical and Monetarist theories of inflation.
- 1.3 Phillips Curve Analysis, short run and long run, role of expectations.

Unit – 2: Monetary Policy

- 2.1 Components of money supply, monetary base and money supply creation.
- 2.2 Monetary policy tools, trade-off between money supply and interest rate targeting.
- 2.3 Monetary policy goals and intermediate targets – Cases of demand and supply Shocks.

Unit – 3: Open Economy Macroeconomics

- 3.1 IS-LM analysis for an Open Economy.
- 3.2 Mundell-Flemming model, role of monetary and fiscal policies.
- 3.3 Monetary Approach to Balance of Payments Equilibrium and Full Employment Equilibrium.

Unit – 4: Business Cycle

- 4.1 Interactions between Accelerator and Multiplier.
- 4.2 Schumpeter and Cobb-web models.
- 4.3 Real Business Cycle Theory, Political Business Cycle Theory.

Unit – 5: Economic Growth

- 5.1 Harrod- Domer, Joan Robinson's model.
- 5.2 Neo-Classical Model: Solow's model, sources of growth, convergence debate.
- 5.3 Introduction to endogenous growth theory – The AK model; Institutions and economic growth.

Essential Readings

1. B. Snowdon and H.R Vane (2005): Modern Macroeconomics- Its origins, Development and current state, Edward Elger.
2. David Romer (1999): Advanced Macroeconomics, McGraw Hill.
3. R. Levacic and A.Rebmann (1982): Macroeconomics, Macmillan.
4. A. B. Abel and B. S. Bernanke: Macroeconomics, Pearson.

Additional Readings

1. E. D'Souza: Macroeconomics, Pearson Education, Delhi.
2. S. B. Gupta: Monetary Economics
3. H.G. Jones: An Introduction to Modern Theories of Economic Growth, Mcgraw-Hill.
4. N. G. Mankiw: Macroeconomics, Pearson.

Paper – 203 (Open Elective)
Fundamental of Economics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit 6

UNIT – I: Introduction to Economics

- 1.1 Nature and scope of Economics; positive and normative Economics; basic economic problems; Microeconomics and Macroeconomics; economic agents and their interaction.
- 1.2 Demand and supply – meaning and determinants; laws of demand and supply; price determination; introduction to different market forms.
- 1.3 Measuring performance of an economy - national income and related concepts: national income as a measure of welfare; other measures of economic performance: HDI

UNIT – II: Macroeconomic Problems

- 2.1 Poverty – absolute and relative poverty; measures of poverty – head count ratio, poverty gap index, squared poverty gap index.
- 2.2 Inequality – concept and measurement; causes of economic inequality.
- 2.3 Inflation – meaning and causes; cost push and demand pull inflation; effects of inflation on the economy

UNIT – III: Policies for Macroeconomic Problems

- 3.1 Monetary policy – measures of money supply, role of commercial banks and central bank; instruments of monetary policy and their uses.
- 3.2 Fiscal policy – objectives and instruments
- 3.3 Fiscal federalism in India – vertical and horizontal imbalance; devolution of resources and grants; resource transfer from union to states; centre-state financial relations in India.

UNIT – IV: Economics of Environment

- 4.1 Economy and environment inter-linkage; concept of environmental value; natural resources and economic growth; limits to growth.
- 4.2 Global environmental externalities – Pigovian taxes and subsidies
- 4.3 Relationship between environment and development; poverty and environment; trade and environment; sustainable development.

UNIT – V: Indian Economic Development

- 5.1 Genesis of new economic reforms in India; rationale of internal and external reforms and their components; impact of new economic reforms on Indian economy
- 5.2 Green revolution in India, its positive and negative impacts; public distribution system; cash transfer vs food transfer
- 5.3 Demographic transition in India – trends in population, demographic dividends; unemployment in India - types, causes and trends.

Basic Readings:

1. Lipsey and Chrystal (2007): Economics, Eleventh Edition, Oxford University Press.
2. J. Haughton and S.R. Khandker (2009): Handbook on Poverty and Inequality, World Bank.
3. Henderson, J. W. (2007): Health Economics & Policy, (3e), Thomson South-Western, U.K.
4. Psacharopoulos, G: Economics of Education, Research and Studies
5. Jean Hindriks and Gareth Myles (2014), Intermediate Public Economics, Prentice Hall
6. Bhattacharjya, R.N. (Ed): Environmental Economics.
7. Rajat Acharyya: International economics: An Introduction to Theory and Policy.
8. I.J. Ahluwalia and IMD Little (1999) (ed), India's economic reforms and development; Oxford University Press, New Delhi.

