

**Department of Economics,
Faculty of Social Sciences,
Banaras Hindu University, Varanasi**

**Syllabus- Bachelor of Arts (Economics)
In force from Session 2010-11**

Guiding Principles for Undergraduate Courses

SN	Principle	Weight
1	As Pedestal to PG Courses	40%
2	Subsiding to Social Sciences	10%
3	General awareness about economic aspects of life	10%
4	Preparing Students for Professional/ Job Oriented Courses	20%
5	Linking with Job Market	20%

Structure

The Under Graduate Economics (Honours) course shall have altogether Twenty (22) courses comprising of 67 credits. Out of these Four (04) papers shall be optional in nature. There shall be limited choice in optional papers. Semester I, Semester II, Semester III and Semester IV shall have two compulsory papers each. Semester V as well as Semester VI shall have five compulsory and two optional papers each. In addition the Department shall offer some papers for students from other departments/ faculties as ancillary paper. All the Papers would be of 3 credits except Paper –XXII (Field Survey/Project Work/Dissertation) which would be of 4 credits. The structure of course is as following-

Paper	Semester-I	No. of Credits	Paper	Semester-II	No. of Credits
ECB-101	Techniques of Economic Analysis	3	ECB-201	Microeconomics	3
ECB-102	Indian Economic Experiences	3	ECB-202	Macroeconomics	3

Paper	Semester-III	No. of Credits	Paper	Semester-IV	No. of Credits
ECB-301	Money & Banking	3	ECB-401	Indian Economic Policies	3
ECB-302	Public Economics-I	3	ECB-402	Public Economics-II	3

Paper	Semester-V	No. of Credits	Paper	Semester-VI	No. of Credits
ECB-501	Market Analysis	3	ECB-601	Factor Pricing & Welfare Economics	3
ECB-502	International Economics	3	ECB-602	International Macroeconomics	3
ECB-503	Statistical Methods	3	ECB-603	Environmental Economics	3
ECB-504	Quantitative Methods	3	ECB-604	Development Economics	3
ECB-505	Optional-I(from List-I), Paper-I	3	ECB-605	Optional-I(from List-I), Paper-II	3
ECB-506	Optional-II(from List-II), Paper-I	3	ECB-606	Optional-II(from List-	3

				II), Paper-II	
ECB-507	Research Methods	3	ECB-607	Field Survey/Project Work/Dissertation	4

Optional Papers: The students would be required to choose one optional group each from 'List-I' and 'List-II' provided as under and study two papers each from the optional group chosen. For example if the student chooses Econometrics from List-I and Operations Research from List-II, he will have to take Econometrics-I as Paper-XIII and Operations Research-I as Paper-XIV in Semester-V and Econometrics-II as Paper-XIX and Operations Research-II as Paper-XX in Semester-VI. Students shall not be permitted to opt for two optional groups from the same list. For example, students are not allowed to opt for Agriculture with Econometrics.

Optional Papers- List-'I'			
ECB-505A	Econometrics-I	ECB-605A	Econometrics-II
ECB-505B	Agriculture-I	ECB-605B	Agriculture-II
ECB-505C	Population Studies-I	ECB-605C	Population Studies-II
ECB-505D	Banking & Insurance-I	ECB-605D	Banking & Insurance-II
ECB-505E	Economic Thought-I	ECB-605E	Economic Thought-II

Optional Papers- List-'II'			
ECB-506A	Operations Research-I	ECB-605A	Operations Research-II
ECB-506B	Mathematical Economics-I	ECB-605B	Mathematical Economics-II
ECB-506C	Computers in Economics-I	ECB-605C	Computers in Economics-II
ECB-506D	Industrial Economics-I	ECB-605D	Industrial Economics-II
ECB-506E	Financial Market-I	ECB-605E	Financial Market-II

Ancillary Course for Students not Offering Economics as one of the Main Course in Sem-I to Sem-IV- The Department would in principle be offering the following ancillary courses for students who have not taken economics as one of the main course in Semester I to Semester IV. The actual number of courses that would be offered in a particular semester and permissible number of students per course would be declared by the Department at the beginning of each Semester depending on availability of faculty and other resources.

1. ECB-102- Indian Economic Experiences
2. ECB-401-Indian Economic Policies
3. ECB-505B-Agriculture-I
4. ECB-605B-Agriculture-II
5. ECB-505D-Banking & Insurance-I
6. ECB-605D-Banking & Insurance-II
7. ECB-302-Public Economics-I
8. ECB-402-Public Economics-II
9. ECB-603-Environmental Economics
10. ECB-506B-Mathematical Economics-I
11. ECB-606B-Mathematical Economics-II
12. ECB-506E-Financial Market-I
13. ECB-606E-Financial Market-II

These courses would be offered in different semesters as per detail given below-

Semester wise Ancillary Courses Offered By Department to Students not Offering Economics as one of the Main Course in Sem-I to Sem-IV

Semester-I

Course Code	Course Title	Credits
ECB-102	Indian Economic Experiences Or	3
ECB-505B	Agriculture-I Or	3
ECB-505D	Banking & Insurance-I Or	3
ECB-302	Public Economics-I	3

Semester-II

Course Code	Course Title	Credits
ECB-401	Indian Economic Policies Or	3
ECB-605B	Agriculture-II Or	3
ECB-605D	Banking & Insurance-II Or	3
ECB-402	Public Economics-II	3

Semester-III

Course Code	Course Title	Credits
ECB-506B	Mathematical Economics-I Or	3
ECB-506E	Financial Market-I Or	3
ECB-603	Environmental Economics	3

Semester-IV

Course Code	Course Title	Credits
ECB-606B	Mathematical Economics-II Or	3
ECB-606E	Financial Market-II	3

The syllabi of these courses would be same (which is offered to students who have taken economics as their main course). The exact number of course offered in a particular semester would be declared by the Department based on the availability of teaching and other resources.

SEMESTER-I

Paper	Semester-I	No. of Credits
ECB-101	Techniques of Economic Analysis	3
ECB-102	Indian Economic Experiences	3

ECB-101: Techniques of Economic Analysis

Introduction: The Economic Problem – Scarcity and Choice; Concepts of Equilibrium – Stable and Unstable; Partial and General; Static and Comparative Static; Dynamic Equilibrium; Meaning and Structure of an Optimization Problem (under full information and incomplete information world) (6 Lectures)

Technique of Equilibrium: Relations, Functions; Rectangular Coordinates; Graphs of Equations, Linear Equations; An Introduction to straight line, circle, conic –parabola, hyperbola, ellipse, Infinite sequence and series, Graphs of Linear Function, Demand Analysis and Linear Demand Function, Linear Supply Function. Market Equilibrium – A Linear Partial Equilibrium Market Model – Determination of Equilibrium Quantity and Price; Comparative Static Equilibrium Model – Shifts in Equilibrium; Effects of Unit Tax and Subsidy on Quantity and Price; Quadratic Demand and Supply Curves; Market Equilibrium for Several Commodities. (25 Lectures)

Technique of Optimization: The Derivative of a Function; Differentiability and continuity, Rules of Differentiation: Derivatives of a Power, Constant times a Function, Sums and Differences, Constant, Product and Quotient, Composite Functions, Chain Rule, Inverse Functions, Implicit Function; Second and Higher Order Derivatives; Maxima and Minima in One Variable Case: Graphical and Mathematical Relations among Total, Average and Marginal Magnitudes (Revenue and Cost); Relationship Between Marginal Cost and Average Cost; Elasticity of Demand; Price, Income and Cross Elasticity, Relationship Between Marginal Revenue and the Elasticity of Demand. (14 Lectures)

Reading List-(Valid for Paper-III, Paper-IX and Paper XV Also)

- Koutsoyiannis, A: Modern Microeconomics
- Prasad, A.R: Working Tools of Microeconomics
- Jain, T.R: Microeconomics and Basic Mathematics
- Henderson, J. and R.E. Quandt: Microeconomic Theory – A Mathematical Approach.
- Baumol, W.J. (1982): Economic Theory and Operations Analysis
- Lipsey, R.G. and K.A. Chrystal: Principles of Economics.
- Kreps, D. (1990): A Course in Microeconomic Theory. Princeton, N.J.: Princeton University Press
- Stonier, A.W. and D.C. Hague (1972): A Textbook of Economic Theory, ELBS & Longman Group, London.
- Hal R. Varian (1993): Intermediate Microeconomics, a Modern Approach, Affiliated East-West Press
- Ray, N.C: An Introduction to Microeconomics.
- Mehta, Prem L. et al. (2005): Microeconomics , Pearson Education, Delhi
- Prasad, A.R. (2005): Working Tools of Microeconomics, Mahamaya Publishing House, New Delhi.
- Seth, M.L: Micro-Economics
- Jhingani, M.L: Micro-Economic Theory
- Robert S. Pindyk and D.L. Rubinfeld, (2000): Microeconomics, Prentice Hall India.

