

M.A/M.Sc. ECONOMICS FULL SYLLABUS

(Approved by the 68th, 69th, 72nd & 74th Meetings of the Academic Council)

ECO 101 PUBLIC ECONOMICS

Unit I: Market Possibilities and Evaluation of Public Economic Policies (11)

- 1.1 Models for Public Sector Analysis: General Equilibrium Model, Pareto Optimality and Perfect Competition, Second Best Theory, Adjusting the Focus: The Public Choice Approach.
- 1.2 Market Failures, Externalities and Public Policies: Market Failures, Externalities and Efficiency, Public Policies to Internalize the Externalities.
- 1.3 Public Economic Policies: Allocation, Distribution and Stabilization, Conflicts among the Public Economic Policies.

Unit II: Theories of Public Goods, Public Expenditures and Taxation (12)

- 2.1 The Theory of Public Goods: Demand and Production of Public Goods, Partial and General Equilibrium Analysis, Individual Action, Voluntary Cooperation and Efficiency, Local Public Goods, Voting Models of Public Goods.
- 2.2 The Theory of Public Expenditure: Pure Theories of Public Expenditures: Tiebout, Samuelson and Buchanan's Contributions.
- 2.3 Theories of Taxation: Tax Neutrality, Direct versus Indirect Taxes and Equity, Buoyancy and Elasticity Estimates of Taxation, Tax Efforts.

Unit III: Budgeting Fiscal Policies and Income (Re-) Distribution (11)

- 3.1 Program Budgeting: It's Application, Zero-Based Budgeting, Budgeting Policies.
- 3.2 Theory of Fiscal Policy: Fiscal Policy with Special Reference to Under-developed Countries, Federal-Fiscal Relation in India.
- 3.3 Income (re) Distribution: Overview of Income Distribution, Popular Measures of Inequality and Poverty, Redistributive Impact of the Budget, Fiscal Measures and the 'less well off', Limits to redistribution.

Unit IV: Evaluation of Public Investment Projects and International Issues in Public Economics (11)

- 4.1 Project Evaluation: Cost-Benefit Analysis, Measuring Costs, Measuring Benefits, Market Price, Shadow Prices, Discounting and Cost of Capital.
- 4.2 Public Failure and Public Expenditure Growth: Non-market Demand & supply Conditions; A Typology of Non-Market Failure to match Market Failure; Bureaucratic Economics, Measuring the Public Sector, Public Choice and Other Accounts of Wagner Law.
- 4.3 Trade Versus Non-Trade Taxes: An Economic Appraisal, Trade Taxes and Public Choice: Pressure Group Analysis and Rent Seeking, The Harmonization of Indirect Taxes. Current Policy in EC for harmonization of Indirect Taxes – Progress so far.

Basic Reading List

1. Bowers, P.F. (1974). *Private Choice and Public Welfare*, The Dryden Press, New York.
2. Buiter, W.H. (1990). *Principles of Budget and Fiscal Policy*, MIT Press.
3. David, N. and Nicholas, S. (Eds.) (1987). *The Theory of Taxation for Developing Countries*, OUP.
4. Davie, B.F. and Duncombe, B.F. (1970). *Public Finance*, Holt. Rineha and Winstreet, New York.
5. F. Flatters, V. Henderson and P. Mieskowski (1974). Public Goods Efficiency and Fiscal Equalisation, *Journal of Public Economics*, Vol.3, pp.99-112.
6. Hughton, R.C. (ed.). (1975). *Public Finance*, Penguin Publication.
7. Hyman, David, N. (1983). *Public Finance: A Contemporary Application of Theory to Policy*, The Dryden Press, New York.
8. Jha, Raghendra (1987). *Modern Theory of Public Finance*, Wiley Eastern Limited, Delhi.
9. Maxdowell, A. and Anderson, J. Richard (1973), *Financing State and Local Governments*.
10. Musgrave, Richard A. (1959). *The Theory of Public Finance*, Tata McGraw Hill, N.Y.
11. Prest, A.R. (1975). *Public Finance in Theory and Practice*, Weidenfeld and Nicholson, London.
12. Ursula, Hicks (1968). *Public Finance*, James Nisbet and Co., London.

Additional Reading List

1. Duff, L. (1997). *Government and Market*, Orient Longman, New Delhi.
2. Spulber, N. (1998). *Reading the State*, Cambridge University Press, Cambridge.
3. Stiglitz, J.E. (1986). *Economic of Public Sector*, Norton , New York.
4. Friedman, A. (1986). *Welfare Economics and Social Choice Theory*, Martins Nijhoff, Boston.
5. Mishan, E.J. (1987). *Cost-Benefit Analysis: An Informal Introduction*, George Allen and Unwin, London.
6. Srivastav, D.K. (ed.) (2000). *Fiscal Federalism in India*, Har-Anand Publications Ltd., New Delhi.

ECO 102 MACROECONOMIC ANALYSIS-I

Unit-I: National Income and Employment (11)

- 1.1 National Income concepts and accounting methods;
- 1.2 Circular Flow models – two-sector, three-sector and four sector;
- 1.3 Determination of the equilibrium level of income – Classical Keynesianism and the 45° cross, the fiscal models and level of income and employment;
- 1.4 Demand and supply of labour – classical view.

Unit-II: The Consumption Function (11)

- 2.1 The absolute income hypothesis;
- 2.2 Relative income hypothesis; Permanent income hypothesis;
- 2.3 Life-cycle hypothesis; FRB-MIT (Federal Reserve Bank and Massachusetts Institute of Technology) model;
- 2.4 Modern approach - consumption and uncertainty.

Unit-III: The Investment Function (11)

- 3.1 Criteria of investment decisions - present value, internal rate of return, payback period;
- 3.2 Keynesian formulation – long and short-run relationships;
- 3.3 Neo-classical approach to fixed investment;
- 3.4 Kalecki's theory and Eisner's reformulation.

Unit-IV: Monetary Theory (11)

- 4.1 Classical Theory of Money; Say's Law and Walras' Law;
- 4.2 Classical dichotomy and the neutrality of money;
- 4.3 Friedman's Modern Quantity Theory of Money;
- 4.4 Pigou Effect and Real Balance Effect.

Basic Reading List

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*, Macmillan, New York.
2. Branson, W.H. (1989). *Macroeconomic Theory and Policy*, Harper and Row, New York.
3. Dornbusch, Rudiger, Stanley Fischer, and Richard Startz (2000). *Macroeconomics*, Tata McGraw-Hill Publishing Company, New Delhi.
4. Jha, Raghendra (1991). *Contemporary Macroeconomic Theory and Policy*, Wiley Eastern Limited, New Delhi.
5. Laidler, David E.W. (1977). *The Demand for Money: Theories and Evidence*, Harper and Row, New York.
6. Mueller, M.G. (Ed.)(1978). *Readings in Macroeconomics*, Surjeet Publications, New Delhi.
7. Patinkin, D. (1965). *Money, Interest and Prices*, Harper and Row, New York.
8. Shapiro, E. (1996). *Macroeconomic Analysis*, Galgotia Publications, New Delhi.

Additional Reading List

1. Allen, R.G.D. (1968). *Macroeconomic Theory: A Mathematical Approach*, McGraw Hill, Tokyo.
2. Blaug, M. (1978). *Economic Theory in Retrospect*, Cambridge University Press,
3. Dernburg, Thomas F. and Duncan M.McDougall (1983). *Macroeconomics: The Measurement, Analysis, and Control of Aggregate Economic Activity*, McGraw-Hill International Book Company, New Delhi.
4. Duesenberry, J.S. (1949). *Income, Saving and the Theory of Consumer Behaviour*, Harvard University Press, Harvard.
5. Friedman, M. (1957). *The Theory of Consumption Function*, Princeton University Press, Princeton.
6. Gupta, S.B. (1997). *Monetary Economics*, S. Chand and Company, New Delhi.
7. Johnson, D.W. (1976). *Macroeconomics: Money, Prices and Income*, John Wiley, Santa Barbara.
8. Kalecki (1969). *Selected Essays on the Dynamics of the Capitalist Economy*, Augustus M. Kelley, New York.
9. Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money*, Macmillan, London.
10. Weintraub, Sidney (1972). *Classical Keynesianism: Monetary Theory and the Price Level*, Green Wood Press, Connecticut.

ECO 103 MATHEMATICS FOR ECONOMISTS

Unit-I Number System, Set Theory and Function (11)

- 1.1 Number system - Real and Imaginary
- 1.2 Vector and Vector Spaces, Vector and Points
- 1.3 Set Theory: Bounded and Unbounded Sets, linear and metric spaces
- 1.4 Functions: Linear and non-linear trigonometric; convex and concave

Unit-II Matrices : Operations and Applications (12)

- 2.1 Elementary Mathematical Operation with Matrices, Solution of simultaneous equations: Rank of the matrix, matrix inversion.
- 2.2 Linear and orthogonal transformations; Concept of quadratic forms-Eigen roots and Eigen Vectors
- 2.3 Linear Programming — Basic concept; Formulation of a LP problem; Nature of feasible, basic and optimal solutions; Solution of a LP problem through graphical and simplex methods; Statement of basic theorems of Linear Programming; Formulation of the Dual and Its interpretation; Shadow prices and their uses; Concept of duality and statement of duality theorems.
- 2.4 Introduction to Input-Output Analysis: Static – Open and Closed Models.

Unit-III Calculus (11)

- 3.1 Principles of Differentiation: Rules of Differentiation; Differentiation of Implicit Functions; Partial and total differentiation.
- 3.2 Maxima and Minima - unconstrained and constrained
- 3.3 Principles of integration: Indefinite and Definite Integrals; Applications in Economic Theory.

Unit-IV Difference and Differential Equations (11)

- 4.1 Difference Equations: definitions and concepts; Solutions of First order and Second order difference equations.
- 4.2 Differential Equations: definitions and concepts; Solutions of First order and Second order differential equations.
- 4.3 Applications of difference and differential equations in Economics.

Basic Reading List

1. Allen, R.G.D. (1976). *Mathematical Analysis for Economists*, Macmillan.
2. Bez, K. (1983). *An Introduction to Input Output Techniques*, N.B.T., Goel Publishing House, Meerut.
3. Chiang, A.C. (1974). *Fundamental Methods of Mathematical Economics*, McGraw Hill and Kogakusha, New Delhi.
4. Handry, A.T. (1999). *Operation Research*, Prentice Hall of India, New Delhi.
5. Taha, H.A. (1997). *Operation Research: An Introduction* (6th Edn.). Prentice Hall of India Pvt. Ltd., New Delhi.
6. Yamane, T. (1973). *Mathematics for Economists*, Prentice Hall, New Delhi.

Additional Reading List

1. Baumol, W.J. (1977). *Economic Theory and Operations Analysis*, Prentice Hall.
2. Baumol, W.J. (1970). *Economic Dynamics*, Macmillan, London.
3. Hadley, G. (1973). *Linear Algebra*, Addison-Wesley Pub. Co., Tokyo.
4. Hadley, G. (1962). *Linear Programming*, Addison-Wesley Pub. Co., Massachusetts.
5. Kothari, C.R. (1992). *An Introduction to Operation Research*, Vikas Publishing House, New Delhi.
6. Lewis, J.P. (1978). *Introduction to Maths for students of Economics.*, Macmillan, London.
7. Mathur, P.N. and R. Bhardwaj (eds.) (1967). *Economic Analysis in Input-Output Research*. Input-Output Research Association of India, Pune.
8. Mehta & Madnani (1992). *Mathematics for Economists*, S. Chand, New Delhi.
9. Monga, G.S. (1972). *Mathematics and Statistics for Economists*, Vikas Publishing House, New Delhi.
10. Samuelson, P.A. (1967). *Foundations of Economic Analysis*, McGraw Hill, Tokyo.

ECO 104 MICRO-ECONOMIC ANALYSIS-I

Unit-I Consumer Behaviour (12)

- 1.1 Preference Ordering: Violation of the premises of the indifference curves analysis: Axioms and Utility.
- 1.2 Revealed Preference Hypothesis
- 1.3 Recent Developments in the Theory of Market Demand: Constant Elasticity Type Demand Models, Distributed Lag Models of Demand, Linear Expenditure Systems, Lancaster's Model of Consumer Technology.

Unit-II Production and Costs (12)

- 2.1 Production Function: Concepts of Elasticity of Production, Elasticity of Substitution, Isoquant, Isoclines, Ridge Line
- 2.2 Homogeneity and Homotheticity
- 2.3 Cobb-Douglas, CES, VES and Translog production functions and their properties.
- 2.4 Traditional and modern theories of Costs – Empirical Evidences: Derivation of Cost Functions from Production Functions

Unit-III Theory of Firm (11)

- 3.1 Non-Collusive Oligopolistic Models of Cournot, Bertrand, Stackelberg, Chamberlin and Sweezy (Kinked Demand Curve)
- 3.2 Collusive Models of Oligopoly
- 3.3 Elements of Games Theory: Definitions; Concept of a game; Strategies – Simple & mixed; Value of a game; Saddle point solution; simple applications.

Unit 4 Economics of Uncertainty (11)

- 4.1 Individual behavior towards risk, expected utility and uncertainty equivalence approaches
- 4.2 Risk and risk aversion – sensitivity analysis, gambling and insurance, the economics of insurance, cost and risk, risk pooling and risk spreading, mean-variance analysis and portfolio selection
- 4.3 The efficient market hypothesis; Market with incomplete information, search and transaction costs, the economics of information.

Basic Reading List

1. Borch, K.H. (1968). *The Economics of Uncertainty*, Princeton University Press, Princeton.
2. Deaton, A. and Muelbauer, J. (1980). *Economics and Consumer Behaviour*, Cambridge University Press.
3. Diamond and Rothschild (Eds.) (1978). *Uncertainty in Economics*, Academic Press, New York.
4. Henderson, J. and Quandt, R.A. (1984). *Microeconomic Theory*, McGraw-Hill, Tokyo.
5. Johansen, L. (1972). *Production Functions*, North Holland, London.
6. Koutsoyiannis, A. (1980). *Microeconomic Theory*, MacMillan.
7. Lancaster, K. (1972). *Consumer Demand: A New Approach*, Columbia University Press, New York.
8. Layard, P.R.G. and Walters, A.A. (1978). *Microeconomic Theory*, McGraw Hill, New York.
9. Shepherd, R.W. (1970). *Theory of Cost and Production Functions*, Princeton University Press, N.J.
10. Varian, H. (2000). *Intermediate Microeconomics: A Modern Approach* (5th Edn.). Affiliated East-West Press Pvt. Ltd.

Additional Reading List

1. Arrow, K.J. and M.D. Intriligator (eds.) (1981). *Handbook of Mathematical Economics*, Vol.I, North Holland, Amsterdam.
2. Baumol, W.J. (1985). *Economic Theory and Operations Analysis*, Prentice Hall.
3. Debreu, G. (1959). *Theory of Value*, John Wiley, New York.
4. Ferguson, C.E. (1969). *The Neo-Classical Theory of Production and Distribution*, Cambridge University Press, 1969, Chs. 1-6.
5. Gravelle, H. and Rees, R. (1981). *Microeconomics*, Longman, London.
6. Green, H.A.J. (1976). *Consumer Theory*, MacMillan, London.
7. Sen, A. (1999). *Microeconomics: Theory and Applications*, Oxford University Press, New Delhi.
8. Varian, H. (2000). *Microeconomic Analysis*, W.W. Norton, New York.

ECO 201 MACROECONOMIC ANALYSIS-II

Unit-I: The Demand and Supply of Money (11)

- 1.1 The supply of money – Measures of money supply;
- 1.2 Money Multiplier theory, determinants of money supply;
- 1.3 The demand for money - approach of Baumol
- 1.4 The demand for money – approach of Tobin.

Unit-II: Inflation and Macroeconomics of an Open Economy (11)

- 2.1 Inflation - Nature, Theories and Types;
- 2.2 Inflation and Unemployment - Philips Curve Analysis; Factor and Goods Markets – “full” inflation;
- 2.3 The IS-LM Analysis of an open Economy; Foreign Trade Multiplier;
- 2.4 Mundell-Fleming model – the asset market, expectations and the exchange rate.

Unit-III: Cyclical Fluctuations in the Economy (11)

- 3.1 Characteristics of change and movements;
- 3.2 The Accelerator and Multiplier Principles and their Interactions - Business Cycle Models;
- 3.3 The Samuelson model; the Hicksian model;
- 3.4 The Goodwin, Kaldor, Schumpeter and Cob-Web models.

Unit-IV: Modern Theories of Income Distribution (11)

- 4.1 Kalecki’s Model
- 4.2 Cartters Model
- 4.3 Kaldor’s Saving-Investment Model
- 4.4 Weintraub’s Model.

Basic Reading List

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*, Macmillan, New York.
2. Bober, S. (1971). *Economics of Cycles and Growth*, Wiley Eastern, New Delhi.
3. Branson, W.H. (1988). *Macroeconomic Theory and Policy*, Universal Book Stall, New Delhi.
4. Levacic, R. and A. Rebman (1982). *Macroeconomics*, Macmillan, London.
5. Mueller, M.G. (ed.) (1977). *Readings in Macroeconomics*, Wiley and Sons, New York.
6. Ott, D., Ott, P, and Yoo, S. (1975). *Macroeconomic Theory*, McGraw Hill, New York.
7. Patinkin, D. (1965). *Money, Interest and Prices*, Harper and Row, New York.