Course – 204(OE)
Money, Banking and Finance
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit 1: Money in the Economy

- 1.1 Money – Meaning and functions, definitions (theoretical and empirical), as a durable good; inside money and outside money
- 1.2 Money in the Utility and Production Functions, Neutrality of money-Don Patinkin's, Meltzer's and Gurley and Shaw's analysis.
- 1.3 Determinants of Money supply, money multiplier, high powered money, mechanical and behavioural theories of money supply determination

Unit 2: An Overview of the Financial System

- 2.1 Financial Markets – Function, Structure and Importance, Money and Capital Markets – Money Market Instruments; Capital Market Instruments
- 2.2 Derivatives – Definition, origin, types (forwards, futures, options and swaps) and pricing; Derivatives and Risk
- 2.3 Financial services-Non-banking Finance companies-Merchant Banks, Investment banks, Venture Capital funds-Mutual funds-Microfinance institutions

Unit 3: Central Bank and Monetary Policy

- 3.1 Targets and Goals of Monetary Policy, Criteria for choosing operating and intermediate targets, tools of monetary policy, the budget deficit and the monetary base, the monetary and fiscal interface
- 3.2 The monetary transmission mechanism-Money and Credit transmission mechanism-Exogenous/endogenous money- inflation, interest and exchange.
- 3.3 Role of RBI in India – Financial regulator and authority, regulation and supervision of banking system - Basel Norms , Co-ordination between the financial sector regulators like SEBI, IRDA, PFRDA and the RBI –Current Monetary policy

Unit 4: Regulatory Framework

- 4.1 Power and functions of the SEBI, Its impact on the working of the capital market in India, Money Laundering -Corporate Governance and Management Guidance and Supervision - Role of stock exchanges and NSDL.
- 4.2 Evolving areas for Financial Regulation -Subprime Crisis – Regulation of Non-Bank Financial Intermediaries - Mortgage Backed Securities and OTC market - Regulation of Insurance sector-rationale of the IRDA-powers and functions
- 4.3 Liberalisation of the financial system in India, past reforms and way forward

Unit 5: International Financial Markets

- 5.1 Increasing Interdependence in the Global Economy-Trends in International Trade and Cross Border Financial Flows-Impact on Risk Management, post Maastricht developments, Euro-dollar and Euro currency markets

5.2 Theory of Exchange Rate-advantages and disadvantages of fixed vs floating exchange rates, Use of Purchasing Power Parity (PPP) and Calculation of PPP Exchange Rates, risk hedging and futures in exchange rates

5.3 International Development Finance-World Bank, Asian Development Bank, Role of NGOs, FDI and Hot money.

Essential readings

1. Glenn Hubbard & Anthony Patrick O'brien (2012), Money , Banking and the Financial System, Prentice hall
2. Frederic S. Mishkin & Apostolos Serletis (2011), The Economics Of Money, Banking And Financial Markets, Pearson
3. Jagdish Handa (2009), Monetary Economics(2009), Rout ledge
4. Peter Howells and Keith Bain (2005), The Economics of Money, Banking and Finance :A European Text, Pearson
5. Levi, Maurice D: International Finance

Additional Readings

1. Ross Levine: Financial Development and Economic Growth Financial Development and Economic Growth: Views and Agenda, Journal of Economic Literature Vol. XXXV (June 1997), pp. 688–726
2. Benjamin Friedman Michael Woodford(series), handbook of Monetary Economics, Elsevier
3. Mervyn Lewis and Paul Mizen(2000), Monetary Economics. OUP

Course – 205 (GE)
Statistics for Economics
Full Marks- 100 (70 Theory Paper + 30 Internal)
Pass Marks- 40 percent (separately)
Credit - 6

Unit 1: Correlation and Regression Analysis

- 1.1 Idea of Correlation (Pearson, Spearman, Bi-serial, Phi and Kendall)
- 1.2 Idea of Regression, regression lines, regression coefficients and their properties.
- 1.3 Total correlation, partial correlation and multiple correlations and their relationship

Unit 2: Random Variables and Probability Distributions

- 2.1 Random variable - discrete and continuous; probability mass and density functions; distribution function; mathematical expectation; moments and moment generating functions
- 2.2 Discrete probability distributions- Binomial, Poisson and Negative Binomial
- 2.3 Continuous probability distributions- Normal, Uniform, Exponential, Pareto and Log normal

Unit 3: Sampling and Estimation

- 3.1 Random and non-random sampling- concepts and types, Methods of sample selection under different sampling methods, determination of sample size in case of known and unknown population
- 3.2 Concepts of parameter, statistic, sampling distribution, standard error; Point estimation and Desirable properties of a point estimator
- 3.3 Interval Estimation

Unit 4: Testing of Hypothesis

- 4.1 Statistical hypothesis, null and alternative hypotheses, Types of errors, level of significance, choice of critical region, one tailed two tailed tests
- 4.2. Large sample tests and their applications
- 4.3 Small sample tests and their applications

Unit 5: Analysis of Variance and Non-parametric Tests

- 5.1 ANOVA with one way classified data
- 5.2 ANOVA with two way classified data
- 5.3 Non-Parametric Tests for hypotheses testing – Sign test, Run test, Spearman's Rank Correlation test, Kendall's rank correlation test, χ^2 test of goodness of fit.

Essential Readings:

- 1. Casella, R. and Berger (2002), Statistical Inference, Wiley, New York.
- 2. Goon, A. M., M. Gupta and B. Dasgupta (2002), Fundamentals of Statistics, Vols I & II World Press, Calcutta
- 3. Madsen B. (2008), Statistics for Non-statistician, Springer
- 4. Dekking, F.M, Kraaikamp, C, Lopuhaa, H.P and Meester, L.E (2005), A Modern Introduction to Probability and Statistics- Understanding Why and How, Springer
- 5. Urdan, TC. (2005). Statistics in Plain English, Lawrence Erlbaum Associates Publishers
- 6. Cochran, G. William (2011): Sampling Techniques

Additional Readings:

- 1. Gupta S. and Kapoor, V.K (2007): Fundamentals of Mathematical Statistics, S. Chand, New-Delhi.
- 2. Gopal K. Kanji (2000), 100 Statistical Tests, Sage, London.