ECB-102: Indian Economic Experiences

Indian Economy on the eve of Independence, British rule and its impact on Indian Economy, Emergence and development of Planning exercise in India – historical debates, plan models and shift in focus over time (Only Elementary Idea is to be given) (5 Lectures)

Output (National Income) and Employment Structure of Indian Economy; Composition and relative rates of growth of agriculture, industry and services sectors; Sub-sectoral analysis. (4 Lectures)

Trends and patterns in structure of population over time – growth rate, gender, rural-urban, literacy, regional; Structure and trends of Poverty and Inequality (interpersonal and regional); Inflation – trends, structure and causes; Unemployment – trends, structure and types. (12 Lectures)

Trends in Agricultural Production and Productivity; Land Reforms – Genesis, Progress and current status; Green Revolution – Measures and its effects. (10 Lectures)

Trends and Patterns of Industrial Sector; Changes in the structure of Indian Industry; Small Scale Industries – Growth, Structure and its contribution in national economy; Public Sector – Growth, Structure, Historical role, Evolution and Dilution. (10 Lectures)

Trends in Exports and Imports; Composition and Direction of Foreign Trade; Balance of Payments – Current Status, (5 Lectures)

Reading List : (Valid for Paper VII, Semester IV also)

- R Dutta and K P M Sundaram: Indian Economy, S Chand
- A.N.Agarwal: Indian Economy, Problems of Development and Planning, New Age.
- Mishra and Puri: Indian Economy, Himalaya.
- Planning Commission: Eleventh Five Year Plan, Vol I, II and III, Academic Foundation.
- Government of India: Economic Survey (latest issue)

SEMESTER-II

Paper	Semester-II	No. of Credits
ECB-201	Microeconomics	3
ECB-202	Macroeconomics	3

ECB-201: Microeconomics

Introduction: Economic Agents: Consumer, Producer and Government; Approaches to the Study of Economics — Micro- and Macroeconomics. (3 Lectures)

Theory of Consumer Behaviour: Utility Function — Types (Additive, Separable, Homothetic and Indirect Utility Functions) and Measurement; Cardinal Utility Theory — Assumptions; Total and Marginal Utility; Law of Diminishing Marginal Utility; Consumer's Equilibrium; Derivation of the Demand Curve; Ordinal Utility Theory — Indifference Curve Analysis: Assumptions, Properties and Slope; Indifference Map; Budget Line; Consumer's Equilibrium; Adjustment to Price and Income Changes: Income, Substitution and Price Effects; Income-Consumption Curve and Derivation of Engel Curve; Engel Expenditure Curve and Expenditure Elasticity of Demand; Price-Consumption Curve and Derivation of Demand Curve; Price Elasticity of Demand; Economic Interpretation of Normal, Inferior and Giffen Goods; Application of Indifference Curve Analysis: Income-Leisure Trade-off and Supply of Labour, the Effect of Income Tax vs. Excise Duty; Revealed Preference

Hypothesis: Assumptions, Derivation of Demand Curve and Indifference Curve from Revealed Preference. (27 Lectures)

Theory of Production: Production Function; Laws of Production — Law of Variable Proportions; Law of Returns to Scale. Production with Two Variable Inputs — Isoquants: Slopes and Properties, Isoquant Map, Iso-cost Lines, Producer’s Equilibrium; Expansion Path; Ridge Lines; Theory of Costs: Opportunity Cost; Traditional and Modern Theories of Cost. Derivation of Cost Function from Production Function (15 Lectures)

ECB-202: Macroeconomics

National Income- National Income Accounting & National Income Identities; Measurement of National Income, Problem of Aggregation, Stock & Flow, Concept of Sectors and Market Divisions, Circular Flow of Income in 2 & 3 Sector economy, Measurement of Cost of Living-CPI, GNP deflator Theory of Employment & Output- The Classical Analysis of the Real Sector- Determination of Employment, income and rate of interest Simple Keynesian Analysis- With and Without Government Sector The Neo-Classical Synthesis- The IS-LM Model and the Interaction of the Real and Monetary Sectors. (18 Lectures)

Consumption Function- Keynes’ Absolute Income Hypothesis-APC & MPC, Permanent Income Hypothesis, Relative Income Hypothesis, Life Cycle Hypothesis, Consumption Under Uncertainty, Factors Influencing Consumption Spending, Multiplier- Investment Multiplier- Simple and Dynamic, Leakages and Limitations of Multiplier, Investment Function- Investment Function; MEC & MEI; Savings and Investment Identity and equilibrium. Acceleration Principle (18 Lectures)

Economic Fluctuations- Nature and Characteristics of Trade Cycle, Theories of Trade Cycle, Samuelson, Hicks, Control of Trade Cycle, Recent Recessions in the World. (9 Lectures)

Reading List-

- Dernberg Thomas F (1985): Macroeconomics: Concepts, Theories and Policies, 7th Edition.
- Dornbusch, Fischer & Startz (2005): Macroeconomics, Tata McGraw-Hill Publishing Co. Ltd
- Shapiro Edward (2007): Macroeconomic Analysis, Galgotia Publications Pvt. Ltd.
- Blanchard Olivier (2007): Macroeconomics, Ch-8,9, Pearson Education
- Branson William (2006): Macroeconomics: Theory and Policy, AITBS
- Rana, K.C. & Verma K.N: Macro Economic Analysis, Vishal Publishing House
- Hejdra, B.J. and F.V. Ploeg (2001): Foundations of Modern Macroeconomics, Oxford University Press, Oxford.

SEMESTER-III

Paper	Semester-III	No. of Credits
ECB-301	Money & Banking	3
ECB-302	Public Economics-I	3

ECB-301: Money & Banking

Money: Meaning & Functions, Classification, Supply of Money - Approaches to Supply of Money. High Powered Money and Money Multiplier, Measurement of Supply of Money in India, Demand for Money- Conventional, Neo-Classical and Keynes’ Approaches, (14 Lectures)

Value of Money- Cash Transaction Approach, Cash Balance Approach; Keynes' View on Value of Money, Inflation, & Deflation- Definition & Types, Causes and Effects of Inflation; Demand-pull and Cost-push Inflation, Inflationary Gap and Double Inflationary Gap (Bent Hanson; Inflation and Unemployment-The Phillips Curve-Short run & Long run(Only graphic Presentation) Measures to Control Inflation. (17 Lectures)

Commercial Banking- Meaning and Functions, Process of Credit Creation, Recent Reforms in Banking Sector in India. Central Banking- Functions; Methods of Credit Control, Role and Functions of the Reserve Bank of India; Objectives & Limitations of Monetary Policy with Reference to India, Financial Market- Structure and Components of Financial Market. (14 Lectures)

Reading List-

- Lewis M. K. and P.D.Mizen (2000): Monetary Economics, Oxford
- Jadhav Narendra (2006): Monetary Policy, Financial Stability & Central Banking, Macmillan
- Baye and Jansen(1996): Money, Banking and Financial Markets, AITBS
- Gail E. Makinen (1978): Macroeconomics: Concepts, Theories and Policies, Money, The Price Level and Interest Rate, Prentice hall India Ltd.
- David E.W.Laidler(1977): The Demand for Money: Theories & Evidence, Dun-Donnelley
- O. P. Kotwal (1987): Theories of Inflation: A Critical Survey, Tata-McGraw-Hill Publishing Co. Ltd.
- Ackley G, (1978): Macroeconomics: Theory & Policy, New York, Macmillan
- Rana, K.C. & Verma K.N: Macro Economic Analysis, Vishal Publishing House
- Shekhar & Shekhar, (1998): Banking Theory & Practice, Vikash Publishing House Pvt. Ltd.

