

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

(04 Credits)

ECON 701C: Microeconomics-I

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. MasColllel, 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 Globalisation. 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

(04 Credits)

ECON 801C: Microeconomics-II

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. MasCollé, 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.

(04 Credits)

ECON 803C: Development Economics

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: Prebisch-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. Sala-i-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.

(04 Credits)

ECON 902C: Statistics and Econometrics

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, Ninth 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 multicollinearity, heteroscedasticity 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.

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 Policy, Sage India, New Delhi
- Ghosh, A & C Ghosh (2014), Public Finance, PHI Learning Private Limited, Delhi

ECON 94E: Environment and Resource Economics-I

(04 Credits)

Unit-I: The Economy & Environment: Efficiency, Public Bad and Market Failure
Unit-2: Environmental Economics: Interlinkage between Economy & Environment; Laws of Thermodynamics; Social Choice & Environmental Protection; Efficiency & Markets; Public Bad & Externalities; Market Failure

Unit-3: Regulation of Pollution & Marketable Permits
Unit-4: Environmental Economics: Issues 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-5: Basic Issues of Resource Economics
Unit-6: Capital Asset Model; Dynamic Optimization; Optimal Control; Dynamic Programming; Application of Optimal Control in Resource Economics; Application of Dynamic Programming in Resource Economics

Unit-7: Issues of Environmental Valuation & Sustainable Development
Unit-8: 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 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.

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, Ninth 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

(04 Credits)

ECON 1005E: Labour Economics

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 Labour Markets 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: Bhagwati – Johnson; 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. Salvatore D. □ International Economic Welfare
2. Sodersten and Reed □ International Economics
3. Kindleberger - International Economics
4. J. Bhagwati □ International Trade, Selected Reading
5. M. Chakoliadis □ International Trade, McGraw-Hill Inc.
6. Cherunilam □ International Economics, Tata McGraw-Hill
7. Acharya, Rajat, □ International Economics, Oxford
8. Mannur, H.G, International Economics, Vikas Publications

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

(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 Jagdish 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 Macmillian.

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.

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 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

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.

ECON 902Cii- MATHEMATICAL ECONOMICS-I

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. Intriligator (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, Pigionvian 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.

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, Kalecki 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.

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

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).

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

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.

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

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

- 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 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 Vinek model.

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

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

Basic Readings:

- Acharya, Rajat, International Economics, Oxford
- Bhagwati, J. (ed) (1981): "International Trade: Selected Readings" Cambridge University, Massachusetts
- Cherunilam F- Interantional 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.

- 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 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

- 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.

Syllabus of Post Graduate Studies in Economics

CHOICE BASED CREDIT SYSTEM (CBCS) - 2020

(A) CORE COURSES

SL. NO.	COURSE CODE	NAME OF THE PAPER	CREDIT	SEMESTER
1	ECON 701C	Microeconomic Analysis-I	4	I
2	ECON 702C	Macroeconomic Analysis-I	4	I
3	ECON 703C	Development Economics	4	I
4	ECON 704C	Indian Economics	4	I
5	ECON 705C	Elementary Quantitative Economics	4	I
6	ECON 801C	Microeconomic Analysis-II	4	II
7	ECON 802C	Macroeconomic Analysis-II	4	II
8	ECON 803C	Basic Econometrics	4	II
9	ECON 804C	Economics of Social Sector & Environment	4	II
10	ECON 901C	Public Economics	4	III
11	ECON 902C	International Trade and Development	4	III
12	ECON 903C [Special Paper - any one]	(i) Agricultural Economics-I (ii) Mathematical Economics-I (iii) Econometrics-I (iv) Health Economics-I	4	III
13	ECON 904C	Institutional/Field Visit & Report	4	III
14	ECON 1001C	Economics of North Eastern Region of India	4	IV
15	ECON 1002C	Dissertation/Project/Field Study Report	4	IV
16	ECON 1003C [Same special paper to be retained]	(i) Agricultural Economics-II (ii) Mathematical Economics-II (iii) Econometrics-II (iv) Health Economics-II	4	IV

(B) COMPULSORY FOUNDATION COURSES

1	ECON 905 F	Computer Applications in Economics	4	III
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(C) ELECTIVE COURSES

1	ECON 805E	Quantitative Techniques in Economics	4	II
2	ECON 806E	Research Methods & Statistical Packages	4	II
3	ECON 906E	Environment & Resource Economics	4	III
4	ECON 1004E	History of Economic Thought	4	IV
5	ECON 1005E	Internship	4	IV

Total Course Credit (A + B + C) = Core 64 Credits + Foundation 04 credits + Elective 16 credits (including at least 04 compulsory credit from other department) = 80 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. Baumol'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.

Reading list for Paper 701C : Microeconomics I

Koutsoyannis, A. Modern Microeconomics, ELBS, Macmillan Press, London.

Sen, A. (1999): Microeconomics: Theory and Applications, OUP, ND.

Varian, Hall R. Intermediate Microeconomics, W.W. Norton & Company, New York, London.

Mas-Colell, Andreu, Michael D. Whinston and Jerry R. Green, Microeconomic Theory, Oup, New York.

Layard, P.R.G. and A.A. Walters Microeconomic Theory, McGraw Hill, NY.

Maddala, G.S. and E. Miller, Micro Economics- Theory and Applications, McGraw, New Delhi.

Silberberg E., The Structure of Economics: A Mathematical Analysis, McGraw-Hill

Baumol, W.J. Economic Theory and Operations Analysis, Prentice Hall, ND.

Salvatore, D. Managerial Economics in a Global Economy with Economic Applications (5e), CENGAGE Learning/South Western.

Dobbs, I. (2000): Managerial Economics, OUP, ND.

Cyert, R.M. and R. March : A Behavioral Theory of the Firm, Prentice Hall.

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: DEVELOPMENT ECONOMICS

Unit I: Growth and Development Economic Development and Sustainable Development; Role of

Concept of Economic Growth, Economic Development.

