

Syllabus of Post Graduate Studies in Economics

CHOICE BASED CREDIT SYSTEM (CBCS) - 2019

(A) CORE COURSES

SL. NO.	COURSE CODE	NAME OF THE PAPER	CREDIT	SEMESTER NUMBER
1	ECON 701C	Microeconomic Analysis-I	4	I
2	ECON 702C	Macroeconomic Analysis-I	4	I
3	ECON 703C	Quantitative Techniques for Economics	4	I
4	ECON 704C	Indian Economics	4	I
5	ECON 801C	Microeconomic Analysis-II	4	II
6	ECON 802C	Macroeconomic Analysis-II	4	II
7	ECON 803C	Basic Econometrics & Statistics	4	II
8	ECON 901C	Development Economics	4	III
9	ECON 902C (Any One as Special paper)	(i) Agricultural Economics-I (ii) Mathematical Economics-I (iii) Econometrics-I (iv) Environment & Resource Economics-I (v) Health Economics-I	4	III
10	ECON 1001C	Dissertation/Project/Field Study Report	4	IV
11	ECON 1002C (same special paper to be retained)	(i) Agricultural Economics-II (ii) Mathematical Economics-II (iii) Econometrics-II (iv) Environment & Resource Economics-II (v) Health Economics-II	4	IV
12	ECON 1003C	Economics of North Eastern Region of India	4	IV

(B) COMPULSORY FOUNDATION COURSE

1	ECON 903C	Computer Applications in Economics	4	III
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TOTAL = 52 CREDITS

(C) ELECTIVE COURSES

1	ECON 804E	Economics of Social Sector	4	II
2	ECON 904E	Public Economics	4	III
3	ECON 1004E	International Trade and Development	4	IV
4	ECON 1005E	History of Economic Thought	4	IV

Total Course Credit = A + B + C

= **Core** 48 Credits + **Compulsory** 04 credits + **Elective** 12 credits

(including 04 compulsory credit from other department)

= **64 Credits (Min)**

(A) CORE COURSES

ECON 701C: MICROECONOMIC ANALYSIS-I

UNIT I Theory of Choice and Individual Demand

Axioms of Consumer Preference, Consumer Equilibrium: Indifference Curves approach, Income effect and Substitution effect (Slutsky and Hicks) - compensated demand curves and Revealed Preference Approach.

Duality of Utility maximization (Indirect Utility Function, Roy's Identity-Marshallian Demand) and Expenditure Minimisation (: Expenditure Function-Shepperd's Lemma, Hicksian Demand)

UNIT II Production, Costs and Theory of Firms

Production Function for single product and multi product firms, homogeneous production functions, Cobb-Douglas and C.E.S. production function.

Cost of production: Short- run and Long-run costs, types of cost curves.

Isoquants, profit maximization, cost minimization and derivation of cost function from production function.

Equilibrium of a firm under perfect competition (short run and long run), monopoly, price discrimination, monopolistic competition, bilateral monopoly and oligopoly.

UNIT III Alternative Theories of Firm

The marginalist controversy. The average cost pricing theory. Bain's limit pricing theory and its recent developments- Sylos-Labini and Modigliani's model. Baumal's theory of sales revenue maximization: Static and Dynamic model.

Williamson's model of managerial discretion, Morris model of managerial enterprise. Full cost pricing rule, Behavioural model of the firm.

UNIT IV Decision Making Under Uncertainty

Uncertainty and Risk - Choice under Uncertainty and Risk, Von Neumann Morgenstern Expected utility function-consumers equilibrium under uncertainty-individual's attitude toward risk-risk aversion.

Insurance and Gambling.

ECON 702C: MACROECONOMIC ANALYSIS - I

UNIT-I: Schools of Macroeconomic Thoughts

Classical, Keynesian, Neo Classical, Monetarism, New Keynesian and New Classical Macroeconomics and other schools of Thought – features, determination of output and employment.

UNIT-II: New Classical Economics

Rational expectations hypothesis: Barro – Lucas model, anticipated and unanticipated monetary shocks and equilibrium business cycles, issue of time inconsistency Real Business Cycle – Inter temporal substitution of labour, Propagation mechanism, policy issues.

UNIT-III: New Keynesian Economics

Sticky price and Efficiency wage models, Models of staggered wages and prices, Strategic complementarity and coordination failure, Adverse selection in credit market and equilibrium credit rationing.

UNIT - IV: Open Economy Macroeconomics

The Foreign Exchange Market and Income Determination, Capital flow and effective demand: Mundell – Fleming model and policy effectiveness under alternative exchange rate regimes. Inflation and Monetary Policy: Inflation, Money growth and Interest rates, Monetary Policy and the term structure of interest rates, The dynamic inconsistency of low-inflation monetary policy.

Suggested Readings

- Snowdon, B. and H. R. Vane, Modern Macroeconomics: Its Origins, Development and Current State
- Attfield, C. L. F., Demery, D. and Duck, N. W, Rational Expectations in Macroeconomics: An Introduction to Theory and Evidence
- Dornbusch, Fischer and Startz, Macroeconomics
- Mankiw and Romer (ed.), New Keynesian Economics
- Gali, J, Monetary Policy, Inflation, and the Business Cycle
- Froyen, Richard T, Macroeconomics, Pearson Education.

ECON 703C: QUANTITATIVE TECHNIQUES FOR ECONOMICS

Unit-I: Mathematical Foundation:

Linear Algebra (Polynomial equations), Matrix Algebra – Abstract Algebra (Set theory)

Unit-II: Differential calculus and Integral Calculus – Applications in Economics:

Function, Limit, First order and Second order derivative, Integration both indefinite and definite, Integration by Parts.

Differential equation and its applications, Application of Growth models and simple properties of time path of continuous variables.

Applications of difference equations in trade cycle models, Growth models and lagged market equilibrium models.

Unit-III: Optimization and Applications: Condition for maximum and minimum - Concavity and convexity, criteria for checking Concavity and Convexity function, concept of local and global extremum, Unconstrained maxima and minima with multi-variable(s), solution methods.

Applications to cost minimization, utility, revenue, tax, profit maximization and equilibrium of the firm,

Price discrimination, multiproduct equilibrium, Multi-plant monopolist, equilibrium of firm with advertisement cost and subsidy.

Unit-IV: Constrained Optimization and Applications:

Optimization with a single constraint- Bordered Hessian, Lagrange multiplier method, Lagrangian function, economic implication of Lagrangian multiplier, application to consumer's equilibrium in commodity market and producer's equilibrium in factor market.

Essential Readings:

1. A.C. Chiang, *Fundamental methods of Mathematical Economics*, McGraw Hill, 1988
2. R.G.D. Allen, *Mathematical Analysis for Economists*, Macmillan, 1976.
3. Taro Yamane, *Mathematics for Economists: An Elementary Survey*, 2nd Edition, Prentice Hall of India, New Delhi, 1985.
4. W. Novshek, *Mathematics for Economists*, Academic Press, New York, 1993.
5. M. Intriligator, *Mathematical Optimization and Economic Theory*, Englewood Cliffs, N.J. Prentice Hall, 1971.
6. B. Mukherji and V. Pandit, *Mathematical Methods for Economic Analysis*, 2nd Edition, Allied Publishers, 1989.
7. C. P. Simon and L. Blume, *Mathematics for Economists*, Norton and Company, 1994.
8. M. Hoy, *et. al.*, *Mathematics for Economics*, Addison-Wesley, 1996.
9. Dixit, *Optimization in Economic Theory*, 2nd Edition, Oxford University Press, 1990.
10. D. Wade Hands, *Introductory Mathematical Economics*, D.C. Heath, 1991
11. S. Baruah, "Basic Mathematics and its Economics Applications", MacMillan

ECON 704C: INDIAN ECONOMICS

Unit-I: Demography, Unemployment and Poverty

Demographic features and trends- National population policies-2000, Unemployment and underemployment issues -Jobless growth and rising unemployment; Poverty in India- perspectives and measures, Trend of Poverty -Pre and post reforms; Poverty alleviation programmes.

