

KOLHAN UNIVERSITY, CHAIBASA

WEST SINGHBHUM, JHARKHAND

DEPARTMENT OF ECONOMICS



UNDER CHOICE BASED CREDIT SEMESTER SYSTEM

SYLLABUS

FOR
M.A. ECONOMICS
w.e.f. Session (2020-22)

H.O.D
University Deptt. of Eco
K.U. Chaibasa

DEAN
Social Science
K.U. Chaibasa

REGISTRAR
Kolhan University
Chaibasa

**Syllabus for M.A. (Economics) under C B C S System
Kolhan University, Chaibasa
Economics Course**

1st Semester

PAPER NO	CODE	TITLE	MARKS	CREDIT
Paper- I (Core)	CCECO101	Computer Application in Economics Analysis	30+70=100	4
Paper – II (Core)	CCECO102	Micro Economic Analysis	30+70=100	4
Paper-III (Core)	CCECO103	Theories of Distribution and Welfare Economics	30+70=100	4
Paper-IV (Core)	CCECO104	Macro Economic Analysis	30+70=100	4
Paper-V (Core)	CCECO105	Monetary Economics	30+70=100	4

2nd Semester

PAPER NO	CODE	TITLE	MARKS	CREDIT
Paper- VI (Core)	ECECO201	Research Methodology	30+70=100	4
Paper – VII (Core)	ECECO202	Financial Institutions and Markets	30+70=100	4
Paper-VIII (Core)	ECECO203	Mathematical Economics	30+70=100	4
Paper- IX (Core)	ECECO204	Energy Economics	30+70=100	4
Paper- X (Core)	ECECO205	International Trade and Finance	30+70=100	4

3rd Semester

Students can opt one Elective Paper from Group A, B or C for DSE– I and One Elective Paper for DSE-II

PAPER NO	CODE	TITLE	MARKS	CREDIT
Paper –XI (Core)	CCECO301	Statistical Analysis	30+70=100	4
Paper- XII (Core)	CCECO302	Public Economics	30+70=100	4
Discipline Elective - I	DSE301	Group A - Mathematical Economics - I Group B - Agricultural Economics – I Group C - Micro Finance and Rural Development	30+70=100	4
Discipline Elective - II	DSE302	Group A - Mathematical Economics - II Group B - Agricultural Economics – II Group C - Tribal Economics	30+70=100	4
Project (PR) - I	PR301		20+80=100	6

4th Semester

Students can opt one Elective Paper from Group A, B or C for DSE – III and One Elective Paper for DSE - IV

PAPER NO	CODE	TITLE	MARKS	CREDIT
Paper –XIII (Core)	CCECO401	Theories of Growth and Development	30+70=100	4
Paper- XIV (Core)	CCECO402	Economics of Social Sector and Environment	30+70=100	4
Discipline Specific Elective - III	DSE401	Group 'A' - Econometrics Analysis - I Group 'B' - Demography - I Group 'C' - Urban Economics	30+70=100	4
Discipline Specific Elective - IV	DSE402	Group 'A' - Econometrics Analysis - II Group 'B' - Demography - II Group 'C' - Industrial Economics	30+70=100	4
Project (PR) - II	PR401		20+80=100	6

SEMESTER	I
PAPER NO	I (Core)
PAPER CODE	CCECO101
TITLE	Computer Application in Economics Analysis

Unit 1 : Introduction to Computer and Use of Computer for Office Automation

Computer Organization; CPU; Types of Memory; Input and Output devices; Classification of computers; Data Representation and the Number systems: decimal, binary, octal and hexadecimal. MS word and its features and uses. Spread sheet - Concept and use of spread sheet, Structure of a spread sheet, Spread in-built functions, Chart feature of a spread sheet, Operation and Use of MS-Excel.

Unit 2 : Basic of Database and Slide Formation and Presentation

Introduction to Economic and Business Data Processing; The concepts of relational database; Simple programming techniques (in MS-Access); Using Queries, Forms and Report Wizard; Economic Application of MS-Access; Handling and command descriptions of MS-Power Point; Slide creation and presentation through MS-Power point.

Unit 3 : Statistical Data Processing Techniques

Statistical Package handling of Statistical Package for Social Science (SPSS); Basic Operations – File, Edit, View, Data, Transformation, Graph and Utilities and Basic statistical analysis - Analysis of Regression, Analysis of correlation, Analysis of Variance (ANOVA) and Analysis of Covariance (ANCOVA).

Unit 4 : Analysis of Data Using Statistical Package “R”

Basics of R, Data management and Statistical analysis

Basic Reading List:

- Jaggi, V.P. and Jain, Sushma (1994), Computers for Beginners. Academic Press, New Delhi.
- Jaggi, V.P. and Jain, Sushma (1994), Basic for Beginners, Academic Press, New Delhi.
- Kerns (1993), Essentials of Microsoft Windows, Word and Excel, Prentice Hall of India, New Delhi.
- Martin S. Matthew (1997), Excel for Windows 95, Tata McGraw Hill, New Delhi.
- Ram, B. (1997), Computer Fundamentals, Second Edition, New Age International, New Delhi.
- Tom Sheldon (1997), Windows 95 Made Easy, Tata McGraw Hill, New Delhi.
- Gaur, A. S. and Gaur, S. S, Statistical Methods for Practice and Research-A Guide to Data Analysis Using SPSS, Sage Publication New Delhi.
- Rakshit, S (2017), R Programming for Beginners, McGraw Hill Education.

SEMESTER	I
PAPER NO	II (Core)
PAPER CODE	CCECO102
TITLE	Micro Economic Analysis

Unit 1 : Consumer's Behaviour and Demand Analysis

Theories of demand: Utility Functions Indifference Curve Analysis (Income and Substitution Effects; Slutsky theorem) and their applications; Indirect utility demand function (Hicksian and Marshallian); Revealed Preference theory; Revision of demand theory by Hicks; Four Concepts of Hicksian Consumer's surplus; Inter temporal Consumption function; Recent developments in demand, Cobweb theorem, Lagged adjustment in inter related markets.

Unit 2: Theory of Production and cost.

Production functions, Short period and Long period, Law of variable proportions, Iso Product Curves, returns to scale, Rate of Technical Substitution; elasticity of input substitution. Least Cost combination of Inputs, Returns of factors; Cobb – Douglas Production Function, CES and VES Production function; Traditional and Modern Theory of Cost.

Unit 3: Theories of Markets

Oligopoly with fixed number of firms, traditional models of oligopoly (Cournot, Stackberg, Bertrand, Edgeworth, Chamberlian, Kinked demand curve) and collusive (Cartels, and Mergers, price leadership, and basic point price system) Product differentiation; Source of Externalities, solution to the externalities problems, attributes of public goods, pricing of public goods; Monopolistic Competition, general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with product differentiation and selling cost, excess capacity under monopolistic competition, criticism of Monopolistic Competition; Price and output determination under Monopsony and bilateral Monopoly, workable Competition Structure, Conduct and performance norms.

Unit 4: Alternative Theories of the firm

Critical Evaluation of Marginal Analysis, Baumol's Sales Revenue Maximization Model, Williamson's. Model of Managerial Discretion, Morris Model of Managerial Enterprise; Full Cost Pricing Rule; Brain's Limit Pricing theory and its recent developments including Sailos – Labini's Model; Behavioral Model of the firm.

Basic Reading List:

- Koutsoyiannis A (1979), Modern Microeconomics (second edition). Macmillan Press, London.
- Sen, A (1999), Microeconomics, Theory and Applications Oxford University, Press, New Delhi.
- Baumol, W.J. (1982), Economics theory and operations Analysis, prentice Hall of India, New Delhi.
- Henderson, J.M. and R.E. Quandt (1980), MicroeconimicsTheory , A mathematical Approach, McGraw Hill, New Delhi.
- Microeconomics (Fifth edition) by Robert S Piudyck and Darriel L Rubinfeld, Prentice Hall.
- Microeconomics theory: Basic Principles and Extensions (Eight Edition) by Walter Nicholson, South western Thomson Learning, 2002.
- Stonier and Hague, A Text Book of Economic Theory

SEMESTER	I
PAPER NO	III (Core)
PAPER CODE	CCECO103
TITLE	Theories of Distribution and Welfare Economics

Unit 1: Distribution

Neo-Classical approach Marginal Productivity theory; Product exhaustion theory, Technical , progress and factor share; Theory of distribution in Imperfect Product and factor markets, determination of rent, wages, interest and profit; Macro theories of distribution- Ricardian Marxian, Kalecki and Kaldor.