ECB-302: Public Economics-I

Role of Public Finance - Equity and the Social Welfare Function; Market failure and role of government. Public Policy: State, Civil Society & Public Opinion (4 Lectures)

Public goods – Concept of Public & Private Goods, Nash-Cournot equilibrium: Only Graphical Solution and Pareto efficiency; Mechanisms for revelation of preferences; private provision of Public Goods; The Principle of Maximum Social Advantage; models of efficient allocation; pure and impure public goods; Partial and General Equilibrium Analysis; Free riding. (10 Lectures)

Externalities: The problem and its solutions, taxes versus regulation, property rights, the Coase Theorem. (4 Lectures)

Public Budget – Optimum Budget; Budget vs. Plan; Budgetary Procedure in India. (4 Lectures)

Principles of Taxation - Benefit vs. Ability to Pay; Different criteria for ability and progressive taxation; types of taxes; Incidence and Shifting of tax; Taxable Capacity; Welfare Cost of Taxation; Effect of tax on price and output; unit and ad valorem taxation under competition and monopoly; Taxation and Work effort – theory and evidence: An Introduction, the Laffer curve. (14 Lectures)

Indian Tax System - Tax structure in India; Types of taxes in India, Issues of tax buoyancy in India; General Sales Tax and Value Added Tax; Indian Tax Administration(8 Lectures)

Reading List (Valid also for Paper-VIII, Public Economics-II)

- Atkinson, A. and Stiglitz, J. (1980): Lectures in Public Economics, McGraw Hill, London.
- Browning, Edgar K. and Browning, Jacqueline, M. (2004): Public Finance and the Price System, Pearson Education Pvt. Ltd. Delhi.
- Buchanan, James M. (1968): The Demand and Supply of Public Goods, Skokie III Rand Mc Nally.
- Chelliah, Raja J: Fiscal policy in Underdeveloped Countries.
- Chelliah, Raja J. et.al: Trends and Issues in India's Federal Finance.
- Jha, Raghbendra (1999): Modern Public Economics, Routledge, London and New York.
- Laffont, Jean. Jacques (1994): Fundamentals of Public Finance, Cambridge Mass, MIT Press.
- Musgrave, R.A., and Musgrave, P.B. (1989): Public Finance in Theory and Practices, McGraw Hill, New York.
- Musgrave, Richard.A.(1959): The Theory of Public Finance, McGraw Hill, New York.
- Myles, Gareth D. (1995): Public Economics, Cambridge University Press, Cambridge.
- Rosen, Harvey S. (1995): Public Finance (Fourth Edition), Richard D. Irwin, Chicago.
- Thompson, F. and Green, M.T. (1998): Handbook of Public Finance, Marcel Dekker, NewYork.

SEMESTER-IV

Paper	Semester-IV	No. of Credits
ECB-401	Indian Economic Policies	3
ECB-402	Public Economics-II	3

ECB-401: Indian Economic Policy

Population Policy; Skill structure of Labour Force; Output –Employment Relationship; Growth – Equity Relationship; Falling employment elasticity; Poverty – Controversy on Identification and Measurement, Theoretical foundations and Evaluation of Anti Poverty Programmes; NREGA and Right to Employment; Poverty –Unemployment relationship.

(12 Lectures)

Evaluation of Agricultural Price Policy; Commercialisation of Agriculture; Agrarian Crisis and Policy Response; Terms of Trade between Agriculture and Industry; Price Responsiveness of Indian Agriculture; Food Policy – Components, Measures and Effectiveness; Public Distribution System – Evolution and Effectiveness (15 Lectures)

Making of Industrial Policy in India – Continuity and Change, FERA to FEMA, Delicensing, Disinvestment, MRTP to Competition Act; SMEs – Growth, Structure, Policy, Performance, Dualism and Labour Absorption. (10 Lectures)

Salient Features of Macroeconomic Policy; Monetary & Fiscal Policies and Macroeconomic Problems in India; EXIM Policy; Policy on Foreign Capital. (8 Lectures)

Reading List- See Reading List of Paper-II

ECB-402: Public Economics-II

Budgetary Deficits: Concept & Types, Public Debt – Classification; Impact of Public Debt on prices, output, employment and balance of payment; Crowding out; Methods of Debt Redemption & Management; Fiscal Deficit & Public debt: The Indian Context, (14 Lectures)

Public Expenditure - Wagner's Law and Wiesman-Peacock Hypothesis; Relationship between Public Expenditure and Fiscal Deficit; Public Expenditure as an instrument of demand management; Public expenditure in India: Its pattern and growth. (8 Lectures)

Fiscal Policy – Instruments; Objectives; Fiscal Policy in Keynesian and Neo-classical framework; Contrasts in the role of Fiscal Policy in Developed and Developing Countries; Theories of Fiscal and Monetary Policy Mix., Fiscal Policy and Neo-liberalism; Instruments and effectiveness of Fiscal Policy in India in context of roll back of state. (8 Lectures)

Federal Finance - Principles of Federal Finance; Fiscal decentralization; Decentralization theorem; Tax assignment problem; Public Choice and Fiscal Federalism; Federalism as a principal agent problem; Theoretical Issues in Financial relationship between Centre and States in India; Finance Commission with special reference to the latest finance commission. (10 Lectures)

Reading List- See Reading List of Paper-VI

SEMESTER-V

Paper	Semester-V	No. of Credits
ECB-501	Market Analysis	3
ECB-502	International Economics	3
ECB-503	Statistical Methods	3
ECB-504	Quantitative Methods	3
ECB-505	Optional-I(from List-I), Paper-I	3
ECB-506	Optional-II(from List-II), Paper-I	3
ECB-507	Introduction To Research Methods	4

ECB-501: Market Analysis

Market Structure: Market: Definition; Concepts of Product and Factor Markets; Features and the Shapes of the Demand (or Average Revenue) Curve under Perfect Competition, Monopoly, Monopolistic Competition and Oligopoly Market Structures; Concepts of Firm and Industry; Equilibrium of the Firm – Total and Marginal Approach; Dynamic Changes and Industry Equilibrium. (15 Lectures)

Theory of Product Pricing: Perfect Competition: Price-output Determination in the Short and Long Run; the impact of lump sum taxes and subsidies; Equilibrium of the Firm under Perfect Competition; Monopoly: Price-output Determination in the Short and Long Run; Monopoly Power: Sources and Measurement; Price Discrimination: Concept and Conditions; Typology – First, Second and Third Degree Price Discrimination; Monopolistic Competition: Product Differentiation, Advertising, Concepts of the 'industry' and the 'group'; Price-output Determination; Excess Capacity; Oligopoly: Equilibrium in an Oligopolistic Market; Nash Equilibrium; the Cournot Model; Price Rigidity; Price Leadership. (30 Lectures)

Reading List- See Reading List of Paper-I

ECB-502: International Economics

Importance of International Economics; Inter- Regional and International Trade, Pure Theory of International Trade; Absolute and Comparative Advantages; Reciprocal Demand and Opportunity Cost (Haberler), Heckscher – Ohlin Theory. Modifications in H-O Model by

relaxing assumptions with reference to the assumption of returns to scale, market perfection, Empirical verification and Paradoxes. Limitations of H-O Model in explaining (a) Intra-Commodity trade & (b) Trade between developed countries, (20 Lectures)

Trade and Growth: Trade as Engine of Growth, Import Substitution Vs. Export Orientation, Export-Led Growth & Developing Countries, Concept of Terms of Trade; its relations with Economic Development. Gains from Trade (10 Lectures)

Tariffs and Quota: Their impact under partial equilibrium analysis, Free trade Vs. Protection, Forms of Economic Integration; Theory of the Second Best, The Globalization debate: Regionalism Vs. Multilateralism. (15 Lectures)

Reading List(Valid for Paper-XVI, Semester-VI, International Macroeconomics also)

