Syllabus of MA/M. Sc in Economics

CHOICE BASED CREDIT SYSTEM (CBCS)-2015

CORE COURSES

SL No.	Course Code	Name of the Paper	Credit	Semester number
1	ECON 701C	Microeconomics-I	04	I
2	ECON 702C	Macroeconomics-I	04	I
3	ECON 703C	Quantitative Techniques in Economics	04	I
4	ECON 704C	Indian Economy	04	I
5	ECON 801C	Microeconomics-II	04	II
6	ECON 802C	Macroeconomics-II	04	II
7	ECON 803C	Development Economics	04	II
8	ECON 901C	Economics of Social Sector	04	III
9	ECON 902C	Statistics and Econometrics	04	III
10	ECON 1001C	Economics of Planning and Rural Development	04	IV
11	ECON 1002C	Dissertation	04	IV

COMPULSORY FOUNDATION COURSES

SL No.	Course Code	Name of the Course	Credit	Semester number
1	ECON 903C	Computer Applications in Economics	04	III

Total= 48 Credits

ELECTIVE COURSES

SL No.	Course Code	Name of the Course	Credit	Semester number
1	ECON 804E	Agricultural Economics	04	II
2	ECON 805 E	Public Economics	04	II
3	ECON 904 E	Environment & Resource Economics-I	04	III
4	ECON 905E	Economics of North East India	04	III
5	ECON 1003E	Advanced Statistics and Econometrics	04	IV
6	ECON 1004E	Environment & Resource Economics-II	04	IV
7	ECON 1005E	Labour Economics	04	IV
8	ECON 1006E	International Economics	04	IV

A. Core-44 credits + B. Compulsory-04 credits + C. Elective-16 credits

Total Course Credits (A+B+C) = 64 Credits

ECON 701C: Microeconomics-I   (04 Credits)

Unit-I: Theory of Choice and Individual Demand

Axioms of Consumers Choice -- duality approach- Utility Maximisation-Indirect Utility Function, Roy's Identity-Marshallian Demand; Expenditure Minimisation-Expenditure Function- Shepperd's Lemma, Hicksian Demand

Unit-II: Production and Costs in Competitive Market Context

Types of Production Functions–duality between cost and production functions –Envelop theorem Optimization by Firms under competition

Unit-III: General Equilibrium

The Exchange Economy: Walrasian General Equilibrium Model, Excess demand approach-existence, uniqueness and stability, core of an exchange economy.

Leontief Input output Model of Production

Unit-IV: Welfare Economics

Pareto Optimality, First and Second Fundamental Theorems of Welfare Economics, Social Choice, Social Welfare functions, Arrows Impossibility Theorem.

Reading List:

1. Henderson and Quandt: Microeconomic Theory
2. Koutsoyiannis, A. :Modern Microeconomics
3. Layard, P.R.G. and A W. Walters (1978) Microeconomic Theory. McGraw Hill, New York.
4. MasCollel, A. Whinston M.D. and Green J.R. (2012) Microeconomic Theory, Oxford University Press, India
5. Sen, A. (1999) Microeconomics; Theory and Applications, Oxford University Press, New Delhi.
6. Varian, H (2009) Microeconomic Analysis, 3rd edition Viva Books Private Limited

ECON 702C: Macroeconomics-I   (04 Credits)

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: Unemployment

Theories of unemployment, A Generic Efficiency-Wage Model, A More General Version, The Shapiro–Stiglitz Model, Contracting Models, Search and Matching Models and the implications of the models.

Unit – III: Rational Expectations

Rational expectations equilibrium approach: imperfect information, nominal money and output- Asset bubbles, multiple equilibria, sunspots and cycles.

Unit – IV: Disequilibrium Macroeconomics

Features of disequilibrium economics, Disequilibrium models of Clower, Barro-Grossman, Malinvaud and Benassy.