Unit 2: General Equilibrium

Partial and General Equilibrium, Walrasian excess demand and input output approaches to general; equilibrium, existence, stability and uniqueness of equilibrium; General equilibrium conditions and monopolies; production without consumption one sector Model ; Homogenous function, income distribution; production without Consumption- two sector model, relationship between relative commodity and factor Prices (Stopler- Samuelson Theorem) relationship between factor output mix and relationship factor Prices, effect of changes in factor supply in closed economy (Rybezynski's Theorem) Production and consumption.

Unit 3: Welfare Economics

Pigovian welfare Economics, Pareto optimal condition, value judgment , social welfare function; Compensation Principle, inability to obtain optimum welfare – imperfections, market failure, decreasing costs, uncertainly and non existent and incomplete market; Theory of second Best- Arrow's Impossibility Theorem, Rawl's Theory of Justice Equity- Efficiency tradeoff.

Basic Reading list :

- Henderson. J.M – Microeconomic Theory.
- Bronfenbrenner. N – Income Distribution theory.
- Koutsoyiannis. A- Modern Microeconomics.
- Stigler. G – Theory of price.
- Varian H – Microeconomic Analysis .
- Kreps. David. M – A Course of Microeconomics.
- De costa. G. C – Production Price and Distribution.
- Kreps, Devid M. (1990), A Course in Microeconomic Theory, Princeton University press Princeton.
- Varian, H. (2000), Microeconomic analysis, W.W. Norton, New York.
- Bronfenbrenner, N, (1979) Income Distribution Theory, Macmillan, London.
- Graff, J. De V. (1957), Theoretical Welfare Economics, Cambridge University Press, Cambridge.
- Da Costa, G. C. (1980), Production, Prices and Distribution, Tata McGraw Hill, New Delhi.
- Quirk, J. and R. Saposnik (1968), Introduction to General Equilibrium Theory and welfare Economics, McGraw Hill New York.
- Weintrub, E.R. (1974) General Equilibrium Theory, Macmillan, London.

SEMESTER	I
Paper No	IV (Core)
PAPER CODE	CCECO104
TITLE	Macro Economic Analysis

Unit 1: National Income and Accounts

Circular flow of Income in two, three and four-sector economy, Different forms of National Income Accounting-- Social Accounting, Input-Output accounting, flow of Funds Accounting and Balance of Payments Accounting.

Unit 2: Consumption Function

Keynes Psychological law of consumption, implications of the law, short run and long run consumption function, empirical evidence on consumption function, income-Consumption relationship- absolute income, relative income, life-cycle and permanent income hypothesis.

Unit 3: Investment Function

Marginal Efficiency of Investment and level of investment; Marginal Efficiency of Capital and Investment -long run and short run; The Accelerator and investment behavior – impact of inflation, Influence of policy measure on Investment- empirical evidence.

Unit 4: Macro Economics in an Open Economy

Mundell – Fleming Model, Asset market, Interest, Expectations and Exchange rate, Monetary Approach to balance of payments.

Unit 5: New Classical and Keynesian Synthesis

New Classical and Keynesian views on interest; the IS-LM Model; Extension of IS-LM Model Government Sector, Relative effectiveness of monetary and fiscal policies; Extension of IS-LM Model with labour market and flexible prices.

Unit 6: Trade Cycle Theories.

Accelerator – Multiplier interaction models, Theories of Schumpeter ,Kaldor , Samuelson and Hick’s investment and savings. Control of business cycles – relative efficiency of monetary and fiscal policies.

Basic Reading List.

- Ackley , G. (1978) Macroeconomics Theory and Policy, Macmillan, New York.
- Blackhouse, R. and A. Salansi(Eds) (2000) Macroeconomics and The Real World, (2 Volumes) Oxford University Press, London.
- Branson, W.A. (1989) Macroeconomics Thoery and Policy, (3rd edition), Harper And Row, New York.
- Dornbusch, R. and F. Stanley (1997) Macroeconomics, McGraw Hill Inc. New York.
- Hall, R. E. and J.B Taylor (1986) Macroeconomics, W.W. Norton, New York.
- Heijdra, B.J. and V.P. Fredrieck (2001), Foundation of Modern macroeconomics, Oxford University Press, New Delhi.
- Gupta, R.D- Keynes & Post Keynesian Economics, Kalyani Publication.
- Jha, R. (1991), Contemporary Macroeconomics Theory and policy, Wiley Eastern Limited, new Delhi.
- Romer D.L. (1996), Advance Macroeconomics, McGraw Hill New York.
- Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw Hill, New York.

SEMESTER	I
Paper No	V (Core)
PAPER CODE	CCECO105
TITLE	Monetary Economics

Unit 1: Supply of Money

Financial intermediation- a mechanistic model of Bank deposit determination; a behavior model of money supply determination; a demand determined money supply process; RBI approach to money supply; high-powered money and money multiplier; budget deficits and money supply and open economy; Control of money supply.

Unit 2: Demand for Money

Classical Approach to Demand for Money - Quantity Theory Approach, Fisher's Equation, Cambridge Quantity Theory, Keynes Liquidity Preference Approach, Transaction, Precautionary and Speculative demand for Money-aggregate demand for money, Derivation of LM Curve.

Unit 3: Post Keynesian Demand for Money

Post Keynesian Approach to demand for money- Patinkin and The Real Balance Effect, approaches to Baumol and Tobin, Friedman and the Modern Quantity Theory, Crisis in Keynesian Economics and the revival of Monetarism.

Unit 4: Theory of Inflation

Classical Keynesian and Monetarist Approaches to Inflation Structuralist theory of inflation; Philip's Curve analysis – short run and long run Philips Curve; Samuelson and Solow the natural rate of unemployment hypotheses; Tobin's modified Philips curve Adaptive Expectation and Rational Expectations; Policies to control Inflation.

Basic Reading List

- Ackley, G. (1978) Macroeconomics Theory and Policy, Macmillan, New York.
- Blackhouse, R. and A. Salansi (Eds.) (2000) Macroeconomics and The Real World (2 Volumes) Oxford University Press, London..
- Branson, W.A. (1989) Macroeconomics Theory and policy, (3rd edition) Harper And Row, New York.
- Dornbusch, R. and F. Stanley (1997) Macroeconomics, McGraw Hill Inc. New York.
- Hall, R. E. and J.B. Taylor (1986), Macroeconomics, W.W. Norton, New York.
- Jhingan M.L. – Maudrik Arthshashtra.
- Seth M.L. – Maudrik Arthshashtra.

Additional Reading List

- Chakarvarty,S.C. (1985), Report of the Committee to Review the Working of the Monetary System, Reserve Bank of India, Bombay.
- Gupta , S.B. (1995), Monetary Planning in India, Oxford University Press, New Delhi.
- Gurley, J. and E.S. Shaw (1960), money in a Theory of Finance, Brookings Institutes, Washington.
- Reddy, Y.V. (200), A Review of Monetary and Finance Sector Reforms in India- A Central Banker's Perspective, UBSPD, New Delhi.
- Friedman, M. (1965), Studies in the Quantity Theory of Money, The University of Chicago. press, Chicago,
- Keynes, J.M. (1936),The General Theory of Employment, Interest and Money, Macmillan, London.

SEMESTER	II
PAPER NO	VI (Core)
PAPER CODE	CCECO201
TITLE	Research Methodology

Objectives: The object of this subject is to acquaint and enhance the knowledge of Research and also to provide insight as to how research is conducted.