- Salvatore, Dominick: International Economics, John Wiley
- Cherunilam Francis: International Economics (4th Edition) 2006 Tata McGraw-Hill Companies
- Krugman Paul and Maurice Obstfeld: International Economics: Theory and policy, latest edition, Pearson Education low-price edition, distributed in India by Addison-Wesley Longman.
- Sodersten B O & Reed Geoffrey: International Economics, 2003 McMillan Press Ltd.
- Bhagawati, Jagdish: In Defence of Globalisation, 2004 Oxford University Press
- Krause Walter: International Economics, 2000
- Sawyer W.Charles, Sprinkle Richard: International Economics T.T. Publications, 2003

ECB-503: Statistical Methods

Classification of Data, Graphical Representation, Measures of Central Tendency and Dispersion, Correlation; Simple, Multiple and Partial. Regression Equations, Time Series-Components & Measurement, Index Number: Laspeyer, Paasche and Fisher, Tests for Ideal Index Number. Cost of Living and Wholesale Price Indices, (25 Lectures)

Concept of probability, events and types of events, Theory of Probability, Addition, Multiplication and Bayes. (7 Lectures)

Theoretical Probability Distributions; Distribution and Density Functions, Binomial, Poisson and Normal Distributions. Properties and Uses of Sampling Distributions; t , X^2 and F . (10 Lectures)

Estimates and Estimators; Properties of Good Estimator, (3 Lectures)

Reading List:

- Chou, Y.: Statistical Analysis
- Croxton, Crowden and Klein: Applied General Statistics
- Goon, A.M., M.K. Gupta and B. Dasgupta: Fundamentals of Statistics
- Gupta, S.C. and V.K. Kapoor: Fundamentals of Applied Statistics.
- Nagar, A.L. and R.K. Das: Basic Statistics
- Speigal, M.R.: Theory and Problems of Statistics
- Gupta, S P: Statistics
- Elhance, D N: Elements of Statistics

ECB-504: Quantitative Methods

(Emphasis is to be given on the Use of Tools & Techniques in Economics)

Matrices and Determinants; Vector and Matrices, Properties of Determinants, Types of matrix, matrix Algebra; Addition, Multiplication and Inverse, Solution of Simultaneous Equations, Rank of a Matrix, Characteristic Roots and Vector (10 Lectures)

Function and Derivatives; Concavity and Convexity, Quasi-concavity and Quasi-convexity, Multiple Variable Optimization Problems (2-3 Variables), Maxima and Minima; Constrained and Unconstrained, Relative Extremum, Hessian Determinant. (20 Lectures)

Integration; Integration of Function, Differential Equations, (7 Lectures)

Difference Equations of First and Second Order. (8 Lectures)

Reading List:

- Alpha C. Chiang(1984): Fundamental Methods Of Mathematical Economics. (New Delhi: McGraw Hill, International Book Company).
- Edward T. Dowling(1980): Introduction to Mathematical Economics .(New Delhi: Tata McGraw-Hill publishing company Ltd.).
- RGD Allen(1986) : Mathematical Analysis for Economists (New Delhi: Macmillan India Ltd).
- J.M. Henderson & R.E.Quandt(1980): Micro Economic Theory: A Mathematical Approach. (New Delhi: McGraw-Hill Book Company).

OPTIONAL PAPERS

List-'I' Econometrics

ECB-505A- Econometrics I (Simple Treatment)

Theoretical and Empirical Analyses of economic events. Causal effects and Forecasting- An Introduction. (5 Lectures)

Data, Type of Data and Data Source; Concept of probability and Probability Distributions revisited. (12 Lectures)

Fundamentals of regression analysis. Linear and reducible to linear models, examples from economics. Errors of specification, Assumptions of least square, estimation of LS coefficients. (12 Lectures)

Maximum Likelihood Estimator. Sampling dist. of Least Square Estimator, R^2 and confidence interval. (6 Lectures)

Introduction to Heteroskedasticity, autocorrelation and multicollinearity. (10 Lectures)

Reading List:

- A Koutsoyiannis , Theory of Econometrics , Publisher: Ane Books;_
- D Gujarati: Basic Econometrics, McGraw Hill

List-'I' Agricultural Economics

ECB-505B-: Agriculture-I

Agriculture and economic development; Agriculture – Industry Linkage, Interaction between agriculture and the rest of the economy; Agriculture and rural poverty (8 Lectures)

Productivity in agriculture, Traditional agriculture and its modernization question. (7 Lectures)

Theories and models: Physiocratic model of agricultural development, Mellore & Schultz models of agricultural development. (8 Lectures)

Agricultural Production Economics- meaning and basic concepts of production economics in agriculture, The principles of resources allocation: production function approach, increasing and diminishing production function, total, average and marginal product curves, and the relation between them, stages of rational and irrational production. (15 Lectures)

The general conditions of equilibrium, factor-product, factor-factor and product-product relationship. (7 Lectures)

Reading List (Valid for Paper-XIX.2, Sem-VI also)

- Bhaduri, A. (1984): The Economic Structure of Backward Agriculture, Macmillan, Delhi.
- Bilgram, S. A. R. (1996): Agricultural Economics, Himalaya Publishing House, Delhi.
- Rudra, A. (1982): Indian Agricultural Economics : Myths and Reality, Allied Publishers, New Delhi.
- Ghatak, S. and K. Ingerscent (1984): Agriculture and Economic Development, Select books, New Delhi.
- Soni, R. N. (1995): Leading Issues in Agricultural Economics, Arihant Press, Jalandhar.

List-'I' Population Studies ECB-505C- Population Studies-I

Demography: Meaning and difference from population studies, (3 Lectures)

Population Theories: Malthusian Theory, Neo- Malthusian Theory and Optimum Theory; Theory of Demographic Transition. (8 Lectures)

Age-Pyramids: Concept, Construction & its Significance, Age pyramids and Population Projection: stable, stationary and quasi- stationary population. (6 Lectures)

Fertility-Measurement, Levels and trends of fertility in more and less developed countries; Factors affecting fertility– (7 Lectures)

Mortality Measurement; levels and trends in more and less developed countries. Factors responsible for decline in Mortality. (8 Lectures)

Basic Statistical Methods in Population Studies: Sources of demographic data, Mortality analysis and models. Population growth, composition and distribution, stable population theory, Health statistics. (8 Lectures)

Life-Table: Basic concepts of the Life Table; Types and forms of Life Table, Preparation of Life Tables. (5 Lectures)

Reading List-(Valid Also for Paper-XIX.3: Population Studies II)

- Yaukey,D, Anderton,D.L and Lundquist, Jennifer H,(2007): Demography: The Study of Human Population (3rd edition).
- Preston, S., Heuveline, P., and Guillot, Michel (2000): Demography: Measuring and Modeling Population Processes
- Weinstein, Jay and Pillai, Vijayan K. (2000): Demography: The Science of Population
- Sahoo, Fakir Mohan.,(Ed).,(2009): Behavioural Issues in Ageing : Care, Concern and Commitment

List-'I' Banking & Insurance
ECB-505D:- Banking & Insurance-I

Nature of Banking Business: Socio, Economic and Legal environment of banking business in India - Official regulation & control over banks in India. (4 Lectures)

Central Banking: Monetary Policy of the RBI - Transmission Channels of Monetary policy – *interest rate* channel, exchange rate channel and asset price channel. (4 Lectures)

Commercial banking: Growth of Commercial banking since independence, nationalization of commercial banks and their performance assessment till 1991 and developments thereafter, Bank Balance Sheet: Management of assets and liabilities in banks - Profit, Profitability & Productivity in banks - (20 Lectures)

Banking Sector Reforms in India with special reference to Prudential Norms: Capital Adequacy Norms- Basel Accord 1 and 2; income recognition norms, classification of assets and the issue of non-performing assets and their management; Consolidation & Reorganization of Banks in India. (12 Lectures)

Overview of Development Banking in India, Co-operative Banks, Meaning, Structure & Role, Regulation of Co-operative banks. (5 Lectures)

Reading List-

- Shekhar & Shekhar, (1998): Banking Theory & Practice, Vikash Publishing House Pvt. Ltd.
- Jadhav Narendra (2006): Monetary Policy, Financial Stability & Central Banking, Macmillan
- Baye and Jansen(1996): Money, Banking and Financial Markets, ,AITBS