Unit-II: Agriculture

Indian agriculture- an overview of performance and issues -the need and scope for land reforms, objectives of land reforms, A critical analysis of land reform measures introduced in India, The success and drawbacks of Green Revolution and the way ahead. Agricultural price policy, Indian Agriculture and WTO

Unit-III: Industry

New Industrial Policy, 1991 & Industrial Policy, 2017 (Paper discussion); Disinvestment Policy, Micro, Small and Medium Enterprises (MSME) Development Act, 2006; National Manufacturing Policy, 2011, Recent Trends in India's Industrial Growth, Public sector – Role and Performance

Unit-IV: India in Global Context:

Service Sector in India-Implications for International Trade, India and the World Economy- The Uruguay Round of Trade Negotiations (TRIPS & TRIMS) and WTO; Trade and Investment- Structure and direction of foreign trade, International trade policies and liberalization; Capital Account Convertibility and FDI ; Role of MNCs in the Indian Economy - Merits and Demerits.

Reading List

1. Bhawati Jagadish and Arvind Panagariya (2013): Why Growth Matters: How economic Growth in India Reduced Poverty and lessons for other Developing Countries, Public Affairs.
2. Bhalla, G.S. (2007): *Indian Agriculture since Independence*, New Delhi: National Book Trust.
3. Byres, T.J. (1998) (Ed.): *The Indian Economy: Major Debates Since Independence*, OUP, Delhi.
4. Bardhan, P. K. (1999): *Political Economy of Development in India*, OUP, ND.
5. Chakravarty, S. (1987): *Development Planning: the Indian Experience*, OUP, ND.
6. Datt and Sundaram (latest edition): *Indian Economy*, S Chand and Company, New Delhi.
7. Dreze J. And A.k. Sen (2013), *Uncertainty Glory: India and Its Contradiction* by Prince ton University Press.
8. Dantwala M.L. (ed.)(1991), *Indian Agricultural Development since Independence*, Second Revised Edition, Oxford & IBH Publishing Co. (General Reference).
9. *Indian Economic Survey*- latest issue
10. K.L. Krishna, Kristy Tsun-tzu Hsu (Eds.) (2009): *Readings in Indian Agriculture and Industry*, Academic Foundation
11. Kapila, Umma (Ed)(2014): *Indian Economy Since Independence*. 25th edition, Academic Foundation, Delhi.
12. Kapila, Umma (2015): *Indian Economy: Performance and Policies: 2015-16*, Academic Foundation.
13. Mookherjee Dilip, (1998), (Ed.) *Indian Industry-Policies and Performance*, Oxford University Press, Delhi.
14. Nagaraj R (Ed) (2012): *Growth Inequality and Social Development in India. Is Inclusive Growth Possible?*, London, Palgrave Macmillan.

15. Raj Kapila and Uma Kapila (2007). *Economic Developments in India*, Academic Foundation, New Delhi.
16. Sandesara, J.C. (1992): *Industrial Policy and Planning, 1947-91: Tendencies, Interpretation and issues*. Sage, ND.
17. Tendulkar, S.D and T.A. Bhavani (2007): *Understanding reforms –Post 1991 India*, OUP.
18. Vaidhanathan, A. (1995), *The Indian Economy: Crisis, Response and Prospects*, Orient Longmans, New Delhi.

ECON 801C: MICROECONOMICS ANALYSIS-II

UNIT I Strategic Interaction: Game Theoretic Approach with Applications

Concept of a Game -two person zero-sum and non-zero sum games. maximin and minimax strategies, dominant strategies - Nash Equilibrium Prisoners dilemma; Dynamic games –sub games- sub game perfect Nash Equilibrium.

Duopoly: Competition in Quantity (Cournot), Price (Bertrand), Market Leadership (Stackleberg), Market Entry.

UNIT II General Equilibrium

The Exchange Economy: Walrasian General Equilibrium Model,

Excess demand approach- existence, uniqueness and stability (static and dynamic)

Introductions to the Contributions of Arrow and Debreu.

Leontief Input output Model of Production.

UNIT III Welfare Economics and Market Failure

Pareto Optimality: The Fundamental Theorems of Welfare Economics.

Compensation Principles, Social Choice, Social Welfare Function, Arrow's Impossibility Theorem, Contributions of Sen.

Market Failure: Causes and instances, externality and public good, Welfare Effects of Non-price Allocations and Price Control.

UNIT IV Information Economics

Asymmetric and Imperfect Information Models: Adverse Selection, Moral Hazard, Signaling, Separating and Pooling Equilibria. Incentive Design in the Context of asymmetric information.

The Economics of Search: Different models, the efficient market hypothesis, stochastic models of inventory demand.

ECON 802C: **MACROECONOMIC ANALYSIS - II**

UNIT - I: Growth Models

The Solow Growth models

Behind the Solow model: The Ramsey-Cass-Koopmans Infinite Horizon Model and The Diamond Overlapping Generations Model.

Suggested Readings

- Romer, David, Advanced Macroeconomics

UNIT-II: Endogenous Growth Models

Research and Development Models

Human Capital Models

Suggested Readings

- Romer, David, Advanced Macroeconomics

UNIT-III: Business Cycles

The Theory of Real Business Cycles, New Keynesian Economics, A Baseline Real Business cycle Model, Household Behaviour, Empirical Applications.

Suggested Readings

- Mankiw, N Gregory, Macroeconomics
- Romer, David, Advanced Macroeconomics
- Schiller, Bradley and Karen Gebhardt, The Macro economy Today.

UNIT-IV: Macroeconomics for Developing countries

Nature and scope of development macroeconomics – a general accounting framework - economic structure of developing countries with emphasis on production structure, labour market and financial sector

The World Bank – IMF view of developing country macroeconomics – issue of stabilization – a prototype WB- IMF model of developing country with a critical appraisal

Suggested Readings:

- Agenor,P-R & Peter.J., Montiel , Development Macroeconomics
- Haque, N. U., Kajal Lahiri & Peter.J., Montiel, A Macroeconometric Model for Developing Countries, IMF Staff Papers, Vol.37, No.3 (Sept. 1990)
- Montiel Peter.J., Macroeconomics in Emerging Markets
- Taylor.L. Varieties of Stabilization Experience, (1988)

Unit I: Correlation and Regression Analysis

Pearson's Product Moment Correlation Coefficient- Properties and Applications; Spearman's rank correlation coefficient, with and without ties-properties and applications. Two variable linear regression- properties of least square estimators and applications, Standard error of the estimates.

Multivariate regression-three variable linear regression, least square estimate of coefficients; multiple correlation, partial correlation and simple correlation and its relation-applications.

Unit II: Probability and Distributions

Classical, empirical and axiomatic definitions with applications; theorems of probability, conditional probability and independence of events; Bayes' Theorem and applications.

Random variable- discrete and continuous; probability mass and density functions; distribution function; mathematical expectation; moments and moment generating functions- properties; applications of mathematical expectation in variance, co-variance and correlation.

Binomial, Poisson and Normal Distribution- Properties and applications of each.

Unit III: Estimation and Testing of Hypothesis

Point estimation and interval estimation; parameter, statistics, estimator and estimate-concepts; Desirable properties of a point estimator; maximum likelihood estimation.

Null and alternative hypotheses, Types of errors, level of significance, choice of critical region, one tailed two tailed tests. Large and small sample tests using Normal, t, χ^2 and F distribution.

Unit – IV: Classical Linear Regression Model

Nature, meaning and scope of econometrics – Relevance and importance of econometrics

Aims and objectives of econometrics – Methodology – Difference between mathematical economics and econometrics – Difference between statistics and econometrics.

Estimation – Property of unbiasedness, efficiency, consistency and sufficiency – Testing of hypothesis – Some important tests (Z-test, t test, chi square and F test)

Two variable linear regression model – Estimation by using ordinary least square – Gauss-Markov theorem – ANOVA.