Reading List

1.   A. Leijonhufvud, (1968), "On Keynesian Economics and the Economics of Keynes", New York.
2.   Advanced Macroeconomics by David Romer, 4th Edition, Mc Graw Hill-Irwin.
3.   Barro, Robert J and Herschel I Grossman, "A General Disequilibrium Model of Income and Employment" American Economic Review.
4.   Froyen Richard T. "Macroeconomics: Theories and Policies", Sixth Edition, Pearson Education India.
5.   John Maynard Keynes (1936), "The General Theory of Employment, Interest and Money", Macmillan, London.
6.   Macroeconomic Theory and Policy by William Branson, 3rd Edition, Addison Wesley.
7.   Macroeconomics by N Gregory Mankiw, 6th Edition, Worth Publishers.
8.   Malinvaud, E. (2006) "Disequilibrium Econometrics", Statistica Neerlandica, Vol. 60, nr. 2, pp. 171-180.
9.   R. Clower (1965), "The Keynesian Counter-Revolution: A Theoretical Appraisal" in F. H. Hahn and F. P. R. Brechling (Eds.), The Theory of Interest Rates, London 1965.
10. Steven M Sheffrin (1983), "Rational Expectations", Cambridge, Cambridge University Press.
11. Surrey, M.J.C. (Ed.) (1976), Macroeconomic Themes, Oxford University Press, Oxford.
12. www.econ.iastate.edu

ECON 703C: Quantitative Techniques in Economics   (04 Credits)

Unit-I: Preliminaries

Preliminaries: Sets; Logic; Sets and Functions; and Linear spaces.

Unit-II: Linear Algebra

Linear Algebra: Vectors and vector spaces: Vector operations; scalar product; Linear dependence; Vector spaces and subspaces; basis of a vector space. Matrix Algebra: Basic operations; trace of matrix; rank and inverse of a matrix; vector and matrix differentiation, orthogonal, symmetric, idempotent and definite matrix – definition and properties. Characteristic value problem and quadratic form: characteristic roots and vector of square matrix.

Unit-III: Optimization

Optimization (Static): Structure of Optimization problems; Solution to an Optimization Problems – Existence of Optima; Unconstrained Optimization; Optimization with (a) Equality Constraints and (b) Optimization with Inequality Constraints; Envelope Theorem; Convexity and Optimization.

Unit-IV: Dynamic Analysis:

Dynamic Analysis: Differential Equation; Dynamic System and Dynamic Optimization. Simultaneous differential equations system – Solution of simultaneous dynamic equation.

Reading List:

1. Chiang, Alpha and Kevin Wainwright (2005), *Fundamental Methods of Mathematical Economics*, Fourth Edition, McGraw-Hill.
2. Intrilligator, Mathematical Optimization and Economic Theory, (1971).
3. Gravel and Rees, Microeconomic Theory, Chapter 2.
4. A.C. Chiang, Mathematical Economics, McGraw Hill, 1995.
5. C.P. Simon and L.E. Blume, Mathematics for Economists

ECON 704C: Indian Economy   (04 Credits)

Unit–I: Reforms in Major Sectors
New Economic Policy, Rationale for economic liberalization; Privatisation and Globlisation. Recent economic reforms and their impact. The Uruguay Round of Trade Negotiations (TRIPS, TRIMS) and WTO; Macroeconomic Policy & the Exchange Rate; Currency Convertibility Issues.

Unit-II: Population, Poverty and Unemployment
Relative and Absolute Poverty- Head Count Ratio, Poverty Gap and Sen Index. Trend of Poverty in India in Pre and Post reform period. Poverty alleviation programmes. Jobless Growth -an Indian experience. Population Policy-2000.

Unit-III: Agriculture
Land Reform- The need and scope for land reforms, objectives of land reforms, A critical analysis of land reform measures introduced in India. Green Revolution- Nature and extent of Green Revolution; Impact of Green Revolution on the Indian economy. WTO and Indian Agriculture; IMF Development Policy.

Unit-IV: Industry
New Industrial Policy; Industrial Growth-Performance and problems; Small Scale and Cottage Industries. Public Sector - Role and Performance of Public Sector; Private Sector -Performance and Problems

Reading List:

1. Datt & Sundaram (2015): Indian Economy, S. Chand & Company Pvt. Ltd., New Delhi.
2. A.N. Agarwal & M.K. Agarwal (2016): Indian Economy, New Age International Publishers, New Delhi.
3. Uma Kapila (2012): Indian Economy Performance and Policies, Academic Foundation, New Delhi.
4. Biswajit Chatterjee (1998): Economic Liberalisation in India, Allied Publisher Ltd. Calcutta

ECON 801C: Microeconomics-II   (04 Credits)