Paper—301
Development Economics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit 1: Growth and Development

- 1.1 Growth and Development, Growth theory and Development Economics
- 1.2 Neoclassical Growth model, Solow model with Human capital.
- 1.3 Endogenous Growth model, Romer's model

Unit 2: Overview and Growth, Development models

- 2.1 Structural and Institutional Transformation and Change. Modes of Production
- 2.2 Concept of Dualism, Boeke's social dualism, Higgins' technological dualism
- 2.3 Theories of Balanced and Unbalanced growth, Murphy, Shleifer and Vishny's approach to vicious circle of poverty and Big Push.

Unit 3: Rural-Urban Interaction, Growth stage model

- 3.1 Lewis's supply of labour model, Ranis- Fei model, policy issues.
- 3.2 Rostowian stages of growth.
- 3.3 Marx's theory of economic development and stages of growth.

Unit 4: Theories of Underdevelopment

- 4.1 Simon Kuznet on Inverted U Hypothesis, other empirical studies on Inverted U Hypothesis- Implications
- 4.2 Concept of Dependency, Paul Baran, Frank, and Samir Amin
- 4.3 Prebisch-Singer Thesis on unequal exchange

Unit 5: Human beings at centre-stage

- 5.1 Subjective and Objective approach to Standard of living, Commoditisation and Standard of living.
- 5.2 Quality of life, Value, Desire and Quality of life, subjective and objective approach to Quality of Life
- 5.3 Concept of Happiness and Happiness Index, Human Development-concept and approaches

Essential Readings

- 5 Kaushik Basu: Analytical Development Economics.
- 6 Debraj Ray: Economic Development.
- 7 M.P. Todaro: Economics for Developing World.
- 8 Martha Nussbaum and Amartya Sen (edited) : The Quality of Life.

Additional Readings

1. G.M. Meier: Leading issues in Economic Development
2. Thirlwal, A.P: Growth and Development
3. Geoffrey Hawthorn (edited): The Standard of Living.

Paper—302
Basic Econometrics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit – 1: Introduction to Two Variables CLRM

- 1.1. Econometrics – Nature, meaning, scope, aims and objectives; Difference between mathematical economics and econometrics and between statistics and econometrics.
- 1.2. Two variable linear regression model, population and sample regression functions, Estimation using ordinary least squares – BLUE property / Gauss- Markov theorem.
- 1.3. Testing and inference in 2 variable OLS, t- test, ANOVA and F test, confidence intervals for coefficients, goodness of fit, empirical applications.

Unit– 2: Classical Linear Regression Model: Three variables Case

- 2.1 Three variables CLRM–estimation, t-tests for coefficients in three variable models
- 2.2 ANOVA and F tests for overall significance, testing linear restrictions, restricted least squares.
- 2.3 Total, partial and multiple correlations, goodness of fit – R^2 and adjusted R^2 , Empirical Uses of three variable linear models in micro-and macroeconomics – statistical inference. Pooling regression – Stability analysis – Chow test – Generalized Least square Estimation technique

Unit – 3: Problems of Single Equation Estimation

- 3.1 Problem of Multicollinearity – Nature, detection tests, consequences and remedial measures.
- 3.2 Problems of Heteroscedasticity – Nature, detection tests (for small and large sample), consequences and remedial measures
- 3.3 Problem of Autocorrelation-Nature, detection test- Durbin-Watson Test, consequences and remedial measures - Cochrane Orcutt method and Grid search procedure.

Unit –4: Simultaneous Equation, Problem of Identification and Estimation

- 4.1 Single Equation versus Simultaneous Equations System (SES) Features of Simultaneous Equation System (SES), An Example of SES, Simultaneous versus Recursive Systems.
- 4.2 OLS Estimation of SES: Consequence of Ignoring Simultaneity, Concept of a-prior information, Structural and Reduced Form Equations.
- 4.3. Identification Problem: Identification by using Mongrel equation, Identification by using Reduced Form, Identification by using Rank and Order conditions – some problems, Introduction to estimation of SES.

Unit – 5: Introduction to Time Series

- 5.1. Key concept- Stochastic Processes- basic characteristics of time series data.
- 5.2. Stationarity in time series – trend and difference stationary stochastic processes, UNIT root and stationarity tests – Dickey-Fuller and Augmented Dickey-Fuller tests, transforming non-stationary time series
- 5.3 The phenomenon of spurious regression, spurious regression and co-integration in time series–elementary concepts, Engel-Granger (EG) Co-integration Test, Error Correction Mechanism (ECM).

Essential Readings

1. Gujarati, D. N.: Basic Econometrics.
2. Ramanathan, R.: Introductory Econometrics with Applications.
3. Maddala, G. S. and K .Lahiri: Introduction to Econometrics.
4. Woolridge: Introductory Econometrics, A Modern Approach

Additional Readings

1. Johnston, J.: Econometric Methods

Paper—303 (GE)
Public Economics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit - 6

Unit – 1: Role of Government and Theory of Public Goods

1.1 Economic Rationale of Mixed Economy; Role of Government in a State - Allocation, Distribution and Stabilisation.

1.2 Market Failure and the rationale for Government Intervention- Market failure in the contexts of Natural Monopolies, Non-Existence of Futures Markets, Asymmetric Information; The Problem of Externalities and their Internalisation, Theory of Second best

1.3 Theory of Public Goods: Concept, Characteristics and Types of Public Goods; Demand and Supply, Preference revelation Mechanisms -Clarke Mechanism, Lindahl-Wicksell Mechanism; Theory of Club Goods .