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

• P. Thirlwall. *Growth and Development*. Palgrave McMillan

• 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*. OUP

• 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 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

- Bhawati Jagadish and Arvind Panagariya (2013): Why Growth Matters: How economic Growth in India Reduced Poverty and lessons for other Developing Countries, Public Affairs.
- Bhalla, G.S. (2007): *Indian Agriculture since Independence*, New Delhi: National Book Trust.
- Byres, T.J. (1998) (Ed.): *The Indian Economy: Major Debates Since Independence*, OUP, Delhi.
- Bardhan, P. K. (1999): *Political Economy of Development in India*, OUP, ND.
- Chakravarty, S. (1987): *Development Planning: the Indian Experience*, OUP, ND.
- Datt and Sundaram (latest edition): *Indian Economy*, S Chand and Company, New Delhi.
- Dreze J. And A.k. Sen (2013), Uncertainty Glory: India and Its Contradiction by Prince ton University Press.
- Dantwala M.L. (ed.)(1991), *Indian Agricultural Development since Independence*, Second Revised Edition, Oxford & IBH Publishing Co. (General Reference).
- *Indian Economic Survey*- latest issue
- K.L. Krishna, Kristy Tsun-tzu Hsu (Eds.) (2009): *Readings in Indian Agriculture and Industry*, Academic Foundation
- Kapila, Umma (Ed)(2014): *Indian Economy Since Independence*. 25th edition, Academic Foundation.
- Kapila, Umma (2015): *Indian Economy: Performance and Policies: 2015-16*, Academic Foundation.
- Mookherjee Dilip, (1998), (Ed.) *Indian Industry-Policies and Performance*, Oxford University Press, Delhi.
- Nagaraj R (Ed) (2012): *Growth Inequality and Social Development in India. Is Inclusive Growth Possible?*, London, Palgrave Macmillan.
- Raj Kapila and Uma Kapila (2007). *Economic Developments in India*, Academic Foundation, New Delhi.
- Sandesara, J.C. (1992): *Industrial Policy and Planning, 1947-91: Tendencies, Interpretation and issues*. Sage, ND.
- Tendulkar, S.D and T.A. Bhavani (2007): *Understanding reforms –Post 1991 India*, OUP.
- Vaidhanathan, A. (1995), *The Indian Economy: Crisis, Response and Prospects*, Orient Longmans, New Delhi.

ECON 705: Elementary Quantitative Economics

Unit I: Preview to Algebra (10 lectures)

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

Unit II: Differential Calculus & Integral Calculus (10 lectures)

Functions, Limits, First order and second order Differential Calculus (Single derivative and partial derivative), Indefinite Integral and Definite Integral

Unit III: Measures of Central Tendency & Measures of Dispersion (10 lectures)

Mean-Median-Mode, Measures of Dispersion (Absolute and Relative), Moments

Unit IV: Index Number & Vital Statistics (10 lectures)

Methods of construction of Index numbers-Cost of Living Index-Paasche' Index, Laspeyers Index, Fisher Index, Concept of Vital statistics

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.
- Gun A.M, Gupta, M.K and Dasgupta, B (2016): An Outline of Statistical Theory, World Press.
- Das, N.G.: Statistical Methods, M. Das & Co.

Advanced Reading:

- Hall and Knight: Higher Algebra, Arihant Publishers, New Delhi.
- Apostol, Tom, M (2017): Calculus: Multivariable Calculus and Linear Algebra with Applications to Differential Equation, Vol.2, Willey & Sons.
- Rowcroft, J.E. (2005): Mathematical Economics: An Integrated Approach, Prentice Hall.
- Silberberg, E. (1998): The Structure of Economics: A Mathematical Analysis, McGraw-Hill, International Edition.
- R.V. Hogg and A.T. Craig: An Introduction to Mathematical Statistics, Amerind, New York.
- Gupta S.C. & Kapoor V.K: Fundamentals of Mathematical Statistics, Sultan Chand & Sons.

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.

Reading list

- Koutsoyannis, A. Modern Microeconomics, ELBS, Macmillan Press, London.
Sen, A. (1999): Microeconomics: Theory and Applications, OUP, ND.
Varian, Hall R. Intermediate Microeconomics, W.W. Norton & Company, New York, London.
Mas-Colell, Andreu, Michael D. Whinston and Jerry R. Green, Microeconomic Theory, Oup, New York.
Quirk J.P., & Saposnik, R. (1968), Introduction to General Equilibrium Theory and Welfare Economics

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

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)

ECON 803C: BASIC ECONOMETRICS & STATISTICS

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.

Koutsoyannis, 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 804C: Economics of Social Sector & Environment (Being revised)

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
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* (1998)
Barro, R. and X. Sala-i-Martin. *Economic Growth*. McGraw Hill
Council for Social Development. *India: Social Development Report*. OUP
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 901C: Public Economics

Unit I: Introduction

Public Finance: Emergence of State, Public Authority. Scope of Public Finance and Role of government in Capitalistic, Socialist 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 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. Feldstem (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. 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 & Dlrwin, 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 902: INTERNATIONAL ECONOMICS

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 Rybczynsky 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 Vinekmodel.

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

Reciprocal Dumping
MNCs, FDI & 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 – Interantional Economics, Tata McGraw-Hill
- Chocholiades, M.(1990): "The Pure Theory of International Trade", McGraw-Hill, Kogakusha, Japan
- Dunn, R.M and J.H.Muti (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
- Salvatore 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 903Ci- 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:

- A.N. Sadhu & Amarjit Singh (2008), Fundamentals of Agricultural Economics, Himalaya Publishing House, Delhi.
- Acharya, S.S. and Agarwal, N.L. (2012). *Agricultural Marketing in India*. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
- Bansil, P.C. (2017). *Economic Problems of Indian Agriculture*. Daya Publishing House, New Delhi.
- Bhalla, G. S. and Gurmail S. (2001). *Indian Agriculture: Four Decades of Development*. New Delhi: Sage Publications.
- Chand, R. (2012). Development Policies and Agricultural Markets. *Economic and Political Weekly*, 47 (52): 53-63.
- Chand, R., S S Raju, S. Garg and L.M. Pandey (2011). Instability and Regional variation in Indian Agriculture, NCAP, New Delhi.
- 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.

ECON 903Cii- MATHEMATICAL ECONOMICS-I

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. Intriligator (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, McGraw-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.

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
- S. Preker, X. Liu, E. V. Velenyi and E. Baris. Public Ends, Private Means: Strategic Purchasing of Health Services. The World Bank
- L. Dinniwidy and F. J. Teal. Principles of Cost-Benefit Analysis for Developing Countries. CUP
- 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: Economics of North Eastern Region of India

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

ECON 1002C: Dissertation

Each Student provided with a supervisor and a topic

ECON 1003C 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:

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

ECON 1003C ii- 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

ECON 1003C ii- 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 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

ECON 1003C iii- ECONOMETRICS-II

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.
 - Gujarati, 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.

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
- 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.