Unit-I: Economics of Uncertainty

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

Unit-II: Strategic Interaction: Game Theoretic Approach with Applications

Concept of a Game - dominant strategies - Nash Equilibrium; Dynamic games –subgames-subgame perfect Nash Equilibrium. Duopoly: Competition in Quantity (Cournot), Price(Bertrand), Market Leadership (Stackleberg), Market Entry

Unit-III: Externalities and Public Goods

Inefficiencies of externalities, Pigouvian taxes, Property Rights and Coase Theorem, Tragedy of Commons. Public Goods- free rider problem- efficient provision of Public Good

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

Reading List:

1. Gibbons, R. (2010)   -Game Theory for Applied Economists, Pearson Higher Education & Professional Group

2. MasCollel, A. Whinston M.D. and Green J.R. (2012) Microeconomic Theory, Oxford University Press, India

3. Jhele G.A. and Reney P.J.(2006) Advanced Microeconomic Theory, Pearson Education, India.

ECON 802C: Macroeconomics-II   (04 Credits)

Unit – I: **Open Economy Macroeconomics**

Exchange rate and the International monetary system, Monetary and Fiscal policy in the Open economy: the Mundell-Fleming model, The case of Imperfect and Perfect capital mobility.

Unit – II: **Neoclassical Growth Models**

The Solow growth model, Infinite horizon model by Ramsey–Cass–Koopmans; Overlapping generations model by Diamond,

Unit – III: Real Business Cycle Theory

Facts about Economic Fluctuations, Time horizons in macroeconomics, A Baseline Real-Business-Cycle Model, Stabilization policy, Indian experience.

Unit – IV: Endogenous growth model

Basic endogenous model, Romer's technology model, Lucas human capital model, Grossman and Helpman's model, Aghion and Howitt.

Reading List

1. Advanced Macroeconomics by David Romer, 4th Edition, Mc Graw Hill-Irwin.

2. Barro, Robert J and Xavier Sala-i-Martin (1995), "Economic Growth", International edition, McGraw Hill, Inc.

3. Dornbusch, R; S. Fischer and R. Startz (2004), "Macroeconomics", Tata McGraw Hill, New Delhi.

4. Froyen Richard T. "Macroeconomics: Theories and Policies", Sixth Edition, Pearson Education India.

5. Ghate, Chetan; Radhika Pandey and Ila Patnaik (2012), "Has India Emerged? Business Cycle Stylized Facts from a Transitioning Economy", Working Paper 260, ICRIER.

6. Macroeconomics by N Gregory Mankiw, 6th Edition, Worth Publishers.

7. Solow, Robert. M. (2000), "Growth Theory – An Exposition", Oxford University Press, Oxford.

ECON 803C: Development Economics   (04 Credits)

Unit-I: Growth and Development
Economic Growth and Development; Factors affecting Economic Growth: capital, labour and technology; Historical Perspective of Economic Growth and its relevance; Structural Diversity and common characteristics of developing nations.
Measuring Development: Income Measures, Basic Needs and other Multidimensional Approaches; Poverty, Inequality and Development: Measurement, Impact and Policy options.

Unit-II: Strategies of Development
Stages of Economic growth: Rostow -Vicious circle of poverty and the Critical minimum effort hypothesis, Big push argument-balanced vs. unbalanced growth; Choice of Technique and Investment criteria.
Rural-urban interaction: Structural approach of development– structure of rural and urban economy–formal and informal sectors – Rural and urban interaction – Lewis model and extension by Ranis and Fei –Rural-Urban migration –Harris and Todaro model.

Unit-III: Trade, Environment and Development
Economic growth and changing comparative advantage, Terms of trade and economic development: Prebish-Singer Thesis; Foreign capital and economic development, Dual gap analysis.
Environment and economic development: Concept of sustainable development, Common property rights, Environmental accounting, Poverty and environment.

Unit-IV: Inclusive Growth and Development
Social Exclusion and Inclusion: Concepts and Terminologies; Factors leading to Social exclusion and deprivation – Caste and Ethnicity, Religion, Gender, Age, Political Identity Development and Displacement.
Social inclusion in the Indian context, the aspect of social inclusion in the 12th Five Year Plan, Policy Measures for Inclusive Growth.