Statistical Inferences – Prediction – Interpretation- Problems of Single Equation estimation

Basic Readings:

Gujrati, D. N. (2009): Basic Econometrics, Mc. Graw Hill, New Delhi.

Ramanathan, R. (2008): Introductory Econometrics with applications (5th Ed.), Cengage Learning India Pvt. Ltd., New Delhi.

Koutsoyniss, A: Basic Econometrics

Additional Readings:

Maddala, G. S. (1997): Econometrics, Mc. Graw Hill, New York.

Johnston, J. (1987): Econometric Methods (3rd Ed.), Mc. Graw Hill, New York.

ECON 901C: DEVELOPMENT ECONOMICS

Unit I: Growth and Development

Concept of Economic Growth, Economic Development and Sustainable Development; Role of Natural and Human Resources in Economic Development.

Theories of Economic Development: Classical, Marx and Schumpeterian Theories of Economic development, Lewis Model of Unlimited supply of labour and Theories of Balanced and Unbalanced Growth.

Unit II: Strategies of Economic Development

Stages of Economic Growth: Rostow and Marx, Structural, Institutional Transformation and Modes of Production.

Underdevelopment and Theories of Dualism: Vishny's approach to vicious circle of poverty, Theories of Dualism, Low Level Equilibrium Trap, Problems of Capital Accumulation – Adam Smith to Marx.

Leibenstein's Critical Minimum Effort Thesis, the Big Push, Choice of Technique and Investment Criteria; the Informal Sector, Rural-urban migration of labour – Harris-Todaro model.

Unit III: Trade, Environment and Development

Dependency Theories of Development: Colin Clark and Simon Kuznet, Paul Baran, Frank, Amin and Emmanuel.

Economic Growth and Changing Comparative Advantage, Terms of Trade and Economic Development, Vent for surplus, Prebisch doctrine, Prebisch-Singer Thesis, Dual Gap Analysis.

Environment and Development: Common Property Rights, Tragedy of Commons, Environmental Accounting, Poverty and Environment, Policies for Environmental Regulation.

Unit IV: Human Beings at Centre-Stage

Poverty and Human Deprivations: Relative and Absolute deprivations, Poverty Line, Head-count Ratio, Poverty gap ratio, Human Poverty Index, Human Development Index, Multidimensional Poverty Index; MDGs and SDGs. Concept and measures of inequality- Lorenz Curve, Range, Coefficient of variation, Gini COefficient

Social Exclusion and Inclusive Policy: Social Dimensions of Poverty – rural poverty, women, ethno-religious minorities and indigenous population; Tackling Poverty – the World Bank approach.

Basic Readings:

Kaushik Basu. *Analytical Development Economics: The Less Developed Economy Revisited*. Oxford University Press

Debraj Ray. *Development Economics*. Oxford University Press

M. P. Todaro and S. C. Smith. *Economic Development*. Pearson Education

G.M. Meier and J. E. Rausch. *Leading issues in Economic Development*. Oxford University Press

A. P. Thirlwall. *Growth and Development*. Palgrave MacMillan

Y. Hayami and Y. Godo. *Development Economics: From the Poverty to the Wealth of Nations*. Oxford University Press

S. Fukuda-Parr and A. K. Shiva Kumar. *Readings in Human Development*. Oxford University Press

Lipsey and Chrystal. *Economics*. Oxford University Press

Behrman, S. and T. N. Srinivasan. *Handbook of Development Economics (Vol. 3)*. Elsevier

Barro, R. and X. Sala-i-Martin. *Economic Growth*. McGraw Hill

N. Gregory Mankiw. *Macro-Economics (4th Edition or latest)*. McMillan

S. Subramanian, S. *Measures of Inequality and Poverty*. Oxford University Press

Council for Social Development. *India: Social Development Report (Various Issues)*. Oxford University Press

UNDP. *Human Development Report [Technical Notes] (Various Issues)*.

ECON 902Ci- Agricultural Economics -I

Unit-I: Agriculture and Economic Development

Definition, nature and scope of agricultural economics and Role in economic development; Interface between Agriculture and Industry; Model of agriculture development; Schultz's prescription of transforming traditional agriculture; Mellor's model; Boserup's theory.

Unit-II: Agricultural Infrastructure

Farming System: Peasant farming and Capitalist farming; Land Reforms: meaning and aspects of land reforms, Women and land reforms; Farm Management- Meaning and concepts, farm Planning and budgeting; Small farms versus Large farms, problems and prospect of small farmers.

Unit-III: Agricultural Production, Productivity and Diversification

Concept of Production function; Resource use and efficiency; production relationships, farm size and productivity; Farm mechanization and agricultural development; Risk and Uncertainty in Agriculture- types of uncertainty in agriculture and measures for meeting risk and uncertainty in agriculture.

Unit-IV: Agricultural Labour and Unit Market

Agricultural workers- Categories and nature of employment; problems of agricultural workers and remedial measures; Interlocking of factor markets; Marginalisation of rural labour; Agricultural Unit and Rural Co-operatives; Kisan Credit Cards; Agricultural price policy, Food Security and Public Distribution System

Reading List:

1. A.N. Sadhu & Amarjit Singh (2008), Fundamentals of Agricultural Economics, Himalaya Publishing House, Delhi.
2. Acharya, S.S. and Agarwal, N.L. (2012). *Agricultural Marketing in India*. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
3. Bansil, P.C. (2017). *Economic Problems of Indian Agriculture*. Daya Publishing House, New Delhi.
4. Bhalla, G. S. and Gurmail S. (2001). *Indian Agriculture: Four Decades of Development*. New Delhi: Sage Publications.
5. Chand, R. (2012). Development Policies and Agricultural Markets. *Economic and Political Weekly*, 47 (52): 53-63.
6. Chand, R., S S Raju, S. Garg and L.M. Pandey (2011). Instability and Regional variation in Indian Agriculture, NCAP, New Delhi.
7. Dev, S. M. and Rao, N.C. (2010). Agricultural Price Policy, Farm Profitability and Food Security. *Economic and Political Weekly*, 45 (26 & 27): 174-182.

Unit I: Consumer Behaviour

Theory of Consumer Behaviour: Structure of the Utility Function, Separable and Additive Utility Function, Homogeneous and Homothetic Utility Function, Cobb-Douglas(C-D), Constant Elasticity of Substitution (CES), Translog Utility Function.

Consumer's equilibrium, Slutsky Equation, Compensated Demand Function, Concepts of Elasticity, Indirect Utility Function, Roy's Identity and Duality in Consumption.

Linear Expenditure System, Theory of Revealed Preference, Consumer's Behaviour under Risk and Uncertainty -Von Neumann-Morgenstern Expected Utility.

Unit II Production

Theory of Producer's Behaviour: Structure of Production Function- Homogeneous and Non-homogeneous.

Properties of C-D, CES and Translog Production Function, Laws of Return and Return to Scale.

Derivation of Cost Functions and Modern Approach to the Theory of Cost. Producer's Equilibrium, Input Demand Functions and Adding up Theorem.

Unit III: Profit Maximization and Efficiency

Profit Maximisation, Joint profit maximization, multi-product firm.

Production Possibility Curve, empirical uses of production function analysis. Technical Progress and production Frontiers.

Production efficiency, the cost function and production function approach to the problem of efficiency.

Unit IV: Markets

Market: Single Market Equilibrium (Static and Dynamic), Marshallian and Walrasian equilibrium condition. Lagged market equilibrium.

Multi-market equilibrium, General Equilibrium and Conditions for Stability in General Equilibrium.

Price and Output Determination: Perfect Competition, Monopoly, Oligopoly, Discriminating Monopoly and Bilateral Monopoly.

Basic Readings:

Allen, R.G.D (1976): Mathematical Economics, Macmillan, London.

Arrow, K.J. and M. Intrilligator (Ed.) (1982): Handbook of Mathematical Economics, Vol- I,II, and III, North Holland, Amsterdam.

Chiang,A.C.(1986): Fundamental Methods of Mathematical Economics, McGraw-Hill, New York.