COMPULSORY FOUNDATION COURSE (B)

ECON 905 F- 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 Dibyojoyoti, '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.
- Oguno, 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 805E- 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:

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

ECON 806E- Research Methods in Social Science (Being developed)

ECON 906E- Environment & Resource Economics (Being prepared)

ECON 1004E- History of Economic Thought

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

IMD Detail Syllabus in Economics – 2015

Semester – I

Paper – 1: Introduction to Economics

100 Marks

Unit ó I: Basic Concept of Economics

Unit ó II: Theory of Consumer Behaviour

Unit ó III: Theory of Production, Cost and Revenue

Unit ó IV: National Income Accounting

Semester – II

Paper – 2: Microeconomic Theory

100 Marks

Unit ó I: Perfect Competition and Analysis of Competitive Markets

Unit ó II: Market with Power ó Monopoly and Monopsony

Unit ó III: Market with Power ó Monopolistic Competition and Oligopoly

Unit ó IV: Factor Market Analysis and Welfare Economics

Semester – III

Paper – 3: Macroeconomic Theory

100 Marks

Unit ó I: Theory of Employment

Unit ó II: Consumption Function and Investment Function

Unit ó III: Quantity Theory of Money

Unit ó IV: Inflation and Business Cycle

Semester – IV

Paper – 4: Public Finance and Basic Statistics

100 Marks

Group – A: Public Finance

50 Marks

Unit ó I: Public Revenue and Expenditure

Unit ó II: Public Debt and Fiscal Policies

Group – B: Basic Statistics

50 Marks

Unit ó III: Descriptive Statistics ó I

Unit ó IV: Descriptive Statistics ó II

Semester – V	200 Marks
Paper – 5: Development Economics	100 Marks
Unit ó I: Measuring Development	
Unit ó II: Theories of Growth and Development	
Unit ó III: Dual Economy Models	
Unit ó IV: Development and Environment	
Paper – 6: International Trade and Mathematical Applications in Economics	100 Marks
Group – A: International Trade	50 Marks
Unit ó I: Pure Theories of International Trade	
Unit ó II: Trade Polices	
Group – B: Mathematical Applications in Economics	50 Marks
Unit ó III: Basic Mathematical Tools for Economics	
Unit ó IV: Mathematical Application in Economics	
Semester – VI	200 Marks
Paper – 7: Issues in Indian Economy	100 Marks
Unit ó I: Structure and Trends of Indian Economy	
Unit ó II: Indian Agriculture, Industry and Service Sectors	
Unit ó III: Financial System: Its Components and Operation	
Unit ó IV: Indian Planning and Economic Reforms	
Paper – 8: Economic History of India and Basic Econometric Methods	100 Marks
Group – A: Economic History of India	50 Marks
Unit ó I: Economic Structure and Change in Primary Sector	
Unit ó II: Changes in Secondary Sector and Infrastructure	
Group – B: Basic Econometric Methods	50 Marks
Unit ó III: Sampling and Introductory Econometric	
Unit ó IV: Sampling and Statistical Inference	

IMD Detail Syllabus in Economics – 2015

Semester – I

Paper – 1: Introduction to Economics

100 Marks

Unit – I: Basic Concept of Economics

Nature and scope of economics, Concept of demand, supply, market equilibrium and elasticity

Unit – II: Theory of Consumer Behaviour

Marshallian Utility Analysis, Consumer equilibrium, Substitution effect and Income effect of price change, Ordinary and Compensated Demand curves, Price Consumption Curve and Giffen good, Income Consumption Curve, Revealed preference

Unit – III: Theory of Production, Cost and Revenue

Production function: Total, Average and Marginal product. Law of variable proportion and law of returns to scale; Iso-quant and least cost combination: Expansion path. Cost: Types of cost ó Fixed and Variable. Total, Average and Marginal cost and their interrelation; Short run and long run cost curves; Total, Average and Marginal Revenue and their relationships

Unit – IV: National Income Accounting

National income and related aggregates: GNP, NNP (at market price and factor cost), GDP, Personal Income, Disposable Income. Methods of Measuring National Income; National Income as an indicator of Economic Welfare

Reading List:

1. H. L. Ahuja ó Advanced Economic Theory, S. Chand & Company Ltd.
2. Koutsoyiannis ó Modern Micro Economics, Macmillan, London
3. Maddala and Miller ó Microeconomic Theory, McGraw-Hill International
4. Pindyk and Rubinfeld ó Microeconomics, Chapter 18, Prentice Hall
5. Salvator ó Microeconomics
6. Rana and Verma ó Macroeconomics Analysis, Vishal Publication
7. Suraj B. Gupta ó Monetary Economic, S. Chand & Company Ltd.

Semester – II

Paper – 2: Microeconomic Theory

100 Marks

Unit – I: Perfect Competition and Analysis of Competitive Markets

Profit maximisation under perfect competition in Short run and Long run; Short run supply curve of the firm and Long run supply curve of the industry; Constant, Increasing and Decreasing cost industry; The Effect of Tax

Unit – II: Market with Power – Monopoly and Monopsony

Market Power and Capturing Consumer Surplus: Price Discrimination-first, second and third degree price discrimination.

Monopoly: Sources of monopoly power; Average Revenue, Marginal Revenue and Monopolist Equilibrium; the Multiplant Monopolist; Social cost of monopoly, rent seeking.

Monopsony: Monopoly and Monopsony comparison, sources of Monopsony power, Social cost of Monopsony Power, Bilateral Monopoly.

Unit – III: Market with Power – Monopolistic Competition and Oligopoly

Monopolistic Competition: Equilibrium in the short run and long run; Economic Efficiency and Monopolistic Competition

Oligopoly: Equilibrium ó Cournot and Bertrand Model, Competition vs. Collusion

Unit – IV: Factor Market Analysis and Welfare Economics

Price and Employment of Factor Inputs in Competitive Factor Market.

Pareto Optimality of Competitive Markets, Aggregation of Preferences and Social Welfare Function.

Reading List:

1. H. L. Ahuja ó Advanced Economic Theory, S. Chand & Company Ltd.
2. Koutsoyiannis ó Modern Micro Economics, Macmillan, London
3. Maddala and Miller ó Microeconomic Theory, McGraw-Hill International
4. Pindyk and Rubinfeld ó Microeconomics, Chapter 18, Prentice Hall
5. Salvator ó Microeconomics
6. Hal R. Varian, Intermediate Microeconomics: A Modern Approach, East-West Press, New Delhi

Semester – III

Paper – 3: Macroeconomic Theory

100 Marks

Unit – I: Theory of Employment

Classical Theory of Employment, its criticism and Keynesian Revolution. The Theory of Effective Demand; Determination of Simple Keynesian Equilibrium; The IS-LM Framework and Complete Keynesian Model.

Unit – II: Consumption Function and Investment Function

Keynesian psychological law of consumption, factor effecting law of consumption, Relative Income Hypothesis, Permanent Income Hypothesis, Lifecycle Hypothesis. Investment Function - MEC and MEI; Keynesian multiplier, Accelerator and the Super Multiplier.