Additional Reading List

1. Allen, R.G.D. (1968). *Macroeconomic Theory: A Mathematical Approach*, Macmillan, London.
2. Ball, R.J. and Peter Doyle (1972). *Inflation: Selected Readings*, Penguin Books Ltd., Harmondsworth, England.
3. Baumol, W.J. (1970). *Economic Dynamics*, Macmillan, New York.
4. Blanchard, O.J. and Stanley Fischer (1996). *Lectures on Macroeconomics*, Prentice-Hall of India Pvt. Ltd., New Delhi.
5. Culbertson, J.M. (1971). *Macroeconomic Theory and Stabilization Policy*, McGraw Hill, London.
6. Friedman, M. (Ed)(1956). *Studies in Quantity Theory of Money*, The University of Chicago Press, Chicago.
7. Frisch, H. (1983). *Theories of Inflation*, Cambridge University Press, Cambridge.
8. Gupta, S.B. (1997). *Monetary Economics*, S. Chand and Company, New Delhi.
9. Makinon, G. E. (1980). *Money, the Price Level and Interest Rates*, Prentice Hall, New Delhi.
10. Rana, K.C. and K.N. Verma (1998). *Macroeconomic Analysis*, Vishal Publications, Jalandhar.
11. Samuelson, P.A. (1966). *The Collected Scientific Papers of Paul A. Samuelson*, Oxford and IBH Publishing Company, New Delhi.

ECO 202 MICROECONOMIC ANALYSIS-II

Unit-I: Alternative Theories of the Firm (12)

- 1.1 Baumol's Theory of sales revenue maximisation-Static and Dynamic models.
- 1.2 Marris' model of Managerial Enterprise; Williamson's model of Managerial Discretion.
- 1.3 Behavioural Theory of the Firm-Model of Cyert and March; Hall and Hitch Full Cost Pricing Principle.
- 1.4 Limit Pricing Principle: Contributions of Bains, Sylos-Labini, Modigliani and Bhagwati.

Unit-II: Welfare Economics (12)

- 2.1 Growth of GNP and Welfare. Criteria of Welfare Maximisation. Cardinalists Criterion, Bentham's Criterion.
- 2.2 Pareto Optimality Criteria; Compensation Principle.
- 2.3 Social Welfare Function – Properties and Limitations: Theory of Second Best.
- 2.4 Arrow's Impossibility Theorem; Sen's Proof of this Theorem: Rawls' Contributions.

Unit-III: The Theory of General Equilibrium (12)

- 3.1 Walras model-Properties. Problem of Existence, Uniqueness and Stability of Equilibrium.
- 3.2 Excess Demand Function Approach to General Equilibrium Analysis. Fixed Point Theorem and the Existence of the Solution.
- 3.3 Modern Approach: Input-Output and Linear Programming Model of General Equilibrium. Determination of Output and Price (only Static Open Models).

Unit-IV: Input Markets (11)

- 4.1 Demand and Supply of Inputs: Firm's and Industry's Input Demand Curves.
- 4.2 Monopsony and Monopoly in Input Markets; Unions as Monopolists; Bilateral Monopoly.
- 4.3 Choice of Optimal Combination of Inputs
- 4.4 The 'Adding-Up Problem'; 'Product Exhaustion' Theorems – Euler's and Clark-Wicksteed-Walras Theorems.

Basic Reading List

1. Cyert, R.M. and R. March. (1963). *A Behaviourial Theory of the Firm*, Prentice Hall, Englewood Cliffs, N.J.
2. Graff, J. Dev. (1957). *Theoretical Welfare Economics*, Cambridge University Press, New York.
3. Henderson and Quandt (1980). *Microeconomic Theory: A Mathematical Approach*, McGraw Hill, New Delhi.
4. Intriligator, M.D. (1971), *Mathematical Optimization and Economic Theory*, Prentice Hall, Englewood Cliffs.
5. Koutsoyannis, A. (1979). *Modern Microeconomics*. 2nd ed. Macmillan Press, London.
6. Layard, P.R.G. and Walters, A.A. (1978). *Microeconomic Theory*, McGraw Hill, New York.
7. Little, I.M.D. (1957). *Critique of Welfare Economics* (2nd edition), Oxford University Press, Oxford.
8. Mathur, P.N. and Bharadwaj, R. (eds.) (1967). *Economic Analysis in the Input-Output Research*. Input-Output Research Association of India, Pune.
9. Sen, A. (1999). *Microeconomics: Theory and Applications*, Oxford University Press, New Delhi.

Additional Reading List

1. Baumol, W.J. (2000). *Economic Theory and Operations Analysis* (18th edition), Prentice Hall of India Pvt. Ltd., New Delhi.
2. Stigler, G. (1996). *Theory of Price* (4th Edition), Prentice Hall of India, New Delhi.
3. Varian, H. (2000). *Microeconomic Analysis*, W.W. Norton, New York.

N.B.: The Reading Lists provided for Paper I may also be consulted for this Paper wherever relevant.

203 STATISTICAL ANALYSIS

Unit-I: Theory of Statistics: Probability and Distribution (14)

- 1.1 Statistics -nature and scope. Types of Statistics-descriptive and inferential
- 1.2 Probability theory - different concepts and approaches, Laws and Axioms of Probability, conditional probability and concept of Interdependence, Baye's theorem and its applications.
- 1.3 Concept of random variable: probability, mass and density functions; Expectations, moments and moment generating functions
- 1.4 Probability distributions: Binomial, Poisson, and Normal.

Unit-II: Correlation and Regression (10)

- 2.1 Simple correlations and regression analysis; Pearson's Product Moment Formula and Spearman's Rank Correlations.
- 2.2 Concept of least squares and lines of regression; Standard Error of estimate
- 2.3 Partial and Multiple Correlations, Coefficient of determination

Unit-III: Estimations of Special Functions and Sampling Theory (10)

- 3.1 Methods of Estimation Non-linear equations linear in transformation
- 3.2 Estimation of parabolic, exponential, geometric, modified exponential, Gompertz and Logistic relationships
- 3.3 Basic concepts of sampling and types of sampling.

Unit-IV: Theory of Estimation and Hypothesis Testing (10)

- 4.1 Concept of an estimator and its sampling distributions
- 4.2 Properties of good estimator
- 4.3 Formulation of statistical Hypotheses-Null and Alternative
- 4.4 Goodness of fit; confidence interval and level of significance, Hypothesis testing based on Z, t, F, and chi-square tests; Errors of types II and I.

Basic Reading List

1. Chou Y. (1975). *Statistical Analysis*, Holt, Reinhart, Winston, New York.
2. Croxton, Crowden and Klein (1971). *Applied General Statistics*, Prentice Hall of India, New Delhi.
3. Goon, A. M., M. K. Gupta and B. Dasgupta (1993). *Fundamentals of Statistics Vol. I*, The World Press, Calcutta.
4. Hoel, P.G. (1954). *Introduction to Mathematical Statistics*, Wiley and Sons
5. Hogg, R. V. and A. T. Craig (1970). *Introduction to Mathematical Statistics*, Macmillan Publishing Co., New York.
6. Miller, J. (1996). *Statistics for Advance Level*, Cambridge University press, Cambridge.
7. Rao, C.R. (1965). *Linear Statistical Inference and Applications*, Wiley and Sons.
8. Sukhatme, P. V. and B. V. Sukhatme (1970). *Sampling Theory of Survey with Applications*, Iowa State University Press, Ames.
9. Wallis, W.A. (1956). *Statistics - A New Approach*, The Free Press, Illinois.

Additional Reading List

1. Johnson, R.A. and D.W. Wichern (1996). *Applied Multivariate Statistical Analysis*, Prentice Hall of India Private Limited, New Delhi.
2. Medhi, J. (1992). *Statistical Methods: An Introductory Text*, Wiley Eastern Limited, New Delhi.
3. Nagar, A.L. and R.K. Das (1993). *Basic Statistics*, Oxford University Press, New Delhi.

ECO 204 ECONOMICS OF GROWTH AND DEVELOPMENT

Unit-I: Growth and Inequality (12)

- 1.1 Economic growth and development — Concepts and approaches, Characteristics of underdevelopment, Constraints of economic development.
- 1.2 Measurement of economic growth and development — Income, welfare and social indicators (PQLI and HDI).
- 1.3 Modern concept of economic growth, Factors affecting economic growth — Capital, labor and technology.
- 1.4 Income distribution in developing countries, Per capita income and human development in developing countries.

Unit-II: Growth Models (12)

- 2.1 Growth models — Harrod and Domar, Instability of equilibrium, Neo-Classical growth models — Solow's model of long-run growth, Growth models of Meade and Mrs. Joan Robinson.
- 2.2 Technological progress — Neutral and non-neutral technical change — Hicks and Harrod, Embodied and disembodied technical progress.
- 2.3 Production function approach to economic growth, Growth models of Kaldor and Passinetti, Feldman model.
- 2.4 Growth models in Indian Five Year Plans — Harrod-Domar model, Mahalonobis Two Sector and Four Sector models, etc.

Unit-III: Theories of Development (11)

- 3.1 Dualism — Social, technical and financial dualism
- 3.2 Lewis model of economic development, Ranis and Fei model, Jorgenson's model, Criticism.
- 3.3 Balanced and unbalanced growth, Linkage effect — Hirschman and Nurkse, Rosenstein Rodan's Big- Push theory, The theory of Backwash and Spread effect.
- 3.4 Stage theories of development — Marx and Rostow.

Unit-IV: Techniques and Problems of Development Planning (11)

- 4.1 Planning techniques — Input-output analysis, Linear programming, Choice of technique.
- 4.2 Allocation of resources — Need for investment criteria in developing countries, Present Vs future, Alternative investment criteria — Capital turnover criterion, SMP criterion, Reinvestment criterion and Time series criterion.
- 4.3 Cost Benefit Analysis, Shadow prices, Project evaluation and UNIDO guidelines.
- 4.4 Economic development in India — Planning strategy and pattern of investment.

Basic Reading List

1. Adelman, I. (1961). *Theories of Economic Growth and Development*, Stanford University Press, Stanford.
2. Behrman, S. And T.N.Srinivasan (1995). *Handbook of Development Economics*, Vol.3, Elsevier, Amsterdam.
3. Ghatak, S. (1986). *An Introduction to Development Economics*, Allen and Unwin, London.
4. Higgins, B. (1959). *Economic Development*, W.W.Norton, New York.
5. Meir, G.M. (1995). *Leading Issues in Economic Development*, (6th Edition). Oxford University Press, New Delhi.
6. Thirwall, A.P. (1999). *Growth and Development*, (6th Edition). Macmillan, U.K.
7. Todaro, M.P. (1996). *Economic Development*, (6th Edition). Longman, London.

Additional Reading List

1. Chakravarti, S. (1987). *Development Planning: The Indian Experience*, Clarendon Press, Oxford.
2. Dasgupta, P., A.K. Sen and S. Maglin (1972). *Guidelines for Project Evaluation*, UNIDO, Viena.
3. Hayami, Y. (1997). *Development Economics*, Oxford University Press, New York.
4. Mishan, E.J. (1975). *Cost Benefit Analysis*, (2nd Edition). Allen and Unwin, London.
5. Ray, Debraj (1998). *Development Economics*, Oxford University Press, Delhi.
6. Sen, A.K. (Ed.) (1990). *Growth Economics*, Penguin, Harmondsworth.
7. Todaro, M.P. (1971). *Development Planning: Models and Methods*, Oxford University Press, Oxford.
8. United Nations (1994). *Human Development Report*, United Nations, New York.

ECO 301 INTERNATIONAL TRADE

Unit-I: Pure Theory of International Trade

(11)

- 1.1 Supply and Demand in International Trade - Gains from trade under constant and increasing opportunity costs; Individual and community indifference curves, equilibrium demand and supply.
- 1.2 Mill's Theory of Reciprocal Demand; Marshall's Theory of Offer Curves – elasticity of offer curve.
- 1.3 Neo-Classical Model of International Trade - Heckscher-Ohlin Theorem and Theory of Comparative Advantage.
- 1.4 Modern Theories of International Trade - Vent-for-Surplus Approach, Availability Approach (I.B.Kravis). Monopolistic Competition and Trade, Increasing Returns to Scale and Trade, other technological explanations.

Unit-II: Trade Effects and the Foreign Exchange Market

(11)

- 2.1 Trade and factor prices - Factor-price equalization; Factor price and complete specialization.
- 2.2 Trade and Income Distribution; Trade and factor intensity reversals; The Leontief Paradox;
- 2.3 Trade and National Income; The import function, equilibrium level of national income, trade multiplier; Aim-means method of achieving equilibrium.
- 2.4 The Foreign Exchange Market - Demand for, and Supply of, Foreign exchange; Foreign Exchange Markets - spot and forward markets, premiums and discounts, hedging, interest arbitrage, speculation.

Unit-III: The Balance of Payments and the Exchange Rate

(11)

- 3.1 The Balance of Payment Account - Balance of Payment equilibrium and disequilibrium in the Balance of payments; Surplus and deficit in the Balance of Payments.
- 3.2 Adjustment Mechanism in the Balance of Payments – Direct and Indirect mechanisms.
- 3.3 The Gold Standard - definition, mechanism, advantages and disadvantages, operation and collapse; Pegged Exchange rates.
- 3.4 Flexible Exchange Rates - case for and against; Fixed Exchange Rates - case for and against; Other effects.

Unit-IV: Growth, Trade and Instruments of Protection

(12)

- 4.1 Trade and Increase in Factor Endowments - The Rybzyński Theorem.
- 4.2 Trade and Technical Progress - Neutral, Capital-saving, and Labour-saving Technical Progress.
- 4.3 Theory of Tariffs - Stolper-Samuelson Theorem, measurement of the optimum tariff; Quotas and Quantitative Restrictions; State Trading Monopolies - Forms and objectives, merits and demerits.
- 4.4 Theory of Customs Unions - Trade creation and diversion, production and consumption effects, other dynamic effects of Customs Unions.

Basic Reading List

1. Bhagwati, J. (Ed.) (1981). *International Trade: Selected Readings*, Cambridge University Press, Massachusetts.
2. Chacholiades, Miltiades (1990). *The Pure Theory of International Trade*, McGraw Hill, Kogakusha, Japan.
3. Heller, H. Robert (1988). *International Trade: Theory and Empirical Evidence*, Prentice-Hall of India Pvt. Ltd., New Delhi
4. Kenen, Peter B. (1989). *The International Economy*, Prentice-Hall of India Pvt. Ltd., New Delhi.
5. Kindleberger, C.P. (1977). *International Economics*, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay.
6. Meade, James Edward (1952). *A Geometry of International Trade*, George Allen and Unwin Ltd., London.
7. Roy, P.N. (1986). *International Trade: Theory and Practice*, Wiley Eastern Ltd., New Delhi.
8. Sodersten, Bo (1991). *International Economics*, The Macmillan Press Ltd., London.

Additional Reading List

1. Batra, Raveendra N. (1975). *The Pure Theory of International Trade under Uncertainty*, The Macmillan Press Ltd., London.
2. Carbough, R.J. (1999). *International Economics*, International Thompson Publishing, New York.
3. Cherunilam, Francis (1988). *International Economics*, Tata McGraw-Hill Publishing Co. Ltd., New Delhi.
4. Dana, M.S. (2000). *International Economics: Study, Guide and Work Book*, Routledge Publishers, London.
5. Dunn, R.M. and J.H.Mutti (2000). *International Economics*, Routledge Publishers, London.
6. Ellsworth, P.T. and J.C.Leith (1975). *The International Economy*, The Macmillan Company, New York.
7. Haberler, G. (1937). *The Theory of International Trade*, Macmillan & Co. Ltd., London.
8. Heller, H. Robert (1968). *International Monetary Economics*, Prentice-Hall of India Pvt. Ltd., New Delhi.
9. Johnson, H.G. (1967). *International Trade and Economic Growth*, Harvard University Press, Cambridge.
10. Kemp, K.C. (1964). *The Pure Theory of International Trade*, Prentice Hall, New Jersey.
11. Neihans, J. (1984). *International Monetary Economics*, John Hopkins University Press, Baltimore.
12. Salvatore, D. (1997). *International Economics*, Prentice Hall, New York.

ECO 302 ECONOMICS OF ENVIRONMENT & SOCIAL SECTOR-I

Unit-I: Basic Environmental Issues **(11)**

- 1.1 Environment and ecology, linkages between ecology, environment and economic systems
- 1.2 Material balance approach, environment-development trade-offs
- 1.3 Uncertainty, irreversibility, inter-temporal efficiency, inter-generational equity
- 1.4 Sustainable development — concepts and indicators; sustainable accountings, environmental Kuznets curve.

Unit-II: Welfare Economics, Social Sectors and Environment **(12)**

- 2.1 Pareto optimality and competitive equilibrium
- 2.2 Theories of externality and public goods: Pigou and Coase, Property rights and transaction costs, market failures and corrective actions, prices vs. quantities
- 2.3 Optimal provision of public goods — Lindahl's equilibrium; common property resources

Unit-III: Environmental Valuation **(11)**

- 3.1 Environmental valuation; Environmental damages/benefits, social cost benefit analysis
- 3.2 Use values, option values and non-use values — total economic value
- 3.3 Valuation techniques; production based, contingent valuation, hedonic-pricing, travel cost method, risk assessment, environmental impact assessment.

Unit-IV: Economics of Resource Management and Sustainable Development **(11)**

- 4.1 Theories of optimal use of exhaustible and renewable resources
- 4.2 Integrated environmental and Economic accounting and the measurement of environmentally corrected GDP.
- 4.3 Energy and Environment – Resource Scarcity, Pricing of Resources.