Unit 1 : Introduction to Research

Meaning, Characteristics, Objectives and importance of research, Motivation and objectives – Research methods vs. Methodology. Types and Methods of research – Descriptive vs. Analytical, Applied vs. Fundamental, Quantitative vs. Qualitative, Conceptual vs. Empirical.

Unit 2: Research Formulation

Defining and formulating the research problem – Selecting the problem – Necessity of defining the problem – Importance of literature review in defining a problem – Literature review – Primary and secondary sources – reviews, treatise, monographs – patents – web as a source – searching the web – Critical literature review – Identifying gap areas from literature review – Development of working hypothesis.

Unit 3: Research Design

Concept and importance in Research – Features of a good research design – exploratory Research Design – concept, types and uses, Descriptive Research Designs - concept, types and uses. Experimental Design: Concept of Independent & Dependent variables.

Unit 4: Data Collection and Analysis

Execution of the research – Observation and Collection of data – Methods of data collection – Sampling Methods – Data Processing and Analysis strategies – Data Analysis with Statistical Packages – Hypothesis – testing – Generalization and Interpretation.

Unit 5: Research Report

Types of research reports – Brief reports and Detailed reports; Report writing: Structure of the research report – Preliminary section, Main report, Interpretations of Results and Suggested Recommendations; Report writing: Formulation rules for writing the report: Guidelines for presenting tabular data, Guidelines for visual Representations, Illustrations and tables – Bibliography, referencing and Footnotes.

Basic Reading List

- Garg, B.L., Karadia, R., Agarwal, F. and Agarwal, U.K., 2002. An Introduction to Research Methodology, RBSA Publishers.
- Kothari, C.R., 1990. Research Methodology: Methods and Techniques. New Age International.
- Sinha, S.C. and Dhiman, A.K., 2002. Research Methodology, Ess Ess Publications. @ volumes.
- Trochim, W. M. K., 2005. Research Methods: the concise knowledge base, Atomic Dog Publishing.
- Donald Coope4r & Pamela Schindler, Business Research Methods – TMGH, 9th edition
- Alan Brayman & Emma Bell, Business Research Methods – Oxford University Press.
- Pani , Prabhat Kumar, 2015. Research Methodology: Principles and Practices, S. K. Book Agency, New Delhi.
- Pani , Prabhat Kumar, 2015. Statistical applications in Social Science Research. Avon Publications, New Delhi.

SEMESTER	II
PAPER NO	VII (Core)
PAPER CODE	CCECO202
TITLE	Financial Institutions and Markets

Unit 1 : Financial System

The structure of the financial systems-Functions of the financial sector. Financial System and Economic Development-Indicators of Financial Development. Risk and financial assets, return on assets, portfolio management, types of risk, risk - return trade off.

Unit 2: Banking Institutions & NBFIS

Commercial Banks, Profitability and efficiency of Banks, Development Banks-Role and functions, Investment banking, Merchant banking, Definition and Types of NBFIs, Growth and impact of NBFIs, Mutual Funds; UTI and Other Mutual Funds; Insurance Companies, Provident Funds and Pension Funds. Co-operative Banks, Modern Banking in India.

Unit 3: Regulatory and Promotional Institutions

The Reserve Bank of India; Roles and Functions, Monetary Policy of the RBI, Techniques of Monetary Control, Recent Policy Developments, Liquidity Adjustment Facility (LAF), The Securities and Exchange Board of India; Genesis, Organizations, Objectives and Functions, Performance of SEBI, IRDA and its role in financial markets, Financial Sector reforms in India.

Unit 4: Money and Capital Markets

Role and structure of money market and capital market – features of a developed money market, call money market. Treasury bill market, commercial bill market including commercial paper and certificate of deposits, discount market–Government securities market – markets for derivatives. Discount Market. Various types of bonds market. Primary and secondary market for securities. International financial market and foreign exchange market. Equity market, IPO. Understanding Stock markets and its functioning. SEBI – Objectives and Functions and its performance in the working of capital market in India.

Basic Reading List

- Bhole, L.M. (1999), Financial Institutions and Markets; Tata McGraw Hill Company Ltd., New Delhi.
- Bhol, L.M. (2000), Indian financial Systems, Chugh Publications, Allahabad.
- Edminister, R.O.(1986), Financial Institutions, Markets and Managements, McGraw Hill, New York.
- Goldmith, R.W.(1969), Financial Structure and Development, Yale, London.
- Hanson, J.A. and S.Kathuria (Eds) (1999), India: A financial Sector for the Twenty-First Century, Oxford University Press, New Delhi.
- Harker, P.T. and A. Tenias (2000) (Ed) Performance of Financial institutions, Cambridge University, Press, Cambridge.
- Johnson, H.S. (1993), financial institutions and Markets, McGraw Hill, New Delhi.
- Khan, M.Y. (1996), Indian Financial system, Tata McGraw Hill, New Delhi.
- Machi Raju, M.R, (1999), Indian Financial Systems, Vikas Publishing, New Delhi.
- Prasad, K.N. (2001), Development & India's Financial Systems, Sarup & Sons., New Delhi.

SEMESTER	II
PAPER NO	VIII (Core)
PAPER CODE	CCECO203
TITLE	Mathematical Economics

Unit 1 : Review of Concepts.

The Concepts of sets, Real Number System; Use of Graphs; Identities, Equations and Inequalities; Power of Number; Logarithms and their Properties, Binominal Theorem.

Unit 2: Differential Calculas

Limits of functions, Continuity at a point over and Interval; Rules of Differentiation including product, Quotient and Chain Rule; Derivatives of Implicit Functions, Partial Derivatives; Maxima and Minima; Economics Applications of Differentiation, Constrained optimization.

Unit 3: Integration

Techniques of Integration; Definite Integrals; The relation between Average and Marginal Concepts; Capital values under continuous Interest; Consumer's and Producer's Surplus.

Unit 4: Matrix and Determinants

Determinants; Elementary operations of Addition, Multiplication of Matrices etc; Transpose and Inverse of Matrices; Rank of Matrix; Solution of Simultaneous Equation using Matrices.

Unit 5: Differential Equations and Difference Equation

First order differential equations : Variable separable case, homogenous case; Standard Linear differential equations; Economic Applications; First order and Second order difference equation and its Economic application.

Unit 6: Input-Output Analysis

Input-Output analysis; the simple closed and open model; Concepts and measurements.

Unit 7: Linear Programming

Basic Concepts of Linear Programming setting up of problem, various definitions. Solutions by Graphical Method; Primal and Dual.

Basic Reading List

- Chiang, A.C. and wainwright (2005, 4th Edition) Fundamental Methods of Mathematical Economics, McGraw-Hill, New York.
- Allen, R.G.D. (2001), Mathematical Analysis for Economists. A.I.T.B.S. Publishers, India.
- Madnani, G.M.K and Mehta, B.C., Mathematical for Economics, Sultan and Sons Publication, New Delhi.

SEMESTER	II
PAPER NO	IX (Core)
PAPER CODE	CCECO204
TITLE	Energy Economics

Unit 1 : Introduction to Energy Economics

Natural Resources - classification - importance - Role of Natural Resources in Economic Development - Energy Resources - Types and classification - Properties of Energy - Forms of Energy - Emergence of Energy Economics - Its nature and scope - Energy indicators - Energy Economics relation with other branches.

Unit 2: Energy and Development

Role of Energy in Economic Development - Energy Intensity and Energy Elasticity - National and International comparison - Low, Middle and High Income Economies - Role of International Institutions - OPEC, OAPEC, IEA and World Bank.

Unit 3: Energy Conservation and Environment

Energy Planning and Energy Conservation: Meaning, objectives and importance - Energy Management - Meaning, Objectives and Importance - Recent Developments - Energy Auditing - Energy Accounting - Energy Pricing and Taxes - Role of Economists in Promoting Sustainable Energy Management. Energy Crisis - causes, consequences - Remedial measures - Environmental Crisis - causes, consequences, remedial measures - Impact of Energy Consumption and Production on Environment with illustrations - Role of Energy and Environmental Economists in solving Energy and Environmental Crisis.