Unit – III: Quantity Theory of Money

Fisher's Cash Transaction Approach, Cash Balance Approach, Keynesian Reformulation of Quantity Theory of Money; Modern Theories of Money of Friedman

Unit – IV: Inflation and Business Cycle

Inflation: Demand Pull and Cost Push Theories, Effects of Inflation on Production and Distribution, Anti-Inflationary Policy.

Business Cycle: Meaning and Characteristics; Hawtrey's Theory of Trade Cycle

Reading List:

1. Mankiw's Macroeconomics, Worth Publishers
2. Froyen's Macro Economics Theories and Policies, Prentice Hall
3. Branson's Macroeconomics, W. W. Norton & Company
4. Barro's Macroeconomics, The MIT Press
5. Sampat Mukharjee's Analytical Macroeconomics New Central Book agency(P) Ltd.
6. Rana and Verma's Macroeconomics Analysis, Vishal Publication
7. R. D. Gupta & A. S. Rana's Keynes Post-Keynesian Economics, Kalyani Publishers

Semester – IV

Paper – 4: Public Finance and Basic Statistics

100 Marks

Group – A: Public Finance

50 Marks

Unit – I: Public Revenue and Expenditure

Nature and Scope of Public Finance; Private and Public Goods; Principle of Maximum Social Advantage; Market Failure and Role of Governments; Externalities; Sources and Classification of Public Revenue; Tax and Non-tax Revenue; Public Expenditure ó Importance and Objects; Canons of Public Expenditure; Causes of Growth of Public Expenditure (Inclusive of Wangerø Law); Effects on Production, Consumption and Distribution

Unit – II: Public Debt and Fiscal Policies

Sources and necessity, Internal and External Debt, Burden of Public Debt, Redemption of Debt; Taxation ó Canons, Principles ó Benefit and Ability to Pay; Different types of Taxation, Impact and Incidence of Taxation, Effect of Taxation; Fiscal Policy ó Meaning and Objectives, Components; Role in Developing Economies

Group – B: Basic Statistics

50 Marks

Unit – III: Descriptive Statistics – I

Variable and Attribute; Discrete and Continuous Variable; Primary and Secondary data; Collection of Primary data, formation of Table and Charts and Diagram - line diagram, bar diagram, histogram, pie-chart
Frequency distribution ó different concepts, problem of missing frequencies
Measures of Central Tendency- Arithmetic mean and Harmonic mean, Median and Mode

Unit – IV: Descriptive Statistics – II

Measures of Dispersion ó Range, Mean Deviation, Quartile deviation, Standard deviation, Coefficient of Variance,
Correlation and Regression, Scatter Diagram, Pearson and correlation coefficient, Rank Correlation coefficient, Regression and its properties.
Moments ó Central order moments, Skewness and Kurtosis, basic concepts only

Reading List:

1. Musgrave ó The Theory of Public Finance, McGraw-Hill Inc., US
2. Browning & Browning ó Public Finance
3. R.K. Choudhary ó Public Finance and Fiscal Policy, Kalyani H.L.
4. H.L. Bhatia ó Public Finance, Vikas Publishing House Pvt. Ltd.
5. Subrata Ganguly ó Public Finance, World Press
6. Ambar Ghosh & C Ghosh ó Public Finance, PHI Learning Private Ltd, New Delhi
7. S.P. Gupta ó Statistical Method, S. Chand
8. Gupta & Kapoor ó Fundamentals of Applied Statistics, S. Chand
9. N.G. Das ó Statistical Methods
10. Goon, Gupta and Gasgupta ó Fundamental of Statistics, The World Press
11. Salvator, D. ó Mathematics and Statistics, Schaum Series, Tata-McGraw-Hill

Semester – V (200 Marks)

Paper – 5: Development Economics

100 Marks

Unit – I: Measuring Development

Economic Growth and Development; The Evolution of Measures of Development ó Per Capita Income ó Basic Needs Approach ó Physical Quality of Life Index ó Human Development Index ó Gender Development Index ó Gender Empowerment Measures

Unit – II: Theories of Growth and Development

Stages of Growth: Rostow, Mark.; Vicious Circle of Poverty; Critical minimum effort hypothesis; Big push theory; Balanced vs. Unbalanced Growth

Unit – III: Dual Economy Models

Structural approach of Development, Rural and urban interaction; Formal and informal sectors; Lewis model and its extension by Ranis and Fei; Issues in migration: Harris and Todaro Model

Unit – IV: Development and Environment

Sustainable development: Basic concepts, Outcome approach and Opportunity approach to sustainable development; Environmental accounting: Basic concepts and measurement; Market valuation approach and Maintenance approach; Poverty and Environment: Common property rights.

Reading List:

1. Basu, Kaushik (2002) ó Analytical Development Economics, The Less Developed Economy Revisited Oxford University Press.
2. Chakraborty, S. ó Development Planning, Oxford University Press, India.
3. Ghatak, S. (1986) ó An Introduction to Development Economics, Allen and Unwin, London.
4. Human Development Reports, Technical Notes: UNDP ó various issues
5. Meier, G.M. and J. E. Rauch (2005) ó Leading Issues in Economics Development, (8th Edition), Oxford University Press, New Delhi.
6. Ray Debraj (1998) ó Development Economics Oxford University Press.
7. Todaro, M.P. and S.C. Smith (2003), (8th Edition) ó Economic Development, Pearson Education, Delhi.
8. Thirwal, A.P. (1999), (6th Edition) ó Growth and Development, Macmillan, U.K.
9. W. Arthur Lewis ó Economic Development with Unlimited Supply of Labour in Agarwal and Singh (ed.) Economics of Underdevelopment, Oxford University Press.
10. Misra & Puri ó Development Economics.

Semester – V (200 Marks)

Paper – 6: International Trade and Mathematical Applications in Economics **100 Marks**

Group – A: International Trade **50 Marks**

Unit – I: Pure Theories of International Trade

Theory of International Trade: Introduction and basic concepts in the theory of international trade; production possibility curves, community indifference curves, offer curves, box diagram. Theories of absolute advantage, comparative advantage and Heckscher-Ohlin theory of trade

Gains from Trade (GFT): concepts of terms of trade and their importance in the theory of trade, factors affecting terms of trade; Doctrine of reciprocal demand ó its importance and limitations in the theory of trade; Gains from trade ó their measurement and distribution, GFT in commodity; endowment model and in factor endowment model

Unit – II: Trade Polices

Trade Policy: Types of tariffs and Quotas, their impact in partial equilibrium analysis, concept of optimum tariff, Free trade vs. Policy of tariffs and quotas in relation to economic growth with special reference to India; Non-tariff barriers to trade

Balance of Trade and Balance of Payments: Concept and Components; Measures to correct Balance of Payment Deficit; Foreign Exchange Market: Fixed and Flexible Exchange Rate.