Basic Reading List

1. Baumol, W.J. and W.E. Oates (1988). *The Theory of Environmental Policy* (2nd Edition). Cambridge University Press, Cambridge.
2. Fisher, A.C. (1981). *Resource and Environmental Economics*, Cambridge University Press, Cambridge.
3. Hanley N., J.F. Shogren and B. White (1997). *Environmental Economics in Theory and Practice*, Macmillan.
4. Kolstad, C.D. (1999). *Environmental Economics*, Oxford University Press, New Delhi.
5. Pearce, D.W. and R. Turner (1991). *Economics of Natural Resource Use and Environment*, John Hopkins Press, Baltimore.
6. Tietenberg, T. (1994). *Environmental Economics and Policy*, Harper Collins, New York.

Additional Reading List

1. Coase, R. (1960). "The Problem of Social Cost", *Journal of Law and Economics*, October.
2. Dorfman and Dorfman (1977). *Economics of the Environment*, 2nd Edn. W.W. Norton, New York.
3. Freeman A. Myrick III (1979). *The Benefits of Environmental Improvement*, Johns Hopkins University Press, Baltimore.
4. Gibbons, R. (1992). *Game Theory for Applied Economists*, Princeton University Press.
5. Kanemoto, Y. (1988). "Hedonic Price and the Benefits of Public Projects", *Econometrica*, 56, 981-989.
6. Kelly, D.L. (1997). "On Kuznets Curves Arising from Stock Externalities", Dept. of Economics Working Paper, University of California, Santa Barbara, Oct.
7. Kreps, D.M. (1990). *A Course in Microeconomic Theory*, Princeton University Press, Princeton, N.J.
8. Laffont, J. and J. Laffont (1977). "More on Prices vs. Quantities", *Review of Economic Studies*, 44: 177-186.
9. Pigou, A.C. (1962). *The Economics of Welfare*, 4th Edn., Macmillan, London.
10. Shafik, N. (1994). *Economic Development and Environmental Quality: An Econometric Analysis*, Oxford Economic Papers, 46: 757-773.
11. Shafik, N. and S. Bandyopadhyay (1992). *Economic Growth and Environmental Quality: Time Series and Cross-Country Evidence*, Policy Research Working Paper WPS 904, The World Bank, Washington DC.
12. Shankar, U. (Ed.) (2001). *Environmental Economics*, Oxford University Press, New Delhi.

ECO 401 ECONOMICS OF ENVIRONMENT & SOCIAL SECTOR-II

Unit-I: Environmental Problems (11)

- 1.1 Environmental trends in developed and developing countries
- 1.2 Environmental pollution: Air & Water
- 1.3 Land use: Deforestation, urbanization and their impact on Environment
- 1.4 Environmental Costs of Economic Growth, Limits to Growth

Unit-II: Environment and Natural Resource Problem in India (11)

- 2.1 Population, poverty and the environment; with a special reference to North-East India.
- 2.2 Environmental resources of North – East India - land, forest, water, mineral and the climate – Economic backwardness with rich environmental resource base.
- 2.3 People's participation in the management of commons and forest trade; the institution of joint forest management, social forestry- rationale and benefits.

Unit-III: Economics of Education (11)

- 3.1 Human capital Vs. physical capital, components of human capital. Education and economic growth. Expenditure on education private costs and social costs.
- 3.2 Demand for education – Private demand and Social demand. Cost of Education – Expenditure on Education, Private and Social Costs.
- 3.3 Direct and indirect benefits, private and social benefits of education – cost benefit analysis; production function models.

Unit-IV: Economics of Health

- 4.1 Health dimension of development; Determinants of health – Poverty & Malnutrition.
- 4.2 Economic dimension of health care – demand and supply of health care.
- 4.3 Theory of Production of health care; inequalities in health – class & gender perspectives.

Basic Reading List

1. Berman, P. (Ed) (1995). *Health Sector Reform in Developing Countries: Making Health Development Sustainable*, Boston: Harvard series on population and International Health.
2. Blaug, M. (1972). *Introduction to Economics of Education*, Penguin, London.
3. Cohen, E. and T. Gaske (1989). *Economics of Education*, Pergamoun Press, London.
4. Fisher, A.C (1981). *Resource and Environmental Economics*, Cambridge University Press, Cambridge.
5. Hanley, N., J.F. Shogern and B. White (1997). *Environmental Economics in Theory and Practice*, Macmillan.
6. Jeroon, C.J.M., Vamden Bersh (1999). *Handbook of Environmental and Resource Economics*, Edward Elgar Publishing Ltd, UK.
7. Klarman, H.E. (1965). *The Economics of Health*, Columbia University Press, New York.
8. Mc Mohan (1999). *Education and Development : Measuring the Social Benefits*, Oxford University Press, Oxford.
9. Pearce and Turner (1991). *Economics of Natural Resource and Environment*, John Hopkins Press, Baltimore.
10. Perman, R., Y. Ma and Mc Gilvary (1996). *Natural Resource and Environmental Economics*, Logman, London.
11. Tilak, J.B.G. (1994). *Education for Development in Asia*, Sage Publications, New Delhi.
12. Vaizoy (1962). *Economics of Education*, Faber and Faber, London.
13. Woodhall, M. (1992). *Cost Benefit Analysis in Educational Planning*, UNESCO, Paris.
14. World Bank (1993). *The World Development Report, 1993: Investing in Health*, O.U.P., New York.

Additional Reading List

1. Becker, G.S. (1974). *Human Capital* (2nd Edn.). National Bureau of Economic Research, New York.
2. Boland, J.M. and J.P. Plateau (1994). *Halting Degradation of Natural Resources: Is there a Role of Rural Communities*, Oxford University Press, Oxford.
3. Crones, R. and T. Sandler (1989). *The Theory of Externalities and Public Goods*, C.U.P., Cambridge.
4. Dasgupta and Maler (Ed.) (1997). *Environment and Emerging Development Issues*, C.U.P., Cambridge.
5. Dasgupta, P. (1982). *The Control of Resources*, Cambridge University Press, Cambridge.
6. Dasgupta, P.S. and G.M. Heal (1995). *Economic Theory and Exhaustible Resources*, C.U.P., Cambridge.
7. Larsen, B. and A. Shaw (1994). *Global Tradable Carbon Permits, Participation Incentives and Transfers*, Oxford Economic Papers, Vol.46.
8. Mehta, Mundle and U. Sankar (1995). *Controlling Pollution: Incentives and Regulation*, SAGE, New Delhi.
9. Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Actions*, C.U.P.
10. Panchamukhi, P.R. (1980). "Economics of Health: A Trend Report" in ICSSR, *A Survey of Research in Economics*, Vol.VI, Infrastructure, Allied, Delhi.
11. Schultz, T.W. (1971). *Investment in Human Capital*, Free Press, New York.

Unit-I: Economic Development and its determinants (11)

- 1.1 Approaches to Development and its measurement – sustainable development, Role of State, market and other institutions.
- 1.2 Indicators of development, PQLI, HDI and gender development indices
- 1.3 Planning in India: Failures and achievements of plans; grass-root organization Structural
- 1.4 Price Policy and Inflation.

Unit-II: Demographic features, poverty and inequality (11)

- 2.1 Structural Changes in the Indian Economy, regional imbalances.
- 2.2 Demographic features of Indian population and its implications to land relations
- 2.3 Poverty and inequality: measurement, temporal change; inequalities across regions and social groups.
- 2.4 Social infrastructure: education and Health

Unit-III: Agriculture and Industry (11)

- 3.1 Institutional structure of agriculture: landholding and land reforms, pricing of agricultural inputs and outputs.
- 3.2 Terms of trade between agriculture and industry; agricultural finance policy; Food security
- 3.3 Industrial policy, public sector enterprises and their performance, privatization and disinvestments debate;
- 3.1 Growth and pattern of industrialization; issues in labour market reforms, employment generation

Unit-IV Reforms in Indian Economy (11)

- 4.1 Financial sector reforms: interest rate policy and monetary policy
- 4.2 Structure and direction of foreign trade, balance of payments
- 4.3 Exim policy and FEMA; Exchange rate policy
- 4.4 Foreign capital and MNCs in India, Trade reforms.

Basic Reading List

1. Ahluwalia, I. J. and IMD Little (Eds.) (1998). *India's Economic Reforms and Development*, Oxford University Press, New Delhi.
2. Bardhan, P. K. (1999). *Political Economy of Development in India*, Oxford University Press, New Delhi.
3. Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (2001). *Development Experience in The Indian Economy: Inter-State Perspectives*, Bookwell, Delhi.
4. Chakravarty, S. (1987). *Development Planning: The Indian Experience*, Oxford University Press, New Delhi.
5. Dantwala, M.L. (1996). *Dilemmas of Growth: The Indian Experience*, Sage Publications, New Delhi.
6. Government of India (1993). Report of the Expert Group on Estimation of Proportion and Number of Poor, Planning Commission, Perspective Planning Division, New Delhi.
7. Government of India, *Economic Survey (Annual issues)*. Ministry of Finance, New Delhi.
8. Jalan, B. (1996). *Indian Economic Policy — Preparing for the Twenty First Century*, Viking, New Delhi.
9. Joshi, V. and I.M.D. Little (1999). *India: Macro Economics and Political Economy, 1964-1991*, Oxford University Press, New Delhi.
10. Parikh, K.S. (1999). *India Development Report — 1999-2000*, Oxford University Press, New Delhi.
11. Reserve Bank of India, *Report on Currency and Finance*, (Annual).
12. Sandesara, J. C. (1992). *Industrial Policy and Planning, 1947-91: Tendencies, Interpretation and Issues*, Sage Publication, New Delhi.

Additional Reading List

1. Dubey, A. and S. Gangopadhyay (1998). Counting the Poor: Where are the Poor in India, *Sarvekshana: Analytical Report, No. 1*, February.
2. Government of India (1979). Report of the Task Force on Projections of Minimum Needs and Effective Consumption Demand, Planning Commission, Perspective Planning Division, New Delhi.
3. ILO (1999): *Key Indicators of the Labour Market*, International Labour Organization, Geneva.
4. Ravallion, M. (1994): *Poverty Comparisons*, Harwood. Academic Press.
5. Ray, D. (1998). *Development Economics*, New Delhi Oxford University Press.
6. Srinivasan, T. N. and H. B. Chenery (1987). *Handbook of Development Economics: Vol. I and II*, North-Holland Publications, Amsterdam.

ECO 3001 INDUSTRIAL ECONOMICS-I

Unit I: Introduction and Firm's Behaviour (11)

- 1.1 Introduction and scope of Industrial Economics
- 1.2 Types and choice of organizational firm – ownership and control. Passive and active behaviour of firm.
- 1.3 The firm and its objectives - Non profit maximizing models
- 1.4 Cost theory and optimum size of a firm

Unit II: Market and Industrial Efficiency (11)

- 2.1 Market structure and market conduct, Product differentiation and Advertisement
- 2.2 Market concentration, its measurement and effects on market Performance
- 2.3 Diversification, Integration and Merger
- 2.4 Industrial Efficiency: concept, determinants, measurement and decision making process

Unit III: Investment Decisions and Industrial Financing (11)

- 3.1 Investment decisions: Time profile and project evaluation
- 3.2 Social cost benefit analysis, balancing private and social returns
- 3.3 Industrial finance and accounting: owned, external and other components of funds, Financial statements – Balance sheet; Profit & Loss Account
- 3.4 Analysis of financial ratios and their relationships: assessment of financial soundness.

Unit IV: Theories of Firms and Industrial Locational Analysis (11)

- 4.1 Determinants of profitability and pricing decisions: Product pricing
- 4.2 Research & Development and Innovation
- 4.3 Theories of growth of firm: Constrained on growth.
- 4.4 Industrial location Analysis: determinants of Industrial location, Theories of Industrial location factors affecting location.

Basic Reading List

1. Bain, J.E. (1959). *Industrial Organization*, Wiley and sons, New York.
2. Barthwal, R.R. (1996). *Industrial Economics: An Introduction Text Book*, VIth ed., New age International (P) Ltd., New Delhi.
3. Hay, A.D. and Morris Derek J. (1991). *Industrial Economics and Organisation: Theory and Evidence*, Oxford University Press.
4. Smith, D.M. (1971). *Industrial location: an Economic and Geographic Analysis*, John Wiley, New York.
5. Divine, P.J. and R.M. Jones *et al.* (1976). *An Introduction to Industrial Economics*, George Allen and Unwin Ltd., London.

Additional Reading List

1. Clarkson, K.W. and R. Millar (1985). *Industrial Organisation: Theory, Evidence and Public Policy*, McGraw-Hill, Kogakusha, Tokyo.
2. Cyret, R.M. and J.G. March (1963). *Behavioral Theory of the Firm*, Engelwood cliffs.
3. Ghosh, P.K. (1977). *Government and Industry*, Oxford University Press, Delhi.
4. Hennah, L. and J. Kay (1977). *Concentration of Modern Industry*, Macmillan, London.
5. Israd, W. (1956). *Location and Space Economy*, John Wiley, New York.
6. Koutosyiannis, A. (1979). *Modern Microeconomics*, Macmillan, New York.
7. Shepherd, W.G. (1979). *Economics of Industrial Organisation*, Prentice Hall.

ECO 3002 LABOUR ECONOMICS-I

Unit-I: Labour in the Economy and the Labour Economic Theory (11)

- 1.1 The Labour Force: Labour Supply – Measuring the Labour Force, the Workers Preferences, the Time and Budget Constraints, the Hours of Work Decision, Welfare Programs and Work Incentives, Labour Supply of Women.
- 1.2 Labour Demand: Production and Profit Functions, Derivation of Labour Demand function, Profit Function (Lav and Yotopoulos); Long Run Demand Curve for Labour, Adjustment Costs and Labour Demand.
- 1.3 Labour Market Equilibrium: Equilibrium in a Single Competitive Labour Market, Competitive Equilibrium Across Labour Markets, the Impact of Minimum Wages, Non-Competitive Labour Markets, Wages and Employment in the Public Sector.

Unit-II: Economic Problem: Wages, Employment and Collective Bargaining (11)

- 2.1 Theory of Wages: Marginal Productivity Theory, Institutional Economics and Wage Determinant, Dual Labour Market Theory, Wage Differentials, Compensating Wage Differentials and the Hedonic Wage Function.
- 2.2 Employment: Wage Rates and Unemployment, Machinery and Unemployment, Taxes and Unemployment, Wage Policy and the Business Cycle, Reducing Unemployment: Public Policies.
- 2.3 Collective Bargaining: The Economic Sanctions of Collective Bargaining, Bargaining Power in Collective Bargains, Counteracting Pressures, Employer's Resistance, Price and Wage Distortions, the Potential Impact on Union.

Unit-III: Labour Efficiency, Migration and Mobility (11)

- 3.1 Alternative Pay Schemes and Labour Efficiency: Economics of Fringe Benefits, Theory of Optimal Fringe Benefits, Efficiency Wage Payments, Deferred Payment Schemes, Labour Market Efficiency Revisited.
- 3.2 Human Capital Approach and Efficiency: Education in the Labour Market, the Schooling Model.
- 3.3 Types of Labour Mobility: Migration as an Investment in Human Capital, the Determinants of Migration, the Consequences of Migration, Immigration Policy and Issues.

Unit-IV: Labour Market Discrimination, Trade Union and Labour Issues of the Future (11)

- 4.1 Labour Market Discrimination: Race and Gender in the Labour Market, Employer's Discrimination, Employee Discrimination, Measuring Discrimination.
- 4.2 Trade Unions – Labour Unionism: Facts and Figures, A Model of the Bargaining Process, Union Wage Effects, the Exit-Voice Hypothesis, Unions and Resource Allocation.
- 4.3 Labour Issues of the Future: The Decade Ahead: Economic Problem, Human Resource Problems, Internal Trade Union Problems and Collective Bargaining, Looking into the 21st Century.

Basic Reading List

1. Arthur D. Butler (1972), *Labour Economics and Institutions*, American Publishing Co. Pvt. Ltd., New Delhi.
2. Campbell R. McConnell and Brue, Stanley L. (1995), *Contemporary Labour Economics*, McGraw Hill Companies Inc., New York.
3. F. Ray Marshall, Vernon M. Briggs, J. and Allan G. King (1984). *Labour Economics*, Richard D. Irwin Inc. Homewood, Illinois.
4. George J. Borjas (1996). *Labour Economics*, McGraw Hill Companies Inc., New York.
5. Richard A. Lester (1986). *Economics of Labour*, The Macmillan Company, New York.

Additional Reading List

1. Jhabvala, R. and R.K. Subrahmanya (eds.). (2000). *The Unorganised Sector: Work Security and Social Protection*, Sage Publications, New Delhi.
2. Rees, A. (1973). *Economics of Work and Pay*, Harper and Row, New York.
3. Solow, R.M. (1990). *Labour Market as an Institution*, Blackwell, London.
4. Sen, A.K. (1975). *Employment, Technology and Development*, Oxford University Press, New Delhi.
5. Kannapon, S. (1983). *Employment Problems and Urban Labour Markets in Developing Countries*, University of Michigan, Ann Arbor.

ECO 3003 ECONOMETRICS-I

Unit-I: Basic Econometrics **(12)**

- 1.1 Nature, meaning and scope of econometrics, distinction between Statistics and Econometrics; two variable linear regression model — assumptions, estimation through OLS, properties of estimators — Gauss-Markov theorem.
- 1.2 General linear regression model — assumptions, estimation and properties of estimators. Deviation from classical linear regression assumption (non-spherical case) and generalised least square.
- 1.3 Problems of heteroscedasticity, autocorrelation and multicollinearity — Nature, test, consequences and remedial measures.
- 1.3 Estimation of non-linear equations and some specific functions like Parabolic, exponential, geometric, hyperbolic, modified exponential; gompertz and logistic functions.