List-'I' History of Economic Thought
ECB-505E:- Economic Thought-I

Pre-Classical Schools of Economics: Mercantilism-main characteristics: Thomas Mun, Physiocracy: Natural Order, Primacy of Agriculture, Social Classes, Tableau Economique, Taxation (6 Lectures)

Classical School of Economics Adam Smith — Division of Labour, Theory of Value, Capital Accumulation, Distribution, Views on Trade, Economic Progress, Idea of Laissez faire-Naturalism and Optimism. David Ricardo — Value, Theory of Rent, Distribution, Ideas on Economic Development and International Trade; Thomas R. Malthus — Theory of Population, Theory of Gluts; J.B. Say & Economic Ideas of J.S. Mill. (15 Lectures)

Socioeconomic Conceptions: German Historical School, F. List. W. Roscher.G. Schmoller. Methodological Debate.-M. Weber. Utopian Socialism and T. More, Saint-Simon, Sismondi, Scientific Socialism-Karl Marx- Dynamics of Social Change, Theory of Value, Surplus Value, Profit, and Crisis of Capitalism; (14 Lectures)

Marginalists & Cambridge School: The precursors of marginalism – Cournot, The marginalist revolution- Jevons, Gossen, Walras, Bohm-Bowerk and Menger, The rate of interest – Wicksteed, Wicksell and Weiser- Distribution. (10 Lectures)

Reading List (Valid for Paper-XX.5 also)

- Blaug, M 1997: Economic Theory in retrospect, Cambridge University Press, Cambridge
- Gide, C. and G. Rist: A History of Economic Doctrines
- Roll, E: A History of Economic Thought, Faber, London
- Schumpeter, J.A: History of Economic Analysis
- Schumpeter, J.A: Ten Great Economists.
- Haney, L.H: History of Economic Thought, Surjit Publications
- Gray Alexander: The Development of Economic Doctrines
- Hajela, T.N: History of Economic Thought

List-II' Operations Research ECB-506A: Operations Research

Basics of Mathematical Programming, Development of A Programming Problem; Linear and Non linear, Static and Dynamic, Single and Multiple Goals. Programming and Decision Making. (10 Lectures)

Linear Programming; Statement of Basic Theorems and Properties, Concept of Convex Set, Graphical Solutions. Simplex Methods, Simplex Algorithm and Solution, The Artificial Variable Technique. (20 Lectures)

Duality Theory; The Dual Problem, Duality Theorems, Dual Simplex Algorithm and Solution Introduction to Nonlinear Programming, Kuhn- Tucker Condition, Some Basic Problems. Application of Mathematical Programming in Economics (15 Lectures)

Reading List: (Valid for paper XX.1, Semester VI also)

- Col. D. S. Cheema (2006), Operations Research, Publisher: Laxmi
- Fernando Vega-Redondo (2003), Economics and the Theory of Games, Publisher: Cambridge University Press
- Frederick Hillier, Gerald Lieberman (Nov. 2005), Introduction to Operations Publisher: Tata Mcgraw Hill
- Hillier (2001), Introduction To Operations Research, Seventh Edition (With CD), Publisher: Tata Mcgraw Hill Publishing Co Ltd
- Jurgen Eichberger (1992), Game Theory for Economists, Publisher: Harcourt College
- Martin J. Osborne and Ariel Rubinstein (1994), A Course in Game Theory, Publisher: MIT PRESS
- Nita Shah Et Al.(2007), Operations Research, Publisher: Prentice-hall Of India Pvt Ltd
- Osborne M J (2006), An Introduction to Game Theory, **Publisher:** Oxford University Press N Delhi
- R. Panneerselvam (2006), Operations Research, Publisher: Prentice-hall Of India Pvt Ltd
- Ronald E. Miller and Peter D. Blair (2009), Input-output Analysis: Foundations and Extensions 2nd revised edition, Publisher: Cambridge University Press
- Scott H. Bierman, Luis Fernandez (1998), Game Theory with Economic Applications, Publisher: Pearson Education
- Taha (2008), Operations Research An Introduction 8e (s), Publisher: Pearson Education (Singapore) Pvt. Ltd
- Thijs Ten Raa (2006), The Economics of Input-Output Analysis, Publisher: Cambridge University Press

- William Peterson (1991), *Advances in Input-Output Analysis: Technology*, Publisher: Oxford US,

List-‘II’ Mathematical Economics ECB-506B -Mathematical Economics

Ingredients of Mathematical Model: Equations and Identities, Relations and Functions. Types of Functions – Constant Function, Polynomial Functions, Rational Functions. Non-algebraic functions. Exponential and logarithmic functions: Interest Compounding, Effective vs. Nominal rates of interest, Discounting. Static Or Equilibrium Analysis : Application of Graphs and Equations in Economics : Iso cost lines, Supply and Demand Analysis. Partial Market Equilibrium- A linear Model, Non-Linear Model, Higher degree polynomial equations, General Market Equilibrium, Two Commodity Market Model, n-commodity case. Equilibrium in National Income Analysis. IS-LM Analysis. (23 Lectures).

Comparative- Static Analysis : Application of Simple Differentiation : Demand Supply, Income and Cross elasticities, average and marginal cost; AR ,MR and elasticity of demand, constant elasticity of demand, elasticity of average cost and total cost. Finding marginal-revenue /cost functions from average revenue /cost functions. Application of partial and total differentials : Marginal Productivity, income determination multipliers and comparative statics, income and cross partial elasticities of demand. Homogenous functions : Properties, Euler's theorem, Cobb-Douglas and CES production functions. Elasticity of substitution, Cobb-Douglas production function as a special case of the CES production function. (22 Lectures)

Reading List

- Alpha C. Chiang (1984): *Fundamental Methods of Mathematical Economics*. (New Delhi: McGraw Hill, International Book Company).
- Edward T. Dowling (1980): *Introduction to Mathematical Economics*. (New Delhi: Tata McGraw-Hill publishing company Ltd.).
- RGD Allen (1986): *Mathematical Analysis for Economists* (New Delhi: Macmillan India Ltd).
- J.M. Handerson & R.E.Quandt (1980): *Micro Economic Theory: A Mathematical Approach*. (New Delhi: McGraw-Hill Book Company).
- Alfred Marshall (1920): *Principles of Economics* (8th Ed), (London: Macmillan).
- Sameulson, P.A (1948): *Foundations of Economic Analysis* (Cambridge Mass: Harvard University Press).

List-‘II’ Computers in Economics

Both the papers in this option will have two segments- Part-A (Theory) & Part-B (Practical). Part ‘A’ will be given 60% weight while remaining 40% weight will be given to Part ‘B’ in which the students would be assessed through practical examination. There will be no internal assessment marks for the theory portion.

ECB-506C: Computers in Economics-I

Use of Computer for Office Automation: Text editors and word processor software packages; Operative familiarization with any one package like MS-word —Introduction to Word Processing: Editing, viewing documents in different layouts, page margins, indent, bulleting and numbering, bold face, italics, underline, fonts and fonts size, borders and shading, find and replace, page breaks and page numbers, headers and footers, Printing: What To Do

Before Printing? Introduction To 'Page Setup', 'Print Preview' And 'Print, Dialog Box'. (15 Lectures)

MS-Excel: Excel basic: Introduction about Microsoft Excel at the basic level: overview, tools, creates a spreadsheet, format, spreadsheet, calculations, create charts and printing; Solve problems with Excel: Solve some economics problem on spreadsheet: Introduction about the modelling process on spreadsheet and using Excel tools to solve the problems. (15 Lectures)

MS-Power Point: Presentation with PowerPoint: PowerPoint components, What's Slide Master? What's Title Master? Creating a presentation with full components: text, picture, drawing, WordArt, equation, organization chart, chart, table, sound, video clips, Customizing and applying effects for a slide: template design, background color, animation, effects, built-in animation effects, navigation buttons, etc. Printing and exporting a slide. (10 Lectures)

Graphics : Uses of computer graphics, classification of applications, software for computer graphics: Harvard and Stanford Graphics, MS-Excel graphics. (5 Lectures)