Group – B: Mathematical Applications in Economics **50 Marks**

Unit – III: Basic Mathematical Tools for Economics

Relations and function ó types of functions; functions of two or more variables

Differential & Integral Calculus ó Simple derivative, partial derivative, conditions for optimization, Indefinite Integration

Matrix Algebra ó concepts and Operations, Null & Identity; Concept of Determinant; Inversion of matrix, Rank of Matrix, Linear equations, Solution of Linear equations by using inversion and by using Cramer's Rule

Unit – IV: Mathematical Application in Economics

Utility function ó Maximisation of Utility with a constraint; Derivation of ordinary and compensated demand curve; Decomposition of price effect

Production and Cost Functions ó Properties and types; Production function ó and elasticity of substitution; Derivation of AC, AVC, AFC, MC and Relation between AC and MC; Output Maximisation with cost constraint

Demand and Supply functions ó Market equilibrium for single commodity and multiple commodity market; Profit function ó equilibrium under perfectly competitive market and monopoly market

Reading List:

1. Chiang, Alpha and Kevin Wainwright (2005) - Fundamental Methods of Mathematical Economics, McGraw-Hill
2. Handerson J. & R. E. Quandt ó Microeconomic Theory: A Mathematical Approach, McGraw-Hill, New Delhi
3. E. Silberberg ó The Structure of Economics: A Mathematical Approach, McGraw-Hill, New Delhi
4. Srinath Barua ó Basic Math and its Economic Application
5. Taro Yamane - Mathematical Economics
6. Joydeb Sarkel & Anindya Bhukta ó An Introduction to Mathematical Techniques for Economic Analysis, Book Syndicate Private Ltd.
7. Salvator D. ó International Economic Welfare
8. Sodersten and Reed ó International Economics
9. Kindleberger - International Economics
10. J. Bhagawati ó International Trade, Selected Reading
11. M. Chakoliadis ó International Trade, McGraw-Hill Inc.
12. Cherunilam ó Interantional Economics, Tata McGraw-Hill

Semester – VI (200 Marks)

Paper – 7: Issues in Indian Economy

100 Marks

Unit – I: Structure and Trends of Indian Economy

Nature and broad characteristics of Indian Economy; Demographic: structure and problems; National Income: Trends and Composition, Poverty and unemployment.

Unit – II: Indian Agriculture, Industry and Service Sectors

Agriculture: Agricultural production and productivity, Size of farms, Land reforms, Green Revolution

Industry: industrial Development during planning period, Industrial Policy, Growth and Problems of Large, Small scale and cottage industries.

Service Sector: Foreign Trade of India ó Composition and Direction of India's foreign trade, EXIM policy and foreign trade policy, WTO and its impact on various aspect of Indian economy

Unit – III: Financial System: Its Components and Operation

Money Market: structure, role of RBI, Monetary policy of RBI, Indian monetary system,

Capital Market: Structure, SEBI and capital market reforms, mutual funds, OTECI, NBFC, IRDA;

Foreign Capital: FDI, FII; Capital Account Convertibility

Unit – IV: Indian Planning and Economic Reforms

Objectives and Strategy of economic planning in India: Development Strategy and LPG Model of development; Public Sector and Indian Planning: Role and performance of Public Sector; Disinvestment of Public sector; Privatisation and Economic Reforms: Privatisation ó the alternative models, Economics Reforms India

Reading List:

1. R. Dutt & K.P.M. Sundaram ó Indian Economy, S. Chand & Co. Delhi
2. Mishra & Puri ó Indian Economy, Himalaya Publishing House, Mumbai
3. Uma Kapali (ed.) ó Indian Economy Since Independence, Academic Foundation, Delhi

Paper – 8: Economic History of India and Basic Econometric Methods **100 Marks**

Group – A: Economic History of India (1857 – 1947) **50 Marks**

Unit – I: Economic Structure and Change in Primary Sector

Condition of Indian Economy During the late Mughal and pre-1857 period ó Land Tenure and Revenue, Agriculture, Industry and Foreign Trade (brief overall ideas only)

Transition to Colonialisation ó Evolution of Land Tenure System and Agriculture Decline in Industrial Production, Changes in Infrastructure and Trade, Debate on Economic Drain
Agriculture ó Trend in Agriculture Production, its effect on Income, Expansion of Market for Agricultural Production, Related Changes, Effects of Expansion of Markets on Income and Employment

Unit – II: Changes in Secondary Sector and Infrastructure

Small Scale Industry ó types, Changes in Production, Capital used, Employment pattern.

Large Scale Industry ó types, Changes in Production, Capital used, Labour and Employment (only Cotton and Jute Industries are to be considered)

Development of Infrastructure: Railways and its Development, Improvement in Irrigation System, A brief review of improvement in Health and Education

Group – B: Basic Econometric Methods **50 Marks**

Unit – III: Sampling and Introductory Econometric

Sampling Distribution ó Meaning and Objectives of Sampling; Types of Sampling; Random Sampling; Parameter, Statistic and its Sampling Distribution; Expectation and Standard Error of sample mean and sample proportion; Random Sampling from a probability distribution; Four fundamental distribution derived from the normal

Statistical Inference ó Estimation and testing of hypothesis; point estimation of parameters; Maximum-Likelihood estimation, Interval Estimation; Theory of test of significance, Type-I and Type-II errors, Power of a test, Large sample tests, Small sample tests

Unit – IV: Sampling and Statistical Inference

Two Variable Classical Linear Regression: Definition and Scope of the Regression Model; Problem of Estimation of Coefficients of the regression model: Assumptions; the Ordinary Least Squares (OLS) estimates ó properties of the OLS estimators; measures of Goodness of Fit. Inference in linear regression model

Reading List:

1. Tapan Raychadhuri and Irfan Habib (eds): Cambridge Economic History of India Vol. I, Cambridge University Press
2. Dharma Kumar (ed.): Cambridge Economic History of India Vol. II, Cambridge University Press
3. V.B. Singh (ed.): Economic History of India, 1857-1956, Allied Publisher
4. Tirthankar Roy: The Economic History of India 1857-1947, Oxford University Press
5. G. Kanshal: Economic History of India 1757-1966, Kalyani Publishers
6. G.S. Maddala ó Introduction to Econometrics, 3rd edition, John Wiley & Sons Ltd.
7. D. Gujarati ó Essential of econometrics
8. D. Dougherty - Introduction to Econometrics, OUP
9. S.D. Gujarati ó Basic Econometrics, McGraw-Hill Higher Education
10. J.M. Wooldridge ó Econometrics, Cengage Learning, India Edition

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No. F.TU/Eco/BPGS/1-4/2014-15

Date: 04.06.2015

Proceedings of the 4th Meeting of the Board of Post Graduate Studies (BPGS) in economics on 02.06.2015 at 11.30 AM in the Conference Hall of the Department of Economics, Tripura University.