Unit-II: Regression with Qualitative Variables and other Techniques **(11)**

- 2.1 Dummy variable — Testing structural stability of regression models. Dummy variable trap
- 2.2 Regression with dummy dependent variables — LPM, Logit, Probit and Tobit models — their applications.
- 2.3 Principal component analysis

Unit-III: Dynamic Econometric Model **(11)**

- 3.1 Autoregressive and distributed lag models — Koyck's approach, partial adjustment and adaptive expectations model, instrumental variables
- 3.2 Problem of auto-correlation — Application; Almon approach to distributed-lag models
- 3.3 Error correlation mechanism, causality test, Granger test and Sim's test, exogeneity.

Unit-IV: Applications of Single Equation Models **(11)**

- 4.1 Application of single equation technique in demand analysis — Aggression problem, Engle's Law, Slutsky's theorem, the consumer's allocation problem — model in relative prices, aggregation over consumers
- 4.2 Estimation of demand functions under different conditions, properties of the estimators — static and dynamic analysis.
- 4.3 Estimation of consumption function — Cross section and time series.
- 4.4 Estimation of Production functions: Cobb Douglas & C.E.S.

Basic Reading List

1. Baltagi, B.H. (1998). *Econometrics*, Springer, New York.
2. Chow, G.C. (1983). *Econometrics*, McGraw Hill, New York.
3. Goldberger, A.S. (1998). *Introductory Econometrics*, Harvard University Press, Cambridge, Mass.
4. Green, W. (2000). *Econometrics*, Prentice Hall of India, New Delhi.
5. Gujarati, D.N. (1995). *Basic Econometrics* (2nd Edn.). McGraw Hill, New Delhi.
6. Johnston, J. (1991). *Econometric Methods* (3rd Edn.). McGraw Hill, London.
7. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2nd Edn.). The Macmillan Press Ltd., London.
8. Maddala, G.S. (1997). *Econometrics*, McGraw Hill; New York.
9. Theil, H. (1981). *Introduction to Econometrics*, Prentice Hall of India, New Delhi.

Additional Reading List

1. Intrilligator, M.D. (1978). *Econometric Methods, Techniques and Applications*, Prentice Hall, Englewood Cliffs, New Jersey.
2. Intrilligator, M.D. and Z. Griliches (1983). *Handbook of Econometrics*, Vol. I & II, North Holland, Amsterdam.
3. Johnston, J. and J. Di Nardo (1997). *Econometric Methods*, McGraw Hill.
4. Pindyek, R.S. and D.L. Rubinfeld (1976). *Econometric Models and Economic Forecasts*; McGraw Hill-Kogakusha, Tokyo.
5. Theil, H. (1971). *Principles of Econometrics*, J. Wiley, New York.

ECO 3004 DEMOGRAPHY-I

Unit-I: Population and Development (11)

- 1.1 Meaning and scope of demography, components of population growth and their inter-dependence, Measures of population change, structure, distribution and sources of population data.
- 1.2 Theories of population — Malthus, Optimum theory of population
- 1.3 Theory of demographic transition — View of Medows, Enke and Simon
- 1.4 Population and development

Unit-II: Structure of Population (11)

- 2.1 Population trends in the twentieth century, population explosion — its dynamics
- 2.2 International aspects of population growth and distribution
- 2.3 Pattern of age and sex structure in more developed and less developed countries; Determinants of age and sex structure
- 2.4 Demographic effects of sex and age structure, economic and social implications, Age pyramids projections.

Unit-III: Fertility, Nuptiality and Mortality (11)

- 3.1 Fertility — Emerging issues in fertility control, Fertility analysis, Social structure and Fertility change.
- 3.2 Nuptiality — Concept and analysis of marital status; Single mean age at marriage, synthetic cohort methods, Trends in age at marriage.
- 3.3 Mortality: Death rates, crude age-specific, Mortality at birth and infant mortality rate; Sex and age pattern of mortality, Factors for decline in mortality in recent past, Levels and trends of mortality rate in advanced and less advanced countries.
- 3.4 Life table — Construction and uses; Concepts of stable population, Methods of population projection.

Unit-IV: Migration and Urbanization (11)

- 4.1 Internal and international migration flows: some recent development in Asia; Internal migration — Its effect on population growth and pattern, Factors affecting migration.
- 4.2 Theories of migration related to internal migration, process shaping international migration flows, Dynamics of the international migration process.
- 4.3 Urbanization — Growth and distribution of rural-urban population in developed and developing countries.
- 4.4 Population growth, employment and housing in mega cities in developing countries, the question of mega city transformations.

Basic Reading List

1. Amsden, A.H. (ed.) (1980). *The Economics of Women and Work*, Penguin, Harmondsworth.
2. Baud, I.S.A. (1992). *Form of Production and Women's Labour, Gender Aspects of Industrialization in India and Mexico*, Sage, New Delhi.
3. Bogue, D.J. (1971). *Principles of Demography*, John Wiley, New York.
4. Bogue, D.J. (1971). *Principles of Demography*, John Wiley, New York.
5. Boserup, E. (1970). *Women's Role in Economic Development*, George Allen and Unwin, London.
6. Chenery, H. and N. Srinivasan (eds.) (1989). *Handbook of Development Economics*, Vol.1 & 2 Elsevier, Amsterdam.
7. Chiang, C.L. (1974). *Life Tables and Mortality Analysis*, W.H.O., Geneva.
8. Coale, A.J. and E.M. Hoover (1958). *Population Growth and Economic Development in Low Income Countries: A Case Study of India's Prospects*, Princeton University Press, Princeton.
9. King, M. and M.A. Hill (eds.) (1993). *Women's Education in Developing Countries: Barriers, Benefits and Politics*, John Hopkins, Baltimore.

Additional Reading List

1. Lewis (ed.) (1989). *Strengthening the Poor: What Have We Learnt*, OECD, Paris.
2. Novell, C. (1988). *Methods and Models in Demography*, Bellhaven Press, London.
3. Proceedings of the International Population Conference (1989). *Population: Today and Tomorrow – Policies, theories and Methodologies*, Vol. I, II and III, B.R. Publishing Corporation, Delhi.
4. Simon, J.L. (1992). *Population and Development in Poor Countries*, Princeton University Press.
5. Srinivasan, K. (1998). *Basic Demographic Techniques and Applications*, Sage, New Delhi.
6. Styrock, H. et al. (1973). *The Methods and Materials of Demography*, US Department of Commerce, Washington, D.C.
7. United Nations (1973). *The Determinants and Consequences of Population Trends*, Vol.1, UNO Publications, New York.

ECO 3005 AGRICULTURAL ECONOMICS-I

Unit-I: Agriculture and Economic Development (11)

- 1.1 Nature, scope and issues of agricultural economics, organizational structure of agriculture; Role of agriculture in economic development
- 1.2 Interdependence between agriculture and industry — Some empirical evidence
- 1.3 Models of interaction between agriculture and the rest of the economy, Agricultural development
- 1.4 Agricultural diversification, development of agro-based industries.

Unit-II: Economics of Rural Infrastructure (12)

- 2.1 Use of land, water and energy, rural social infrastructure-education and health
- 2.2 Land reforms — Land distribution — Structure and trends, Land values and rent, Land tenures and farming systems — Peasant, capitalist and state farmings
- 2.3 Tenancy and crop sharings — Forms, incidence and effects; Land reform measures and performance
- 2.4 Women and land reforms, problems of marginal and small farmers.

Unit-III: Agricultural Production and Productivity (11)

- 3.1 Agricultural production — Resource use and efficiency, production function analysis in agriculture, factor combination and resource substitution, cost and supply curves
- 3.2 Farm size and laws of returns — Theoretical and empirical findings
- 3.3 Farm budgeting and cost concepts, supply response of individual crops and aggregate supply
- 3.4 Resource use efficiency in traditional agriculture, technical change, labour absorption.

Unit-IV: Rural Labour Market (11)

- 4.1 Rural labour supply, interlocking of factor markets, mobility of labour and segmentation in labour markets
- 4.2 Marginalisation of rural labour, nature, extent and trends in rural employment
- 4.3 Agricultural wages in India, Male-Female wage differences, non-agricultural rural employment — Trends and determinants.

Basic Reading List

1. Bhandari, A. (1984). *The Economic Structure of Backward Agriculture*, Macmillan, Delhi.
2. Dantwala, M.L. (et al.) (1991). *Indian Agricultural Development since Independence*, Oxford & IBH, New Delhi.
3. Griffin, K. (1973). *Political Economy of Agrarian Change*.
4. Joshi, P.C. (1975). *Land Reforms in India: Trends and Prospects*, Allied Publishers, Bombay.
5. Raj, Sen Rao (1982). *Dharm Narain: Studies on Indian Agriculture*, Oxford Univ. Press, New Delhi.
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7. Rudra, A. (1982). *Indian Agricultural Economics: Myths and Reality*, Allied Publishers, New Delhi.
8. Saini, G.R. (1979). *Farm Size, Resource Use Efficiency and Income Distribution*, Allied Publishers, New Delhi.

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1. Appu, P.S. (1996). *Land Reforms in India*, Vikas, New Delhi.
2. Bardhan (1984). *Land Labour and Rural Poverty*, Oxford Univ. Press, New Delhi.
3. Bhardwaj, K. (1974). *Production Conditions in Indian Agriculture*, Cambridge University Press, Cambridge.
4. Brahmananda, P.R. and V.R. Pancharukhi (Eds.) (1987). *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
5. Chandra and Sharma (1997). *Growth Employment and Poverty: Change and Continuity in Rural India*, Vikas Publishing, New Delhi.
6. Chatak, S. and K. Ingerscent (1984). *Agriculture and Economic Development*, Select Books, New Delhi.
7. Chaudhary, P. (1972). *Readings in Indian Agricultural Development*, George Allen & Unwin, London.
8. Dantwala, M.L. (1996). *Dilemmas of Growth, the Indian Experience*, Sage Publications, New Delhi.
9. Government of India, *Five-Year Plans*, New Delhi.
10. Haque T. and A.S. Sirohi (1986). *Agrarian Reforms and Institutional Changes in India*, Concept Publishing House, New Delhi.
11. Meier, G.M. (1995). *Leading Issues in Economic Development*, Oxford University Press, New Delhi.
12. Raj, K.N. et al. (1988). *Essays in the Commercialisation of Indian Agriculture*, Oxford Univ. Press, New Delhi.
13. Soni, R.N. (1995). *Leading Issues in Agricultural Economics*, Arihant Press, Jalandhar.
14. Thanarajakshi, R. (1994). *Intersectoral Relationship in a Developing Economy*, Academic Foundation, New Delhi.
15. Wanmali, S. and C. Ramasamy (Eds.) (1995). *Developing Rural Infrastructure*, Macmillan, New Delhi.

ECO 3006 ECONOMICS OF GENDER AND DEVELOPMENT-I

Unit-I: Social Structure, Private Ownership, Market and Women (11)

- 1.1 Evolution of human society: Transformation from matrilineal to patrilineal social structure — change in status of women.
- 1.2 Genesis of private ownership and the creation of Phallogocentric social order.
- 1.3 Gender and the process of economic development.
- 1.4 Market, Mobility and Women.

Unit-II: Economics and Gender Bias (11)

- 2.1 Feminist criticism of development indices (Gary Becker)
- 2.2 Theories of Gender inequality: Biological and Structural
- 2.3 Theories of Gender inequality: Feminist
- 2.4 Feminist reading of Economic Laws: Marginal Productivity Theory and Laws of Maximisation.

Unit-III: Economic Activity and Women (11)

- 3.1 Concept and analysis of women's work: Valuation of productive and unproductive work — visible and invisible works — Economically productive and socially productive work.
- 3.2 Women in pre-industrial and industrial societies.
- 3.3 Female contribution to National Income.
- 3.4 Work efficiency and women.

Unit-IV: Women: Demographic Aspects (11)

- 4.1 Demography of female population: Age structure, Mortality rates and Sex ratio.
- 4.2 Causes of declining sex ratios and fertility rates in LDCs with special reference to India
- 4.3 Theories and measurement of fertility and its control.
- 4.4 Gender and population control policy with special reference to India.

Basic Reading List

1. Amsden, A.H. (ed.). (1980). *The Economics of Women and Work*, Penguin, Harmondsworth.
2. Boserup, E. (1970). *Women's Role in Economic Development*, George Allen and Unwin, London.
3. Engles, F. (1985). *The Origin of the Family, Private Property and the State*, Progress Publications, Moscow.
4. Kabeer, N. (1994). *Reversed Realities: Gender Hierarchies in Development Thought, Kali for Women*, New Delhi.
5. Krishnaraj, M., R.M. Sudarshan and A. Shariff (1999). *Gender, Population and Development*, Oxford University Press, New Delhi.
6. Kuhn, A. and A.N. Wolpe (eds.). (1978). *Feminism and Materialism*, Routledge and Kegan Paul, London.
7. Mies, M. (1998). *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labour*, Zed Books, London.
8. Mitra, A. (1979). *Implications of Declining Sex Ratio in India's Population*, Allied, New Delhi.
9. Sen, G. and K. Brown (1987). *Development, Crises and Alternative Visions*, Monthly Review Press, New York.
10. Seth, M. (2000). *Women and Development: The Indian Experience*, Sage Publications, New Delhi.

Additional Reading List

1. Agnihotri, S.B. (2000). *Sex Ratio in Indian Population: A Fresh Exploration*, Sage Publications, New Delhi.
2. Desai, N. and M.K. Raj (eds.). (1979). *Women and Society in India*, Research Centre for Women Studies, SNDT University, Bombay.
3. Dwyer, D. and J. Bruce (eds.). (1988). *A Home Divided: Women and Income in the Third World*, Standard University Press, Stanford.
4. Government of India (1974). *Towards Equality — Report of the Committee on the Status of Women in India*, Department of Social Welfare, Ministry of Education and Social Welfare, New Delhi.
5. ILO (1978). *Women's Participation in the Economic Activity of Asian Countries*, ILO, Geneva.
6. Papola, T.S. and A.N. Sharma (eds.) (1999). *Gender and Employment in India*, Vikas, New Delhi.
7. Schultz, T.P. (1988). "Education Investments and Returns", in Chenery, H.B. and T.N. Srinivasan, *The Handbook of Development Economics*, North Holland, New York.
8. Seth, M. (2000). *Women and Development: The Indian Experiences*, Sage Publications, New Delhi.
9. Yong, K. et al. (eds.). (1987). *Serving Two Masters*, Routledge and Kegan Paul, London.

ECO 3007 COMPUTER APPLICATIONS IN ECONOMIC ANALYSIS-I

Unit-I: Fundamentals of Computer (11)

- 1.1 Basic Components of a Computer – CPU, I/O Devices, Data Storage and Retrieval, Hard Disk.
- 1.2 Types of Computer and their applications, Computer Net-working and Resource Sharing, Hardware, Software and Firmware.
- 1.3 Operating Systems, DISK OPERATING SYSTEM, WINDOWS as an Operating System.
- 1.4 Logical Organization of the Disk in the Disk Operating System, Bit and Byte, Tracks, Cylinders and Sectors, System area, Boot, FAT and Directory Areas, Data Area.

Unit-II: Data Structure and Operations (11)

- 2.1 Data and Data Structure, Record and File, File handling and operations like opening, appending, cascading, closing and attribute control, Data Storage and Retrieval.
- 2.2 Data base Concepts and Data base operations.
- 2.3 Sorting, Merging, Joining and bifurcation, Important methods.
- 2.4 Arrays and Matrices, Basic operations on matrices.

Unit-III: Basic Statistics and Computer Applications (12)

- 3.1 Series, Groups, Tables, Graphs and Objects; Time and Frequency Series. Summary Statistics; Measures of Central tendency and Dispersion, Correlation, Partial and Multiple correlations.
- 3.2 Regression Analysis, Bi-variate and Multi-variate Regression Analysis. Test of hypotheses regarding linearity, tests regarding fit (R square and F) and regression coefficients (t test).
- 3.3 Time Series: Trends and Cyclical variations. Random variations. Forecasting.
- 3.4 Analysis of Residuals in Regression analysis. Heteroskedasticity and auto-correlation. Weighted Least Squares and Generalized Least Squares. Minimum Absolute Deviation Estimation.

Unit-IV: Software-based Analysis (10)

- 4.1 SPSS/STATISTICA: A package for Statistical Analysis in Social Sciences. Basic Operations; File, Edit, View, Data, Transformation, Graph and Utilities.
- 4.2 Statistical Analysis using SPSS/STATISTICA: Summary, Tabulation and Comparison of Summary Statistics.
- 4.3 Correlation and Regression (Linear and Non-linear) using SPSS/STATISTICA. Analysis of Time Series using SPSS.
- 4.4 Inter-facing SPSS/STATISTICA with other Software packages. Use of MS-WORD and EXCEL and ACCESS in combination with SPSS.

Basic Readings List

1. Johnston, J (1991). *Econometric Methods*, McGraw-Hill, New Delhi.
2. Krishnamurthy, E V and S K Sen (1992). *Computer-Based Numerical Algorithms*, Affiliated East-West Press, New Delhi.
3. Lipschultz, M M and S Lipschultz (1982). *Theory and Problems of Data Processing*, Schum's Outline Series, McGraw Hill, New York.
4. Mishra, S K and J C Binwal (1991). *Computer Applications in Social Science Research*, Vikas, Delhi.
5. Rajaraman, V (1996). *Fundamental of Computers*, Prentice Hall of India, New Delhi.
6. Sanders, D H (1988). *Computer Today*, McGraw Hill (3 Ed.) New York.
7. Sinha, P K (1992). *Compute Fundamentals*, BPB Publications, New Delhi.
8. Wirth, N (1988). *Algorithms+ Data Structures = Programs*, Prentice Hall of India, New Delhi.