Unit 4: India's Energy Profile

Indian Energy Sector - Organizational Structure - Energy Supply (Coal, Lignite, Oil, Gas and Powers - Hydro, Nuclear, Thermal) - Energy Demand (Agriculture, Industry, Transport, Domestic, etc) - Renewable Energy Sources and Technology (Solar, Wind, Biogas, Biomass, Geothermal, OTEC, Tidal, Wave Hydrogen, Fuel Cell, Bio-diesel) - Renewable Energy Programs - Energy under Five Year Plans - Energy Issues and Policy Options for India.

Basic Reading List

- Agarwal, M.C. and Monga , J.R. - Economic and Commercial Geography, (National Publishing House, New Delhi, 1992).
- Common, M. - Environmental and Resource Economics (Longman, London,1996)
- Hemalatha Rao - Rural Energy Crises: A Diagnostic Analysis (Ashish Publishing House, New Delhi, 1990).
- Kneese. A.V and Sweeny, J.L, Handbook of Natural Resource and Energy Economics (North Holland, 1993).
- Munasinghe,M and Meier, P - Energy Policy and Modeling (Cambridge University Press, UK, 1993).
- Paul Stevens (Ed) - The Economics of Energy, Vol. I and II (Edward Elgar 2000).
- Raikhy, P. S. and Parminder Singh., Energy Consumption in India - pattern and Determinants (Deep and Deep, New Delhi, 1990).
- Sankar U, Public Sector Pricing: Theory and Applications (IEA Trust for Research and Development, 1992).
- TERI - Teri Energy Data Directory and Year Book 2005-06 (The Energy Research Institute, 2005).
- William Burch (Ed.) - Readings in Ecology, Energy and Human Society: Contemporary Perspectives (Harper and Row, New York, 1997).

SEMESTER	II
PAPER	X (Core)
PAPER CODE	CCECO205
TITLE	International Trade & Finance

Unit 1: Theory of International Trade.

The Pure Theory of international trade – Theories of absolute advantage, comparative advantage and opportunity costs, Modern Theory of international trade ,Theorem of factor price equalization, Empirical testing of Theory of absolute cost and comparative cost; Heckscher – Ohlin Theory of trade, Prebisch and Singer Theory of trade.

Unit 2: Gains from International Trade

Nature of Gains :Sources of Gains and actual Gains- Factors determining Gains- Potential Gain's and actual Gains – Criteria of Measuring Gains from International Trade, Size of country and Gains from International Trade; Terms of Trade: Concepts- Theory of Reciprocal Demand by J.S.Mill , Marshall- Edgeworth Theory of offer curves; Terms of Trade and Economic development; Technical Progress and Terms of Trade.

Unit 3: Balance of Payments

Meaning and components of Balance of payments, equilibrium and disequilibrium in the Balance of payments; the process of adjustment under systems of gold Standard ,fixed exchange rates and flexible exchange rates, expenditure reducing and expenditure switching policies and direct controls for adjustment; A critical review of the monetary approach of the Theory of Balance of Payments adjustment, foreign trade multiplier with and without foreign repercussions and determination of National Income and Output , relative merits and demerits of fixed and flexible exchange rates in the context of growth and development in Development countries.

Unit 4: Theory of Regional Blocks

Forms of economic cooperation for the emergence of trading blocks at the global level; static and dynamic effects of a customs union and free trade areas, regional and economic progress of SAARC/SAPTA and ASEAN regions. Problems and prospects of forming customs union in the Asian region regionalism (EU, NAFTA) Multilateralism and WTO; reforms of the international monetary system, Indian and developing Countries, international trade and financial institutions functions of GATT/WTO (TRIPS, TRIMS) UNCATAD, IMF, World Bank and Asian Development bank-their Achievement and failure, WTO and World bank from the Point of View of Indian.

Basic Reading List

- Bhagwati, J.N (Ed. (1981). International Trade Selected Readings, Cambridge University Press, Cambridge, Mass.
- Carbough, R.j (1999), International Economics, International Thomson Publishing; New York.
- Chacholiades , M. (1990), International Trade theory and policy McGraw Hill, Kogakusha. Tokyo, Japan.
- Dana, M. S. (2000) International Economics: Study, Guide and Workbook. (5th edition).
- Kenen, P.B. (1994), International Economy; Cambridge University Press, London.
- Kindleberger, C.P. (1973), International Economics. R.D. Irwin Homewood.
- King, P.G. (1995), International Economis and international Economic Policy: A Reader, McGraw Hill International Singapore.
- Krugman. P.R and M. Obstfeld (1994), International Economics Theory and policy, Glenview, Foresman.

SEMESTER	III
PAPER NO	XI (Core)
PAPER CODE	CCECO301
TITLE	Statistical Analysis

Unit 1 : Descriptive Statistics

Collection, Organization and Presentation of Data. Measures of Central Tendency and Dispersion-Mean, Median, Mode, Standard Deviation, Variance, Covariance and Correlation Coefficients. Moments, Measures of Skewness and Kurtosis.

Unit 2: Sampling and Sampling Methods

Sample and Population, Parameters and Statistics. Variables and Attributes; Sampling and Non-Sampling Errors; Types of Sampling, Sample distribution.

Unit 3: Theory of Probability and Distribution

Probability, Events, Spaces , Random variable : Expectation and Distribution. Addition and Multiplication Theorems , Bayes Theorem ;Probability Distribution : Binominal, Poisson, Normal.

Unit 4: Statistical Estimation and Testing of Hypothesis

Theory of Estimation and Properties of a good estimator for small and large sample; Point and Interval Estimation; Null and Alternate Hypothesis-Type I and II errors, power of the test; Level of Confidence, Confidence Limits and Critical Region; Tests of Significance for large and small samples (normal, t-test, F-test and Z-test)

Unit 5: Correlation

Types of Correlation, Karl Pearson Co-efficient of Correlation , Simple , Partial and Multiple Correlation Co-efficient.

Unit 6: Regression

Estimation of Regression Line. Method of Least Squares. Simple and Multiple Regression Line.

Basic Reading List

- Gupta, S.C. and Kapoor, V.K. (2014): Fundamental Method of Mathematical Statistics, Sultan and Sons.
- Das, N.G. (2008), Statistical Methods (Combined Vol –I & II) Tata McGraw-Hill Publishing House Limited.
- Goon, A.M., Gupta, M.K., Das Gupta B. (2013): Fundamentals of Statistics, Vol – I, World Press Ltd, Calcutta.
- Damodar N. Gujrati (2004, 4th Edition), Basic Econometrics, Tata McGraw Hill Publishing House Ltd.
- Koutsoyiannis, A. (2004) (Second Edition), Theory of Econometrics, Palgrave.
- Cochran, W.G. (2007), Sampling Techniques, Wiley.

SEMESTER	III
PAPER NO	XII (Core)
PAPER CODE	CCECO302
TITLE	Public Economics

Unit 1: Introduction

Market Failure and Rationale for Government Intervention; The Role of the Government in a Changing Perspective; Provision of Private Goods, Public Goods, Social Goods, Merit Goods and Mixed Goods; Public Goods: Pure and Impure Public Goods.

Unit 2: Principles of Taxation

Principle of fiscal Neutrality, Excess Burden, Doctrine Principle of Equity, Benefit Principle Bowen and Lindhal Models, Ability to pay Principle, Administrative Efficiency; Application of Taxation principles in Developing Countries; Meaning, Types and Measurement of Taxable Capacity.

Unit 3: Impact and Incidence of Taxes

Concept of Impact and Incidence, Theories of Shifting and Incidence, Shifting under Different Market Conditions.

Unit 4: Public Expenditure

Wagner's Law, Wiseman- Peacock Hypothesis. Pure Theory of Public Expenditure, Social Cost-Benefit Analysis

Unit 5: Public Debt.

Classical, Keynesian and Post- Keynesian Approaches of Public Debt; Burden of Public Debt; Public Debt Management.