Reading List:
1. Barro, R. and X. Salai- Martin (2004), Economic Growth, McGraw Hill, New York.
2. Basu, Kaushik (2002), Analytical Development Economics, Oxford University Press.
3. Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
4. Chakraborty, S. ( ), Development Planning, Oxford University Press, India
5. Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols.1& 2, Elsevier, Amsterdam.
6. Ghatak, S. (1986), An Introduction to Development Economics, Allen and Unwin, London.
7. India-Social Development Report, Council for Social Development, OUP-various issues
8. Human Development Reports, Technical Notes: UNDP-various issues
9. Meier, G.M. and J.E. Rauch (2005), Leading Issues in Economic Development, (8th Edition), Oxford University Press, New Delhi.
10. Ray, Debraj (1998), Development Economics, Oxford University Press.
11. Sen, A.K. (Ed.) (1990), Growth Economics, Penguin, Harmondsworth.
12. Todaro, M.P. and S.C. Smith (2003), (8th Edition), Economic Development, Pearson Education, Delhi.
13. Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
14. Twelfth Five Year Plan Draft, Government of India.

ECON 901C: Economics of Social Sector   (04 Credits)

Unit-I: From Economic Development to Human Development
The Evolution of Measures of Development - Per Capita income- Physical Quality of Life Index- Human Development Index- Gender Development Index- Gender Empowerment Measures, Issues in Women and Child Development. Poverty, Inequality and Development- Measuring Inequality and Poverty- Income Poverty Index and Human Poverty Index.

Unit-II: Public Health and Epidemiology
Health in Economic Development- Mortality and Morbidity- Assessment of health status in terms of Disability-Adjusted-Life-Years (DALY)- Analysis of Disease Burden & Epidemiological Transition Theory of Development.

Unit-III: Basic Education as Human Capital
Human Capital vs. Physical Capital; Components of Human Capital; Education and Economic Growth; Expenditure on Education; Demand for Education – Private Demand and Social Demand; Cost of Education – Expenditure on Education, Private and Social Costs; Direct And Indirect Benefits, Private and Social Benefits of Education.

Unit IV: Environmental and Sustainable Development
The Environment and Development- Sustainable Development and Environmental Accounting- Gender, Environment and Poverty: the GEP-Index of Vulnerability.

Reading List:
1. Meier & Rauch (2000): Leading Issues in Economic Development, OUP
2. Fukkuda-Par & Shiv Kumar (2002): Readings in Human Development, The World Bank.
3. Blaug, Mark (1970) An Introduction to The Economics of Education, Penguin New York
4. Human Development Reports- 1991, 1996, 1997, 2010, OUP.
5. World Development Reports- 1992, 1993, 1994, 2001. OUP.
6. Homepages of the World Bank (WB), International Labour Organization (ILO), United Nations
7. Development Program (UNDP), World Health Organization (WHO), Food and Agricultural Organization (FAO), etc.

ECON 902C: Statistics and Econometrics (04 Credits)

Unit-I: Probability and probability distribution.
Basic concepts - properties of probabilities - theorem of probabilities - conditional probabilities - independent events - Bayes's theorem.
Random variables - mathematical expectations - probability distribution of discrete random variables: Binomial distribution, Poisson distribution - probability distribution of continuous random variables probability: Normal distribution.

Unit-II: Theory of Sampling and Statistical inference:
Definition and types of sampling - probability, non-probability and mixed sampling: their various methods - sampling distribution - expectation and standard error of sample mean, sample proportion.
Theory of estimation: point and interval estimation and hypothesis testing - z-test, chi-square, t and F test.

Unit-III: Econometrics methods:
Regression analysis; two and k-variable classical linear regression model – OLS methods. Testing hypotheses about a linear combination of the parameters. Testing multiple linear restrictions: the F test. Multicollinearity; GLS estimators: Heteroscedasticity; Autocorrelation; Dummy variable. Distributed lag model – Estimation of Koyck lag, Almon Polynomial Lag.

Unit-IV: Simultaneous Equation systems – problems of identification and estimation. Indirect least square estimators; 2SLS estimators, limited information maximum likelihood estimator; k-class estimators.

Reading List:

1. A. M. Goon, M. K. Gupta and B Dasgupta, *Fundamentals of Statistics*, Vol. 2, Nineth Edition, World Press.
2. Hogg, Tanis and Rao, *Probability and Statistical Inference*, seventh edition, Pearson Education.
3. R. G. Hogg and A.T. Craig : *Introduction to Mathematical Statistics* , Prentice Hall; 6th edition (June 27, 2004)
4. Wooldridge, *Introductory Econometrics, A Modern Approach*, third edition, South-Western Cengage Learning.
5. G. S. Maddala, *Introduction to Econometrics*, third edition, John Wiley and Sons Ltd.
6. Jack Johnston and John Dinardo, *Econometric Methods*, 2nd, 3rd and 4th edition, McGraw-Hill International Edition.