Chiang,A.C.(1999): Elements of Dynamic Optimisation(Third Edition) McGraw-Hill, New York.

Henderson, J.M. and R.E. Quandt (1980): Microeconomic Theory: A Mathematical Approach, McGraw-Hill, London.

Jha,R(1991): Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd, New Delhi.

Varian,H.(1993): Advanced Microeconomic Theory, McGraw-Hill, New York.

Advanced Reading:

Gandolfo,G.(2006): Economic Dynamics, Springer.

Rowcroft, J.E.(2005): Mathematical Economics: An Integrated Approach, Prentice Hall.

Silberberg,E.(1998): The Structure of Economics: A Mathematical Analysis, MacGraw-Hill, International Edition.

Unit – I: Two and Multiple variables Classical Linear Regression Model

Two variable Classical Linear Regression model – Estimation of the regression parameter by Ordinary Least square, Method of Moments – Gauss-Markov theorem – Method of Maximum Likelihood Estimation – Testing of hypotheses – Likelihood Ratio test, Wald test and Lagrange Multiplier test.

Statistical Inferences – ANOVA – Policy analysis – Economic applications.

Multiple Regression – Estimation by using ordinary least square – Gauss-Markov theorem – Concept of auxiliary equation – Concepts of simple r^2 , partial r^2 and R^2 – Concept of Adj. R^2 – ANOVA.

Statistical Inferences – ANOVA – Policy analysis – Economic applications.

Pooling regression – Stability analysis – Chow test – Generalized Least square Estimation technique.

Unit – II: Problem of Single Equation Estimation

Problem of Multicollinearity – Nature, detection tests, consequences and different remedial measures.

Problems of Heteroscedasticity – Nature, detection tests (both for small sample and large sample), consequences and way out.

Problems of Autocorrelation – Nature, detection test, consequences – Estimation of autocorrelation coefficient.

Unit – III: Dummy Variables and LIMDEP Models

Dummy variables and its types – Importance of dummy variable – Stability analysis in regression exercises by using dummy variables

Use of dummy variables in seasonal analysis – Dummy independent variable – Piecewise linear regression

Dummy dependent variable (LIMDEP) models: LPM, Logit, Probit and Tobit models.

Unit – IV: Models of Expectation (10 lectures)

Models of expectation – Different types of expectation – Adaptive expectation model – Estimation with adaptive expectation model.

Partial adjustment with adaptive expectations – Alternative distributive lag models: Polynomial lag model.

Rational expectation – Tests for Rationality – Estimation of a demand and supply model under Rational expectation

Basic Readings:

Maddala, G.S. (2008): Introduction to Econometrics, John Willey & Sons, New York.

Johnston, J and J. Dinardo (1998): Econometric Methods (4th Ed.), Mc Graw Hill, New York.

Gujrati, D. N. (2009): Basic Econometrics, Mc. Graw Hill, New Delhi.

Greene, W.H. (2008) Econometric Analysis (5th Ed.), Pearson India, New Delhi.

Additional Reading:

Ramanathan, R. (2008): Introductory Econometrics with applications (5th Ed.), Cengage Learning India Pvt. Ltd., New Delhi.

Wolridge, J. (2006): Introductory Econometrics – A Modern Approach (3rd Ed.), Thomson South Western, New Delhi.

ECON 902C iv- Environment & Resource Economics-I

Unit I: Introduction to Environmental Economics

History of Environmental Economics - Environment Economy Inter-linkage, Social Change and Environmental Protection, Market Efficiency

Unit II: Market Failure & Policy

Externalities and Public Good, Pigeonhole Policy, Coase Theorem, International Agreements, Uncertainty, Discounting, Heterogeneity and Tradable Permits, Double Dividend and Porter Hypothesis

Unit III: Application to Environment

Review of Regression Analysis (Particularly applicable to Environment related Problems), Cost-Benefit Analysis

Unit IV: Non-Market Valuation & Sustainable Development

Concept of Total Economic Value, Objective Standard-based Valuation & Subjective Preference -based Valuation; Indirect Methods & Direct Methods of Valuation; Concepts & Indicators of Sustainable Development; Sustainable Accounting

Reference:

- Bhaumik, S.K. Principles of Econometrics. Oxford University Press (1st Edition)*
- Charles Kolstad. Environmental Economics, Oxford University Press (1st Edition), 2000 (Chapter 3 and 4; 5, 6, 7, 9, 10, 13 and 14;15; 16, 17, and 18)*
- Coase. "The Problem of the Social Cost", Journal of Law and Economics.*
- David Pearce. An Intellectual History of Environmental Economics*
- Environmental Economics. Rabindra Nath Bhattacharyya, 1st Edition, Oxford University Press*
- Fullerton and Stavins. "How do Economists really think about the Environment?", Nature (1998) 395: 6701*
- Hahn and Dudley. "How Well does the US Government Do Benefit-Cost Analysis?" Review of Environmental Economics and Policy, 1(2).*
- Hanilton. Testing for Environmental Racism: Prejudice, Profits and Political Power?, Journal of Policy Analysis and Management; 14 (1)*
- "Is there any role for benefit cost analysis in Environmental, health and safety regulation?". Science (1996), 272*
- Porter and van der Linde. "Towards a New Conception of the Environment-Competitiveness Relationship". Journal of Economic Perspectives, 9 (4), 1995.*
- Rassier and Earnhart. "The Effect of Clean Water Regulation on Profitability: Testing the Porter Hypothesis". Land Economics, 86(2).*
- RFF Reader, An Economic Perspective on Environmental Policy and Resources Management: An Introduction*
- Wooldridge, J.M. Introductory Econometrics: A Modern Approach (1st Edition), Mason, OH: Thomson South-Western.*

902Cv Health Economics - I

Unit I: Introduction to Health Economics

Definition and scope of economics of health, the concept of health and health care, the role of health in economic development, health as human capital, economic dimensions of health care, demand for and supply of health care – supplier-induced demand and unnecessary care.

Poverty, malnutrition and health status, determinants of health status, the health-poverty trap; the linkages between health and education.

Unit II: Measuring Health Status and Utility

Mortality and Morbidity, Disability Adjusted Life Years (DALYs), Analysis of Disease Burden and Epidemiological Transition, Lifestyle and Health Epidemiology, Measurement of Health Improvements - Randomized Controlled Trials (RCTs), QALYs.

Interactions between Patients and Doctors, the Patient's Utility Function, the Doctor's Utility Function, Doctor-Patient Utility Functions and the Remuneration System, Doctor's Pricing Models – Monopoly Equilibrium, Monopolistic Demand Shift, Excess Demand Disequilibrium etc.

Unit III: Agency Theory and Health Care Management

Standard Agency Theory, the Origins of Agency Problems – Outcome Uncertainty, Moral Hazards, Adverse Selection; Agency in Health Care, Perfect Agency Relationship and Reasonable Payment System, Distinguishing Features of Health Care. Motivation and Performance-related Pay – Basic Concepts, Motivation Theories – Instrumentality, Needs, Expectancy, Equity and Social Learning; Financial Incentives, Motivation and Performance, Methods of Performance-related Pay and their Uses in Health Sector.

Unit IV: Health Care Financing

Healthcare Financing, Inequalities in Health – Class and Gender Perspectives, Valuing Human Life – Benefit Cost and Cost Effectiveness approaches, Out of Pocket Expenditure in Health Care Services.

The Indian Experiences in Health Care Financing, the Demand for Health Insurance- the Risk Averse Decision Maker- Choosing the Insurance Policy, National Health Policies and the Healthcare Sector in India, Health Insurance Schemes in India - RSBY, ESIS, AABY, JBY, Ayushman Bharat.