Unit 6: Fiscal Federalism

Resource transfer from Union to states – Criteria for transfer of resources; Centre-state financial relations in India; Problems of States' resources and indebtedness; Transfer of resources from Union and states to local bodies.

Basic Reading List:

- Mishra, Dr. Jai Prakash – Lokvitta, Sahitya Bhawan Publications, Agra.
- Richard A. Musgrave (1989), Public Finance in Theory and Practice McGraw Hill Book Company, New York.
- Buchanan J.M. (1970), The Public Finances' Richard D. Irwin, Homewood .
- Jha H. (1998) Modern Public Economics, Rutledge, London.
- Singh S.K. (1986) Public Finance in Developed and Developing Countries, S. Chand and Company Ltd, New Delhi.
- Srivastava, D.K. (Ed.) Fiscal Federalism in India: Contemporary Challenges and issues Before Eleventh Finance Commission, 2001.
- Reserve Bank of India, Hand Book of Statistics on Indian Economy (Various Issues).
- Reserve Bank of India, State Finances (Various Issues).
- Dr. Joshi P.L. Zero Base Budgeting Technology in Government, Dhruv and Deep Books, Bombay.
- Dr .Tyagi. B.P. Public finance, jai PrakashNath Pub. Meerat (UP).
- Mithani D.M. Principles of Public finance and fiscal Policy Himalaya Publishing House, New Delhi.
- AshutoshRaravikar, Fiscal Deficit and Inflation in India, macmillan India Ltd. New Delhi.

PG Semester – III (Elective Papers)

SEMESTER	III (Group – A)
PAPER NO	Discipline Specific Elective - I
PAPER CODE	DSE301
TITLE	Mathematical Economics - I

Unit 1: Theory of Consumer's Behaviour

Cardinal and Ordinal utility maximization, Slutsky equation; Income, Substitution and Price effects Concepts of elasticities; Consumer's surplus; Compensated and normal demand function; Revealed preference theory.

Unit 2: Theory of Production

Homogeneous production function; Properties of Cobb-Douglas Production function, CES, Simple Derivation of Short run and Long run Cost function; Modern Approach to the Theory of Cost; Cost function; Producer's equilibrium – Laws of Returns and Returns to Scale; Constrained optimization of a producer; Adding- up Theorem; Technical Progress through Production Function, Production Possibility Curve.

Unit 3: Price Determination in Various Markets

Price Determination in Perfect Competition, Monopoly, Discriminating Monopoly, Monopolistic competition, Duopoly, Oligopoly and Monopsony, Pricing of Factors of Production: Bilateral Monopoly.

Basic Reading List:

- Arrow, K.J. and M. Intrilligator, (Eds) (1992), Hand Book of Mathematical Economics, Vol. 1, 2 and 3, North Holland, Amsterdam.
- Henderson, J.M and R.E. Quandt (1980), Micro Economic Theory - A Mathematical Approach, McGraw Hill, New Delhi.
- Allen, R.G.D. (1974), Mathematical Analysis for Economics, Macmillan London.
- Chiang, A.C (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- Chung J.W. (1993), Utility and Production; Theory and Applications. Basil Blackwell, London
- Madnani, G. M. K. and Mehta, B. C., Mathematical Economics, Sultan and Sons Publication, New Delhi.

SEMESTER	III (Group – B)
PAPER NO	Discipline Specific Elective - I
PAPER CODE	DSE301
TITLE	Agricultural Economics – I

Unit 1: Agriculture and Economic Development

Nature and scope of Agricultural and Rural Economic, Traditional Agriculture and its Modernization, Role of Agriculture in Economic development, Interdependence between Agriculture and Industry some empirical evidence, Models of interaction between Agro and the rest of the economy: agricultural development, Poverty and Environment.

Unit 2: Diversification of Rural Economic Activities

Livestock Economics-Livestock Resources and their Productivity; Problems of Marketing; White Revolution; Fishery and Poultry Development; Forestry, Horticulture and Floriculture, Issues and Problems in Rural Industrialization and Development of Agro-based Industries.

Unit 3: Economics of Rural Infrastructure

Use of Land, Water and Energy, Rural Transport, Communication, Banking, Extension Services. Role, Modes and Problems of Rural Electrification, Rural Social Infrastructure- Education and Health and Information dissemination.

Unit 4: Agricultural Production and Productivity

Agricultural Production, Resource Use and Efficiency. Production Function Analysis in Agriculture, Factor Combination and Resource Substitution; Cost and Supply Curves, Size of Farm and Laws of Returns, Theoretical findings Farm budgeting and Cost concepts; Supply Response of Individual Crops and Aggregate Supply labour Absorption and Gender Issues in Agricultural services.

Basic Reading List:

- Bhaduri, A. (1984), The Economic Structure of Back ward Agriculture, Macmillan, Delhi.
- Bilgrami, S. A. R. (1996) Agricultural Economics, Himalaya Publishing House, Delhi.
- Dantwala, M.L. et. Al (1991) Indian Agricultural Development Since Independence, Oxford and IBH, New Delhi.
- Government of India (1976), Report of the National Commission on Agriculture, New Delhi.
- Puri & Mishra, Bhartiya Arthavyavastha. (Latest Edition) – Himalaya Publication.
- Sundram & Rudra Datta, Bhartiya Arthavyavastha.

SEMESTER	III (Group – C)
PAPER NO	Discipline Specific Elective - I
PAPER CODE	DSE301
TITLE	Micro Finance and Rural Development

Unit 1: Development of Micro Finance Products

Concept of Micro Finance – Genesis and History of Micro Finance – Contributions of Md. Yunus
 Growth of Micro Finance in India – Micro Finance for poverty reduction in India – Micro Finance and the Millennium Development Goals – Pros and cons of Micro Credit Programme – Micro Finance Models in India – Impact of Micro Finance on Poverty eradication

Unit 2: Micro Finance an Instrument for Women Empowerment

Concept of empowerment of women– Components of women empowerment – Constraints faced by women for empowerment – Role of Micro Finance in economic development of women – Empowerment of women and Micro - business.

Unit 3: Self Help Group and Rural Development Approach

The Concept, Why Self Help Groups? – Objectives – Functions of SHGs Promotion– Formation of SHG - Constraints of Women SHGs - What are the Important Steps for Sustainable Development of SHGs? What are the Skills needed for Managing Successful SHGs? - Linking of Self Help Group to Bank, Stepwise process of Operating of SHG – SHG Federation.

Unit 4: Progress Under the SHG Bank – Linkage Program

SHG - Banking programme an introduction - NABARD as implementing agency in India and the strategy adopted – The demand side of Micro – finance – the supply side of micro finance – the MFI or the Non-Government Micro finance sector (NGMS) – Achievements in SHGs through SHG –banking- Impact of the formal banking set – up – Why could SHG – banking achieve such good results – Risk in SHG – Banking as implemented by the formal banking system.

Basic Reading List:

- Daniel Lazar (2008), Micro Finance and poverty eradication, New Century Publications, ND.
- Desai Vasant. (2005) Rural Development in India, Himalaya Publishing House
- Rais Ahmad (2009) Micro Finance and Women Empowerment, Mittal Publication New Delhi.
- Vijayakumar. A, (2009) Banking, Micro Finance and Self Help Group in India, New Century Publications, New Delhi
- Praveen Sharma, Indian Economic Association, Anil Kumar Thakur (2009), Micro-Credit and Rural Development
- Cernea, Michael M. (1988), NGOs and Local Development, The World Bank, Washington, Discussion Paper.

SEMESTER	III (Group – A)
PAPER NO	Discipline Specific Elective - II
PAPER CODE	DSE302
TITLE	Mathematical Economics - II

Unit 1: Market Equilibrium

Single Market Equilibrium - Marshallian and Walrasian Equilibrium Conditions; Lagged Market Equilibrium, General Equilibrium Systems of Walras and Debreu. Conditions of Stability of Equilibrium.