ECON 903C: Computer Applications in Economics   (04 Credits)

Unit-I: Basic Spreadsheet Analysis
Data Entry, Graphical Representation, Tabular Presentations, Data Filtering, Functions, What if Analysis, Solver

Unit-II: Statistical Applications
Descriptive Statistics, statistical tests, ANOVA, Probability Distribution (Binomial, Poisson and Normal distribution)

Unit-III: Econometric Applications
Estimating equations: simple and multiple linear regression, coefficient diagnostics, residuals diagnostics, stability diagnostics, Tests for multicolinearity, heteroscadasticity and autocorrelation.

Unit-IV: Reporting Writing and Presentation using MS Word and Power point
Introducing MS Word - Creating and Saving documents, editing documents, formatting text, creating table, drawing graphs, printing basics.
Introducing Power Point – preparing slides, designing slides, animating slides.
Internet Browsing & File Convertibility

Reading List:
1. Ogunc, Asli K. and R. Carter Hill (2008), *Using Excel* for Principles of Econometrics, Third Edition, John Wiley & Sons', INC.
2. Bhaumik, Sankar Kumar (2015), *Principles of Econometrics* A Modern Approach Using Eviews, First Edition, Oxford University Press.
3. Landau, Sabine and Brian S. Everitt (2004), *A Handbook of Statistical Analysis Using SPSS*, First Edition, Chapman & Hall/CRC.
4. Murray, (2011): Microsoft Word 2010 Plain and Simple, PHI
5. Muir, Nancy(2010): Microsoft Power Point 2010 Plain and Simple, MCRoSoFT Press

ECON 1001C: Economics of Planning and Rural Development (04Credits)

Unit -I: **Types of Planning**
Types of Planning- Democratic, Decentralised and indicative planning, micro-planning; Review of Indian Plan models and Planning
Unit- II: Rural Development
Rural Development- Meaning And Concepts, Structural Transformation of the Rural Economy; Rural Development Programmes and Policies, Need for rural development polices, Goals of Rural Development Policy; Instruments of Rural Development
Unit-III: Economics of Rural Infrastructure
Economics of Rural Infrastructure- Use of land, water & energy; rural transport, communication, electrification, social infrastructure-education, health and dissemination of information; Rural Finance- Role of capital and Rural credit- organised and unorganised markets, rural savings and capital formation; NABARD; Financial inclusion
Unit-IV: Rural Development Policies and Programmes
Rural Development Policies and Programmes; Institutions and Agencies; Rural Development in Planning- trends and experiences at the Central and State level; Migration & Rural Population Change.

Reading List:

- Chand, M. and V.K. Puri (1983), Regional Planning in India, Allied Publishers, New Delhi.
- Sundaram, I.S. (1999), Rural Development, (3rd Edition), Himalaya Publishing House, Mumbai.
- Singh Katar (2009), Rural Development, Principles, Policies and Management, (3rd Edition), Sage Texts, New Delhi
- Chakravarty Sukhomoy (1987), Development Planning- The Indian Experience, Oxford India Paperbacks, New Delhi
- Dreze, Jean and Amartya Sen (1995), *India: Economic Development and Social Opportunity*, Oxford University Press, New Delhi.
- World Bank (1999), *Rural Water Supply and Sanitation*, The World Bank, Washington, D.C.
- Various Plan Documents and Mid-term Appraisal Reports
- Government of India, Economic Survey, (Annual), Ministry of Finance, New Delhi.
- Jain, A.K. (1986), Economic Planning in India, Ashish Publishing House, New Delhi.
- Jalan, B. (1992), The Indian Economy — Problems and Prospects, Viking, New Delhi.

ECON 1002C: Dissertation   (04 Credits)

Topics for Dissertation will be assigned to the students by the respective supervisor of the Department.

ECON 804E: Agricultural Economics   (04 Credits)

Unit-I: Agriculture and Economic Development.
Nature, scope and issues of agricultural economics, Role of agriculture in economic development. Interdependence between agriculture and industry; Models of interaction between agriculture and the rest of the economy.