Reading List-

- V. Rajaraman: Fundamentals of Computers, Prentice Hall (Ind.) New Delhi.
- Sanders, D.H: Computers today, McGraw Hill, New York.
- Sinha: Computer Fundamentals, BPB Publications, New York.
- Kerns: Essentials of Microsoft windows, Word and Excel, Prentice Hall of India, New Delhi.
- Lipschutz, M.M. & Lipschutz, S: Theory and Problems of Data Processing, Schaum's Outline series.
- Leon & Leon: Internet Basics.
- T.Vaughan: Multimedia; Making it work, Tata McGraw Hill Publishing Company Limited, New Delhi.
- J. Jeffcoate: Multimedia in Practice: Technology & Applications, Prentice Hall of India.
- Long Larry: Computer Fundamentals
- Sams Teach Yourself Windows XP Computer Basics by Greg M. Perry
- Ram, B :Computer Fundamentals
- Michael Miller: Absolute Beginner's Guide to Computer Basics
- Michael Miller: Easy Computer Basics, Windows Vista Edition New Perspectives Computer Concepts by Jamrich Parsons, Dan Oja
- Computer decisions, Volume 9 by Karlsruhe
- George E. Mason, Jay S. Blanchard, Danny B. Daniel: Computer applications
- Microsoft Office 2007: Advanced Concepts and Techniques by Gary B. Shelly, Thomas J. Cashman by Misty E. Vermaat
- Formulas and functions with Microsoft Office Excel 2007 by Paul McFedries
- Microsoft Office Access 2007 on demand by Steve Johnson
- Microsoft Office PowerPoint 2007 on demand by Steve Johnson

List-'II' Industrial Economics ECB-506D -Industrial Economics-I

Combination - Causes, types and forms of industrial combination; Effect of separation of ownership and management. (4 Lectures)

Mergers & takeovers – Financial and non-financial theories explaining the rationale behind mergers and takeovers; Coordination with other policies; Joint Ventures: their performance and sustainability. (6 Lectures)

Uncertainty and industrial organization – Theories of informational failure and their impact on the structure of firms; theories of insurance; determinants of demand for insurance. (8 Lectures)

Investment decision - Conventional and modern methods; Risk and uncertainty; Financial statements and ratio analysis. (6 Lectures)

Technical change and market structure - The Economics of patents; Adoption and diffusion of innovations; Innovations and rivalry: Kamien and Schwartz; Measures of concentration: Concentration ratio, Hirschman-Herfindahl index & Entropy measure; Fixed costs, Sunk costs and contestability; Stackelberg-Spence-Dixit model. (13 Lectures)

Industrial location analysis – Theories of Weber, Palander, Losch, Hoover, Israd, Greenhut, Florence and Hotelling; Operational Approach to Location Analysis. (10 Lectures)

Reading List-

- Ahluwalia I.J. (1985): Industrial Growth in India, Oxford University Press New
- Bagwell K. The economics analysis of advertising. Mimeo, Columbia University, 2005.
- Barthwal R.R: Industrial Economics , Wiley Eastern Ltd., New Delhi.
- Cherunilam, F: Industrial Economics : Indian Perspective, Delhi .
- Desai, B: Industrial Economics in India , Himalaya Publishing
- Singh, A and A.N. Sandhu (1988): Industrial Economics, Himalaya Publishing
- Andreosso, Bernadette , Jacobson, David.,(2005): Industrial Economics and Organisation, McGraw-Hill Publishing Co., ISBN10: 0077104226
- Clarke, Roger(1985): Industrial Economics, Blackwell Publishing, ISBN10: 063114305X
- Ferguson, Paul R., Ferguson, Glenys J.(1994): Industrial Economics: Issues and Perspectives, Palgrave Macmillan, ISBN10: 0333614933
- George, Kenneth D. ,Joll, Lynk, Caroline, E. L.(1992): Industrial Organization: Competition, Growth and Structural Change, Routledge, ISBN10: 0415078504
- Heather, Ken (2002): The Economics of Industries and Firms ,Pearson Education, ISBN10: 027365585X
- Spulber, Daniel F.,(1999): Market Microstructure: Intermediaries and the Theory of the Firm, Cambridge University Press, ISBN10: 0521659787
- Brooks, Stephen G.(2007): Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict, Princeton University Press, ISBN10: 0691130310
- Brousseau, Eric, Glachant, Michel- Jean(Eds.), (2002): The Economics of Contracts: Theories and Applications, Cambridge University Press, ISBN10: 0521893135

List-II Financial Market ECB-506E: Financial Markets-I

Definition and Meaning of the Financial System - Components of financial System: Institutions, Instruments, Markets, and Services; Functions and Role of financial system; Financial System and Economic Development (5 Lectures)

Money Market: Meaning - Constituents of organized money market; Features of Indian Money Market. Call money market, Treasury bill market and Commercial bill market in India. (8 Lectures)

Capital Market: Primary Market: – procedure for issuing equity and debentures, SEBI guidelines towards the issue of equity, Free pricing regime, Secondary Market: organization, management and membership of stock exchanges, listing, trading and settlement systems; Overview of Debt Market in India – Interlink between Money Market and Capital Market. SEBI & Capital Market in India (15 Lectures)

Capital Market Instruments- Equities, Debentures and Bonds; New Instruments: Floating Rate Bonds, Zero interest bonds, Deep Discount bonds, Auction rated debentures, securitized papers, collateralized debt obligations, Inverse float bonds. (10 Lectures)

Markets for Derivatives: Futures, Options, and Other Derivatives: Types, Uses and Pricing of Derivatives; Derivatives trading in India. (5 Lectures)

Financial Sector Reforms in India: Narsimhan Committee Report 1991 and 1998.(2 Lectures)

Reading List (Valid for Paper XX.5 of Semester-VI also)

- Mishkin,F.S. and Eakins S.G: Financial Markets & Institutions, Pearson Education
- Fabbozi, Modigliani, Jones and Ferri: Foundations of Financial Markets and Institutions, Pearson Education.
- Bayes and Jansen: Money, Banking and Financial Markets, AITBS
- Bhole, L.M: Financial Institutions and Markets, Tata McGraw Hill Publishing Company Ltd.
- Gupta,S.K.,Aggarwal, N. and Gupta, N: Financial Institutions and Markets, Kalyani Publishers
- Khan,M.Y: Financial Institutions and Markets, Tata McGraw Hill Publishing Company Ltd.
- Pathak Bharati (2008): The Indian Financial System –Markets, Institutions, and Services, Second Edition. Pearson education

ECB-507 - Introduction to Research Methods

The Nature of Economic Reality (2 Lecturers).

Introduction to Descriptive, Analytical, Fundamental, Quantitative and Qualitative Research Approaches (5 Lecturers).

The Time Consideration; Historical, Experimental and Ex Post Facto (3 Lecturers). Positivism and Scientific Method, The Empiricism; Steps in Empirical Analysis, Question of Objectivity and Subjectivity, the Randomness. (4 Lecturers)

Formulation of a Research Problem; Review of literature, Genesis of Problem, Aim/Objective, Hypothesis and Hypothesis Testing (4 Lecturers)

Introduction to Analytical Design. (2 Lecturers)

Data: Nature of data, Collection of Primary and secondary Data, Preparation of Questionnaire/ Schedule, Reliability and Validity. (6 Lecturers)

Introduction to Sampling Methods. (2 Lecturers)

Writing of A Report (2 Lecturers)

Note- The paper would be taught in workshop mode. Out of the **45** contact hours (required for a 3 credit course) 67% i.e. 30 hours would be devoted to Lectures while remaining **33%** i.e. **15** hours would be devoted to intensive discussion and work assignment related to different aspects of the course. Students would be divided into small groups and tutorial would be organized to facilitate intensive teacher-taught interaction.