Unit 2: Theory of Public Choice

2.1 Public Choice – Reasons for Public Choice; Public Choice under Direct Democracy Unanimity rule – Lindahl and Wicksell

2.2 Majority Rule - Buchanan and Tullock Model, Bowen-Black Model; Arrow's Impossibility Theorem;

2.3 Public Choice under Representative Democracy – Downs Model on Demand and Supply of Government Policy; Niskanen Model of Bureaucratic Behaviour.

Unit 3: Tax Incidence, Public Expenditure and Public Debt

3.1 Tax Incidence – Partial and General Equilibrium Analysis; Mieszkowski Analysis; Keynesian Short Run Mode; Dynamic Analysis.

3.2 Theory of Public Expenditure: Bowen Model, Lindahl Model, Pigou Model, Samuelson Model; Wagner's Theory of Increasing state activities, Contribution of Wiseman, Peacock and Clarke

3.3 Public Debt – Objectives and Sources; Classification and Effect; Burden Controversy of Public Debt – Classical Theory, Modern Theory, Buchanan Thesis, Crowding out and Ricardian Equivalence, Public Debt and Inflation; Public Debt Management and Redemption of Public Debt .

Unit 4: Government Budgeting & Fiscal Policy

4.1 Budgeting-Importance and Classification, Budget Multiplier- Balanced and Unbalanced, Zero Base Budgeting (ZBB), Union Budget of India-trend and pattern of Expenditure and Receipts

4.2 Budgetary Policy of India- Tax reform, Types of taxes, Goods and Service Tax, FRBM Act

4.3 Fiscal policy – Instruments, Importance and Objectives, Classical Vs Keynesian, Effectiveness of Fiscal Policy to achieve internal and external balance.

Unit 5: Fiscal Federalism

5.1 Principles of Multi-Unit Finance; Assignment of Functions among Levels of Government; Tiebout Model and Citizen's Mobility

5.2 Theory of Intergovernmental Grants-types and effects

5.3 Role of Finance Commission in India and Local Finance

Essential readings

1. Jonathan Gruber(2010), Public Finance and Public Policy, MIT
2. David Hyman(2011), Public Finance: A Contemporary Application Of Theory To Policy, Cengage
3. John Cullis and Philip Jones(2009): Public Finance and Public Choice, Oxford University Press
4. Jean Hindriks and Gareth Myles (2014), Intermediate Public Economics, Prentice Hall
5. Economic Survey, (Various Years), Govt of India, <http://mofapp.nic.in:8080/economicsurvey/>
6. Union Budget(Latest), Government of India, <http://www.indiabudget.gov.in/>

Additional readings

1. Atkinson, A. and J. Stiglitz: Lectures on Public Economics
2. Kenneth J. Arrow: Social Choice and Individual Values.
3. Anthony Downs: An Economic Theory of Democracy
4. James M. Buchanan and Gordon Tullock: The Calculus of Consent
5. Martin Feldstein A.J. Auerbach,(Ed):Handbook of Public Economics (Series), Elsevier

Paper—304(Optional Elective)
Mathematical Economics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit 1: Constrained Optimisation in Consumer and Producer Behaviour

1.1 Consumer Behaviour: Utility maximization using Lagrangian multiplier, Indirect Utility function, Roy's Identity, Slutsky equation, duality, Compensated demand functions and expenditure function, linear expenditure systems.

1.2. Different forms of utility functions - Separable and Additive Utility Functions – homogeneous and homothetic, Cobb-Douglas and CES, Revealed Preference, behaviour under Risk and Uncertainty -Von Neumann-Morgenstern Expected Utility.

1.3. Producers optimisation problem – constrained output maximisation, factor demand functions, duality – conditional factor demands, output elasticity, elasticity of substitution, Homogeneous and homothetic functions - Cobb-Douglas, CES and trans-log production functions, product exhaustion theorem.

Unit 2: Firm Behaviour, Supply Decision and Markets

2.1 Cost Functions - Derivation of Cost function from the production function, average cost and marginal costs, Envelop theorem and Shephard's lemma and supply function, Properties of cost function, competitive supply for firm and industry.

2.2 Profit maximisation, Profit function and properties, Envelop theorem and profit function, comparative statics and supply function, case of multi product firm.

2.3 Marshallian and Walrasian static stability of equilibrium, dynamic stability in discrete and continuous time, various market forms – monopoly, monopolistic competition, oligopoly, duopoly – strategic interdependence.

Unit 3: Game Theory and applications

3.1 Perfect Information, pure strategy – Nash Equilibrium, theory and applications – Prisoner's Dilemma, Matching Pennies, battle of the sexes, Best response functions, Dominated strategy – iterated elimination, Cournot and Bertrand duopoly.

3.2 Mixed strategy – Nash Equilibrium and best response functions, dominated actions – economic applications, sequential/dynamic games, extensive form games – backwards induction, subgame perfect equilibrium – applications.

3.3 Imperfect information – Bayesian Games, Cournot's duopoly game with imperfect information, providing public goods, auctions, signalling games, finitely and infinitely repeated games– examples.