Basic Readings:

Cuyler A. and J. Newhouse. Handbook of Health Economics. Elsevier

Das Gupta M., Lincon C. and Srinivasan T. Health, Poverty and Development in India. Oxford University Press

Santerre R. and Nuen S. Health Economics: Theories, Insights and Industry Studies. Thompson

Mark Blaug. An Introduction to Economics of Education. Penguin: New York

A. S. Preker, X. Liu, E. V. Velenyi and E. Baris. Public Ends, Private Means: Strategic Purchasing of Health Services. The World Bank

C. L. Dinniwidy and F. J. Teal. Principles of Cost-Benefit Analysis for Developing Countries. CUP, 1996

Klarman H.E. The Economics of Health. Columbia University Press

Michael Hurd Arie Kapteyn. Health, Wealth and Role of Institutions. The Journal of Human Resources: 38(2) [2003]

Weisbroad B. A. Economics of Public Health. University of Pennsylvania Press

Zweifel P., Breyer F. and Kifmann M. Health Economics. Springer

Weisman J. Cost Benefit Analysis and Health Service Policy, Scottish Journal of Political Economy, Vol. 20, No. 1, February 1962

World Health Organization. Report of Commission on Macroeconomics and health. 2000

World Health Organization. Socioeconomic Determinants of Health. 2010

UNIDO. Guidelines for Project Evaluation. United Nations, 1972

Websites of the UNDP, WHO, NFHS etc.

ECON 1001C: Dissertation

Each Student provided with a supervisor and a topic

ECON 1002C i- AGRICULTURAL ECONOMICS- II

Unit-I: Theories of Peasant Economy

Features of peasant Societies; Elements of Peasant Political Economy; The Theories of Optimising Peasant-profit maximising peasant, risk averse peasant, drudgery averse peasant, and sharecropping peasant; Women in peasant household.

Unit-II: Agricultural Marketing

Market and Marketing, Marketing functions, Channels of Distributions, Defects of agricultural marketing, Marketable surplus - Marketable surplus and marketed surplus, Marketable surplus and economic development, factors affecting Marketable surplus

Unit-III: Agricultural Credit and Capital Formation

Role of capital and rural credit; Organized and unorganized capital market; Rural savings and capital formation; Characteristics and sources of rural credit- Institutional and non-institutional; Reorganization of rural credit- cooperatives, commercial banks, regional rural banks; Role of NABARD.

Unit-IV: Agricultural Growth in India

Recent trends in agricultural growth in India; Inter regional variations in growth of output and productivity; Cropping pattern shifts; Supply of inputs- Irrigation, power, seed and fertilizers; Pricing of inputs and role of subsidies; Distribution of gains from technological change; Role of Public investment and capital formation in Indian agriculture; Strategy of agricultural development and technological progress; Sustainable agriculture- indigenous practices; Biotechnological practices and growth potential.

Reading List:

1. A.N. Sadhu & Amarjit Singh (2008), Fundamentals of Agricultural Economics, Himalaya Publishing House, Delhi.
2. Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
3. Dantwala, M.L. et. al (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
4. Gulati, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
5. Joshi, P.C. (1975), Land Reforms in India: Trends and Prospects, Allied Publishers, Bombay.
6. Rudra, A. (1982), Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.

ECON 1002Cii- MATHEMATICAL ECONOMICS-II

Unit I: Trade Cycles Models

Dynamic Macroeconomics: Classical vis-à-vis Keynes, Static and Dynamic Multiplier, Determinants of Investments Accelerator.

Trade Cycles Models- Contribution of Samuelson and Hicks, Goodwin, Kaleki and Phillips.

Stabilisation Policies: Adaptive Expectations and Rational Expectations, Lucas Model and Economic Policies.

Unit II: Linear Programming and Optimization Techniques

Linear programming, simplex method, Big-M method, Degeneracy, two-phase simplex method, Duality.

Transportation and storage problems and other applications of linear programming in economics.

Non-linear programming: Lagrangian method, Kuhn-Tucker method, Necessary and sufficient conditions.

Unit III: Leontief's Input-output Analysis

Open system, Hawkin-Simon conditions, prices in the Leontief system.

The closed system – its characteristics and relation to the Walrasian general economic equilibrium.

Dynamic system, Testing consistency of planning models.

Unit IV: Game Theory and applications

Games with Perfect Information under pure strategy – Nash Equilibrium, theory and applications - Prisoner's Dilemma, Matching Pennies, battle of the sexes, Best response functions, Dominated actions, Cournot's and Bertrand's model of duopoly.

Games with Perfect Information under mixed strategy – Nash Equilibrium and best response functions, dominated actions – economic applications, sequential games, extensive form games – backwards induction, subgame perfect equilibrium – applications.

Introduction to games with imperfect information – Bayesian Games – General definitions, Cournot's duopoly game with imperfect information, providing public goods, auctions, extensive form games under imperfect information, signalling games, finitely and infinitely repeated games and Nash equilibrium, bargaining – examples.

Basic Readings

Barro, R. and X. Sala-i-Martin (1998), *Economic Growth* 2nd edn., McGraw Hill, NY

M. Intriligator (1971), *Mathematical Optimization and Economic Theory*, Englewood Cliffs, N.J. Prentice Hall.

Avinash Dixit (1990), *Optimization in Economic Theory*, 2nd Edition, Oxford University Press,

Additional Readings

Arrow, K.J & M. Intriligator (Eds) (1982), *Handbook of Mathematical Economics*, Volumes I, II and III, North Holland, Amsterdam.

Dorfman, R.P.A. Samuelson & R. Solow (1950); *Linear Programming and Economic Analysis*; McGraw Hill Book Company, New York.

Hadley, G(1962): *Linear Programming*; Addison Wesley Publishing Co. Massachusetts.

Leontief, W.E. (1976); *Input-output Economics*; Oxford University Press, New York.

Nash, J.F. (1996); *Essays on Game Theory*; Cheltenham, U.K

Unit-I: Simultaneous Equation, Problem of Identification and Estimation Simultaneous equation model and Recursive model with its application

Problem of Identification: Structural form approach and reduced form approach – Conditions for identification –

Method of estimation in simultaneous equation model: Indirect Least Square, 2-Stage Least Square.

Unit – II: Simultaneous Equations & Univariate Time Series analysis

Estimation with Instrumental Variable method, 3-stage Least Square, Limited Information Maximum Likelihood – Full Information Maximum Likelihood method.

Importance of time series analysis – Stationary and Non-stationary time series – Different time series process: AR, MA, ARMA and ARIMA – Estimation of AR, MA and ARMA models.

Vector Auto Regression – Problems with VAR– Exogeneity and Causality analysis

Unit – III: Advanced Time Series Analysis

Random Walk Model – Problem of Unit Root – Unit Root Test – Co-integration – Test for co-integration

Estimation and testing of ARIMA model – Economic forecasting – Box-Jenkins approach.

Vector Auto Regression and Cointegration – Cointegration and Error Correction model – Estimation of Vector Error Correction Model

Unit – IV: Panel Data Analysis

Panel Data and its importance – Types of Panel data – Panel Regression: Fixed effect model

Random effect model and fixed effect vs. random effect model.

SUR model – Dynamic Panel data models – Random coefficient model.

Basic Readings:

Johnston, J and J. Dinardo (1998): *Econometric Methods* (4th Ed.), Mc Graw Hill, New York.

Maddala, G.S. (2008): *Introduction to Econometrics*, John Willey & Sons, New York.

Gujrati, D. N. (2009): *Basic Econometrics*, Mc. Graw Hill, New Delhi.

Greene, W.H. (2008) *Econometric Analysis* (5th Ed.), Pearson India, New Delhi.

Additional Reading:

Ramanathan, R. (2008): *Introductory Econometrics with applications* (5th Ed.), Cengage Learning India Pvt. Ltd., New Delhi.

Wolridge, J. (2006): *Introductory Econometrics – A Modern Approach* (3rd Ed.), Thomson South Western, New Delhi.