Unit-II: Agricultural Production and Productivity
Agricultural production. Resource use and efficiency, production function analysis in agriculture, factor combination and resource substitution, cost and supply curves. Farm size and laws of returns; Farm Management- Farm Planning & Budgeting and cost concepts. Efficiency indicators in farm.

Unit-III: Rural Labour Market
Rural labour supply, interlocking of factor markets, mobility of labour and segmentation in labour markets. Marginalisation of rural labour, nature, extent and trends in rural employment. Agricultural wages in India, Male-Female wage differences.

Unit-IV: Theories of Peasant Economy
Features of Peasant Societies. Elements of Peasant Political Economy. The Theories of Optimizing Peasant (profit-maximizing peasant, risk averse peasant, drudgery averse peasant, and sharecropping peasant). Women in Peasant Household.

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.
6. Rao, C.H.H. (1975). *Agricultural Growth, Rural Poverty and Environmental Degradation in India*, Oxford University Press, New Delhi.
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.

9. A. A. Rane and A.C. Deorukhkar (2007). Economics of Agriculture-, Atlantic Publishers & Distributors (p) Ltd.

10. H. Evan Drummond and John W. Goodwin(...). Agricultural Economics-, Dorling Kindersley Publisher, Pearson Education

11. Debraj Ray (....). Development Economics-, Princeton University Press, Princeton, New Jersey.

ECON 805E: Public Economics   (04 Credits)

Unit -I: Introduction to Public Economics
Public Finance- Role of Govt. - Changing Perspective, Market Failure- Imperfections, Public Goods, Externalities; Allocation of Resources, Stabilization Policy, Removal of Distributional Inequalities & Regional Imbalances; Public Choice -Theory of voting and median voter theorem.

Unit- II: Public Expenditure and Taxation
Public Expenditure - Wagner's law, Wiseman Peacock Hypothesis, Pure theory of Public Expenditure, Criteria for Public Investment, Social Cost-Benefit Analysis; Taxation- Theory of Incidence- alternative concepts; Theory of Optimal Taxation, Excess Burden, Trade-off between Equity and Efficiency; The problem of double taxation.

Unit-III: Public Debt and Policy Issues
Public Debt- Burden, Sources, Public Borrowings and Price level, Crowding Out of Private Investment, Principles of Debt Management; Fiscal Policy- Objectives, Interdependence with Monetary Policy, Budgetary Deficits & their implications, Balanced budget multiplier.

Unit-IV: Fiscal Federalism and Application
Fiscal Federalism- Principles of Multi-Unit finance, Assignment of functions and sources of revenue, Vertical and Horizontal Imbalances, Theory of Grants, Resource Transfer from Centre to State (Devolution); Indian Public Finance- Tax System, Types of Tax at the Union, State & Local levels, Non-Tax Revenue, Analysis of Budgets, Trends in Public Expenditure and Public Debt.

Reading List:

- Auerbach, A.J. and M. Feldstern (Eds.) (1985), Handbook of Public Economics, Vol. I, North Holland, Amsterdam
- Buchanan, J.M. (1970), The Public Finances, Richard D. Irwin, Homewood.
- Jha, R. (1998), Modern Public Economics, Routledge, London.
- Menutt, P. (1996), The Economics of Public Choice, Edward Elgar, U.K.
- Musgrave, R.A. (1959), The Theory of Public Finance, McGraw Hill, Kogakhusa, Tokyo.
- Musgrave, R.A. and P.B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- Shome, P. (Ed.) (1995), Tax Policy : Handbook, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D.C.
- Stiglitz, J.E. (1986), Economics of Public Sector, Norton, New York.
- Peacock, A. and G.K. Shaw (1976), The Economic Theory of Fiscal Policy, George Allen and Unwin, London
- Srivastava, D.K. (Ed.) (2000), Fiscal Federalism in India, Har-Anand Publications Ltd., New Delhi.
- Reports of various Finance Commissions
- 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.
- Kumar, A. (1999), The Black Economy in India, Penguin, Harmondsworth.
- Mundle, S. (1999), Public Finance Policy: Issues for India, Oxford University Press, New Delhi.
- Gruber, J (2009), Public Finance and Public Policy, Worth Publishers, New York
- Srivastava D.K and U Shankar (2012), Development and Public Finance, Essays in Honour of Raja J Chelliah, Sage India, New Delhi
- Ghosh, A & C Ghosh (2014), Public Finance, PHI Learning Private Limited, Delhi