Unit 4: Linear Programming, Input-output Analysis and Dynamic Optimisation

- 4.1 LPP – standard theorems, basic feasible solution, duality and simplex tableau, Kuhn-Tucker conditions and NLPP, economic applications.
- 4.2 Leontief Static Open Model – Hawkins-Simon conditions, consumption possibility locus, price system, the closed model – output and price systems in closed model, Introduction to Indian plan models.
- 4.3 Dynamic optimisation – Optimal control – control, state and co-state variables, the Hamiltonian, Current and present value Hamiltonian, first order and transversality conditions, applications in resource and growth economics.

Unit 5: General Equilibrium and Advanced Macroeconomics

- 5.1 Walrasian general equilibrium–Cassel-Walras absolute and relative price determination, the Heckscher-Ohlin-Samuelson framework – Rybczynski and Stolper-Samuelson theorems, income distribution and output magnification effects, economic implications.
- 5.2 Expectations and aggregate supply, Lucas supply function, Friedman supply rule, New Phillips Curve, Rational Expectations Lucas – Sargent – Wallace Model and macroeconomic policy.
- 5.3 Kalecki and Kaldor trade cycle models, Kydland-Prescot real business cycle, new growth theories – R&D, human capital and endogenous growth – Lucas, Romer, Rebelo.

Essential Readings

1. Silberberg, E and W. Suen, E.: The Structure of Economics: A Mathematical Analysis
- Allen, R.G.D: Mathematical Economics
2. Chiang, A.C: Fundamental Methods of Mathematical Economics.
3. Chiang, A.C: Elements of Dynamic Optimisation.
4. Henderson, J.M. and R.E. Quandt: Microeconomic Theory: A Mathematical Approach.
5. Varian, H.: Microeconomic Analysis.

Additional Readings

1. Gandolfo, G: Economic Dynamics.
2. Rowcroft, J.E: Mathematical Economics: An Integrated Approach.
3. Jha, R: Contemporary Macroeconomic Theory and Policy.
4. Arrow, K.J. and M. Intrilligator (edited): Handbook of Mathematical Economics, Vol- I, II, and III.
5. David Romer: Advanced Macroeconomics.
6. Jagdish Handa: Monetary Economics.
7. Barro, R. And X. Sala-i-Martin: Economic Growth.

Paper—305 (Optional Elective)
Agrarian Economic Theory
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit – 6

Unit – 1: Concepts and Linkages

- 1.1. Specificity of Agricultural sector
- 1.2. Modes of Production Debate
- 1.3. Concept of Market and Agrarian institutions

Unit – 2: Statistical estimates

- 2.1. Resource allocations and substitutions
- 2.2. Production functions
- 2.3. Cost and supply functions

Unit – 3: Production and exchange relations

- 3.1. Share Cropping and land market
- 3.2. Wage employment and labour market
- 3.3. Indebtedness and credit markets

Unit – 4: Agricultural product circulation and prices

- 4.1. Marketable surplus function
- 4.2. Conduct, performance and structure paradigm
- 4.3. Agricultural prices and cobweb model; terms of trade and price stabilization programme

Unit – 5: Globalization and livelihood paradigms

- 5.1. Globalization in agriculture
- 5.2. Agricultural diversification and agri-business
- 5.3. Rural non-farm sector and rural industrialization

Essential Readings

1. A V Chayanov: Theory of peasant economy
2. Amit Bhaduri: Economic structure of backward Agriculture
3. R N Soni: Leading Issues in Agricultural Economics
4. B S Minhas: Planning and the Poor
5. B S Sidhu: Land Reforms, Welfare and Economic Growth

Additional Readings

1. Reserve Bank Of India: Handbook of Statistics in Indian Economy
2. Government Of India: Economic Survey
3. S K Ray: Indian Economy

Paper—306(Optional Elective)
Human Development
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit - 6

Unit 1: Approaches to Human Development

- 1.1 Earlier approaches to development-Redistribution with Growth Approach, Basic Needs Approach, Quality of Life Approach and Human Capital Approach
- 1.2 Capability Approach-Role and relevance, capabilities and freedoms, criterion for selecting capabilities, critique of the capability approach.
- 1.3 Theory of Justice-Rawls and others -Comparison of Rawlsian Approach and Capability Approach

Unit 2: Human Development: Conceptual and Measurement Issues

- 2.1 Concept of human development and construction of Human Development Index (HDI) by traditional and new methodology. HDI vs GNP and critique of HDI
- 2.2 Methods of computing other development indices related to human development like GDI, GEM and TAI.
- 2.3 Inequality Adjusted Human Development Index (IAHDI)

Unit 3: Measurement of Poverty

- 3.1 Concept of Poverty- Absolute and Relative, Measures of Absolute Poverty
- 3.2 Measurement of Poverty from Human Development perspective—Construction of HPI1 and HPI 2.
- 3.3 Multidimensional Poverty – Concept and Measurement

Unit 4: Measurement of Inequality

- 4.1 Concept of Economic Inequality and its Positive and Normative Measures
- 4.2 Causes of economic inequality; growth and equality- empirical evidence
- 4.3 Economic inequality in India-recent trends, regional patterns

Unit 5: Reporting Human Development

- 5.1 The emergence of Human Development Reports (HDRs), Types of HDRs, Themes of HDRs, Impact of HDRs and their limitations.
- 5.2 Global and National Human Development Report (Latest One)
- 5.3 State Human development Reports with special reference to the NE states (Latest Ones)