Unit 2 : Determination of Income and Fluctuations in Income

Classical and Keynes Macro System; Static and Dynamic Multiplier, Determinants of Investment, Accelerator, Trade Cycle, Model of Samuelson and Hicks, Goodwin, Kalecki and Philips: Stabilization Policy, Rational Expectations and Economic Policy; Lucas's Model.

Unit 3 : Growth Models

Harrod Problem; Neo – Classical Model of Growth, Solow and Meade Growth models with Technical Progress; Optimal Growth; Golden Rule of Accumulation; Turnpike Theorem; Endogenous Growth.

Unit 4: Game Theory, Linear Programming and Input-Output Analysis

Concept of Game - Two person Zero Sum Game, Pay-off Matrix, Pure and Mixed strategies, Maxmin in and Minimax Solutions, Saddle Point Solution; Non constant Sum Game' Prisoner's dilemma' Linear Programming- Primal and Dual Problem, Simplex Method; Input-Output Analysis, Open and closed systems, Simon Hawkins condition; Leontief's Dynamic System.

Basic Reading List:

- Arrow, K.J. and M. Intrilligator, (Eds) (1992), Hand Book of Mathematical Economics, Vol. 1, 2 and 3, North Holland, Amsterdam.
- Henderson, J.M and R.E. Quandt (1980), Micro Economic Theory – A Mathematical Approach, McGraw Hill, New Delhi.
- Allen, R. G. D. (1959) Mathematical Economics, Second edition, Macmillan.
- Allen, R.G.D. (1967) Macro-Economic Theory: A Mathematical Treatment.
- Chiang, A.C. Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- Chung J.W. (1993), Utility and Production; Theory and Applications. Basil Blackwell, London

SEMESTER	III (Group – B)
PAPER NO	Discipline Specific Elective - II
PAPER CODE	DSE302
TITLE	Agricultural Economics – II

Unit 1: Land reforms and Land Policy

Principles of Land Utilization, Land Distribution- Structure and Trends; Land Values and Rent : Land Tenures and, Farming Systems: Peasant, Capitalist, Collective and State Farming, Tenancy and Crop Sharing Forms, Incidence and Effects; Land reform, Measures and performance, Women and Land Reforms, Problems of Marginal and small farmers.

Unit 2: Rural Finance

Role of capital and Rural Credit, Organized and Unorganized Capital Market; Rural Savings and Capital Formational and Non institutional: Reorganization of Rural Credit- Co-operatives, Commercial Banks Regional Rural Banks, Role of NABARD.

Unit 3: Agricultural prices

Marketing and State Policy, Agricultural Market and Marketing Efficiency, Marketing Function and Costs, Market Structure and Imperfections: Regulated Markets, Marketed and Marketable Surplus, Behaviour of Agricultural Price, Cobweb Model, Price and Income, Stability, State Policy with respect to Agricultural Marketing, Warehousing: Prices, Taxation and Crop Insurance, Terms of trade between Agricultural and Non-agricultural Prices, Need of State intervention: Objectives of Agricultural Price Policy, Instruments and Evaluation, Food Security in India and Public Distribution System.

Basic Reading List:

- Bhaduri, A. (1984), The Economic Structure of Back ward Agriculture, Macmillan, Delhi.
- Bilgrami, S. A. R. (1996) Agricultural Economics, Himalaya Publishing House, Delhi.
- Dantwala, M.L. et. Al (1991) Indian Agricultural Development Since Independence, Oxford and IBH, New Delhi.
- Government of India (1976), Report of the National Commission on Agriculture, New Delhi.
- Puri & Mishra, Bhartiya Arthavyavastha. (Latest Edition) – Himalaya Publication.
- Sundram & Rudra Datta, Bhartiya Arthavyavastha.

SEMESTER	III (Group – C)
PAPER NO	Discipline Specific Elective - II
PAPER CODE	DSE302
TITLE	Tribal Economics

Unit 1: Tribal Demography

Demography: Concept, feature and importance Tribal Demography : An appraisal, An over-view of India's Tribal Demography – Distribution of tribal population in India – Need for Micro Level Studies, Tribal Population in Jharkhand – An analysis of growth of Tribal Population from 1961 Census to 2011 Census – Growth Rate – Fertility Rate, Sex Ratio, Density of Population, Work Participation Rate.

Unit 2: Education and Health in Tribal Areas

Emerging initiatives in the field of Education of Tribes – DPEP, SSA Programmes and initiatives under SC and ST Development Department, Government of Jharkhand.

Health Problems in Tribal Areas – Common diseases among Tribals, Methods of curing – Indigenous and Modern – NRHM in Tribal Areas.

Integrated Child Development Scheme (ICDS) in tribal areas, Efforts made by UNDP, UNFPA, WHO, DFID and UNICEF to improve the nutritional care of mother and child in Tribal Areas.

Unit 3: Tribal Economy

Economic System and Economic Structure among Tribals – Economic Typology – Characteristics of Tribal Economy. Tribal Production System – Tribal Agriculture – Shifting Cultivation, Settled Cultivation – Terraced Agriculture – Cooperative and Exchange Labour. Allied Activities – Horticulture, Floriculture – Animal Husbandry – Forest and Forest Collection – Wage Labour – Tribal Markets.

Unit 4: Tribal Problems, Policies, Planning and Development Interventions

Land Problems of Tribals – Land distribution, Land alienation, causes and consequences, Displacement – Causes and Consequences, Indebtedness, Bonded Labour and Land alienation continuum – Trends of Economic Exploitation.

Tribal Development during Five Year Plans – SMPT Block, TD Block, Tribal Development Agency, Sub-Plan Approach, MADA, and Cluster Approach – PTGs and Micro Projects.

Emerging Development Initiatives – Role of NGOs, Women Empowerment through Micro Finance and SHGs – Liquor Free Movement.

Basic Reading List:

- Behera, K.K. (2003) : Organization and Management of Tribal Markets, Independent Publishing Company, New-Delhi.
- Behera, M.C & Jumyir Basar (2010) Ed. : Interventions and Tribal Development, Serial Publications, New Delhi.
- Mohapatro, P.C. (1987) : Economic Development of Tribal India. Ashish Publishing House, New Delhi.
- Sahu, N.C. (1986) : Economics of Forest Resources: Problems and Policies in a regional economy. B.R. Publishing corporation, New Delhi.
- Kalla, A.K. & P.C. Joshi (Ed.) 2004 Tribal Health and Medicines, Concept Publishing Company, New-Delhi.
- Padhi B.R. and B. Padhi (Ed.)2010 Tribal Development in India – Section V – Health and Tribal Development – Mangalam Publications – Delhi – 53.
- Deogaonkar S.G. (1994) Tribal Administration and Development – Concept Publishing Company – New-Delhi.

SEMESTER	III
PAPER NO	Project (PR) - I
PAPER CODE	PR301
TITLE	PROJECT WORK

SEMESTER	IV
PAPER NO	XIII (Core)
PAPER CODE	CCECO401
TITLE	Theories of Growth and Development

Unit 1: Economic Growth – 1

Economic Growth and Development, Factors affecting economic growth: capital, labour and technology. Growth models- Harrod and Domar, instability of equilibrium, Neo - Classical Growth Models-Solow and Meade, Mrs. Joan Robinson's Growth Models. Cambridge Criticism of Neo-classical analysis of Growth, the capital controversy.

Unit 2: Economic Growth – 2

Technological Progress – embodied and disembodied technology Progress. Hicks & Harrod; Learning by doing. Production function approach to the economic growth total factor productivity and growth accounting. Growth models of Kaldor and Pasinetti, Golden rule of accumulation. Stability of equilibrium; money in economic growth. Endogenous Growth, Intellectual Capital, role of learning, education and research, A.K. Model- Explanation of cross country differential & economic growth.

Unit 3: Theories of development

Classical theory of Development – Contribution of Adam Smith, Ricardo, Malthus and James Mill. Karl Marx and development of capitalistic economy – Theory of Social change, Surplus value and profit. Immutability laws of capitalist development crisis in capitalism – Schumpeter and capitalistic development. Innovation – role of credit. Profit and degeneration of capitalism; structural analysis of development, Imperfect Market Paradigm.