Members present:

1. Prof. Jyotish Nath, Dean, Faculty of Arts and Commerce, T.U -Member
2. Prof. Ajitava Raychoudhri, Dept. of Economics, J.U -External Member
3. Dr. Paramita Saha, Associate Professor, Dept. of Economics, T.U -Member
4. Dr. Ashish Nath, Associate Professor, Dept. of Economics, T.U -Member
5. Salim Shah, Assistant Professor, Department of Economics, T.U -Member
6. D.K. Rana, Assistant Professor, Department of Economics, T.U -Member
7. Samrat Goswami, Assistant Professor, MRMD, T.U -Member
8. Dr. Indraneel Bhowmik, Associate Professor, Dept. of Economics, T.U -Special invitee

At the very outset the chairman welcomed all members of the BPGS in Economics and placed the agenda before the honourable members for discussion. After a thorough discussion the following resolutions have been adopted unanimously.

Agenda-1.

1. Confirmation of the minutes of the 3rd BPGS meeting resolution held on 16.03.2015

- Confirmed

2. Report of the actions taken. - Briefed and Accepted.

3. Names of paper setters and examiner for the M.A/M.cs Semester II and IV Examination, 2015 in Economics and IMD Semester II, IV and VI Examination, 2015 has been reported and accepted.

Agenda-4: Ph.D related matters.

The report of the Public Seminar of Smt. Alpana Bhattacharyya, Ph. D Scholar was placed before the BPGS members. It is resolved that on the basis of the recommendation of the Research Advisory Committee (RAC) for the scholar, namely Smt. Alpana Bhattacharyya under the supervision of Dr. Jahar Debbarma and also on the basis of the following documents as submitted:

- a) Proceeding of the Research Advisory Committee (RAC) meeting held on 25.05.2015.
- b) Summary Results of five thousand words duly certified by the RAC members along with the declaration of anti-plagiarism duly certified by the Scholar and the Supervisor.
- c) Public Seminar Report in the prescribed format duly signed by RAC members including an external member.
- d) Enclosed reprints of one publication in the referred journal and certificates of presentation in the Seminar/workshop duly certified by the RAC members.
- e) Report of outside external expert other than RAC external member report.
- f) A panel of 6 (six) external adjudicators recommended by RAC is approved by the BPGS.

The BPGS in its 4th meeting held today, i.e. on 02.06.2015 after careful verification of all the documents as per the requirements in the Regulations for Ph.D. 2014 in section 10.01(c,d,e), approves the Summary results of five thousand words of the scholar for submission and the list of names of six external adjudicators further action by the competent authority.

Agenda-4: Regarding the CBCS pattern syllabus:

Resolved that the structure of syllabus for MA/M.Sc in Economics be framed as under:

CORE COURSES

SL No.	Core Subject Name of the Course	Credit	Semester number
1	Microeconomics-I	04	I
2	Macroeconomics-I	04	I
3	Quantitative Techniques in Economics	04	I
4	Indian Economics	04	I
5	Microeconomics-II	04	II
6	Macroeconomics-II	04	II
7	Development Economics	04	II
8	Economics of Social Sector	04	III
9	Statistics and Econometrics	04	III
10	Economics of Planning and Rural Development	04	IV
11	Dissertation	04	IV

COMPULSORY FOUNDATION COURSES

SL No.	Subject Name of the Course	Credit	Semester number
1	Computer Applications in Economics	04	III

Total= 48 Credits

ELECTIVE COURSES

SL No.	Elective Subject Name of the Course	Credit	Semester number
1	Agriculture Economics	04	II
2	Public Economics	04	II
3	Environment & Resource Economics-I	04	III
4	Economics of North East India	04	III
5	Advance Statistics and Econometrics	04	IV
6	Environment & Resource Economics-II	04	IV
7	Labour Economics	04	IV
8	International Economics	04	IV

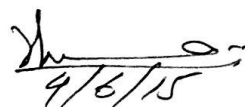
A. Core-44 credits + B. Compulsory-04 credits + C. Elective-16 credits

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

Regarding the detailing of the syllabus, the outline of the syllabus has been placed before the members of the BPGS and after thorough discussion Prof. Ajitava Raychoudhuri made few suggestions to incorporate and requested the concerned faculty to do the necessary changes. Accordingly the concerned members agreed and the same has been done.

The modified structure of syllabus of the P.G. Course in economics and the detailing of the syllabus is approved.

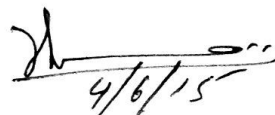
The meeting ended with thanks to the Chair.



[Dr. Jahar Deb Barma]
Chairman of BPGS
Department of Economics
Tripura University

Copy to:

1. Prof. Jyotish Nath, Dean, Faculty of Arts and Commerce, T.U -Member
2. Prof. Ajitava Raychoudhuri, Dept. of Economics, J.U -External Member
3. Dr. Paramita Saha, Associate Professor, Dept. of Economics, T.U -Member
4. Dr. Ashish Nath, Associate Professor, Dept. of Economics, T.U -Member
5. Salim Shah, Assistant Professor, Department of Economics, T.U -Member
6. D.K. Rana, Assistant Professor, Department of Economics, T.U -Member
7. Samrat Goswami, Assistant Professor, MRMD, T.U -Member
8. Dr. Indraneel Bhowmik, Associate Professor, Dept. of Economics, T.U -Special invitee
9. P.A. to Honourable Vice-Chancellor, T.U for kind information
10. Controller of Examination, T.U. for information



[Dr. Jahar Deb Barma]
Chairman of BPGS
Department of Economics
Tripura University

Department of Economics, Tripura University

**Proceedings of the 12th Meeting of the Board of Post Graduate Studies in Economics
held on 3rd July, 2019**

Members Present :

- | | |
|---|-----------------------|
| 1. Prof Ashish Nath, Head, Department of Economics | - Ex Officio Chairman |
| 2. Dr. Paramita Saha, Associate Professor, Department of Economics | - Member |
| 3. Dr. Jahar Debbarma, Associate Professor, Department of Economics | - Member |
| 4. Dr. Salim Shah, Assistant Professor, Department of Economics | - Member |
| 5. Dr. Dilip Kumar Rana, Assistant Professor, Department of Economics | - Member |
| 6. Dr. Samrat Goswami, Assistant Professor, Department of RS | - Member |

At the outset, Ashish Nath, Head, Department of Economics welcome all the members of Board.