Essential Readings

1. Todaro, P. Michael and Smith, C. Stephan: Economic Development
2. Haughton, Jonathan and Khandker R. Shahidur: Handbook on Poverty + Inequality
3. Fukuda-Parr, Sakiko and Shiva Kumar, A.K Shiva: Handbook of Human Development-Concepts
4. Sen, Amartya and Foster, E. James: On Economic Inequality

Additional Readings

1. Papalia. D, Olds. S, and Feldman.R: Human Development
2. Iris Levin: Stage and Structure: Reopening the Debate

Paper—401
Environmental Economics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit -6

Unit –1: Economics of Natural Resources

- 1.1 Taxonomy of natural resources, physical and economic measures of resource scarcity, natural resources as limits to growth, the resource curse hypothesis.
- 1.2 Economics of renewable resources: Water – water scarcity and the economy, addressing water scarcity through supply and demand management. Fishery – sustainable harvesting and efficiency, policies for sustainable fishery management, role of property rights.
- 1.3 Economics of exhaustible resources – optimal depletion, inter-temporal efficient allocation, role of substitutes.

Unit- 2: Basic Economic Theory

- 2.1 Pareto optimality and competitive equilibrium: Market failures; Theories of Externality and Public Goods, Solutions to Externality.
- 2.2 Theory of externalities and Public Goods: the Pigovian approach and Pigovian Taxes as a solution to the problem of externalities.
- 2.3 Coase theorem, property rights and transaction costs, market failures and corrective action; Pollution Prevention, Control and Abatement – Command and Control and Market Based Instruments –Taxes Vs Tradable Permits.

Unit- 3: Valuation of Environmental Benefits and Damages

- 3.1 Environmental benefits, concept of environmental value, Use and Non-use Values.
- 3.2 Hedonic Pricing method - Housing and labour markets; Travel Cost Method, Random Utility Model (RUM).
- 3.3 Contingent Valuation Method, Valuing Longevity and Health, Production Function Approach.

Unit –4: Environment and Development

- 4.1 Environment-Development Trade off, Environmental Costs of Economic Growth, Limits to Growth — Concept and Indicators of Sustainable Development and its policies:
- 4.2 Environmental Accounting – Integrated environmental and economic accounting, measurement of environmentally corrected GDP.
- 4.3 Inter-Temporal Efficiency, Inter-Generational Equity; Poverty and Environment.

Unit -5: Local and Global Environmental Issues

- 5.1 Macro Perspectives: Climate Change, Natural Resource Accounting, the policies of Sustainable Development.
- 5.2 Policy instruments for controlling water and air pollution and forestry policy in India, joint forest management.
- 5.3 Global Treaties, the Montreal Protocol, Trade and Development, WTO and TRIPS as related to environmental issues, IPCC Assessments.

Essential Readings

1. Bhattacharya, R.N.: Environmental Economics.
2. Baumol, W.J. & W.E.Oates: The Theory of Environmental Policy.
4. Hanley, Shogren and White: Environmental Economics.
6. Fisher, Anthony C.: Resource and Environmental Economics, Cambridge University Press.
7. Conrad, Jon M.: Resource Economics, Cambridge University Press.

Additional Reading

1. Shankar, U: Environmental Economics.

Paper—402
Demography
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit -6

Unit-1: Population and development

- 1.1 Components of population growth and their interdependence, theories of population, critical review of Malthusian, optimum theory of population.
- 1.2 Theory of demographic transition, Lebenstein's theory, views of Medows, Enke and Simon.
- 1.3 Population and development, concept of human resource development and management.

Unit-2: Structure of Population

- 2.1 World Population trend in the 20th century, population explosion- threatened or real, distant or imminent, International aspects of population growth.
- 2.2 Population distribution, pattern of age and sex structure in more developed and less developed countries, determinants of age and sex structure.
- 2.3 Demographic effects of age and sex structure, economic and social implications, age pyramids and projections, problem and measures of population ageing.

Unit-3: Fertility and mortality

- 3.1 Measures of Fertility, Mortality and Reproduction, Concept of stable Population and Stationary Population.
- 3.2. Concept of Life Table – Meaning, assumptions, construction and uses.
- 3.3 Factors affecting fertility, the recent developments in the area, macro and micro level household studies for identifying determinants of fertility. G.S Becker's contribution in this area

Unit-4: Migration and Urbanization

- 4.1 Theories of migration, migration-temporary, internal and international, trend and pattern of migration in the world.
- 4.2 Impact of migration on population growth and age-group distribution of population, Concept of displacement and its pattern.
- 4.3 Growth of urbanization, distribution of rural, urban population in developed and developing countries, the problems of urbanization in India.

Unit –5: Population and development with reference to India and its north-east

- 5.1 Population Trend in Northeast, important features like population ageing and migration.
- 5.2 Level and trend of vital statistics in India with special reference to Northeast.
- 5.3 Analysis of State Human Development Reports with special reference to demographic features and economic development.

Essential Readings

1. Bose, A: India's Basic Demographic Statistics.
2. Simon, J.L: Population and Development in Poor Countries.
3. Srinivasan, K: Basic Demographic Techniques and Applications.
4. Srinivasan, K and A. Shariff: India: Towards Population and Demographic Goals.