Additional Reading List

1. Gujarati, D.N. (1995). *Basic Econometrics* (2nd Edn.). McGraw Hill, New Delhi.
2. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2nd Edn.). The Macmillan Press Ltd., London.
3. Maddala, G.S. (1997). *Econometrics*, McGraw Hill; New York.
4. Norton, Peter and R Jourdain (1989). *The Hard Disk Companion*, Prentice Hall of India, New Delhi.
5. Rajasekaran, S (1986). *Numerical Methods in Science and Engineering*, A H Wheeler, Allahabad.

ECO 3008 ECONOMICS OF INFRASTRUCTURE-I

Unit-I: Introduction **(11)**

- 1.1 Infrastructure and economic development — Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities.
- 1.2 Power Sector: the peak-load and Off-Load Problem, Dual Principle Controversy.
- 1.3 Economies of scale of Joint Supply.
- 1.4 Marginal Cost Pricing vs. other methods of pricing in public utilities; Cross-subsidization — free prices, equity and efficiency.

Unit-II: Transport Economics **(11)**

- 2.1 The structure of Transport Costs and Location of Economic Activities.
- 2.2 Demand for Transport Models of Freight and Passenger Demand. Model Choice; Cost Functions in the Transport Sector.
- 2.3 Principle of Pricing.
- 2.4 Special Problems of Individuals Modes of Transport; Inter-modal condition in the Indian Situation.

Unit-III: Communications **(11)**

- 3.1 Rate-making in Telephone Utilities.
- 3.2 Principles of Decreasing Costs in Telephone Industry.
- 3.3 Characteristics of Postal Services. Criteria for Fixation of Postal Rates.
- 3.4 Measurement of Standards of Service in Telephone and Postal Utilities.

Unit-IV: Energy Economics **(11)**

- 4.1 Primacy of Energy in the Process of Economic Development.
- 4.2 Factors Determining Demand for Energy; Effects of Energy Shortages.
- 4.3 Energy Conservation. Renewable and Non-Conventional Sources of Energy.
- 4.4 Energy Modelling. The Search for an Optimal Energy Policy in the Indian Context.

Basic Reading List

1. Crew, M.A. and P.R. Kleindorfer (1979). *Public Utility Economics*, Macmillan, London.
2. Indian Council of Social Sciences Research (ICSSR) (1976). *Economics of Infrastructure*, Vol. VI, New Delhi.
3. National Council of Applied Economic Research (NCAER) (1996). *India Infrastructure Report: Policy Implications for Growth and Welfare*, NCAER, New Delhi.
4. Norton, H. (1971). *Modern Transport Economics*, C.E. Merrill, London.

Additional Reading List

1. Fariss, M.T. and R. Sampson (1975). *Public Utilities*, Houghton Mifflin, Boston.
2. Garfield, P.J. and W. Lovjoy (1964). *Public Utility Economics*, Prentice-Hall, Englewood Cliffs.
3. Jha, R., M.N. Murty and S. Paul (1990). *On Fixing Prices for Postal Services in India*, National Institute of Public Finance and Policy, New Delhi.
4. Kneafsey, J.T. (1975). *Transportation Economic Analysis*, Lexington, Torouts.
5. McCrakis, M.S. (ed.). (1974). *Energy: Demand Conservation and Institution Problems*, London.
6. Munty, D. (ed.). (1968). *Transport: Selected Readings*, Penguin, Harmondsworth.
7. Nelson, J.R. (1964). *Marginal Cost Pricing in Practice*, Prentice-Hall, Englewood-Cliff.
8. Pachauri, R.K. (ed.). (1980). *Energy Policy for India*, Macmillan Co. of India, New Delhi.
9. Parikh, J. (ed.). (1997). *Energy Models for 2000 and Beyond*, Tata McGraw-Hill, New Delhi.
10. Phillips, A. and O.E. Williamson (eds.). (1967). *Prices: Issues in Theory, Practice and Public Policy*, University of Pennsylvania Press, Philadelphia.
11. Tata Energy Research Institute (1995). *Environmental Considerations and Options in Managing India's Long-Term Energy Strategy*, Mumbai.

ECO 3009 ECONOMICS OF LAW

Unit-I: Basic Principles of the Economic of Law (12)

- 1.1 Plato and Aristotle on Justice, Roman View of Justice, J. Bentham and the Hedonistic Conception of Justice, Rawls and Justice.
- 1.2 Economic Analysis of Law, Economics of Offence, Efficiency, Market Failure, Ronald Coase's Theorem, Compensation Principle.
- 1.3 The Traditional theory of criminal Law, Economic Theory of Crime and punishment, Efficient punishment, Efficiency of Capital Sentence, Addictive Drugs and Crime.
- 1.4 The Economics of Corruption, Corruption and Human Rights, Law relating to Economic Offences.

Unit-II: Issues in Economic Justice (11)

- 2.1 Law and Distribution of income and wealth, Inequality, Contract Theory of Distributive Justice, Economic and Social Costs of Poverty.
- 2.2 Economics of Social Sector, Economic basis of Justice, Police and Arms, Public Ownership of Resources and Economic activities. Dis-investment in PSUs.
- 2.3 Taxation, justice and efficiency. Balancing private and social costs
- 2.4 National and Global Environmental problems and international Environmental Agreements.

Unit-III: Consumers and the Law (11)

- 3.1 Law relating to Consumer activities, Bargain Theory, Economic Role of Contract, Remedies as incentives formation, defences and performance excuses.
- 3.2 Duress, Bargaining power and unconscious ability, Defining tort law, economics of tort liability, tort liability and economic models.
- 3.3 Economics of accidents, fault, victim; Fault and strict liability.
- 3.4 Function of damages, Consumer Protection, Consumer Courts.

Unit-IV: Producers and the Law (11)

- 4.1 Law and Business organizations, Structure of firm, Corporations, Corporate vest.
- 4.2 Capital, Shares, Debentures, Insiders' trading.
- 4.3 Antitrust, RBI, IRDA, MRTP and role of SEBI.
- 4.4 Economics of mergers, amalgamation and takeovers.

Basic Reading List

1. Burrows, P. and C.G. Veljanovski (eds) (1981). *The Economic Approach to Law*, Butterworths, London.
2. Cooter, R.D. and T.S. Ulen (2000). *Law and Economics*, Addison Wesley, New York.
3. Florentini, G. and S. Zamagni (1999). *The Economics of Corruption and Illegal Markets*, Edward Elgar, UK
4. Horne, J. (1997). *Financial Management and Policy*, Prentice Hall, New Delhi
5. Oliver, J.M. (1979). *Law and Economics*, George Allen and Unwin, London.
6. Posner, R.A. (1998). *Economic Analysis of Law*, Little Brown, Boston.
7. Schmidh, P. (1984). *The Economic Analysis of Crime and Justice*, Academic Press, Orlando.

Additional Reading List

1. Agarwal, V.K. (2000). *Bharat's Consumer Protection (Law and Practice)*. BLH Publishers, New Delhi.
2. Divan, S. and A. Rosencronz (2001). *Environmental Law and Policy in India*, Oxford Univ. Press, New Delhi.
3. Ghosh, T. P. (1999). *Buy Back of Shares*, Taxman Allied Services, New Delhi.
4. Verma, G.P. (1993) *State Liability in India: Retrospect and Prospect*, Deep and Deep, New Delhi.

ECO 3010 WELFARE ECONOMICS-I

Unit-I: Fundamentals of Classical Welfare Economics (11)

- 1.1 The Issue of Welfare and Justice in the Exchange Economy. Justice and Welfare in the Framework of General Equilibrium.
- 1.2 Hedonism and the Benthamite approach to Aggregate Welfare, Optimum resource allocation and welfare maximization.
- 1.3 Utility Function of individuals, Problems in inter-personal Utility comparison, issues in income distribution.
- 1.4 Marshallian conception of welfare economics, consumer's surplus, measurement of consumer's surplus and the problems involved in the measurement. Pigovian divergence in private and social cost.

Unit-II: Restructuring Classical Welfare Economics (11)

- 2.1 The principle of Compensating variation, Hicksian types of consumer's surplus, Slutsky's approach to measurement of consumer's surplus.
- 2.1 The Concept and the conditions of Pareto Optimality, Pareto optimality in the General Equilibrium system.
- 2.2 Compensation criteria, contributions of Barone, Hicks and Kaldor. Scitovsky's criterion.
- 2.4 Applications of Compensation Principle to tax/bounty effects.

Unit-III: New Welfare Economics-I (11)

- 3.1 Social Optimum, Community indifference map, Samuelson's utility possibility curve
- 3.2 Bergson's Concept of Welfare and its Measurement.
- 3.3 Social Welfare Function, Arrow's Possibility Theorem and its implications.
- 3.4 Problems of non-market interdependence, externalities in production and consumption, problems of accounting and pricing.

Unit IV: New Welfare Economics-II (11)

- 4.1 External economies and diseconomies. Problems in Accounting.
- 4.2 Problems of Public Goods and Negative spillovers. The Problem of Market Failure.
- 4.3 The Second Best Problem, issues related with the second best problem. Interdependent utilities. Welfare, justice and efficiency, Cascading effects of injustice on efficiency.
- 4.4 Considerations of welfare in public policies and programmes, Evaluation of Public Policies.

Basic Reading List

1. Baumol, W.J. (1965). *Welfare Economics and the Theory of the State*, Longman, London.
2. Baumol, W.J. (ed.) (2001) *Welfare Economics*, Edward Elgar Publishing Ltd. UK
3. Broadway, R. W. and N. Bruce (1984). *Welfare Economics*, Basil Blackwell, Oxford.
4. Graff, J. de (1957). *Theoretical Welfare Economics*, Cambridge Univ. Press., London.
5. Hicks, J.R. (1944). The Four Consumers' Surpluses. *Review of Economic Studies*. Vol. XI.
6. Little, I.M. D. (1957). *A Critique of Welfare Economics*, Oxford Univ. Press, Oxford. (2nd edition).
7. Myint, Hla (1948). *Theories of Welfare Economics*, Longmans, London.
8. Quirk, J. and R. Saposnik (1968). *Introduction to General Equilibrium Theory and Welfare Economics*. McGraw Hill, New York.

Additional Reading List

1. Blaug, M. (1978). *Economic Theory in Retrospect*, Cambridge University Press, London.
2. Feldman, A M (1980). *Welfare Economics and Social Choice Theory*, Kluwer Nijhoff, Boston.
3. Pearce, D W and C A Nash (1981). *The Social Appraisal of Projects: A text in Cost Benefit Analysis*. Halsted Press, John Wiley & Sons, New York.
4. Pigou, A C (1962) *The Economics of Welfare*. Macmillan.
5. Samuelson, P A (1947) *Foundations of Economic Analysis*, Harvard Univ. Press, Mass.
6. Takayama, A (1974). *Mathematical Economics*. Dryden Press, Hinsdale, Illinois
7. Varian, H R (1992). *Micro-Economic Analysis*. W W Norton & Co. New York.

ECO 3011 ECONOMY OF NORTH-EASTERN REGION

Unit-I: Regional Economy **(12)**

- 1.1 Basic characteristics of the Economy of North-Eastern Region.
- 1.2 Dualistic Structure of the North-Eastern Economy.
- 1.3 Structure of Regional Economy.
- 1.4 Structural Change: Intersectoral Analysis.

Unit-II: Natural Resources and Agriculture **(11)**

- 2.1 Land Ownership and Land Use Pattern and Its Impact on Regional Economic Development.
- 2.2 Forest and Mineral Resources.
- 2.3 Major Agricultural Practices, Cropping Patterns and Problems of Agriculture.
- 2.4 Agricultural Productivity and Modernisation.

Unit-III: Infrastructure and Industry **(11)**

- 3.1 Economic Infrastructure: Power, Road, Transport & Communication.
- 3.2 Industrial Structure and Causes of Industrial Backwardness.
- 3.3 Major Industries of N.E.R.: Oil, Minerals, Cement and Tea.
- 3.4 Small-scale and Cottage Industries.

Unit-IV: Human Resource Development **(11)**

- 4.1 Population, Growth and Occupational Structure.
- 4.2 Employment and Unemployment.
- 4.3 Migration: Major Issues.
- 4.4 Status of Human Development.

Basic Reading List

1. Agarwal, A.K. (1987). *Economic Problems and Planning in North East India*, Sterling Publishers Pvt. Ltd.
2. Alam, K. (ed.) (1993). *Agricultural Development in North East India: Constraints and Prospects*, Deep and Deep Publications, New Delhi.
3. Datta-Ray, B. (Ed.) (1980). *Shifting Cultivation of North-East India*, North East Indian Council for Social Science Research (NEICSSR), Shillong.
4. Dutta, B.B. and Karna, M.N. (eds.) (1987). *Land Relations in North East India*, People's Publishing House, New Delhi.
5. Dutta, S. (ed.) (2002). *Cross-Border Trade of North-Eastern Region*, Hope India Publications, Haryana.
6. Goswami, Atul (ed.) (1996). *Land Reforms and Peasant Movements: A Study of North East India*, Omsons Publications, New Delhi.
7. Gunner, Myrdal. (1973) (reprint). *Economic Theory and Underdeveloped Regions*, Vora and Co., Bombay.
8. Meier, G.M. and Rauch, J.F. (2000). *Leading Issues in Economic Development*, (7th Edition), Oxford University Press, New York.

Additional Reading List

1. Agarwal, A.K., (1988). "From Jhum to Settled Cultivation", *Commerce*, 157.
2. *Basic Statistics*, North Eastern Council, 2000.
3. Das, Gurudas and R.K. Purkayastha (eds.). (2000). *Border Trade: North East India and Neighboring Countries*, Akansha Publications, New Delhi.
4. Dasgupta, M. (1983). "Anatomy of a Jhum Failure: Some Extensions", *The Journal of North East Indian Council for Social Science Research (NEICSSR)*, 7:1, April, Shillong.
5. Dasgupta, M. and A. Banerjee, (1984). "Jhumming as the Way of Life of Jhumias: An Analysis of Data from Tripura", *The Journal of North East Indian Council for Social Science Research (NEICSSR)*, 8:1, April, Shillong.
6. Ganguli, J.B. (1983). "Operation of the Jhum Model", *The Journal of North East Indian Council for Social Science Research (NEICSSR)*, 8:2, October, Shillong.
7. Gopalakrishnan, R. (1995). *The North-East India: Land, Economy and People*, Har Anand Publications, Delhi.
8. <http://WWW.neidatabank@hub.nic.in>
9. <http://WWW.nerdatabank@nic.in>
10. *Journal of North Eastern Council*.
11. Mathew, T. (ed.) (1980). *Tribal Economy of the North-East Region*, Spectrum Publications, Guwahati.
12. North East Data Bank, NEDFI, Guwahati.
13. Srivastav, N. (2000). *Survey of Research in Economics on North-East India 1970-1990*, ICSSR-NERC, Regency Publications, Delhi.

ECO 3012 ECONOMICS OF DEVELOPMENT-I

UNIT-I: THE STUDY OF ECONOMIC DEVELOPMENT (11)

- 1.1 The notion of economic development - income approach towards development - its effectiveness and limitations
- 1.2 Sen's capability deprivation approach towards development – its usefulness and limitations
- 1.3 Economic growth and structural change – Kuznet, Clark and Fisher
- 1.4 Critical Minimum Effort Thesis (Leibenstein) Low Level Equilibrium Trap (Nelson)

UNIT-II: DEVELOPMENT THEORIES (12)

- 2.1 The Orthodox Approach: Smith, Ricardo and List
- 2.2 The Radical Approach: Baran, Frank, Emmanuel, Amin and Furtado
- 2.3 World System Analysis: Wallerstein, Chase-Dunn and Borrego
- 2.4 The Institutional Approach: Myrdal and New Institutionalists

UNIT-III: CAPITAL ACCUMULATION AND ECONOMIC DEVELOPMENT (11)

- 3.1 Role of Capital in Economic Development: Smith and Ricardo
- 3.2 The Marx Model of Capitalist Development
- 3.3 Role of Credit and Capital: Schumpeter
- 3.4 The Endogenous growth models (two-sector): Romer and Lucas

UNIT-IV: POPULATION GROWTH AND ECONOMIC DEVELOPMENT (11)

- 4.1 Economic Theories of population growth – the Malthusian model – The household utility maximization model
- 4.2 Theories of Resource constraint on economic growth -- from Malthus to Club of Rome – The Ricardo model – The dual economy model
- 4.3 Population, poverty and environment – the environment and development debate
- 4.4 Population and common property resources

Basic Reading List

1. Adelman, I. (1961) *Theories of Economic Growth and Development*, Stanford University Press, Stanford.
2. Behrman, S. and T.N. Srinivasan (1995) *Handbook of Development Economics*, Vol.3, Elsevier, Amsterdam.
3. Debraj, Ray (1999) *Development Economics*, Oxford University Press, New Delhi.
4. Ghatak, S. (1986) *An Introduction to Development Economics*, Allen and Unwin, London.
5. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992) *Economic Development* (3rd Edition), W.W. Norton, New York.
6. Gimmell, N. (1987) *Surveys in Development Economics*, Blackwell, Oxford.
7. Meier, G.M. (1995) *Leading Issues in Economic Development* (6th Edition), Longman, London.
8. Meadows, D.H. et al. (1972) *The Limits to Growth*, Universe Books, New York.
9. Sen, Amartya (2000) *Development as Freedom*, Oxford University Press, New Delhi.
10. Todaro, M.P. (1996) *Economic Development* (6th Edition), Longman, London.
11. United Nations (1994) *Human Development Report*, United Nations, New York.