The agenda of the meeting were discussed one by one, as follows

Agenda 1: To confirm the proceedings of the 11th BPGS meeting dated 10.01.2019

Confirmed

Agenda 2: The proposed syllabus of P.G. CBCS Economics be approved as placed with addition of semester wise distribution in the session 2019-20

Approved Syllabus of Post Graduate Studies in Economics

(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)	(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 (Students should retain the same choice as opted in ECON 902 C)	(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

03/7/2019

29/7/2019

27/7/19

21/7/19

*Samrat Goswami
09/7/19*

(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

64 Credits

Agenda 3: Miscellaneous

- (i) The report of the First RAC of Smt. Moumita Deb under supervision of Dr. Paramita Saha, along with RAC approved synopsis for registration is placed and approved.
- (ii) The Annual Progress Report along with the report of RAC for Prabir Ghosh under supervision of Prof. Ashish Nath held on 21/12/2018 is placed and approved.
- (iii) Earlier Registration of Smt. Manisha Karmakar under supervision of Dr. Jahar Debbarma stood cancelled and registration for one year w.e.f. 02/04/19 as a special case is granted. Noted. (Vide Letter of Dean, Faculty of Arts & Commerce No. F.TU/REG/Ph.D/10(6-7)/12 dated 07.05.2019).


(iv) To Consider the letter of Dr. Indraneel Bhowmik about public Seminar of Pritam Bose.

The BPGS approves the recommendation of the RAC held on 26th February 2019 following the presentation of public Seminar by Sri Pritam Bose Ph. D. Scholar, under the supervision of Dr. Indraneel Bhowmik, Associate Professor, Department of Economics along with the list of adjudicator and the approved copy of summary report.

(v) To Consider the letter of Dr. Salim Shah about public Seminar of Niranjana Debnath

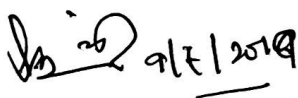
The BPGS approves the recommendation of the RAC held on 24th April 2019 following the presentation of public Seminar by Sri Niranjana Debnath Ph. D. Scholar, under the supervision of Dr. Salim Shah, Assistant Professor, Department of Economics along with the list of adjudicator and the approved copy of summary report.

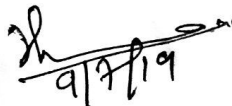
The meeting ended with vote of thanks to the Chair

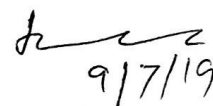

(Ashish Nath)

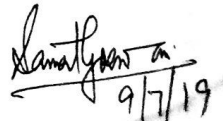
Head, Department of Economics


9/7/19


9/7/19


9/7/19


9/7/19


9/7/19

Dr. Paramita Saha Dr. Jahar Debbarma Dr. Salim Shah Dr. Dilip K Rana Dr. Samrat Goswami



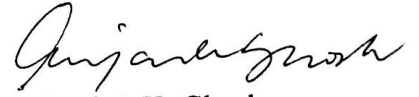
Proceedings of the meetings of the IMD programme held on 04.08.2014 and 06.08.2014 at 2.00 P.M. in the conference hall of the University. The meetings were presided over by hon'ble Vice-Chancellor Prof. A.K. Ghosh.

Members present: (List enclosed)

- i) At the outset the Hon'ble Vice Chancellor Prof. A.K. Ghosh welcomed the members and apprised the members about the importance of IMD Programme.
- ii) Prof. S. Poddar raised the issue regarding the board under which IMD Programme will be covered. It was considered that till 6th Semester IMD may be under the Board of undergraduate studies (BUGS) and from 7th Semester onwards, it is to be under the preview of Board of Post Graduate Studies (BPGS).
- iii) **The course contents for all the papers of IMD Programme shall be of Honours level of the present undergraduate semester system.**
- iv) Mr. N. Bhattacharya, Dy. Registrar (Academic) expressed his opinion for adopting dual honours system in IMD. It was resolved that, dual honours system shall not be implemented in the IMD Programme. A particular student has the option of choosing a core subject from the opted elective subjects after fourth semester, i.e. fifth semester, subject to the following conditions.
 - a) He/She must obtain a minimum of 60% marks in the subject to be considered as core subject of his / her choice,
and
 - b) Provided that in the particular subject required numbers of seats are available.
It was also emphasised upon that the choice based credit system (CBCS) to be followed.
- v) The Hon'ble Vice-Chancellor has informed about his willingness to help out the students in carrying out their project work (1st Sem.) with the assistance from some of the faculty members.
- vi) It was also decided that one teacher from each department will be in charge of the IMD related matter of the respective department.
- vii) The members expressed their opinion that remuneration to the Guest Teachers to be given in time.
- viii) It was also discussed that the language subjects viz. Hindi, Bengali & English also to be considered as elective subjects.
- ix) Members discussed about the restructuring process of the IMD Programme.
- x) It was resolved that 5-10 minutes gaps shall be maintained between two classes for movement of students from different departments to the Library (IMD) building.

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- xi) It was also resolved that proper rules & regulations is to be framed for IMD Programme at the earliest.
 - xii) It was resolved that marks / grade obtained in the project is to be reflected in the mark sheet.
 - xiii) It was resolved that there would be an exit option for students who would like to leave IMD Programme at the end of 6th Semester. Those who exercise exit option shall be awarded B.A. (Hons.) degree. Provided they satisfy all the conditions for B.A. (Hons.).
 - xiv) It was also resolved that the paper code is to be given to all the papers of each subject.

The meeting ended with thanks to the chair.



Prof. A.K. Ghosh

Vice-Chancellor, T.U



Dr. R.N. Dutta Purkayastha

Coordinator

Copy to:

1. P.S. to V.C. for information
2. Registrar, T.U. for information
3. Mrs. S. Debbarma, Director (CDC), T.U.
4. Dr. B.C. Sinha, Controller of Examination, T.U
5. Dy. Registrar (Academic), T.U.
6. HOD, Department of English
7. HOD, Department of History
8. HOD, Department of Philosophy
9. HOD, Department of Political Science
10. HOD, Department of Mathematics
11. HOD, Department of Bengali
- ✓ 12. HOD, Department of Economics
13. HOD, Department of Hindi
14. HOD, Department of Education
15. HOD, Department of Sociology
16. HOD, Department of Statistics
17. HOD, Department of I.T.