ECON 904E: Environment and Resource Economics-I   (04 Credits)

Unit-I: The Economy & Environment: Efficiency, Public Bad and Market Failure
What is Environmental Economics; Interlinkage between Economy & Environment; Laws of Thermodynamics; Social Choice & Environmental Protection; Efficiency & Markets; Public Bad & Externalities: Market Failure

Unit–II: Regulation of Pollution & Marketable Permits
Political Economy model of regulation & Basic regulatory instruments; Basic issues of environmental regulation; Emission fees & marketable permits, multiple pollutants, Implementing marketable permits; International Trade & Transboundary pollution; Transboundary pollution & Game Theory

Unit–III: Basic Issues of Resource Economics
Capital Asset Model; Dynamic Optimization; Optimal Control; Dynamic Programming; Application of Optimal Control in Resource Economics; Application of Dynamic Programming in Resource Economics

Unit–IV: Issues of Environmental 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; Political Economy of Sustainable Development

Reading List:

1. Environmental Economics – Kolstad – Chapters – 1, 3, 4, 5
2. Environmental Economics – R. N. Bhattacharya – Chapter-1
3. Environmental Economics: Theory & Practice – Hanley, Shogren & White
4. Dynamic Optimization – Alpha Chiang

ECON 905E: Economics of North East India   (04 Credits)

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 Merkets, 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.

ECON 1003E: Advanced Statistics and Econometrics   (04 Credits)

Unit-I: Analysis of variance

Analysis of variance: one-way classification data – fixed and random effects models; two-way classification data with one observation per cell– fixed-effects, random-effects and mixed effects model; two-way classification data with *more than one* observation per cell– fixed-effects, random-effects and mixed effects model.

Unit-II: Multivariate Statistical Analysis
Discriminant analysis; Factor Analysis/Principal Component Analysis, Multi-Dimensional Scaling, Cluster Analysis.

Unit-III: Econometrics of Panel data
Econometrics of Panel data – introduction, the fixed effect model, the random effect model, fixed vs. random effect model, testing, method of estimation.

Unit-IV: Time series analysis

Time series analysis – estimation of AR, MA, ARMA, The Box-Jenkins approach, vector-auto regression, unit root and co-integration.

Reading List:

1. A. M. Goon, M. K. Gupta and B Dasgupta, *Fundamentals of Statistics*, Vol. 2, Nineth Edition, World Press.
2. Applied Multivariate Statistical Analysis, *Richard A. Johnson* and *Dean W. Wichern*, sixth edition, PHI Learning Private Limited.
3. J.W. Wooldridge: Econometric Analysis of Cross Section and Panel Data.
4. William H Greene, *Econometric Analysis*, Fifth Edition, Pearson education.
5. Walter Enders, *Applied Econometric Time Series*, Second Edition, Wiley-India.

ECON 1004E: Environment and Resource Economics-II   (04 Credits)

Unit-1: Economics of Natural Resources
A Resources Taxonomy; Managing Exhaustible Resources; Managing Renewable Resources; Property Rights: Polluter & Victim; Coase Theorem; CPR: Definition, Evolution of CPR Regime & Institution & Problem of Common Property

Unit-II: Economics of Non-Renewable Natural Resources
Market Structure and Exploitation of Non-renewable Natural Resources; Production Technology and Extraction Costs; Application of the Theory; Government Policy towards non-renewable resource extraction; Uncertainty and the rate of Resource extraction

Unit–III: Economics of Non-Renewable Natural Resources
Population Growth models; Static models of Fishery exploitation in continuous time; Static economic models of Fisheries; Comparative dynamic models of fishing; Fisheries Policy; Strategic behaviour in fishery management

Unit–IV: Economics of Climate Change
The Science of Climate Change; Economics, ethics and climate change; Implications of climate change for development; Cost of climate change in developed countries; Macroeconomic models of costs; Policy responses for mitigation; International collective action

Reading List:

1. Environmental Economics – Kolstad
2. Environmental Economics – R. N. Bhattacharya
3. Halting Degradation of Natural Resources – Baland & Platteau
4. Environmental Economics: Theory & Practice – Hanley, Shogren & White
5. Stern Review: The Economics of Climate Change
6. The Economics of Climate Change – Lawrence Goulder and William A Pizer, NBER Working Paper 11923

ECON 1005E: Labour Economics   (04 Credits)