ECON 1002Civ- **Environment & Resource Economics II**

Unit I: Introduction

A Brief History of Natural Resource Economics, Dynamic Optimization and Maximum Principle, Natural Resource and Capital Theory, Current Value & Dynamic Consistency

Reference:

1. Dasgupta and Heal. *Economic Theory and Exhaustible Resources*, Cambridge University Press, 1980
2. Kamien and Schwartz. *Dynamic Optimization*, Dover Publication, 2nd Edition
3. Charles Kolstad. "Energy and Depletable Resources: Economics and Policy, 1973 – 1998", *Journal of Environmental Economics and Management* 39(3).
4. Wilen James. "Renewable Resource Economics and Policy: What Differences have We Made?", *Journal of Environmental Economics and Management* 39(3).

Unit II: Non-Renewable Resource

Optimal Extraction & Hotelling's Rule, Backstop Technology and Production with Depletable Resources, Exploration

Reference:

1. Dasgupta and Heal. *Economic Theory and Exhaustible Resources*, Cambridge University Press, 1980
2. Farzin, YH. "The Time Path of Scarcity Rent in the Theory of Exhaustible Resources", *The Economic Journal*, 1992, 102.
3. Pindyck, RS. "The Optimal Exploration and Production of Non-renewable Resources", *Journal of Political Economy*, 1978, 86.
4. Pindyck, RS. "Uncertainty and Natural Resource Markets", *Journal of Political Economy*, 1980, 88.

Unit III: Renewable Resource

Population Dynamics Models, Bio economics of the Fishery and the Problem of Open Access, The Relevance of open Access for Other Resource Systems, Empirical Bio economics of Open Access, Stochastic Renewable Resource Models, Forest Economics and Rational Harvesting

Reference:

1. Gordon, HS. "The Economic Theory of Common Property Resources: The Fishery", *Journal of Political Economy*, 1954, 62.
2. Smith, VL. "On Models of Commercial Fishing", *Journal of Political Economy*, 1969, 77.
3. Homans and Wilen. "A Model of Regulated Open Access Resource Use", *Journal of Environmental Economics and Management*, 1997, 32.
4. Smith, MD. "Bioeconometrics: Empirical Modelling of Bioeconomic Systems", *Marine Resource Economics*, 2008, 23.
5. Reed, WJ. "Optimal Escapement levels in Stochastic and Deterministic Harvesting Models", *Journal of Environmental Economics and Management*, 1979, 6.
6. Hartman, R. "The Harvesting Decision When a Standing Forest Has Value", *Economic Inquiry*, 1976, 14.
7. Sethi, Costello, Fisher, Hanemann and Karp. "Fishery Management Under Multiple Uncertainty", , 2005, 50.

8. Samuelson, P. "Economics of Forestry in an Evolving society", *Journal of Environmental Economics and Management Economic Inquiry*, 1976, 14.
9. Tahvonen and Salo. "Optimal Forest Rotation with in situ Preferences", *Journal of Environmental Economics and Management*, 1999, 37.

Unit IV: Economics of Climate Change and Dynamic Game

Stock Pollutants and Climate Change, Dynamic Games in Natural Resource Economics

Reference:

1. Keeler, Spence and Zeckhauser. "The Optimal Control of Pollution", *Journal of Economic Theory*, 1972, 4.
2. Mendelsohn, Nordhaus and Shaw. "The Impact of Global Warming on Agriculture: A Ricardian Analysis", *The American Economic Review*, 1994, 84.
3. Chakravorty, Roumasset and Tse. "Endogenous Substitution among Energy Resources and Global Warming", *Journal of Political Economy*, 1997, 105(6).
4. Dockner and Van Long. "International Pollution Control: Cooperative versus Noncooperative Strategies", *Journal of Environmental Economics and Management*, 1993, 25(1).
5. Sethi and Somnathan. "The Evolution of Social Norms in Common Property Resource Use", *The American Economic Review*, 1996, 86.
6. Huang and Smith. "The Dynamic Efficiency costs of Common-pool Resource Exploitation", *The American Economic Review*, 2014, 104(12).

ECON 1002Cv- **Health Economics - II**

Unit I: Health Care Utilisation

Preventive and Curative Health Care, Public Health and Political Economy, the Public Policy Levers, Governance and Internal Incentives, Market Imperfections in Service Delivery, Key Policy Design Issues.

Role and Rationale for Institutions in Health Care Delivery and Utilisation, Cross Country Comparisons of Health Care Services and their Utilisation, Health Care Costs.

Unit II: Economics of Hospital Behaviour

Hospital Types, Hospital Objectives, Economic Models of Hospital Behaviour – Profit Maximisation, Quantity Maximisation, Revenue Maximisation, Executive Benefit Maximisation, Utility Maximisation etc.

The Application of Hospital Behaviour Models – Objective Capacity, Measurability, Trade-off Testability, Utility Estimation and Effect Predictability.

Unit III: Publicly Funded Health Care Services

Purchasing Medical Care and Coordinating Services, the Control and Cash-Flow Rights, Authority over Coordination and Medical Functions, Contracting with Non-Governmental Organisations, PPP Model in Health Care Service Provisions.

Types of Health Care Funding Mechanisms, Contracting and Asymmetric Information, Public Incentives under Moral Hazards and Adverse Selection, the Relative Performance Schemes, Competition and Regulation.

Unit IV: Measuring Health Care Efficiency

General Concept of Efficiency, Efficiency in Output Measures, Organizational and Social Efficiency – Unidimensional Ratio, Multidimensional Weighted Ratio, Production Function Analysis.

Measurement of Hospital Efficiency – Basic Concept, Cost Function Analysis, DEA Approach; Cost-Benefit Analysis - Private Benefits and Private Costs of Providing Health Services, the Market Failure, Public Provisions of Health Services, Benefits and Costs (both Private and Social) of Training Professionals such as Physicians, Pharmacists and Nurses.

Basic Readings:

Cuyler A. and J. Newhouse. Handbook of Health Economics. Elsevier

Das Gupta M., Lincon C. and Srinivasan T. Health, Poverty and Development in India. Oxford University Press

Santerre R. and Nuen S. Health Economics: Theories, Insights and Industry Studies. Thompson

A. S. Preker, X. Liu, E. V. Velenyi and E. Baris. Public Ends, Private Means: Strategic Purchasing of Health Services. The World Bank

Klarman H.E. The Economics of Health. Columbia University Press

Michael Hurd Arie Kapteyn. Health, Wealth and Role of Institutions. The Journal of Human Resources: 38(2) [2003]

Panchamukhi P.E. Economics of Health: A Trend Report. A Survey of Research in Economics, Vol. VI, Infrastructure, Allied Publishers, Delhi

Weisbroad B. A. Economics of Public Health. University of Pennsylvania Press

Zweifel P., Breyer F. and Kifmann M. Health Economics. Springer

World Health Organization. Report of Commission on Macroeconomics and health. 2000

UNIDO. Guidelines for Project Evaluation. United Nations, 1972

Websites of the UNDP, WHO, NFHS etc.

Unit-I: Regional Economy & Human Resources Development

Features of the North-east Economy- Demographic and socio-economic features; Human development: Status and trend in different states of the region; Employment and unemployment- status, trends and composition; implications for the development; Major Constraints to Development

Unit-II: Natural Resources & Agriculture

Land distribution and land use pattern-its implication for development; Methods of cultivation- Issues in agricultural productivity; Forests, water and other mineral resources in the region- implication for development

Unit-III: Infrastructure & Industry

Economic Infrastructure: power, road, communication and banking; infrastructure deficiency and regional economic development; Status and structure of industries- SSIs, Handlooms & Handicrafts; Industrial policy-North East Industrial and Investment Promotion Policy (NEIIPP) 2007

Unit-IV: Emerging Issues

Planning for development- objectives, allocation and thrust areas; achievements and failures; role and achievement of NEC/DONER in economic development of NER; Governance and development-government failure and its correction; local self-government and development; Major Fiscal initiatives undertaken in recent years; Participatory development; New development initiatives in NER, Vision Document 2020; Look East Policy and the N.E. Region.