Additional Readings

1. Bouge, D.J: Principles of Demography.
2. Sudarshan and A.Shariff: Gender Population and Development.
3. Becker, G.S: A Treatise on the Family

Paper—403 (GE)
International Economics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit -6

Unit 1: Pure Theory of International Trade

1.1 Generalization of the Ricardian Model of Trade and Comparative Advantage- Multi-commodity and Multi-Country Cases; Public Policy and Induced Comparative Advantages; Revealed Comparative Advantages.

1.2 Trade Equilibrium under Different Costs Conditions; Decomposition of Gains from Trade, Measuring Welfare Change- Compensating and Equivalent variations.

1.3 Offer Curve Analysis- Derivation of Offer curve, Backward bending offer curve; Determination and Shifting of Terms of Trade.

Unit 2: Modern Theory of International Trade

2.1 Heckscher-Ohlin Theory, Factor Reversal, Demand Reversal and Leontief Paradox.

2.2 Effects of Factors Growth on Trade Position: Rybezynski Theorem; Impact of Technical Progress on Trade Position.

2.3 New Trade Theories: Product Life Cycle and Technology Gap Models; Theories of Intra-Industry Trade.

Unit 3: Trade Multiplier and Foreign Exchange Market

3.1 Foreign Trade-Multipliers: with and without Foreign Repercussions, Transfers and Trade Balance.

3.2 Foreign Exchange Market: Spot Rate and Forward Rate; Covering Foreign Exchange Risk through Hedging.

3.3 Interest Arbitrage- Covered vs Uncovered, Covered interest Arbitrage Parity, Covered Interest Arbitrage Margin; Stabilizing vs Destabilizing Speculation.

Unit 4: Exchange Rate Regime and Balance of Payment Policies

4.1 History of International Monetary System, Current IMF Operation and its loopholes, Proposals for Reforming Present Exchange Rate Arrangements

4.2 Intervention in the Foreign Exchange Market: A Dirty or Managed Float; Overvalued Pegged Exchange Rate Regime and Target-Zone

4.3 Balance of Payment Policies- Expenditure Reducing and Expenditure Switching Policies; Internal and External Balance and the Policy Conflict.

Unit 5: Trade Intervention and Coordination

5.1 General Equilibrium Analysis of Tariff; Stolper-Samuelson Theorem; Metzler Paradox, Measurement of Optimum Tariff

5.2 Import Tariff vs Import Quota; Voluntary Export Restraints, Dumping, Political Economy of Trade Policy

5.3 Trade Creating and Trade Diverting Custom Unions, Economic Integration among Asian Countries.

Essential Readings

1. Dominick Salvatore: International Economics
2. Rajat Acharyya: International economics: An Introduction to Theory and Policy
3. Dunn, R.M and J.H.Mutti: International Economics

4. Krugman, Paul R. and Maurice Obstfeld.: International Economics: Theory and Policy
5. Södersten, Bo. International Economics

Additional Readings

1. Kenen, Peter. The International Economy
2. Lindert, Peter H.: International Economics
3. Sawyer W Charles, Sprinkle, Richard L.: International Economics.
4. Chocholiades, M.: The Pure Theory of International Trade
5. Bhagwati, J. (edited): International Trade: Selected Reading

Paper—404(Optional Elective)
Advanced Econometrics
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit -6

Unit-1: Estimation of Simultaneous Equation System

- 1.1. Method of estimation in simultaneous equation model: Single Equation Methods and System Methods. Estimation of an exactly identified equation- Indirect Least Squares (ILS).
- 1.2. Single Equation Methods: Two-stage Least Squares (2SLS), Instrumental Variable Method (IV), K-class Estimators.
- 1.3. System Methods: Three-stage Least Squares (3SLS), Full Information Maximum likelihood Method (FIML)

UNIT –2: Advanced Time Series Analysis

- 2.1 ARIMA Forecasting: AR, MA and ARMA Modelling of Time Series Data, The Box-Jenkins (BJ) Methodology- steps, merit and demerit.
- 2.2 Vector Autoregressive (VAR) Model- specification, estimation and forecasting. Vector Error Correction Model-Impulse Response Analysis, Variance Decomposition, Merits and Demerits
- 2.3 Causality Tests: Granger Causality Test, Granger Causality in VAR.

UNIT – 3: Dummy Variables

- 3.1. Definition, Single Regression Model with Dummy Variable- Dummy Variables for Multiple Categories. Interaction Dummy- Comparing Two Regressions
- 3.2 Models with Dummy Dependent Variables: Linear Probability Model (LPM), Logit Model, Probit Model, Comparison between Logit and Probit Model, Problem of Disproportionate Sampling.
- 3.3 Measuring Goodness of Fit: Effron's R^2 , McFadden's Pseudo- R^2 , Estimating the overall Significance of Regression.

Unit-4: Distributed Lag Models

- 4.1 Definition and Specification, Geometric Lag Approach. Estimation of Geometric Lag Model: The Koyck Method- advantage, problems
- 4.2. Median and Mean Lags in Koyck Model, Short-run and Long-run Multipliers, Almon's scheme of polynomial lags,.
- 4.3. Adaptive Expectations Model: Estimation of AEM, Other Problem of AEM.

UNIT-5: Panel Data Analysis

- 5.1 Definition, Types and Usefulness of Panel Data
- 5.2 Panel Data Models: The constant Coefficients Model (CCM), The Fixed-Effects Model and Random Effects Model.
- 5.3. Choosing between FEM and REM: The Hausman Test, SUR model, Random coefficient model.