Additional Reading List

1. Annual World Bank Conference on Development Economics, 1998, World Bank, Washington DC.
2. Bauer, P.T. (1971), *Dissent on Development*, Weidenfeld and Nicolson.
3. Bardhan, Pranab and Christopher Udry (1999), *Development Microeconomics*, Oxford University Press, New York.
4. Barro, Robert J. (1997). *Determinants of Economic Growth: A Cross-Country Empirical Study*, MIT Press, Cambridge.
5. Basu, Kausik (1984), *The Less Developed Economy*, Basil Blackwell, England.
6. Benhabib, Jess and Mark M. Spiegel (1994) "The role of Human Capital in Economic Development: Evidence from aggregate Cross-Country data", *Journal of Monetary Economics*, Vol.34, No.2.
7. Dasgupta, P. (1993), *An Enquiry into Well-Being and Destitution*, Clarendon Press, Oxford.
8. Freedman, Jim (ed.) (2000) *Transforming Development*, University of Toronto Press, Toronto.
9. Goody, Jack (1976), *Production and Reproduction: A Comparative Study of Domestic Domain*, Cambridge University Press, Cambridge.
10. Hirschman, A.O. (1958), *The Strategy of Economic Development*, Yale University Press, New York.
11. Lewis, W.A. (1955) *The Theory of Economic Growth*, George Allen and Unwin, London.
12. Mehrotra, S. and J. Richard (1998), *Development with a Human Face*, Oxford University Press, New Delhi.
13. Meier, G.M. and D. Surs (eds.) (1987), *Pioneers in Development*, Oxford University Press, New York.
14. Myrdal, G. (1957), *Economic Theory and Underdeveloped Regions*, Duckworth, London.
15. Rams, G. and A. Mahmood (1992), *Political Economy for Development*, Blackwell, Cambridge, Mass.
16. Schumpeter, J.A. (1949), *The Theory of Economic Development*, Harvard University Press, Cambridge, Mass.
17. Sen, A.K. (1981), *Poverty and Famines: An Essay on Entitlement and Deprivation*, Clarendon Press.
18. Woo-Cumings, Meredith (ed) (1999) *The Developmental State*, Cornell University Press, New York.
19. *World Development Report, 1991, 1992, 1994, 1996*, Oxford University Press, New York.

ECO 3013 FINANCIAL ECONOMICS-I

UNIT –I : BASIC CONCEPTS IN FINANCE-I (10)

- 1.1 Introduction to Financial Economics, Subject Matter, Scope and Relevance; Financial Markets: Financial Instruments, Financial Claims-Relation between Stocks and Flows.
- 1.2 Introduction to Corporate Finance-Forms of Business Organization-Goals of Financial Management, The Agency Problem.
- 1.3 Basic Concepts in Finance: Assets and Liabilities; The Balance Sheet; Profit and Loss Account; Net Working Capital; Liquidity.
- 1.4 Time Value of Money: Rationale, Net Present Value, Practical Applications.

UNIT –II: BASIC CONCEPTS IN FINANCE-II (12)

- 2.1 Statement of Changes in Financial Position; Cash Flow Statement; Funds Flow Statement.
- 2.2 Ratio Analysis: Different Kinds of Financial Ratios, Calculation and Importance in Financial Analysis.
- 2.3 Investment Criteria: Internal Rate of Return, Rate of Interest: Period, Compounded and Effective Annual Rates of Interest.
- 2.4 Risk and Return: Importance, Measurement of Risk and Return of an Asset; Measurement of Risk and Return of a Portfolio; Systematic and Unsystematic Risk.

UNIT –III: SECURITY MARKETS (12)

- 3.1 The Supply of Securities: Characteristics, Government Bonds, Index Linked Bonds, Pure Discount Bonds, Spot Yields, Coupon Paying Bonds.
- 3.2 The Cost of Capital: Debt and Equity; Costs of Debt, Equity and Preferred Stock;
- 3.3 Capital Market: Primary Market and Secondary Markets; Shares and Debentures: Types and issuance.
- 3.4 The Stock Exchange: Methods of Trading, Over the Counter Exchange of India, Recent Developments in the Indian Stock Market.

UNIT –IV: STOCK MARKET EFFICIENCY (11)

- 4.1 Security Markets and their Efficiency: The Efficient Market Hypothesis; Weak, Semi-Strong, Strong Forms of Efficiency.
- 4.2 The Capital Asset Pricing Model (CAPM): Estimation of Betas, Validity of CAPM.
- 4.3 The Arbitrage Pricing Theory, Its Alternative Approach and importance in Finance.
- 4.4 Stock Indices: BSE Sensex, BSE 100, BSE Bankex, Dow Jones Industrial Index,

Basic Reading List

1. Houthakkar, H.S. and Williamson, P.J. (1998). *The Economics of Financial Markets*, Oxford University Press, New Delhi.
2. Jurgen Eichberger and Ian R Harper. (1998). *Financial Economics*, Oxford University Press, London.
3. Khan, M Y. and Jain, P K. (2004). *Financial Management: Text, Problems and Cases*, Tata McGraw Hill, New Delhi.
4. Prasanna Chandra. (2004). *Financial Management : Theory and Practice*, Tata McGraw Hill, New Delhi.
5. Ross, Stephan A, Rudolph.W.Westerfield and Jaffe, Jaffrey. (2004). *Corporate Finance*, McGraw Hill, Irwin.
6. Van Horne, J.C. (2005). *Financial Management and Policy*, Prentice-Hall, New Delhi.

Additional Reading List

1. Avadhani, V.A. (2003). *Security Analysis and Portfolio Theory*, Himalaya Publishing House, Mumbai.
2. Bal Krishan and Narta, S S. (2002). *Security Markets in India*, Kanishka Publishers, New Delhi.
3. Bharadwaj, G. (2003). *The Future of India's Debt Market*, Tata McGraw Hill, New Delhi.
4. Bhole, L.M. (2004). *Financial Institutions and Markets*, Tata McGraw Hill, New Delhi.
5. Brahmaiah, B and Subba Rao, P. (2003). *Financial Futures and Options*, Himalaya Publishing House, Mumbai.
6. Levinson, Marc. (1998). *Guide to Financial Markets*, Economists Books, London.
7. Pandey, I.M. (2005). *Finance: A Management Guide for Managing Company Funds and Profits*, Prentice-Hall, New Delhi.
8. Rustogi, R.P. (1999). *Financial Management: Theory, Concepts, and Problems*, Galgotia Publishers, New Delhi.
9. Shapiro, A.C. (1991). *Modern Corporate Finance*, Macmillan, New York.

ECO 4001 INDUSTRIAL ECONOMICS-II

Unit I: Industrialisation in India **(11)**

- 1.1 Industrialization: Rationale, Objectives, Strategies and Policies
- 1.2 Industrialization in India and State Promotion of Industries
- 1.3 Evaluation of Industrial process during Five year plans
- 1.4 Importance and Development of Small Scale Industries in India

Unit II: Industrial Financing and Productivity **(11)**

- 2.1 Capital Market in India
- 2.2 Industrial Financing and the role of IFCI, SFC, ICICI and IDBI
- 2.3 Industrial productivity: empirical evidences
- 2.4 Industrial Labour; Employment dimensions of Indian industries, Exit policy and social security, Labour market reforms.

Unit III: Industrial Policies **(11)**

- 3.1 Industrial policies since India's Independence
- 3.2 Industrial licensing policy and MRTP Act
- 3.3 Industrial Policy reforms to liberalize Indian Economy
- 3.4 Foreign Capital and foreign collaboration – MNCs and transfer of technology.

Unit IV: Recent Industrial Issues **(11)**

- 4.1 Emergence of Public Sectors and their role in India's economic development
- 4.2 Performance of Public Sectors in India
- 4.3 Importance and challenges for public sectors in recent trends of economic liberalization
- 4.4 Rural Industrialization: Major issues and problems

Basic Reading List

1. Ahluwallia, I.J. (1992). *Industrial Growth in India*, Oxford University Press, Delhi.
2. Mookherjee, D. (ed.). (1995). *Indian Industry: Policy and Performance*, Oxford University Press, Delhi.
3. Sandesara, J.C. (1991). *Industrial Policy and Planning*.
4. Sandesara, J.C. (1985). *Small Industry in India: Evidence and Interpretation*, Lala Lajpat Rai College, Bombay.
5. Shirkov, G.K. (1973). *Industrialization of India*, Progress Publishers, Moscow.
6. Singh, A. and A.N. Sadhu (1988). *Industrial Economics*, Himalaya Publishing House, Bombay.
7. Sivayya, K.V. and V.B.M. Das (1996). *Indian Industrial Economy*, S. Chand and Company.

Additional Reading List

1. Bagchi, A.K. and N. Banerjee (eds.). (1981). *Change and Choice in Indian Industry*, K.P. Bagchi & Co. Calcutta.
2. Brahamananda, P.R. and V.R. Panchmukhi (eds.). (1989). *The Development Process of Indian Economy*, Himalaya Publishing House.
3. Cherunilam, F. (1994). *Industrial Economics: Indian Perspective* (3rd edition), Himalaya Publishing House, Mumbai.
4. Desai, B. (1999). *Industrial Economy in India* (3rd edition), Himalaya Publishing House, Mumbai.
5. Desai, S.S.M. & N. Bhalerao (1999). *Industrial Economy of India*, Himalaya Publishing House, Mumbai.
6. Dhar, P.N. and H.F. Lydall (1961). *The Role of Small Enterprises in India's Economic Development*, Asia publishing Press, Bombay.
7. Godbole, M.D. (1978). *Industrial Dispersal Policies*, Allied Publishers.
8. Gupta, L.C. (1965). *The Changing Structure of Industrial Finance in India*, Oxford University Press, Delhi.
9. Khan, M.Y. (1981). *Indian Financial System*, Allied Publishers, New Delhi.
10. Kuchchal, S.C. (1980). *Industrial Economy of India* (5th edition), Chaitnya Publishing House, Allahabad.

ECO 4002 LABOUR ECONOMICS-II

Unit-I: Labour in the Indian Economy (12)

- 1.1 Indian Labour – A Profile: Emergence of Labour Problems in India, Developments on Indian Labour Front.
- 1.2 Industrial Labour: Industrial Labour in different Sectors of Indian Economy, Sources of Industrial Workers, Working Conditions of Industrial Workers, the Government and Industrial Labour Policy – Labour Policy during the Plan Periods.
- 1.3 Agricultural Labour: Labour Force in Agriculture and Its Structure, Types of Agricultural Labour, Employment and Unemployment, Wages and Earnings.

Unit-II: Indian Labour's Economic Problem: Wages, Standard of Living and Productivity (10)

- 2.1 The Wage Policy: Need for Wage Policy, Wage Policy and Underdevelopment, Wages and Employment, Principles of Recent Wage Fixation, Minimum Wage and Living Wage.
- 2.2 Standard of Living – Rural Vs. Urban Standard, Growth of Family and Lowering of Standard, Food and Nutrition, Clothing, Education, Health, Per Capita Income.
- 2.3 Labour Productivity: Significance, Meaning, Measurement, Factors Affecting Labour Productivity, Productivity Movement in India.

Unit-III: Current Issues in Indian Labour Market (11)

- 3.1 Child Labour: Economic Problems of Child Labour, Extent of Child Labour, Child Labour in Organised Industries, in Unregulated Industries, in Mines, in Plantations, in Agriculture – Legislative Protection for Child Labour, Child Labour and the I.L.O.
- 3.2 Women Labour: Women's Increasing participation in Industries, Nature of Work of Women, Wages, Working Conditions, Legislative Measures for Welfare of Woman Labourer, Suggestions for Improvement.
- 3.3 Labour Welfare Work: Present Conditions of Indian Labour, Need for and Benefit of Labour Welfare Work, Causes of Failure of Labour Welfare Work, Pre-Requisite for Successful Welfare Work, Techniques of Labour Welfare Work.

Unit-IV: Trade Union Movement, Industrial Unrest and Rationalisation (11)

- 4.1 Trade Union Movement – Importance, Definition and Features of Trade Union – Objectives of Trade Union, Growth of Trade Union, Present Position, Causes of Slow Growth of Trade Union in India – Suggestions.
- 4.2 Industrial Unrest – Present Position, Causes of Dispute, Conditions of Workers during Industrial Dispute – Defects of Industrial Disputes Legislation, Industrial Relation in the Five Year Plans. Rationalization: Definition, Benefits of Rationalization, Need for Rationalization in India, Social Aspects of Rationalization.

Basic Reading List

1. Datt, G. (1996). *Bargaining Power, Wages and Employment: An Analysis of Agricultural Labour Markets in India*, Sage Publications, New Delhi.
2. Hajela, P.D. (1998). *Labour Restructuring in India: A Critique of the New Economic Policies*, Commonwealth Publishers, New Delhi.
3. Lester, R.A. (1964). *Economics of Labour* (2nd Edition). Macmillan, New York.
4. Papola, T.S., P.P. Ghosh and A.N. Sharma (eds.) (1993). *Labour, Employment and Industrial Relations in India*, B.R. Publishing Corporation, New Delhi.
5. Venkata Ratnam, C.S. (2001). *Globalization and Labour-Management Relations: Dynamics of Change*, Sage Publications/Response Books, New Delhi.
6. Papola, T.S. and Rodgers, G. (Eds.) (1992). *Labour Institutions and Economic Development in India*, International Institute for Labour Studies, Geneva.
7. Rosenberg, M.R. (1988). Labour Markets in Low Income Countries in Chenery, H.B. and T.N. Srinivasan, (Eds.). *The Handbook of Development Economics*, North-Holland, New York.
8. Sen, A.K. (1975). *Employment, Technology and Development*, Oxford University Press, New Delhi.

Additional Reading List

1. Das, N. (1960). *Unemployment, Full Employment and India*, Asia Publishing House, Bombay.
2. Deshpande, L.K., P.R. Brahmananda, E.A.G. Robinson, (Eds.). (1983). *Employment Policy in a Developing Economy*, Vol.I & II Macmillan, London.
3. Kannapon, S. (1983). *Employment Problems and Urban Labour Markets in Developing Countries*, University of Michigan, Ann Arbor.
4. Sharma, A.N. and A. Kundu (Ed.) (2001). *Informal Sector in India: Emerging Perspectives*, Institute of Human Development, New Delhi.
5. Madan, B.K. (1977). *The Real Wages of Industrial Workers in India*, Management Development Institute, New Delhi.
6. Mazumdar, D. (1989). *Micro-economic Issues of Labour Markets in Developing Countries*, EDI Services Paper No.40, World Bank, Washington D.C.

ECO 4003 ECONOMETRICS-II

Unit-I: Simultaneous Equation Models: Single equation methods (12)

- 1.1 Introduction – Structural form, reduced form, recursive form and final form model. The simultaneous equation bias and inconsistency of OLS estimators
- 1.2 The identification problem order and rank conditions of identification.
- 1.3 Estimation of simultaneous equation model – single equation model: Indirect least squares (ILS). Instrumental variable (IV); 2SLS and their properties
- 1.4 K-class estimator, limited information maximum likelihood (LIML) and least variance ratio (LVR)

Unit-II: Simultaneous equation method (12)

- 2.1 Seemingly unrelated regression equations
- 2.2 3SLS
- 2.3 FIML
- 2.4 Small Sample Populous of Estimators: Monte Carlo Experiments

Unit-III: Application of Simultaneous Equations (11)

- 3.1 Klein's Model & Klein' Goldberger Model
- 3.2 Wharton School as DRI Model
- 3.3 Simultaneous Equation Models in Production Function

Unit-IV: Time Series Analysis (11)

- 4.1 Stationary-unit roots and co-integration. Dickey-Fuller test, Engle-Granger test, Random walk model
- 4.2 Forecasting with ARIMA modelling, Box-Jenkin's methodology, Vector autoregression
- 4.3 Problems with VAR modelling — Applications
- 4.4 Panel data techniques-Random coefficients model, Fix effects model, Random effect model.

Basic Reading List

1. Bridge, J.L. (1971). *Applied Econometrics*, North Holland Publishing Company.
2. Chow, G.C. (1983). *Econometrics*, McGraw Hill, New York.
3. Intrilligator, M.D. (1978). *Econometric Methods, Techniques and Applications*, Prentice Hall, Englewood Cliffs, New Jersey.
4. Johnston, J. (1991). *Econometric Methods*, McGraw Hill Book Co., London.
5. Johnston, J. and J. Di Nardo (1997). *Econometric Methods*, The McGraw-Hill Companies Inc.
6. Judges Griffiths Hill, Lütkepohl and Lee (1994). *The Theory and Practice of Econometrics*, 4th edn., John Wiley & Sons, 1994
7. Kmenta, J. (1997). *Elements of Econometrics*, University of Michigan Press, New York.
8. Koutsoyannis, A. (1977). *Theory of Econometrics* (2nd Edn.). The Macmillan Press Ltd., London.
9. Theil, H. (1971). *Principles of Econometrics*, John Wiley & Sons Inc.

Additional Reading List

1. Gujarati, D.N. (1995). *Basic Econometrics* (2nd edn.). McGraw Hill, New Delhi.
2. Koutsoyannis, A. (1977). *Theory of Econometrics* (2nd edn.). The Macmillan Press Ltd., London.

ECO 4004 DEMOGRAPHY-II

Unit-I: Problems and Prospects of Population Growth and Development (11)

- 1.1 Changing characteristics of population growth in India, Population growth rates, trends and regional variations in sex ratios, Birth and death rate, Age distribution.
- 1.2 Changes in the family structure and their linkages with labour market, perspective on the population ageing in India, Stage of demographic transition in India, Demographic aspects of family in India.
- 1.3 Population, economy and environment linkages — Population, health, nutrition, productivity nexus.
- 1.4 Emerging issue in population stabilization in India, child health and survival, Epidemiologic transition in India, Demography and household behaviour.