Reading List-

- Kothari R.C. Research Methodology, Methods and Techniques, New Age International Publishers, 2nd revised edition , Reprint 2008.
- Cooper D.and Schindler P. Business Research Methods ,Tata McGraw Hill.
- Don E. Ehridge Research Methodology in Applied Economics: Organizing ,Planning and Conducting Economics Research ,John Wiley and sons, April 2004
- Goode and Heart, Research Method

SEMESTER-VI

Paper	Semester-VI	No. of Credits
ECB-601	Factor Pricing & Welfare Economics	3
ECB-602	International Macroeconomics	3
ECB-603	Environmental Economics	3
ECB-604	Development Economics	3
ECB-605	Optional-I(from List-I), Paper-II	3
ECB-606	Optional-II(from List-II), Paper-II	3
ECB-607	Field Survey/Project Work/Dissertation	4

ECB-601: Factor Pricing and Welfare Economics

Theory of Factor Pricing: Personal versus Functional Distribution, Marginal Productivity Theory of Distribution, Euler's Product Exhaustion Theorem; Factor Pricing under Perfect and Imperfect Market Conditions; Wage — Modern Theory of Wages, Collective Bargaining; Rent — Differential Surplus Approach, Modern Theory of Rent, Quasi Rent; Interest — Money Rate and Real Rate of Interest, Classical and Keynesian Theory; Profit — Economic Profit; Gross and Net Profits; Risk and Uncertainty Bearing Theory. (35 Lectures)

Welfare Economics: Positive and Welfare economics, Individual and Social Welfare, Old Welfare Economics (Pigouvian), Pareto Optimality; Compensation Principle. (10 Lectures)

Reading List- See Reading List of Paper-I

ECB-602: International Macroeconomics

Balance of Payments: Concept and Components; Equilibrium and Disequilibrium, Various measures to correct Disequilibrium in the BOP, Approaches to BOP, (8 Lectures)

Concept of Foreign Trade Multiplier. (3 Lectures)

Introduction to International Monetary System: Foreign Exchange Markets-Functions, Nominal and Real Exchange Rates, Fixed and Floating Exchange Rates, Buying & Selling Rates, Spot Rate, Forward rate & Hedging, Theories of Exchange Rate Determination. (12 Lectures)

International Capital Movements: FDI & Portfolio Investment, International Resource Movement & Role of Multinational Corporations, Foreign Aid: Dual gap theory, Aid Tying and Sources of Neo-Imperialism (12 Lectures)

International Institutions; IMF and World Bank, The GATT/WTO Agreements, Problem of International Liquidity and SDR, New International Economic Order. Environment and International Trade (10 Lectures)

Reading List- See Reading List of Paper-X

ECB-603: Environmental Economics

Historical development of environmental economics; The Environment-Economy Interaction, the Materials Balance Model and laws of Thermodynamics; Basic concepts of resource economics; natural capita and equity. (10 Lectures)

Pollution as an economic problem: Market Failure, Externality, Exaction, Insertion, Social Trap ; Alternative Definitions of Pollution; Optimal Pollution: Marginal Damage and Marginal Abatement Cost; (10 Lectures)

Instruments of Pollution Control; Command and Control and Economic Instruments; International Agencies and Environment: UNEP, UNFCC. (10 Lectures)

Environmental Valuation; Concept of Total Economic Value, Uncertainty and Irreversibility, Economic growth and environment: Fundamentals of Environmental Kuznets Curve (7 Lectures)

The basic issues of sustainable development, meaning, indicators and measurement, Environmental policy: National & International- Latest. (8 Lectures)

Reading List-

- Hanley, N., J. Shogren, and B. White (1997): Environmental Economics in Theory and Practice, Macmillan Press, 464 PP.
- Mincer, Jacob, (1974): Schooling, Earnings, and Experience, New York, Columbia University Press
- Pearce, D. W, E. Barbier and A. Markandya (1990): Sustainable Development: Economics and Environment in the Third World, Edward Elgar, Aldershot.
- Pearce, D. W., and R. K. Turner (1990): Economics of Natural Resources and the Environment, Harvester Wheatsheaf, London, 378 PP.
- Perman, R., Y. Ma, J. McGilvray, and M. S. Common (1999), Natural Resources and Environmental Economics, 2nd Edition, Longmans, 564 PP.

ECB-604: Development Economics

Meaning, definition and measurement of economic development, Approaches to the study of development: traditional view, modern views- from per capita income to human welfare, Sen's capability approach, concept of sustainable development, concept of human development; factors and possible obstacles to economic development; development characteristics and indicators: economic, socio cultural, political and interdependence among the indicators. Economic growth versus development; challenges in development economics. (10 Lectures)

Dualism: technical, economic, social, financial and structural, Measurement of Economic development, (5 Lectures)

Level of Living, Poverty and Basic Needs: Conceptual issues and measurement, Indices of poverty, Relative inequality measures, determinants of rural poverty, Role of state, Development with disguised Unemployment and Unlimited Supply of Labour; (10 Lectures)

Development Theories and Approaches: Development theories, fundamentalism in economic development theories, other approaches. Strategies of economic growth: Rostow's Stage

theory, Low Level Equilibrium Trap — Nelson Model; Critical Minimum Effort Thesis; Theory of Big Push — Rosenstein Rodan; Theory of Balanced Growth — Ragner Nurkse; Unbalanced Growth Strategy — Hirschman; Models of Harrod and Domar & Solow. (20 Lectures)

Reading List:

- A.P.Thirlwall: Growth and Development, ELBS
- D Ray: Development Economics, OUP.
- S Ghatak: Introduction to Development Economics, Routledge.
- Y Hayami and Y Godo: Development Economics, From the Poverty to the Wealth of Nations (3rd Edition), OUP
- Meier and Rauch: Leading Issues in Economic Development (8th Edition), OUP
- M.P.Todaro and S.C.Smith: Economic Development (8th Edition), Pearson.
- R.C.Agarwal: Economics of Development and Planning, Laxmi Narayan Agarwal
- M.L.Jhingan: Economic Development and Planning, Vrinda

OPTIONAL PAPERS

List-'I': Econometrics

ECB-605A: Econometrics-II (Simple Treatment)

Simultaneous relationship; Identification. Estimation of demand/ supply curves, production function, cost curves. (10 Lectures)

Introduction to Time Series Analysis, Distributed Lag Models, Concept of stationarity and Non stationarity. Consequence of non stationarity. Introduction to error correction. (20 Lectures)

Introduction to Panel Data, Fixed and Random Effects regression. (10 Lectures)

Introduction to Forecasting. (5 Lectures)

List-'I' Agricultural Economics

ECB-605B: Agriculture-II

(With special reference to Indian Agriculture)

Demand for Farm Products: Characteristics of demand for farm products – Concept and measurement of own-price and cross –price; Price and income elasticity of demand and their interrelationship; Growth in demand for food in developing and developed countries; Rationale for and types of government intervention for food and nutrition security in developing countries. (10 Lectures)

Supply of Farm Products: Characteristics of supply of farm products; Issues relating to Supply response, Supply response in Indian agriculture – Price vs. non-price factors in inducing aggregate supply growth. (7 Lectures)

India's Agricultural Development since Independence: Recent trends in agricultural growth in India; Inter-regional variations in growth of output and productivity; Cropping pattern shifts; Supply of inputs; pricing of inputs and role of subsidies. (10 Lectures)

Role of public investment and capital formation in Indian agriculture; Strategy of agricultural development and technological progress; Sustainable agriculture. (7 Lectures)

Agrarian Reforms: Objectives and Instruments – Economic and extra-economic factors influencing enactment and implementation – Evaluation of reforms affecting agrarian structure and relations, (8 Lectures)

New agricultural strategy and Green Revolution: Economic benefits, Gaps and Fall-outs, (3 Lectures)

List-'I' Population Studies

ECB-605C: Population Studies II

Population Censuses in India and the Salient Features of 2001 Census; National Family Health Survey-2 & 3, District Level Household Survey-2 (6 Lectures)

Characteristics of Indian Population: Birth Rate, Death Rate, Literacy, Life Expectancy etc. Infant and Maternal Mortality in India. (5 Lectures)

Population and Economic Development (4 Lectures)

Migration: Concept, types, patterns, and theories related to internal and international Migration (6 Lectures)

Urbanization: patterns, types and its importance, urbanization and industrialization (6 Lectures)

Population Policies in the context of growth, structure, distribution and quality of life. (3 Lectures)

Evolution of Population Policy in India – The shift in policy from population control to family welfare, to women empowerment, The New Population Policy, Tasks before the National Population Commission. (10 Lectures)