Reading List:

- Brunner Hans- Peter (2010) (ed): North East India- Local Economic Developments and Global Markets, Sage India, New Delhi
- Bhattacharjee PR (2003): An Introduction to Regional Economics; Srijan Graphics & Publishing House, Silchar
- Ganguly, JB (2006); An Economic History of North East India, 1826-1947; Aakansha Publishing House, New Delhi.
- Human Development Reports of various states

COMPULSORY FOUNDATION COURSE (B)
ECON 903C- Computer Applications in Economics

Unit I: Introduction to Basic Computing

Basic components of computer- CPU, input-output devices, keyboard, mouse and scanner, video display, printers and plotters, data storage and retrieval, hard disk, floppy disk and CDROM. Types of computer and their applications, computer networking and resource sharing, hardware, software and firmware.

Internet Browsing- Getting started, search engines, literature search and research information online, downloading materials online. Interaction; news and multimedia; Email- opening and operation; other features of Internet research

Unit II: Basic Spreadsheet Analysis

Getting started, Workbook and work sheets, Features of Software packages- Data entry, File operation, opening and saving a file, printing the contents of a worksheet, row and column functions, cell operations

Using Formulae/ Functions in Statistical software packages; mathematical and statistical functions; Data analysis tool pack, Descriptive Statistics, basic graphical tools.

Unit: III Application of Statistical packages

Simple correlation and regression; multiple regression; numerical examples

Different Econometric techniques; trend line fitting

Analysis of variance; interpolation; Index number; Application of graphical tools in economics

Unit IV: Report Writing and Presentation

Getting started, key board functions, text writing, opening and saving of file, Creating and Saving documents, editing documents, formatting text, creating table, printing basics.

Presentations – preparing slides, designing slides, animating slides. Features and characteristics of a good presentation; linking files for presentation

Basic Readings:

- Bhattacharjee Dibyojyoti, 'Practical Statistics using Microsoft Excel', 2010, Asian Books Pvt Ltd, New Delhi.
- Bhaumik, Sankar Kumar (2015), *Principles of Econometrics A Modern Approach Using Eviews*, First Edition, Oxford University Press
- Landau, Sabine and Brian S. Everitt (2004), *A Handbook of Statistical Analysis Using SPSS*, First Edition, Chapman & Hall/CRC.
- Murray, (2011): Microsoft Word 2010 Plain and Simple, PHI
- O'Dochartaigh Niall, 'Internet research skill' 2007, Sage publications, New Delhi.
- Ogunc, Asli K. and R. Carter Hill (2008), *Using Excel for Principles of Econometrics*, 3rd Edition, John Wiley & Sons', INC.
Rajaraman, V 'Fundamentals of Computer, 1996, Prentice Hall of India, New Delhi
- Sinha, P.K, 'Computer Fundamentals, 1992, BPB Publications, New Delhi.
- Sue Valerie M and Lois A Ritter, 'Conducting online survey', 2007, Sage Publications, New Delhi.

ELECTIVE COURSES (C)

ECON 804E- Economics of Social Sector

Unit I: Conceptual Issues

Concept and Significance of Social Sector, Economic Development and Social Sector Development: the Equity and Efficiency Debate; Market Failure, Property Rights, Open Access Resources- Collective Action.

Human Capital Vs. Physical Capital, Components of Human Capital; Interaction between Human and Physical Infrastructure, Economic Development-Social Deprivation and the role of Local Self Governance.

Unit II: Education as Human Capital

Education Human Capital and Economic Development, Determination of Demand for Education, Supply of Education, Costs of Education - Private Costs and Social Costs, Benefits of Education – Direct, Indirect and Social Benefits.

Educational Financing, Education and Labor Market, Economics of Education Planning in Developing Countries with special emphasis on India; Indian Education Policies.

Unit III: Demography and Development

Health Dimensions of Development, Demand for and Supply of Healthcare, Measuring Health Status – Mortality and Morbidity, Disability Adjusted Life Years (DALYs), Analysis of Disease Burden and Epidemiological Transition.

Healthcare Financing, Inequalities in Health – Class and Gender Perspectives, Valuing Human Life – Benefit Cost and Cost Effectiveness approaches, National Health Policies and the Healthcare Sector in India, Health Insurance Schemes in India - RSBY, ESIS, AABY, JBY, Ayushman Bharat.

Unit IV: Evaluation of Social Sectors' Performance

Cost Benefit Analysis and Project Appraisal – Setting the Priorities, Allocation of Social Expenditure, Social Priority Ratio, Human Expenditure Ratio.

The Appraisal of the Policies and Programmes Relating to Water Supply and Sanitation in India.

Basic Readings:

Mark Blaug. *An Introduction to Economics of Education*. Penguin: New York

C. L. Dinniwidy and F. J. Teal. *Principles of Cost-Benefit Analysis for Developing Countries*. CUP, 1996

Sabina Alkire. *Valuing Freedoms: Sen's Capability Approach and Poverty Reduction*. Oxford University Press

N. Homedes. *The Disability Adjusted Life Years (DALYs): Definition, Measurement and Potential Use*. Human Capital Development Working Papers: 16128 (1996)

Michael Hurd Arie Kapteyn. *Health, Wealth and Role of Institutions*. The Journal of Human Resources: 38(2) [2003]

T. Paul Schultz. *Education Investment and Returns* in H. Chenery and T.N. Srinivasan (edtd.) ***Handbook of Development Economics***, Vol. – I, Elsevier Science Publications (1998)

W. W. McMahon. *Education and Growth in East Asia*. Economics of Education Review: 17(2) [1998]

P. Bardhan and C. Udry. *Population Chapter (Section IV)*, ***Development Microeconomics***, Oxford University Press

Nancy Birdsall. *Economic Approaches to Population Growth* in H. Chenery and T.N. Srinivasan (edtd.) ***Handbook of Development Economics***, Vol. – I, Elsevier Science Publications (1998)

S. Fukuda-Parr and A. K. Shiva Kumar. *Readings in Human Development*. Oxford University Press

Barro, R. and X. Sala-i-Martin. *Economic Growth*. McGraw Hill

Council for Social Development. *India: Social Development Report (Various Issues)*. Oxford University Press

India Infrastructure Report. Oxford University Press

UNDP. *Human Development Report [Technical Notes]* (Various Issues)

UNIDO. *Guidelines for Project Evaluation*. United Nations, 1972

Websites of the WB, ILO, UNDP, WHO, FAO etc.

ECON 904E- Public Economics

Unit I: Introduction

Public Finance: Emergence of State, Public Authority. Scope of Public Finance and Role of government in Capitalistic, Socialistic and Mixed Economy

Market Failure, Imperfect Competition, Externalities, Uncertainties and Non-Existence of Future Market, Theory of Second Best, Government Intervention-Allocation, Distribution and Stabilisation by the Government, Principles of Social Advantages.

Theory of Public goods; Merit and Social Goods: Public Choices.

Unit II: Public Expenditure, Revenue and Taxation

Public Expenditure: Wagner's law, Wiseman Peacock Hypothesis, Pure theory of Public Expenditure, Criteria for Public Investment, Social Cost-Benefit Analysis; Public Expenditure and Economic growth; Public Expenditure in Developing Economies.

Public Revenue: Sources - Tax and Non-tax. Taxation- Types, Canons, Effects on Production, Consumption and Distribution, Savings and Investment; Theory of Incidence- alternative concepts; Theory of Optimal Taxation- Ramsey Model and contribution of Mirrlees; Excess Burden, Trade-off between Equity and Efficiency; The problem of double taxation.

Unit III: Budgetary Policy & Public Debt

Public Debt: Importance and Types. Burden; Issue of Intergenerational Shifting of the burden of Public Debt; Sustainability of Public Debt; Impact of Public Debt on the Economy; Debt Management

Budget: Importance and Classification; Budget Multiplier-Balanced and Unbalanced; Zero-based Budgeting. Budgetary Deficits; Fiscal Policy: Instruments, Importance and Objectives. Classical vis-à-vis Keynesian Theory. Effectiveness of Fiscal Policy to achieve internal and external balance. Compensatory Finance and Role of Fiscal Policy for the Developing Economies.