Unit-II: Fertility, Nuptiality and Mortality (11)

- 2.1 Contraception and development factors in fertility transition in India, social inequality and fertility behaviour, Fertility transition in India, Reconciliation of family planning evaluation and fertility trends.
- 2.2 Nuptiality: Marriage ages, family size motivations and contraceptive prevalence in India, Impact of induced pregnancy termination on birth rate in India, Natural fertility and Nuptiality pattern in India
- 2.3 Levels and trends of mortality in India, Foetal, infant and child mortality rates in India, maternal mortality rates, life expectancy.
- 2.4 Fertility, mortality and contraceptive prevalence in tribal population; A System approach to population projection in India.

Unit-III: Migration and Urbanization (11)

- 3.1 Patterns of internal migration in India, social and occupational mobility — its measurement and inference, Rural-urban out-migration at household levels.
- 3.2 Population trends in mega cities in India, industrialization, urbanization and rural development
- 3.3 Patterns of family planning performance in relation to socio-economic development and state level, family planning communications and field promotional programme measures, India's family planning programmes — emerging issues
- 3.4 Food, famine and hunger in India — Its dynamics — Population policy thereto.

Unit-IV: Demographic Data Base of Population Policy in India (11)

- 4.1 Study of census in India — Methodology and characteristics of census.
- 4.2 Evolution of population policy in India — the shift in policy from population control to family welfare, to women empowerment
- 4.3 Family planning strategies and their outcome — Reproduction health, maternal nutrition and child health policies
- 4.4 Population and strategies for human development of different social groups, The new population policy, Tasks before the National Population Commission.

Basic Reading List

1. Agarwala, S.N. (1972). *India's Population Problem*, Tata McGraw-Hill Co., Bombay
2. Bose, A. (1996). *India's Basic Demographic Statistics*, B.R. Publishing Corporation, New Delhi.
3. Choubey, P.K. (2000). *Population Policy in India*, Kanishka Publications, New Delhi.
4. Gulati, S.C. (1988). *Fertility in India: An Econometric Study of a Metropolis*, Sage, New Delhi.
5. Srinivasan, K. and A. Shariff (1998). *India: Towards Population and Demographic Goals*, Oxford University Press, New Delhi.

Additional Reading List

1. Agnihotri, S.B. (2000). *Sex ratio in Indian Population: A Fresh Exploration*, Sage, New Delhi.
2. Gulati, S.C. (1988). *Fertility in India: An Econometrics Study of a Metropolis*, Sage, New Delhi.
3. Gupta, J.A. (2000). *New Reproductive Technologies, Women's Health and Autonomy*, Indo Dutch Studies on Development Alternatives, Sage, New Delhi.
4. Jhabwala, R. and R.K. Subramanya (2000) (Eds.) *The Unorganized Sector: Work Security and Social Protection*, Sage, New Delhi.
5. Krishnaji, M., R.M. Sudarshan and A. Shariff (1999). *Gender Population and Development*, Oxford University Press, New Delhi.
6. Mishra, S. (2000). *Voluntary Action in Health and Population: The Dynamics of Social Transition*, Sage, New Delhi.
7. Mitra, A. (1979). *Implications of Declining Sex Ratio in India's Population*, Allied, New Delhi.
8. Seth, M. (2000). *Women and Development: The Indian Experience*, Sage, New Delhi.
9. Srinivasan, K. (1998). *Basic Demographic Techniques and Applications*, Sage, New Delhi.
10. Sudarshan and A. Shariff (1999). *Gender Population and Development*, Oxford University Press, New Delhi.

ECO 4005 AGRICULTURAL ECONOMICS-II

Unit-I: Rural Credit (11)

- 1.1 Rural finance — Role of capital and rural credit, organised and unorganised capital market, rural savings and capital formation
- 1.2 Characteristics and sources of rural credit — Institutional and non-institutional, Reorganisation of rural credit — Cooperatives, Commercial banks, regional rural banks, Role of NABARD.
- 1.3 Cooperative movement, Genesis and growth of cooperative sector, Agricultural co-operation in India, Problems and Prospects of Cooperative Institutions.

Unit-II: Agricultural Pricing (11)

- 2.1 Agricultural pricing — Marketing and state policy, Agricultural markets and marketing efficiency — Marketing functions and costs, Market structure and imperfections, regulated markets
- 2.2 Marketed and marketable surplus, behaviour of agricultural prices — Cobweb model, price and income stability, state policy with respect to agricultural and non-agricultural prices, Need for state intervention.
- 2.3 Objectives of agricultural price policy — Instruments and evaluation, Food security in India and public distribution.

Unit-III: Agricultural Growth in India (12)

- 3.1 Recent trends in agricultural growth in India, inter-regional variations in growth of output and productivity, cropping pattern shifts
- 3.2 Supply of inputs — Irrigation, power, seed and fertilizers, pricing of inputs and role of subsidies
- 3.3 Distribution of gains from technological change
- 3.4 Role of public investment and capital formation in Indian agriculture, strategy of agricultural development and technological progress
- 3.5 Sustainable agriculture — indigenous practices, Bio-technological practices and growth potential.

Unit-IV: Agriculture and External Sector (11)

- 4.1 International trade in agricultural commodities, commodity agreements — Role of World Trade Organization
- 4.2 Issues in Liberalisation of domestic and International trade in agriculture — Nature and features of agribusiness, Role of MNCS
- 4.3 Globalisation of Indian economy and problems and prospects of Indian agriculture
- 4.4 Impact of World Trade Organisation on Indian agriculture.

Basic Reading List

1. Government of India (1976). *Report of the National Commission on Agriculture*, New Delhi.
2. Government of India, *Economic Survey* (Annual). New Delhi.
3. Gulati and Kelly (1999). *Trade Liberalisation and Indian Agriculture*, Oxford Univ. Press, New Delhi.
4. Gulati, A. and T. Kelly (1999). *Trade Liberalisation and Indian Agriculture*, Oxford University Press, New Delhi.
5. Kahlon and Tyagi (1983). *Agriculture Price Policy in India*, Allied Publishers, New Delhi.
6. Rao, C.H. Hanumantha (1975). *Agricultural Growth, Rural Poverty and Environmental Degradation in India*, Oxford University Press, New Delhi.
7. Reserve Bank of India, *Report on Currency and Finance* (Annual). Mumbai.
8. Reserve Bank of India, *Report on Currency and Finance* (Annual). Mumbai.
9. Rudra, A. (1982). *Indian Agricultural Economics: Myths and Reality*, Allied Publishers, New Delhi.
10. Rudra, A. (1982). *Indian Agricultural Economics: Myths and Reality*, Allied Publishers, New Delhi.
11. Saini, G.R. (1979). *Farm Size, Resource Use Efficiency and Income Distribution*, Allied Publishers, New Delhi.

Additional Reading List

1. Bhalla, G.S. (1994). *Economic Liberalisation and Indian Agriculture*, Institute for Studies in Industrial Development, New Delhi.
2. Brahmananda, P.R. and V.R. Panchamukhi (Eds.) (1987). *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
3. Chada, G.K. and A.N. Sharma (1997). *Growth, Employment and Poverty: Change and Continuity in Rural India*, Vikas Publishing House, New Delhi.
4. Chaudhury, P. (1972). *Readings in Indian Agricultural Development*, George Allen & Unwin, London.
5. Dantwala, M.L. (1996). *Dilemmas of Growth: The Indian Experience*, Sage Publications, New Delhi.
6. Dhawan, B.D. (1988). *Irrigation in India's Agricultural Development*, Sage Publications, New Delhi.
7. Jodhar, N. (Eds.) (1996). *Challenges to Indian Bankings*, Macmillan, New Delhi.
8. Raj, K.N. et al. (1988). *Essays in the Commercialisation of Indian Agriculture*, OUP, New Delhi.
9. R.B.I. (1989). *Report of the Agricultural Credit Review Committee*, Reserve Bank of India, Bombay.
10. Subbarao, K. and De Janvry (1986). *Agricultural Price Policy and Income Distribution in India*, O.U.P., N. Delhi.
11. Vaidyanathan, A. (1995). *The Indian Economy: Crisis, Response and Prospects*, Orient Longmans, N. Delhi.

ECO 4006 ECONOMICS OF GENDER AND DEVELOPMENT-II

Unit-I: Women, Education, Health and Decision-Making (11)

- 1.1 Status of women education (with special reference to India)
- 1.2 Education and Empowerment
- 1.3 Status of Health Care Programmes for Women (with special reference to India)
- 1.4 Power of Decision-making at household, class and community level.

Unit-II: Women and Labour Markets (11)

- 2.1 Factors affecting female entry in labour market
- 2.2 Female work participation in agriculture and non-agricultural activities (with reference to India)
- 2.3 Wage differentials in female activities
- 2.4 Determinants of wage differentials: gender, education, skill, productivity, efficiency.

Unit-III: Women and Social Security (11)

- 3.1 Social structure and social security of women — entitlements, ensuring economic independence and risk coverage.
- 3.2 Role of voluntary organizations, self-help groups in providing social security.
- 3.3 Review of legislation for women's entitlements, protection of property rights and social security.
- 3.4 Schemes for safety net for women.

Unit-IV: Gender Planning, Development Policies and Governance (11)

- 4.1 Mainstreaming gender into development policies.
- 4.2 Gender Planning techniques and gender sensitive governance.
- 4.3 Paradigm shifts from women's well being to women's empowerment.
- 4.4 Democratic decentralization and women's empowerment in India.

Basic Reading List

1. Agarwal, B. (1994). *A Field of One's Own: Gender and Land Rights in South Asia*, Cambridge Univ. Press, Cambridge.
2. Baud, I.S.A. (1992). *Forms and Production and Women's Labour: Gender Aspects of Industrialization in India and Mexico*, Sage Publications, New Delhi
3. Carr, M.C. Matha and R. Jhabvala (eds.) (1997). *Speaking Out: Women's Economic Empowerment in South Asia*, Vistaar Publications, New Delhi.
4. Dantwala, M.L., H. Sethi and P. Visaria (1998). *Social Change Through Voluntary Action*, Sage Publications, New Delhi.
5. Kabeer, N. and R. Subrahmanian (eds.). (1999). *Institutions, Relations and Outcomes*, Kali for Women, New Delhi.
6. Kalpagam, U. (1994). *Labour and Gender: Survival in Urban India*, Sage Publications, New Delhi.
7. King, M. and M.A. Hill (eds.) (1993). *Woman's Education in Development Countries: Barriers, Benefits and Politics*, John Hopkins, Baltimore.
8. Mazumdar, V. (1979). *Symbols of Power: Studies on the Political Status of Woman in India*, Allied, Delhi.
9. Mishra, S. (2000). *Voluntary Action in Health and Population: The Dynamics of Social Transition*, Sage Publications, New Delhi.
10. Papola, T.S. and A.N. Sharma (eds.) (1999). *Gender and Employment in India*, Vikas Publishing House, New Delhi.

Additional Reading List

1. Custers, P. (1997). *Capital Accumulation and Women's Labour in Asian Economics*, Vistaar, New Delhi.
2. Jhabwala, R. and R.K. Subramanya (eds.). (2000). *The Unorganized Sector: Work Security and Social Protection*, Sage Publications, New Delhi.
3. MHRD, Government of India, (1987). *Shram Shakti: Report of the National Commission on Self-Employed Women and Women Workers in the Informal Sector*, Ministry of Human Resource Development, New Delhi.
4. Narasimhan, S. (1999). *Empowering Women: An Alternative Strategy from Rural India*, Sage Publications, New Delhi.
5. Purushothaman, S. (1988). *The Empowerment of Women in India: Grassroots Women's Network and the State*, Sage Publications, New Delhi.
6. Srinivasan, K. and A Shroff (1998). *India: Towards Population and Development Goals*, Oxford University Press, New Delhi.
7. Venkateswaran, S. (1995). *Environment, Development and the Gender Gap*, Sage Publications, New Delhi.
8. Wazir, R. (2000). *The Gender Gap in Basic Education: NGOs as Change Agents*, Sage Publications, New Delhi.

ECO 4007 COMPUTER APPLICATIONS IN ECONOMIC ANALYSIS-II

Unit-I: Basics of FORTRAN and C (13)

- 1.1 Concept of Programming. Low Level and High Level Languages, Source Codes, object codes and Executable programs. Processes in Development of Software, Interpretation and Compilation.
- 1.2 Fundamentals of Algorithms. Recursion and iteration, Decomposability of algorithms, Efficiency of Algorithms.
- 1.3 Fundamentals of FORTRAN. Input-Output Statements, Declarations, Transfer of control, Logical testing and Branching, File Operations. Programming in FORTRAN.
- 1.4 Fundamentals of C and C⁺⁺. Writing elementary mathematical (numerical) and Statistical Programs in C and C⁺⁺.

Unit-II: Computer Applications in Econometric Analysis (10)

- 2.1 System Modeling and Description, Simultaneous Equation System and Identification, Reduced Form, Structural Form and Final Form, Recursive Models.
- 2.2 Indirect Least Squares, Two-Stage Least Squares, SURE, and Three-Stage Least Squares.
- 2.3 Limited Information and Full Information Maximum Likelihood Methods of Estimation of System Models.
- 2.4 Estimation of Consumption Functions, Production Functions and Cost Functions; Sato Type Functions.

Unit-III: Computer Applications in Advanced Multivariate Statistics (10)

- 3.1 Statistical Discriminant Analysis and Applications. Cluster Analysis.
- 3.2 Principal Component Analysis and Construction of Indices.
- 3.3 Factor Analysis: Extraction and Rotation methods for Factor Analysis; Structural Analysis.
- 3.4 Scaling methods, Multi-dimensional Scaling and Applications.

Unit-IV: Computer Applications in Operations Research (12)

- 4.1 Optimization in non-differentiable systems. Linear Programming and Applications.
- 4.2 Methods in Non-linear Programming, Gaussian methods, Quadratic Programming.
- 4.3 Search Methods, Box, Nelder-Meade, and Powell Algorithms of Non-linear Optimization.
- 4.4 Combinatorial Optimization. Integer Programming. Branch and Bound Methods. Location Allocation Programming, Critical Path Method.

Basic Reading List

1. Bechtel, G G (1976). *Multi-dimensional Preference Scaling*, Mouton & Co. The Hague.
2. Gillett, B E (1979). *Introduction to Operations Research : A Computer-oriented Algorithmic Approach*, Tata McGraw Hill, New Delhi.
3. Johnston, J (1991): *Econometric Methods*. McGraw-Hill, New Delhi.
4. Kerningham, B W and D M Ritchie (1988). *The C programming Language*, Prentice Hall, New Delhi.
5. Kim, J and C W Muller (1989). *Factor Analysis: Statistical Methods and Practical Issues*, Sage Publications, New Delhi.
6. Kuester, J L and J H Mize (1973) , *Optimization Techniques with Fortran IV*, MaGraw Hill, New York.
7. Nie, N H (1970). *SPSS – Statistical Package for Social Sciences*, McGraw Hill, New York.
8. Rushton, G, M F Goodchild and L M Ostresh (1973). *Computer Programs for Location-Allocation Problems*. Monograph 6, Dept. of Geography, Univ. of Iowa, Iowa.
9. Sharma, J K (1997). *Operations Research*, Macmillan India Ltd. Delhi.
10. Theil, H (1971). *Principles of Econometrics*, John Wiley, New York.

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2. Knuth, D E (1968) *The Art of Computer Programming Fundamental Algorithms*, Addison
3. Krishnamurthy, E V and S K Sen (1992). *Computer-Based Numerical Algorithms*,
4. Gujarati, D.N. (1995). *Basic Econometrics* (2nd Edn.). McGraw Hill, New Delhi.
5. Koutsoyiannis, A. (1977). *Theory of Econometrics* (2nd Edn.). The Macmillan Press
6. Maddala, G.S. (1997). *Econometrics*, McGraw Hill; New York.
Affiliated East-West Press, New Delhi.
Ltd., London.
7. Norton, Peter and R Jourdain (1989). *The Hard Disk Companion*, Prentice Hall of India, New Delhi.
8. Rajasekaran, S (1986). *Numerical Methods in Science and Engineering*, A H Wheeler, Allahabad.
Wasley, London.

ECO 4008 ECONOMICS OF INFRASTRUCTURE-II

Unit-I: Electricity, Gas and Water Supply (11)

- 1.1 Bulk Supply and Pricing of Electricity.
- 1.2 The Relative Economics of Thermal, Hydel and Nuclear Power Plants. The Case for a National Power Grid.
- 1.3 Financing Water Utilities.
- 1.4 Urban and Rural Water Supply. The Exploitation of Natural Gas. Pricing Problem.

Unit-II: Social Infrastructure (11)

- 2.1 Organization and Financing of Supply of Social Services.
- 2.2 Private vs. Public Sector Financing.
- 2.3 Recent debate about the fixation of prices of social services.
- 2.4 Development of social services in the successive Indian Plans.

Unit-III: Education (11)

- 3.1 Education and Economic Growth. Approaches to Educational Planning. Social Demand
- 3.2 Rate of Return and Manpower Balance Approaches.
- 3.3 The Case for Universal, Free, Primary Education.
- 3.4 Structure of Higher Education and Problems of its Financing in India: Human Resources and Human Capital Development. The issues in education policy.

Unit-IV: Health (11)

- 4.1 Health dimensions of development; Determinants of Health — poverty, malnutrition, illiteracy and lack of information.
- 4.2 Economic dimensions of health care — Demand and supply of health care.
- 4.3 Financing of health care and resource constraints; Inequalities in health — Class and gender perspectives.
- 4.4 Institutional issues in health care delivery.