Unit 4: Approaches to Development

Partial Theories of Growth and Development, Vicious Circle of Poverty, Circular causation. Critical Minimum Efforts Thesis, Low- income equilibrium trap. Dualism- technical, behavioral and social. Ranis and Fei Model Dependency Theory of Development Structural view of Development.

Unit 5: Allocation of Resources

Need for investment criteria in Developing Countries – Present VS Future. Alternative Investment criteria; Cost Benefit Analysis; Shadow prices, Project evaluation and UNIDO guidelines.

Basic Reading List

- Adelman, I. (1961) Theories of Economic Growth and Development, Stanford University Press.
- Behrman, S. and T.N. Srinivasan (1995) Hand Book of Development Economics Vol 3 Elsevier, Amsterdam.
- Das Gupta, P. (1993) An Enquiry into well being and destitution, Clarendon Press, Oxford.
- Ghatak, B. (1986) An Introduction to Development Economics, George Allen and Unwin London.
- Higgins, B. (1959) Economic development W.W. Norton, New York.
- Todaro, M.P. (1966) Economic Development Langman, London.
- Thirwall, A.P. (1999) Growth and Development Macmillan Press, U.K.
- Kindleberger, C.P. (1977) Economic Development McGraw Hill, New York.
- Sen, A.K. (1990), Growth Economics; Penguin Harmondsworth.
- Solow, R. M. (2000), Growth Theory; An exposition, Oxford University Press, Oxford.
- Todaro, M.P. (1971) Development Planning models and methods, Oxford University Press, Oxford.
- Gimmell, N. (1987), Surveys in development Economics, Blackwell, Oxford.

SEMESTER	IV
PAPER NO	XIV (Core)
PAPER CODE	CCECO402
TITLE	Economics of Social Sector & Environment

Unit 1: Measurement of Environmental Values

Use values, Option Values and non – use Values. Valuation methods – methods based on observed market behavior. Hedonic Property values and household Production models (Travel Cost method & House hold health production function). Methods based on response to hypothetical markets, contingent valuation methods.

Unit 2 : Economics of Natural Resource Management and Sustainable Development.

Theories of optimal use of exhaustible and renewable resources. Environmental and development trade – off and the concept of sustainable development. Integrated environmental and economic accounting and the measurement of environmentally corrected GDP. Macroeconomic Policies and Environment .

Unit 3 : Environment and natural Resource Problem in India

Mechanism for environment regulation in India. Environment laws and their implementation. Policy instruments for controlling water and air pollution and forestry policy. People's participation in management of common and forest lands. The Institutions of Joint forest management and the joint projected area management; Social, Forestry – rational and benefits.

Basic Reading List.

- Baumal, W.J. and Oates (1988) The theory of Environmental Policy (2nd edition), Cambridge University Press Cambridge.
- Hussen, A.M. (1999), Principles of Environmental Economics, rout ledge, London.
- Kolstad, C.D. (1999), Environment Economics, Oxford University press, New Delhi.
- Pearce, D.W. and R. Turner (1991), Economics of natural Resource use and Environment, John Hopkins University Press, Baltimore.
- Chopra, k, G.K Kadekodi and M.N. Murthy (1990), Participatory Development: An approach to the Management of Common Property Resources SAGE, and New Delhi.
- Mehta, S.S. Mundle and U. Shankar (1995), controlling pollution: Incentives and Regulation, SAGE, New Delhi.

PG Semester – IV (Elective Papers)

SEMESTER	IV (Group – A)
PAPER NO	Discipline Specific Elective - III
PAPER CODE	DSE401
TITLE	Econometrics Analysis - I

Unit 1: Basic Econometrics

Nature, Meaning and Scope of Econometrics; Simple and General Linear Regression Model - Assumptions, Estimation (through OLS approach) and Properties of Estimators, Gauss-Markov Theorem, Concepts and Derivation of R^2 and adjusted R^2 .

Unit 2: Issues of Regression

Issues of Regression through Origin -Scaling and Units of Measurement. Nature, Tests, Consequences and Remedial Steps for the Problems of Heteroscedasticity, Autocorrelation and Multicollinearity; Problems of Specification Error-Errors in Measurement.

Unit 3: Regression with Qualitative Independent Variables

Dummy Variable Technique - Testing Structural Stability of Regression Models comparing to Regression, Use of Dummy Variables, Regression with Dummy Dependent Variables; The LPM- Logit, Probit and Tobit Models-Applications.

Unit 4: Dynamic Econometric Model

Autoregressive and Distributed Lag Models; Almon Approach to Distributed Lag Models, Generalised least square (GLS) Estimation of parameters of non-linear parabolic model.

Basic Reading List:

- Amemiya, T. (1985) Advanced Econometrics, Harvard University Press, Cambridge, Mass.
- Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), McGraw Hill, New Delhi.
- Donghery, C. (1998), Introduction to Econometrics, Oxford University Press, New York.
- Goldberger, A.S. (1998), Introductory to Econometrics, Harvard University Press, Cambridge, Mass.
- Koutsoyiannis A. (1977), Theory of Econometrics, (2nd Edition) The Nacmillan Press Ltd.
- Baltagi, B.H. (1988) Econometric's, Springer, New York,
- Dongherty, C, (1992) Introduction to Econometrics, Oxford University Press, New York.
- Hill, R.C, E.G. William And G.C. Judge (1997), Undergraduate Econometrics , Wiley , New York.
- Kennedy, P. (1998), A Guide to Econometrics (4th Edition), MIT Press New York.
- Kmenta, J, (1997), Elements of Econometric (Reprint Edition), University of Michigan Press, New York.
- Krishna K.L. (Ed) (1997) Econometrics Applications in India, Oxford University Press, New Delhi.
- Maddala, G.S. (Ed.) (1993), Econometrics Methods and Applications (2 Vols) Aldershot, U.K.
- Franses, P.H. (1998), Time series models for business and Economic Forecasting, Cambridge Unit Press, Cambridge.

SEMESTER	IV (Group – B)
PAPER NO	Discipline Specific Elective - III
PAPER CODE	DSE401
TITLE	Demography - I

Unit 1: Population and Development

Meaning and Scope of Demography; Components of Population, Growth and their Interdependence, Measure of Population Change; Structure, Distribution and Sources of Population Data, Population and Development.

Unit 2: Structure of Population

International Aspects of Population Growth and Distribution Pattern of Age and Sex Structure in more Developed and less Developed Countries; Economic and Social Implications; Age Pyramids and Projection, Individual ageing and Population Ageing.

Unit 3: Fertility, Nuptiality and Mortality

Importance Study of Fertility- Total Fertility Rate; Gross Reproduction Rate and Net Reproduction Rate; Levels and trends of fertility in more and less developed countries; Factors Affecting Fertility- Socio-economic factors, Economic Status, Health, Education, Nutrition, Caste, Religion, Race, Region, Rural-urban Status of Husband and Wife; Nuptiality Concept and Analysis of Marital Status, Synthetic Cohort Methods, Trends in Age at Marriage; Mortality-death Rates, Crude and Age Specific, Mortality at Birth and Infant mortality rate; factors for decline in mortality in recent past; life table construction and uses; Concepts of Stable Population; Methods of Population Projection.

Unit 4: Migration and Urbanization

Internal and International Migration- its effect on Population Growth and Pattern; Factors Effecting Migration; Urbanization- Growth and Distribution of Rural, Urban Population in Developed and Developing Countries.

Basic Reading List:

- Agarwala, S.N. (1972), India's Population Problem, Tata McGraw Hill Co. Bombay.
- Boss, A. (1996), India's Basic Demographic, Statistics, B.R. Publishing Corporation, New Delhi.
- Bogue, DJ. (1971), Principles of Demography, John Wiley New York.
- Chenry, H. and T.N. Srinivasm (Eds) (1989), Handbook of Development Economic, Vol. 1 & 2, Elsevier, Amsterdam.
- Mishra, Dr. Jai Prakash, Janankiki, Sahitya Bhawan Publication, Agra.