Essential Readings

1. Maddala, G.S. Introduction to Econometrics
2. Johnston, J and J. Dinardo: Econometric Methods
3. Gujarati, D. N.: Basic Econometrics
4. Greene, W.H.: Econometric Analysis
5. Bhaumik, S.K.: Principles of Econometrics

Additional Reading

1. Ramanathan, R.: Introductory Econometrics with applications
2. Wolridge, J.: Introductory Econometrics – A Modern Approach

Paper—405 (Optional Elective)
State of Agriculture in India
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit -6

Unit – 1 Green Revolution in India

- 1.1 Agricultural growth in India – Trends and regional variations
- 1.2 Green revolution in India – its impact on agricultural output and environment
- 1.3 Dynamics of cropping pattern change and its role in agriculture

Unit -2 Input and output market in Indian Agriculture

- 2.1 Markets of water and agricultural capital goods; Sources of credit, institutions and governmental policies.
- 2.2 Agricultural markets and marketing efficiency- market functions and costs.
- 2.3 Market structure and imperfections; Regulated markets; Marketed and marketable surplus.

Unit – 3 Food Security, Investment and Labour market in India

- 3.1 Food security in India and public distribution system.
- 3.2 Public and private investment and capital formation in Indian agriculture.
- 3.3 Rural Labour Market, agricultural wages and unemployment.

Unit – 4 Indian Agriculture and External Sector

- 4.1 International trade in agricultural commodities; Commodity agreements — Role and impact of World Trade Organization, Globalisation and Indian agriculture
- 4.2 Issues in liberalization of domestic and international trade in agriculture.
- 4.3 Nature and features of agri-business; Role of MNCs.

Unit -5 Selected Issues of Indian Agriculture

- 5.1 Agrarian distress in India – genesis, farmer suicides and policy options
- 5.2 Impact of climate change on Indian agriculture and its mitigation
- 5.3 Prospective areas of reforms in Indian agriculture

Essential Readings

- A N Sadhu and J Singh – Agricultural Problems In India
S R Bilgrami (1996), Agricultural Economics, Himalaya Publishing House, Delhi
R N Soni – Leading Issues In Agricultural Economics
B S Minhas – Planning And The Poor
B S Sidhu – Land Reforms, Welfare And Economic Growth
Dantwala, M.L. et.al (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
Gulati, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
Kahlon, A.S. and Tyagi D.S. (1983), Agriculture Price Policy in India, Allied Publishers, New Delhi
Goswami et al (2018), Indian Agriculture after the Green Revolution- Changes and Challenges, Routledge, New York.
Basu et al (2010), Agrarian Questions, Oxford India Paperbacks
Rudra, A. (1982), Indian Agricultural Economics : Myths and Reality, Allied Publishers, New Delhi

Paper—406 (Optional Elective)
Economics of Gender and Development
Full Marks: 100 (70 theory paper+ 30 Internal)
Pass Mark-40 percent (separately)
Credit -6

Unit-I Importance and concepts of women studies

- 1.1 Women in patriarchal and matriarchal societies and structures, patrilineal and matrilineal systems and relevance to present day society in India;
- 1.2 Economic basis and functioning of patriarchy in developed Countries and LDCs, particularly India.
- 1.3 Review of legislation for women's entitlements, protection of property rights, social security.

Unit-II Demography of female population

- 2.1 Age structure, mortality rates, and sex ratio.
- 2.2 Causes of declining sex ratios and fertility rates in LDCs and particularly India – theories and measurement of fertility and its control.
- 2.3 Women and their access to nutrition, health, education and social and community resources, and its impact on female mortality and fertility, economic status, and work participation rate.

Unit-III Decision making by women and gender planning

- 3.1 Access to and control over economic resources and assets; Power of decision making at house hold, class-community level.
- 3.2 Economic status of women and its effect on work-participation rate, income level, health, and education in developing countries and India.
- 3.3 Gender and development indices; mainstreaming gender into development policies; Gender-planning techniques; Gender sensitive governance.

Unit-IV Concept and analysis of women's work

- 4.1 Valuation of productive and unproductive work; visible and invisible work; paid and unpaid-work; economically productive and socially productive work.
- 4.2 Factors affecting female entry in labour market; Supply and demand for female labour in developed and developing countries, particularly India.
- 4.3 Studies of female work participation in agriculture, non-agricultural rural activities, informal sector, cottage and small-scale industries, organized industry and services sector.

Unit V Economic Growth, Wage Differentials and Feminization of Poverty

- 5.1 Impact of economic growth on gender (in)equality; Impact of gender equality on growth and socio-economic development.
- 5.2 Determinants of wage differentials; Gender and wage differentials; gender wise wage structure across regions and economic sectors.
- 5.3 Feminization of poverty - concept, causes and measurement.

Reading List:

- Ghosh, J. (2002), "Globalization, export oriented employment for women and social policy: A Case study of India", *Social Scientist*, Vol 30 (11 & 12), pp. 17 – 60.
- Boserup, E. (1970), *Women's Role in Economic Development*, George Allen and Unwin, London.
- Momsen, J. (2004), *Gender and Development*, Routledge, 2nd Edition.
- Fukuda Purr and Shiva Kumar (2004), *Readings in Human Development: Concepts, Measures and Policies for a Development Paradigm*, Oxford University Press.