Basic Reading List

1. Parikh, K.S. (ed.). (1997). *India Development Report 1997*, Oxford, New Delhi.
2. Parikh, K.S. (ed.). (1999). *India Development Report — 1999-2000*, New Delhi.
3. Turvey, R. (ed.). (1968). *Public Enterprises*, Penguin, Harmondsworth.

Additional Readings

1. Becker, G.S. (1974). *Human Capital* (2nd Edition). National Bureau of Economic Research, New York.
2. Eckstein, O. (1958). *Water Resource Development*, Harvard University Press, Cambridge.
3. McMohan, W.W. (1999). *Education and Development: Measuring the Social Benefits*, Oxford University Press, Oxford.
4. Panchamukhi, P.R. (1980). *Economics of Health: A Trend Report* in ICSSR, A Survey of Research in Economics, Vol.VI, Infrastructure, Allied, Delhi.
5. Tilak, J.B.G. (1994). *Education for Development in Asia*, Sage Publications, New Delhi.
6. Turvey, R. and D. Anderson (1977). *Electricity Economics*, John Hopkins University Press, Baltimore.
7. Vaizey, J. (1962). *Economics of Education*, Faber and Faber, London.

ECO 4009 BUDGETARY THEORY AND PRACTICE

Unit-I: Normative Principles of Public Expenditure and Taxation (11)

- 1.1 Theory of Public Expenditure, Structure and Growth of Public Expenditure, Criteria for Public Investment.
- 1.2 Reforms in Expenditure Budgeting, Programme Budgeting and Zero Based Budgeting.
- 1.3 The Incidence of Budgetary Measures and their Effects on Resource Mobilization on Aggregate Expenditure and on Growth; the Analysis of important individual taxes.
- 1.4 Theory of Measurement of Dead Weight Losses, the Problem of Double Taxation.

Unit-II: Public Debt and Fiscal Policies (11)

- 2.1 Classical view of Public debt, compensatory aspect of debt policy, Burden of public debt, Sources of public debt, Debt through created money.
- 2.2 Public borrowings and Price level, Crowding out of private investment and Activity, Principles of Debt Management and Repayment.
- 2.3 Objectives of Fiscal Policy: Allocation, Growth and Distribution, Budgetary Deficits and Its Implications.
- 2.4 Fiscal Policy for Stabilization – Automatic vs. Discretionary Stabilization, Alternative Measures of Resource Mobilization and their Impact on Growth, Distribution and Prices, Balanced Budget Multiplier.

Unit-III: The Relation between Government Budgets and National Plan (11)

- 3.1 The Analysis and Interpretation of Government Budgets and Balance Sheets of Public Enterprises, Types of Budget Classification and their Uses.
- 3.2 Budgetary Policies and their Impact on Resource Mobilization and Income Distribution.
- 3.3 Principles of Multi-unit Finance; the Role of Finance Commission and Planning Commission.
- 3.4 The Theory of Grants and National vs. Regional Plans.

Unit-IV: Fiscal Federalism and Indian Budgetary Policies (11)

- 4.1 Fiscal Federalism in India, Assignment of Functions and Sources of Revenue; Criteria for transfer of resources, Problems of State Resources and Indebtedness.
- 4.2 Centre-State financial relations in India. Transfer of resources from Union and States to Local bodies.
- 4.3 Revenue of the Union, States and Local Bodies. Analysis of Central and State Government Budgets.
- 4.4 Shrinking size of developmental finance through Budgets; Fiscal crisis and fiscal sector reforms in India; Reports of Finance Commission in India.

Basic Reading List

1. Buchanan, J.M. (1958). *Public Principles of Public Debt, A Defence and Restatement*, Richard D. Irwin Homewood.
2. Bird, R. and O. Oldman (1967), *Readings on Taxation in Developing Countries*, the John Hopkins University Press, Baltimore.
3. Cutt, J. (1969). *Taxation and Economic Development in India*, Frederick A. Praeger Publishers, New York.
4. Kaldor, N. (1955). *An Expenditure Tax*, George Allen and Unwin, London.
5. Mishan, E.J. (1982). *Cost-Benefit Analysis: An Informat Introduction*, George Allen and Unwin, London.
6. Peacock, A. and D.J. Robertson (Eds.) (1963), *Public Expenditure: Appraisal and Control*, Oliver and Boyd, Edinburgh.
7. Phyr, P. (1970). *Zero Base Budgeting: A Practical Management Tour Tool for Evaluating Expenses*, John Wiley, New York.

Additional Reading List

1. Bhargava, P.K. (1982). *Centre State Resource Transfers in India*, The Academic Press, Gurgaon.
2. Borkar, V.V. (1971), *Income Tax Reform in India*, Popular Prakashan, Bombay.
3. Chelliah, R.J. (Ed.) (1997), *Towards Sustainable Growth*, Oxford University Press, New Delhi.
4. Ferguson, J.M. (Ed.) (1964), *Public Debt and Future Generations*, North Carolina University Press, Chapel Hill.
5. Government of India (1985), *Long Term Fiscal Policy*, New Delhi.
6. Gulati, I.S. (1979), *Centre State Financial Relations: An Assessment of the Role of Finance Commission*, M.S. University of Baroda, Baroda.
7. Lakdawala, D.T. (1967), *Union State Financial Relations*, Lalwani Publishing House, Mumbai.

ECO 4010 WELFARE ECONOMICS-II

Unit-I: Modern Contribution to Welfare Economics (11)

- 1.5 Deviation from Bentham-Mill approach to Justice. Rawlsian Concept of Justice.
- 1.6 Issues in Poverty at national and international levels. Measurement/Indices of Development and Welfare at national and international levels.
- 1.7 Amartya Sen's contributions to Justice and Welfare. Opulence, entitlement, right to ownership, justice and welfare.
- 1.8 Poverty in India. Sectional and Spatial Distribution. Trends in incidence of poverty. Poverty and other related social issues.

Unit-II: Mathematical Approaches to Welfare Economics-I (11)

- 2.1 Compatibility of Growth, justice and Welfare. Contributions of Gunnar Myrdal. Justice and Welfare as basic conditions of growth.
- 2.5 Negishi's theorem on Social Welfare and Efficiency.
- 2.6 The first and the second Zero-Maximum theorems and their implications.
- 2.7 The Shortage Function. The first and the second Zero-Minimum theorems and their implications.

Unit-III: Mathematical Approaches to Welfare Economics-II (11)

- 3.1 Game-theoretic approach to welfare economics: Concept of the Nash Equilibrium. Conditions for existence of Nash equilibrium.
- 3.5 Majority Voting, Lindhal Equilibria and Compatibility with Nash Equilibrium.
- 3.6 Revelation Procedures. Vickrey auction, Groves Mechanism, justice, efficiency and welfare.
- 3.7 Issues in Moral Hazards, Principal-Agent Problem, Property rights and the Social Choice.

Unit-IV: Policy Oriented Considerations (11)

- 4.1 Public policies as measures to correct the market failure. Public policies for signaling in mixed economies.
- 4.2 Policy evaluation and Project evaluation. Problems in Policy evaluation and re-visit to the principal agent problem and moral hazards. different Methods and issues relating to Policy evaluation.
- 4.3 Cost-benefit analysis, Tinbergen's approach, Theil-Boggard approach to evaluation.
- 4.4 Multi-criteria methods, Criteria for evaluation, Concordance Analysis for Project Evaluation.

Basic Reading List

1. Baumol, W.J. (1965). *Welfare Economics and the Theory of the State*, Longman, London
2. Baumol, W.J. and W.E. Oates (1988). *The Theory of Environmental Policy* (2nd Edition). Cambridge University Press, Cambridge.
3. Baumol, W.J. (ed.) (2001) *Welfare Economics*, Edward Elgar Publishing Ltd. UK
4. Broadway, R.W. and N. Bruce (1984). *Welfare Economics*, Basil Blackwell, Oxford.
5. Graff, J. de (1957). *Theoretical Welfare Economics*, Cambridge Univ. Press., London.
6. Hicks, J.R. (1944) The Four Consumers' Surpluses. *Review of Economic Studies*. Vol. XI.
7. Little, I.M.D. (1957) *A Critique of Welfare Economics*, Oxford Univ. Press, Oxford. 2nd Edition.
8. Myint, Hla (1948) *Theories of Welfare Economics*, Longmans, London.
9. Quirk, J. and R. Saposnik (1968). *Introduction to General Equilibrium Theory and Welfare Economics*. McGraw Hill, New York.
10. Tietenberg, T. (1994). *Environmental Economics and Policy*, Harper Collins, New York.

Additional Reading List

1. Blaug, M. (1978). *Economic Theory in Retrospect*, Cambridge University Press, London.
2. Feldman, A.M. (1980). *Welfare Economics and Social Choice Theory*, Kluwer Nijhoff,
3. Pearce, D.W. and C.A. Nash (1981). *The Social Appraisal of Projects: A text in Cost Benefit Analysis*. Halsted Press, John Wiley & Sons, New York.
4. Pigou, A.C. (1962) *The Economics of Welfare*. Macmillan.
5. Samuelson, P.A. (1947) *Foundations of Economic Analysis*, Harvard Univ. Press, Mass.
6. Takayama, A. (1974). *Mathematical Economics*. Dryden Press, Hinsdale, Illinois
7. Varian, H.R. (1992). *Micro-Economic Analysis*. W.W Norton & Co. New York.

ECO 4012 ECONOMICS OF DEVELOPMENT-II

Unit-I: Poverty, Inequality and Development (11)

- 1.1 Economic Inequality and Its various measures
- 1.2 Inequality, income and growth – The inverted-U hypothesis and its testing
- 1.3 Poverty – Conceptual issues and measures
- 1.4 Economic Development and functional impact of poverty

Unit-II: Trade and Development (12)

- 2.1 International Trade as Engine of growth- static and dynamic gains from trade
- 2.2 Prebisch, Singer and Myrdal Thesis vs. Free trade
- 2.3 Technology, Trade and Development – Technological Gap Theories
- 2.4 Post-GATT international economic order – WTO and developing countries

Unit-III: Technology and Development (11)

- 3.1 Technological Progress – The Convergence Debate
- 3.2 Total Factor Productivity and Growth Accounting
- 3.3 Endogenous growth and the role of intellectual capital, learning, education and research
- 3.4 Externalities, technical progress and growth

Unit-IV: Market, State, Community and Development (11)

- 4.1 Efficiency of the competitive market – Market failure – Ricardo vs. List – The Listian Trap
- 4.2 Governance and development – The Government failure – on the choice of economic system – The Idea of Social Capital – definition, features and implications
- 4.3 Economic functions of community – management of common property resources – role and implications
- 4.4 Community failure and its correction: role of social institutions

Basic Reading List

1. Brown, M. (1966) *On the Theory and Measurement of Technical Change*, Cambridge University Press, Cambridge, Mass.
2. Debraj, Ray (1999) *Development Economics*, Oxford University Press, New Delhi.
3. Grossman, G. and E. Helpmen (1991) *Innovation and Growth in the Global Economy*, MIT Press, Cambridge, Mass.
4. Hayami, Y. (1997) *Development Economics*, Oxford University Press, New York.
5. Kahkonon, S. and M. Oslon (2000) *A New Institutional Approach to Economic Development*, Vistaar.
6. Mehrotra, S. and J. Richard (1998) *Development with a Human Face*, Oxford University Press, New Delhi.
7. Sen, A.K. (1992) *Inequality Reexamined*, Oxford University Press, Oxford.
8. Therberge, J.D. (ed.) (1968) *Economics of Trade and Development*, John Wiley, New York.

Additional Reading List

1. Aghion, Philippe, Eve Caroli and Cecilia Garcia Penalosa (1999) "Inequality and Income Growth: The Perspective of New Growth Theories", *Journal of Economic Literature*, Vol.27.
2. Alesina, Alberto and Dani Rodrik (1994) "Distributive Politics and Economic Growth", *Quar. Jour. of Eco.*, Vol.109.
3. Anand, Sudhir and Ravi Kanbur (1993) "Inequality and Development: A Critique", *Jour. of Development Eco.*, Vol.41.
4. Bardhan, Pranab (1997) *The Role of Governance in Economic Development: A Political Economy Approach*, Washington Centre Press, Washington.
5. Burki, Shahid Javed, Guillermo Pervy and William Dilinger (1999) *Beyond the Centre: Decentralising the State*, World Bank, Washington DC.
6. Burt, Ronald (1992) *Structure Holes: The Social Structure of Competition*, Harvard University Press, Cambridge.
7. Clague, Christopher (ed) (1997) *Institutions and Economic Development: Growth and Governance in Less-Developed and Post Socialist Countries*, Johns Hopkins University, Baltimore.
8. Cowell, Frank (1995) *Measuring Inequality*, Prentice Hall, New York.
9. Dasgupta, Partha and Ismail Serageldin (eds.) (2000) *Social Capital: A Multifaceted Perspective*, World Bank, Washington DC.
10. Economic Commission for Latin America and the Caribbean (ECLAC) (1995) *Human Settlements: The Shelter of Development*, Santiago.
11. Elkan, W. (1973) *An Introduction to Development Economics*, Penguin.
12. Gittel, Ross and Avis Vidal (1998) *Community Organizing: Building Social Capital as a Development Strategy*, Sage, Newbury Park.
13. Grindle, Merilee (1997) *Getting Good Government: Capacity Building in the Public Sectors of Developing Countries*, Harvard University Press, Cambridge.
14. Hogendorn, J. (1996) *Economic Development*, Addison, Wesley, New York.
15. Kalecki, M. (1976) *Essays on Developing Economics*, Harvester Press.
16. Little, I.M.D. (1982) *Economic Development Theory and International Relations*, Basic Books, New York.
17. North, Douglass (1990) *Institutions, Institutional Change and Economic Performance*, Cambridge Univ. Press, NY.
18. Odaka, Konosuke and Juro Teranishi (1998) *Markets and Government: In Search of Better Coordination*, Maruzen, Tokyo.
19. Psacharopoulos, George (ed) (1991) *Essays on Poverty, Equity and Growth*, Pergamon, New York.
20. Steward, Fred (1978) *Technology and Underdevelopment*, Macmillan, London.
21. Thirwal, A.P. (1999) (6th Edition) *Growth and Development*, Macmillan, U.K.

ECO 4013 FINANCIAL ECONOMICS-II

Unit –I: Dividends and Valuation **(12)**

- 1.1 Dividends to Shareholders: Determinants of Dividends, Dividend Policy; Cash Dividends, Stock Dividends, Stock Splits.
- 1.2 Irrelevance of Dividends: Modigliani and Miller Hypothesis.
- 1.3 Relevance of Dividends: Walter’s Model; Gordon’s Model.
- 1.4 The P/E Ratio, The D/P Ratio, Their importance in Financial Analysis.

Unit –II: Derivative Markets **(11)**

- 2.1 Derivatives: Uses of Derivatives, Future Contracts and Forward Contracts.
- 2.2 Futures and Forward Markets: Origin of Futures Trading; Basic Elements and Organisation of Future Contracts.
- 2.3 Futures Prices: Relation among Spot and Future Prices; Financial Futures.
- 2.4 Commodity Futures; Hedging; Futures and Portfolio Management.

Unit –III: Options **(11)**

- 3.1 Options: The Put Option; The Call Option; Option Pricing, Institutional Aspects.
- 3.2 Exchange traded Stock Options; The Pay-offs from Buying and Selling Options; Boundary Conditions.
- 3.3 The Put-Call Parity Theorem; Its Relevance in Option Pricing.
- 3.4 Option Pricing Models: The Binomial Model, The Black-Scholes Model.

UNIT –IV: SWAPS, MUTUAL FUNDS AND SEBI **(11)**

- 4.1 Swaps: Currency and Interest Rate Swaps; Vanilla Interest Rate Swaps;
- 4.2 Swaptions and Other Types of Swaps; Equity and Commodity Swaps.
- 4.3 Mutual Funds: Introduction, Valuation (NAV); UTI and Other Mutual Funds.
- 4.4 The Securities and Exchange Board of India (SEBI): Its Functions and Role in Regulating the Financial Markets.

Basic Reading List

1. Avadhani, V.A. (2003). *Security Analysis and Portfolio Theory*, Himalaya Publishing House, Mumbai.
2. Bal Krishan and Narta, S S. (2002). *Security Markets in India*, Kanishka Publishers, New Delhi.
3. Brahmaiah, B and Subba Rao, P. (2003). *Financial Futures and Options*, Himalaya Publishing House, Mumbai
4. David.N.King. (1999). *Financial Claims and Derivatives*, International Thomson Business Press, London.
5. Donald E.Fisher and Ronald.J.Jordan. (2004). *Security Analysis and Portfolio Management*, McGraw Hill, New York.
6. John.C.Hull. (2005). *Options, Futures and Other Derivatives*, Prentice-Hall, New Delhi.
7. Keith Redhead. (2005). *Financial Derivatives : An Introduction to Futures, Forwards, Options and Swaps*, Prentice-Hall, N.D.

Additional Reading List

1. Albert .J.Fredman and Russ Wiles. (2004). *How Mutual Funds Work*, McGraw Hill, Irwin.
2. Gardner, D.C. (2003). *Derivatives*, McMillan India Limited, New Delhi.
3. Gardner, D.C. (2003). *Futures and Options*, McMillan India Limited, New Delhi.
4. Gardner, D.C. (2003). *Swaps*, McMillan India Limited, New Delhi.
5. Haugen, Robert.A. (2004). *Modern Investment Theory*, McGraw Hill, Irwin.
6. Khan, M Y. and Jain, P K. (2004). *Financial Management: Text, Problems and Cases*, Tata McGraw Hill, New Delhi.
7. Prasanna Chandra. (2004). *Financial Management: Theory and Practice*, Tata McGraw Hill, New Delhi.

N.B: The Reading Lists provided for paper I may also be consulted for this paper wherever relevant.