SEMESTER	IV (Group – C)
PAPER NO	Discipline Specific Elective - III
PAPER CODE	DSE401
TITLE	Urban Economics

Unit 1:

Nature and scope of urban Economics, structure and growth of Urban economy, urban Public Services; Growth of Urban Economy.

Unit 2:

Urban Growth; Central Place Theory and its application to the study of Urban Growth-the Urban economic base and urban growth; the communication theory of Urban growth; City size and urban growth; urban spatial structure; Concentric Zone Hypothesis-The Radial Sector theory. The Multiple Nuclei Hypothesis.

Unit 3:

Urban Housing, Labour Market and Poverty; Housing market Imperfection-trends in slum Housing-tearing down the slums. Urban Labour Market: Determination of Labour incomes-wage differentials-the culture of urban poverty –Measures of Urban poverty-The nature of urban poverty-The causes of urban poverty; Public Policies for reducing urban poverty-macro Economic policies income-Maintenance Policies-negative income taxes.

Unit 4:

Urban Development Problems in India, Land Prices and land Speculation-Urban Land celling; Congestion and Urban transport pricing Policy; Cost and supply of alternative urban transport system. Urban Growth Strategies-An approach to Metropolitan Planning in Developing Countries; nationalurbanization policy with reference of India.

Basic Reading List:

- G. F. Bussars; Repid Problmes of Urbanisation in India.
- Asok Owtra john: An Approach to urban Studies in India.
- John D. Herbert and Alfrad P.Van: Urban Planning in the Developing. Countries.
- Ashish Bose ; Studies in India’s Urbanization.
- R.K. Bharadwaj ; Urban Development in India.
- NCAER; Market Towns and Spatial Development.
- Richard F. Muth : Urban Economic Problems.
- Harry, S. Perloff; Issues in Urban economics.
- Harry, W. Richardson; Urban Economics.

SEMESTER	IV (Group – A)
PAPER NO	Discipline Specific Elective - IV
PAPER CODE	DSE402
TITLE	Econometrics Analysis - II

Unit 1: Simultaneous Equation Model-I

The Simultaneous Equation bias and Inconsistency of OLS estimators, Structural and Recursive form Models, the Identification Problem – Rules of Identification, Order and Rank conditions.

Unit 2: Simultaneous Equation Models-II

Methods of Estimating Simultaneous Equation System; Indirect Least squares (ILS); 2 SLS; General linear model (GLM)

Unit 3: Time Series Analysis

Meaning importance and components of time series, stationary, Unit roots, Forecasting with ARIMA, Vector autoregressive model (VAR).

Unit 4: Multivariate analysis

Multivariate Probability Distribution, Marginal and Conditional Probability Distribution, Multivariate Normal Distribution and its Properties, Discriminant analysis.

Basic Reading List:

- Amemiya, T. (1985) Advanced Econometrics, Harvard University Press, Cambridge, Mass.
- Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), McGraw Hill, New Delhi.
- Donghery, C. (1998), Introduction to Econometrics, Oxford University Press, New York.
- Goldberger, A.S. (1998), Introductory to Econometrics, Harvard University Press, Cambridge, Mass.
- Koutsoyiannis A. (1977), Theory of Econometrics, (2nd Edition) The Nacmillan Press Ltd.
- Baltagi, B.H. (1988) Econometric's, Springer, New York,
- Dongherty, C, (1992) Introduction to Econometrics, Oxford University Press, New York.
- Hill, R.C, E.G. William And G.C. Judge (1997), Undergraduate Econometrics , Wiley , New York.
- Kennedy, P. (1998), A Guide to Econometrics (4th Edition), MIT Press New York.
- Kmenta, J, (1997), Elements of Econometric (Reprint Edition), University of Michigan Press, New York.
- Krishna K.L. (Ed) (1997) Econometrics Applications in India, Oxford University Press, New Delhi.
- Maddala, G.S. (Ed.) (1993), Econometrics Methods and Applications (2 Vols) Aldershot, U.K.
- Franses, P.H. (1998), Time series models for business and Economic Forecasting, Cambridge Unit Press, Cambridge.

SEMESTER	IV (Group – B)
PAPER NO	Discipline Specific Elective - IV
PAPER CODE	DSE402
TITLE	Demography - II

Unit 1: Demographic Database in India

Study of Census in India – Methodology and Characteristics of Census; Nature of Information Collected in 2001 and 2011 in India, National Family Health Survey 4 & 5. Age Structure of Population, Foetal, Infant and Child Mortality Rates, Maternal mortality Rates ; Life Expectancy.

Unit 2: Population and Development with Reference to India

Population, Economy and Environment Linkages- Population, Health, Nutrition, Productivity Nexus, Population and Human Development Issue, Culture and Fertility, Education and Fertility; Demography and Household Economic Behaviour.

Unit 3: Population Policy in India

Evolution of population policy in India – Shift in Policy from Population Control to Family Welfare, to Women Empowerment; Family Planning Strategies and their Outcomes, Reproductive Health, Maternal nutrition and Child Health Policies Population and strategies for Human Development of Different Social Groups, The New Population Policy.

Unit 4:

Demographic Dividend – Concept, State wise dispersion and variation in Demographic dividend in India. State wise and region wise change in policy for reaping Demographic dividend for economic growth.

Basic Reading List:

- Agarwala, S.N. (1972), India’s Population Problem, Tata McGraw Hill Co. Bombay.
- Boss, A. (1996), India’s Basic Demographic, Statistics, B.R. Publishing Corporation, New Delhi.
- Bogue, DJ. (1971), Principles of Demography , John Wiley New York.
- Chenry, H. and T .N. Srinivasm (Eds) (1989), Handbook of Development Economic, Vol. 1 & 2, Elsevier, Amsterdam.
- Mishra, Dr. Jai Prakash, Janankiki, Sahitya Bhawan Publication, Agra.

SEMESTER	IV (Group – C)
PAPER NO	Discipline Specific Elective - IV
PAPER CODE	DSE402
TITLE	Industrial Economics

Unit 1: Organization Form and Structure and Productivity

Organizational forms-Types and choice of form of organization; Business motives-Alternatives types of motives/goals, Evaluation of goals.

Market structure: Seller's Concentration; Product Differentiation; Profitability; Innovation Industrial Productivity- Measurement; Partial and total trends.

Unit 2: Market Conduct and Efficiency

Market conduct- Theories of Product pricing; Investment expenditure-methods of investment expenditure; Theories and empirical evidence on Merger and Acquisition (M&As) and Diversification.

Economic efficiency- Meaning; factors determining efficiency and firm size; limits and obstacles to the size of firm-a synthesis on the size of firm, efficiency and decision making process.

Unit 3: Theories of Industrial Location and Pattern

General determinants of industrial location; Approaches to industrial location analysis: - Alfred Weber's theory; Sergeant Florence's theory of industrial location, Market area theory, Central place theory of Losch; Industrial imbalances-causes and remedies; Need for balanced regional development of industries; Government policy and approach for the development of backward regions in India.

Unit 4: Indian Industrial Growth, Labour and Finance

Industrial policy in India- Role of Public and private sectors; recent trends in Indian industrial growth; policies and program for the development of small scale industries in India.

Industrial labour - Problems, policies and reforms in India; Industrial legislation and social security measures in India.

Sources of finance- choice of funding-external versus internal sources, Institutional finance with special reference to IFCI, ICICI, IDBI; Financial Statement-Balance Sheet; Profit and loss account; Assessment of financial soundness

Basic Reading List:

- Desai, B (1999), Industrial economy of India, Himalaya Publishing House, Mumbai.
- Cherunilam, F. (1994), Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai.
- Hay, D A and Morris D J (1979), Industrial Economics: Theory and Evidence, Oxford University Press, New Delhi.
- Divine, P.J. and R.M. Jones et. al. (1976), An Introduction to Industrial Economics, George Allen and Unwin Ltd., London.
- Government of India, Economic Survey (Annual).
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