Unit -1: Labour Market and Policies

Labour Market- Nature and Characteristics, Demand for Labour in relation to size and pattern of investment, Choice of technologies and labour policies

Supply of Labour, Growth of Labour Force, Labour Market Policies, Mobility and Productivity,

Unit- 2: Employment and Wage Determination

Employment and Development relationship- poverty and unemployment, Unemployment- Types, concepts and measurement, Employment Policy

Wage Determination- Classical, Neo-classical and Bargaining theories; Concepts of minimum wage and efficiency wage; Non-wage component of labour remuneration, Productivity and wage relationship

Unit-3: Industrial and Agricultural Labour

Industrial Labour- Theories of labour movement, growth, pattern and structure of labour unions in India, Industrial Disputes and their settlements, trends in collective bargaining, Indian Labour laws in the context of international labour standards

Agricultural Labour Markets- Rural labour supply, Interlocking of factor markets, nature and trends in rural employment, Agricultural wages in India, Non-agricultural rural employment

Unit-4: Social Security and Reforms

State and Social Security- Concepts and evolution, Social assistance and insurance, Review and Appraisal of State Policies, Special Problems- Child labour, discrimination, bonded labour

Labour market Reforms- Exit Policy, safety requirements, National Commission on Labour, Globalisation and labour markets, mobility of labour

Reading List:

- Cahuc, P, S Carcillo, A Zylberberg (2014), Labor Economics, PHI Learning Private Limited, Delhi
- Bazen Stephen (2011), Econometric Methods for Labour Economics, Oxford, UK
- Ehrenberg R & R. S. Smith (2012) Modern Labor Economics: Theory & Public Policy, Pearson, USA
- Datt, G. (1996), Bargaining Power, Wages and Employment: An Analysis of Agricultural LabourMarkets in India, Sage Publications, New Delhi.
- Hajela, P.D. (1998), Labour Restructuring in India: A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.
- Jhabvala, R. and R.K. Subrahmanya (Eds.) (2000), The Unorganised Sector : Work Security and Social Protection, Sage Publications, New Delhi.
- Lester, R.A. (1964), Economics of Labour, (2nd Edition), Macmillan, New York.
- McConnell, C.R. and S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.
- 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.
- 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.
- Venkata Ratnam, C.S. (2001), Globalization and Labour-Management Relations: Dynamics of Change, Sage Publications/Response Books, New Delhi.
- Papola, T.S. and Sharma, A.N. (Eds.) (1999), Gender and Employment in India, Vikas Publishing House, New Delhi.
- Sharma. A.N. and A. Kundu (Ed.) (2001), Informal Sector in India : Emerging Perspectives, Institute for Human Development, New Delhi.
- Binswanger H.P. and M.R. Rosenzweig (Eds.) (1984), Contractual Arrangements, Employment, and Wages in Rural Labor Markets in Asia, Yale University Press, New Haven
- Institute of Human Development (2014), India Labour and Employment Report 2014; Academic Foundation, New Delhi
- Bhowmik Sharit K (Ed.) (2013) The State of Labour: The Global Financial Crisis and its Impact, Routledge, USA
- Smith Stephen W. (2003) Labour Economics, Routledge, USA

ECON 1006E International Economics   (04 Credits)

Unit-I: Theories of International Trade

Concept of Comparative Advantage, 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)

Unit-II: Trade Policies and Interventions

Balance of Payments Accounts: Devaluation and Commercial Policies; Tariff 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; Stabilisation Policies under Fixed and flexible exchange rates

Unit-III: Trade and Development

Theory of Immiserising Growth: Bhagawati –Jhonson; Foreign Capital and Welfare - Brecher – Alejandro; Emergence of Trading Blocks; WTO

Unit-IV: Issues in International Economics and Institutions

Multinational Corporations; Foreign Direct Investments; Non-tariff Barriers, Reciprocal Dumping and related issues; WTO, IMF, WORLD Bank

1. Salvator D. ó International Economic Welfare
2. Sodersten and Reed ó International Economics
3. Kindleberger - International Economics
4. J. Bhagawati ó International Trade, Selected Reading
5. M. Chakoliadis ó International Trade, McGraw-Hill Inc.
6. Cherunilam ó Interantional Economics, Tata McGraw-Hill
7. Acahryya, Rajat, Ïnternational Economics, Oxford
8. Mannur, H.G, International Economics, Vikas Publications