Unit- IV: Federal Finance with special reference to India

Fiscal Federalism- Principles of Multi-Unit finance, Assignment of functions and sources of revenue, Vertical and Horizontal Imbalances, Inter governmental resource transfer- Finance Commission & Devolution; Theory of Grants.

Indian Public Finance- Tax System, Types of Tax at the Union, State & Local levels, GST, Non-Tax Revenue, Analysis of Budgets, Trends in Public Expenditure, Public Revenue and Public Debt.

Trend and pattern of the Debt in India; Deficit Financing in India

Basic Readings:

- Auerbach, A.J. and M. Feldstern (Eds.) (1985), Handbook of Public Economics, Vol. I, North Holland, Amsterdam
- Atkinson A.B. and J.E. Stiglitz (1980): Lectures on Public Economics, McGraw-Hill, New York

- Buchanan, J.M. (1970), *The Public Finances*, Richard D. Irwin, Homewood.
- Chelliah, R.J. (Ed.) (1997), *Towards Sustainable Growth*, Oxford University Press, New Delhi. Datt, R. (Ed.) (2001), *Second Generation Economic Reforms in India*, Deep & Deep Publications, New Delhi.
- Ghosh, A & C Ghosh (2014), *Public Finance*, PHI Learning Private Limited, Delhi
- Gruber, J (2009), *Public Finance and Public Policy*, Worth Publishers, New York
- Harber, B.P. (1986): *Modern Public Finance*, Rich & D Irwin, Homewood.
- Jha, R. (1988) *Modern Public Economics*, Routledge, London
- Kumar, A. (1999), *The Black Economy in India*, Penguin, Harmondsworth.
- Menutt, P. (1996), *The Economics of Public Choice*, Edward Elgar, U.K.
- Musgrave, R.A. (1959), *The Theory of Public Finance*, McGraw Hill, Kogakusha, Tokyo. Musgrave, R.A. and P.B. Musgrave (1976), *Public Finance in Theory and Practice*, McGraw Hill, Kogakusha, Tokyo.
- Peacock, A. and G.K. Shaw (1976), *The Economic Theory of Fiscal Policy*, George Allen and Unwin, London
- Stiglitz, J.E. (1986), *Economics of Public Sector*, Norton, New York.
- Srivastava, D.K. (Ed.) (2000), *Fiscal Federalism in India*, Har-Anand Publications Ltd., New Delhi. Reports of various Finance Commissions
- Srivastava D.K and U Shankar (2012), *Development and Public Finance*, Essays in Honour of Raja J Chelliah, Sage India, New Delhi

ECON 1004 E- INTERNATIONAL TRADE AND DEVELOPMENT

Unit I: Theories of International Trade

Classical Trade theories- Smith and Ricardo; Gains from Trade (specialization and exchange), Factor Endowment and Pattern of Trade (Heckscher-Ohlin Theorem) - Factor Price Equalization, Stolper- Samuelson Theorem and Rybczinsky Theorem; Revealed Comparative Advantage – Balassa Index. International Trade with Increasing Returns to Scale under Perfect Competition (Snowball Effect) and Monopolistic Competition (Intra- Industry Trade); Leontief Paradox. Vent for Surplus Theory. Theory of Immiserising Growth, Gravity Model

Unit II: Balance of Payment and Foreign Exchange Mechanism

Balance of Payment Accounts: Balance of Payments Equilibrium and Disequilibrium in the Balance of Payments, Surplus and Deficit in the Balance of Payments.

Adjustment Mechanism in the Balance of Payments; Direct and Indirect Mechanism

Exchange Rates: Flexible Exchange Rates: Case For and Against. Fixed Exchange Rates: Case for and against; Foreign Exchange Market: Demand and Supply of Foreign Exchange, Spot Rate and Forward Rate (i) Interest Arbitrage, (ii) Hedging, (iii) Speculation, (iv) Swap Operation, [*Bretton Wood systems: Proposal for reforming present exchange rate adjustment, operation of Euro-Currency market*]- may be dropped also

Unit III: Trade Policies, Impact and Interventions

Trade and National Income: The Import Function, Equilibrium Level of National Income and Trade-multipliers: with and without foreign repercussions; Trade and Technical progress: Neutral, capital saving and labour saving;

Tariffs and protection; deadweight loss from tariff, terms of trade, optimal tariff, Metzler's paradox, effective rate of protection; Tariff vs Quota, The Political economy of protection, Lerner Symmetry theorem

Unit IV: International Trade Scenario, Policy and Institutions

Custom union: trade creation and diversion, production and consumption effects, general equilibrium analysis of a custom union: the Lipsey model, the Vinck model.

Trade policy and Developing countries, the political economy of Trade policy; Dumping and Reciprocal Dumping

MNCs, FDIs & FII, WTO, IMF, World Bank: Recent issues and directions

Basic Readings:

- Acahryya, Rajat, International Economics, Oxford
- Bhagwati, J. (ed) (1981): "International Trade: Selected Readings" Cambridge University, Massachusetts
- Cherunilam F – International Economics, Tata McGraw-Hill
- Chocholiades, M.(1990): "The Pure Theory of International Trade", McGraw-Hill, Kogakusha, Japan
- Dunn, R.M and J.H.Mutti (2004): "International Economics", Routledge, New York.
- Kenen, Peter. (1989): "The International Economy", Prentice Hall of India Pvt.Ltd. New Delhi.
- Kindleberger C- International Economics
- Krugman, Paul R. and Maurice Obstfeld. (2004): "International Economics: Theory and Policy", Pearson.

- Lindert, Peter H. (2004) “International Economics” Richard. D. Irwin.Inc.
- Mannur, H.G, International Economics, Vikas Publications
- Salvator D. – International Economic Welfare
- Sawyer W Charles, Sprinkle, Richard L. (2003): “International Economics”, Prentice Hall of India Pvt. Ltd. New Delhi.
- Södersten, Bo. (1990): “International Economics”, Macmillan.

ECON 1005E- History of Economic Thought (Draft)

Unit I: Tracing the Development process

History of Economic Thought Class; Mercantilism; Physiocracy; Precursors to Smith
Classical Theories of Value- Smith, Ricardo,
Classical Monetary Theory; Classical Public Finance
Critique of Classical Political Economy- Marx

Unit II: Marginalist and Neo Classical Economics

Marginalist and Walrasian General Equilibrium Analyses; Marshall on Money and Credit
Wicksell and Fisher on Interest Rates
Schumpeter, Fisher, & Kalecki on Business Cycles

Unit III: Keynesian Thoughts and Developments

Keynes- Investment; Money and Speculation; Business Cycle
The Hicks-Hansen-Samuelson IS-LM Transformation; Monetarist Propositions; Critiques of
Monetarism
Minsky- Financial Instability Hypothesis

Unit IV: Indian Economic Thought and Thinkers

Economic Ideas from the Past
Emergence of modern Indian economic thought; Dadabhai Naroji's Drain theory; Gandhian
economic thoughts, relevance in 21st century; Economic ideas of Amartya Sen—the materials
of justice—lives, freedoms, happiness, wellbeing and capabilities; Equality and Liberty—Gist.

Basic Readings:

- H. Minsky, Financial Instability Hypothesis, 1992;
- L. Randall. Wray and Eric Tymoigne, Macroeconomics Meets Hyman Minsky: The Financial Theory of Investment, The Levy Institute, Working Paper 543,
- J. Hicks- Mr. Keynes and the Classics: A Suggested Interpretation,
- R.G. Lipsey, The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957:
- P. Samuelson and R. Solow, Analytical Aspects of Anti-Inflation Policy
- J. Tobin: Inflation and Unemployment American Economic Review
- M. Kalecki: A Theory of the Business Cycle
- Medema & Samuels- Economic Thought
- Snowdon & Vane- Economic Thought
- Keynes- General Theory
- Ajit Dasgupta- A History of Indian Economic Thought
- Amiya Dasgupta- Epochs of Economics
- Alessandro Roncaglia- The Wealth of Ideas