DEPARTMENT OF ECONOMICS, TRIPURA UNIVERSITY

Proceedings of the Meeting of the Board of Under Graduate Studies (BUGS) held on 29.01.2016 at 1.00 PM.

Members present:

1. Dr. Paramita Saha, Associate Professor, TU
2. Dr. Salim Shah, Assistant Professor, TU
3. Sri. Debajit Chakraborty, Associate Professor, RTC
4. Sri. Biman Behari Goswami, Associate Professor, MBBC
5. Dr. Indraneel Bhowmik, Associate Professor, TU
6. Dr. Jahar Deb Barma, Head & Associate Professor

Member *Paramita Saha*
Member *Salim Shah*
Member *Debajit Chakraborty*
Member *Biman Behari Goswami*
Invitee Member *Indraneel Bhowmik*
Chairman *Jahar Deb Barma*

Agenda- To consider the appeal made by the students of various Govt. Degree Colleges of Tripura regarding the mathematical content in the Semester- IV, (Paper-IV).

The matter was placed before the members and the chairman also reported his discussion with College teaches namely, Dr. Abhijit Sarkar, Dr. Ruma Saha, Sri. Sanjib Banik. After a thorough discussion of the merits of the appeal made by the students all members unanimously agreed to restructure the syllabus by redistributing the units of paper IV over the remaining semesters. Hence the course is restructured as follows keeping the overall contents unchanged.

Semester-IV	100 marks
H-4: Group-A: Public Finance	50 marks
Unit-I: Public Revenue and Expenditure	
Unit-II: Public Debt and Fiscal Policies	
Group-B: Basic Statistics	50 marks
Unit-III: Descriptive Statistics-I	
Unit-IV: Descriptive Statistics-II	

The detail structure syllabus is as under:

Semester-I	100 marks
H-1: Introduction to Economics	
Unit-I: Basic Concept of Economics	
Unit-II: Theory of Consumer Behaviour	
Unit-III: Theory of Production, Cost and Revenue	

Unit-IV: National Income Accounting

Semester-II

100 marks

H-2: Microeconomic Theory

Unit-I: Profit Maximization and Perfect Competition and Analysis of Competitive Markets

Unit-II: Market with Power-Monopoly, Monopsony, Monopolistic Competition and Oligopoly

Unit-III: Factor Market Analysis

Unit-IV: Welfare Economics

Semester-III

100 marks

H-3: Macroeconomics Theory

Unit-I: Theory of Employment

Unit-II: Consumption Function and Investment Function

Unit-III: Quantity Theory of Money

Unit-IV: Inflation and Business Cycle

Semester-IV

100 marks

H-4: Group-A: Public Finance

50 marks

Unit-I: Public Revenue and Expenditure

Unit-II: Public Debt and Fiscal Policies

Group-B: Basic Statistics

50 marks

Unit-III: Descriptive Statistics-I

Unit-IV: Descriptive Statistics-II

Semester-V

200 marks

H-5: Development Economics

100 marks

Unit-I: Measuring Development

Unit-II: Theories of Growth and Development

Unit-III: Dual Economy Models

Unit-IV: Development and Environment

H-6: International Trade and Mathematical Applications in Economics

100 marks

Group-A: International Trade

50 marks

Unit-I: Pure Theories of International Trade

Unit-II: Trade Policies

Group-B: Mathematical Applications in Economics

50 marks

Unit-III: Basic Mathematical Tools for Economics

Unit-IV: Mathematical Applications in Economics

Semester-VI

200 marks

H-7: Issues in Indian Economy:

100 marks

Unit-I: Structure and Trends of Indian Economy

Unit-II: Indian Agriculture, Industry and Service sectors

Unit-III: Financial System: Its component and operation

Unit-IV: Indian Planning & Economic Reforms

H-8: Economic History of India and Basic Econometric Methods

100 marks

Group-A: Economic History of India

Unit-I: Economic Structure and Change in Primary Sector

Unit-II: Changes in Secondary Sector and Infrastructure

Group-B: Basic Econometric Methods

50 marks

Unit-III: Sampling and Statistical Inference

Unit-IV: Bivariate Correlation and Regression.

The meeting ended with thanks to the Chairman.


29/01/16
(Dr. Jahaf Deb Barma)
Head & Chairman of BUGS
Department of Economics
Tripura University

14th Meeting of BSES held on 19/10/2020.

Members present -

- (a) PROF. A. RAYCHAUDHURI - Online
- (b) PROF. A. YUMNAM - Online
- (c) PROF. KJ JOSEPH - Online
- (d) Paranjit Lal - Paranjit Lal 19/10
- (e) Salim Shah - Salim Shah 19/10/2020
- (f) Samrat Goswami - Samrat Goswami 19/10/2020
- (g) DILIP KUMAR RANA - Dilip Kumar Rana 19.10.2020
- (h) JAHAR DEB BARMA - Jahar Deb Barma 19.10.2020
- (i) ASHISH NATH - Ashish Nath 19.10.2020

Resolved that -

- (1) The ~~gone~~ proceedings of 13th BSES meeting held on 27th September 2019 is confirmed.
- (2) The proposed syllabus ~~is~~ revised as attached is approved. This will be functional from the 1st semester beginning 2020-21.

Syllabus of Post Graduate Studies in Economics

CHOICE BASED CREDIT SYSTEM (CBCS) - 2020

(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	Development Economics	4	I
5	ECON 705C	Indian Economics	4	I
6	ECON 801C	Microeconomic Analysis-II	4	II
7	ECON 802C	Macroeconomic Analysis-II	4	II
8	ECON 803C	Basic Econometrics & Statistics	4	II
9	ECON 805C	Economics of Social Sector	4	II
10	ECON 901C	Labour Economics	4	III
11	ECON 902C (Any One as Special paper)	(i) Agricultural Economics-I (ii) Mathematical Economics-I (iii) Econometrics-I (iv) Health Economics-I	4	III
12	ECON 904C	Environment & Resource Economics	4	III
13	ECON 905C	Institutional/Field Visit & Report	4	III
14	ECON 1001C	Dissertation/Project/Field Study Report	4	IV
15	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
16	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	R Software in Social Sciences	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 64 Credits + Compulsory 04 credits + Elective 12 credits

(including 04 compulsory credit from other department)

= 80 Credits (Min)

3. The summary of results, proceedings of RAC meeting, list of Adj. indicators, recording of pre-PhD public seminar of Sri Prabin Ghosh as submitted by Prof. A. Nath is accepted and forwarded to the office of Dean Faculty of Arts for necessary perusal.
4. The list of paper setters & Examiners for final semester PG & M.D. examinations are approved.
5. The pre-PhD course work examination was also reported.

The meeting ended with thanks to all for their sincere & utmost cooperation.