Evolution of Family Welfare Programmes in India, Programme components and organization at different levels (Nation, State, District); Family Planning Strategies and their outcomes; (5 Lectures)

List-'I' Banking & Insurance

ECB-605D: Banking & Insurance-II

Definition of Insurance; Purpose and need of insurance; insurance as a social security tool; Risk pooling and risk transfer, Social Vs private insurance; Life Vs non-life insurance, Risk management and insurance in economic development, (5 Lectures)

Fundamentals of life and health insurance, Mathematical basis of life insurance, Selection and Classification of risks; Basics of premium construction; Principles of underwriting of life and health insurance. LIC & other Life Insurance Companies in India (10 Lectures)

Definition of General Insurance; Types & importance of general insurance, Physical hazard, Moral hazard; Marketing of general insurance; Technology development and general insurance. General Insurance business in India-GIC, NIC. (8 Lectures)

Marine Insurance: Nature and Significance Essentials of Marine Insurance Contracts, Types of Marine Insurance Policies, Marine Insurance Clauses, Fire Insurance: Nature and Significance of Fire Insurance, Types of Fire Insurance Policies. (10 Lectures)

Regulation of insurance; Purpose of government intervention in markets; Theories of regulation; Insurance business in India and its regulation; The Insurance Act, 1938 (as amended), Life Insurance Corporation Act, 1956, General Insurance Business (Nationalisation) Act, 1973, Insurance Regulatory and Development Authority, IRDA Act. Recent Changes in Insurance business in India (12 Lectures)

Reading List:

- Bailey, R. (Ed.) (1999): Underwriting in Life and Insurance, Loma, Atlanta, Ga.
- Black, K and J. Skipper (2000): Life and Health Insurance, Prentice Hall, New Jersey.
- Bickelhaupt, D.L. (1992): General Insurance, Irwin Inc., Burr Ridge, Ill.
- Head, G.L. AND S. Horn II (1991): Essentials of Risk Management, Management Volume I, Insurance Institute of America, Malvern.
- Dionne, G. and S. E. Harrington (Eds.) (1997): Foundations of Insurance Economics, Kluwer Academic Publishers, Boston.
- Mishra, M. N: Insurance Principles and practice, S. Chand and Co. New Delhi.
- Mishra, M. N: Life Insurance Corporation of India. Vol. I, II, III. Jaipur.
- Pfeiffer, I. And D.R. Klock (1974): Perspectives on Insurance, Prentice Hall Inc., Englewood, Cliffs.
- Black, Jr. Kenneth and Harold Skipper Life and Health Insurance (13th Edition), Pearson (Indian Economy Edition)-.
- Rejda, George: Principles of Risk Management and Insurance, (13th Edition) (Economy Edition)

List-I- History of Economic Thought ECB-605E- History of Economic Thought-II

Alfred Marshall- Marshall as a great synthesizer: Role of time in price determination, Economic Methods. Organization as a factor of production, Nature of profits, Ideas on Consumer's Surplus, Elasticities, Value, Demand and Supply, Representative Firm, External and Internal Economies, Quasi-rent. Pigou: Welfare economics, Maurice Dobb; Schumpeter: Role of Entrepreneur and Innovations. Institutionalism — Irving Fisher (10 Lectures)

Keynesian Theory: J. M. Keynes. The General Theory of Employment, Interest and: Keynesian Revolution, Role of Money in Keynesian System, Post-Keynesians, Neo-Keynesians & New Keynesians-An Elementary Idea. (8 Lectures)

Ancient Indian Economic Thought- Valluvar: The idea of wealth, factor of production, welfare state, public health and public finance, poverty & begging. Kautilya: The Idea of Welfare State, Taxation & Public Finance, Interest & Profit, Trade, Infrastructure, Agriculture, Wage Policy, Price Regulation, (8 Lectures)

Dadabhai Naoroji: Theory of Economic Drain, National Income of India, Taxation, The idea of Poverty (3 Lectures)

M.G. Ranade: Method & Scope of Political Economy, Economic Backwardness of India, Opposition to Laissez Faire & Theory of Drain (2 Lectures)

G.K. Gokhale: Economic Ideas-Indian Finance & Surplus budget, Economic Condition of India, Advocacy –of Policy of Protection and Criticism of Drain Theory (2 Lectures)

Economic Ideas of Pt. Madan Mohan Malviya

Mahatma Gandhi: Village, Swadeshi, Place of Machine and Labour, Trusteeship, Cottage Industries; (3 Lectures)

J.K. Mehta: Wantlessness, The idea of Representative Firm, The theory of Interest & Profit (2 Lectures)

List-II- Operations Research

ECB-606A: Operations Research

Transportation Problem; Formulation of Allocation Problem, Methods for Finding Basic Feasible Solution, Optimal Solution for a Transport Problem. (12 Lectures)

Introduction to Games theory :two person zero -sum game, pay off matrix, optimal strategy, maxi-min & mini-max strategies, value of game, pure strategy ,dominance rule . Mixed strategy: Nash equilibrium. (12 Lectures)

Input-Output Analysis: Concepts, Features, Assumptions, Importance and Uses; Types of Input-Output Model: Static and Dynamic; Method of the Input-Output analysis: the Open Input-Output model, Input-Output Transaction Table, Input Coefficient, Input-Output Technological coefficient, Determination of Equilibrium Prices, the Hawkin-Simon Conditions, the Closed Input-Output model. (15 Lectures)

Introduction to Sequencing Models; Basic Assumptions, Processing Jobs through Machines, GANTT Chart. (6 Lectures)

List-II- Mathematical Economics

ECB-606B: Mathematical Economics-II

Optimization (One and two independent variables- Unconstrained case) : Criterion for maximum & Minimum values ; Relative extrema, concave and convex functions, Successive derivative test for optimization, point of inflexion. Optimising economic functions: Profit maximization under perfect competition, monopoly, when firm fixes the output, when firm fixes the price, price discrimination. Pricing and output under oligopoly. Cournot solution, Stackelberg solution, the market sharing solution. Effect of taxation and subsidy on monopoly. (22 Lectures).

Optimization (two independent variables: constrained case) : First order condition – Lagrange multiplier technique : Efficient allocation of resources, Utility maximization: cardinal and ordinal utility, Slutsky equation. The contract curve. Producer's behavior : The least cost combination. The production possibility frontier. Combining the Lagrange multiplier method and the differential method. Second order condition: The Bordered Hessian . Dynamic Analysis : Application of integration in economics – Relation between net investment and capital stock, finding total revenue/ cost and consumption function from marginal values, consumer's surplus and producer's surplus. Law of growth – exponential law. (23 Lectures).

Reading List-

- J.M. Handerson & R.E.Quandt(1980): Micro Economic Theory: A Mathematical Approach. (New Delhi: McGraw-Hill Book Company) .
- Slutsky,EE(1915): On the theory of the Budget of the Consumer, Giomale degli Economisti, Vol.15.
- Allen, RGD (1956) : Mathematical Economics, (London: Macmillan).

- Ragnar Frisch(1965): Theory of Production, (Chicago: Rand McNally).
- Taro Yamane(1985): Mathematics for Economists: An Elementary Survey (New Delhi: Prentice Hall of India).
- G.C. Archibald and R.G.Lipsey(1984): An Introduction to A Mathematical Treatment Of Economics. (London: Wiedenfeld & Nicolson)
- Edward T. Dowling (1980): Introduction to Mathematical Economics .(New Delhi: Tata McGraw-Hill publishing company Ltd.)

List-II- Computers in Economics

ECB-606C: Computers in Economics-II

SPSS and E-views Basics: Basic components, Start and exit, Window manipulation, Create and save a new work file, Open an existing work file, Select a subset (sample) of observations in the work file, Create new series, Delete a series, Create groups of objects and edit data, Rename, copy and delete objects, Create a new object out of current view (freeze), Printing objects, Import data from Excel file, Create different types of graph of series, Display summary statistics for series (15 Lectures)

Statistics-I : Bivariate Data: Scatter Diagram, principle of least square and fitting of polynomial and exponential curves, regression, coefficient of determination, lines of regression, auto-regression; Correlation and auto-correlation; Covariance and Auto covariance. (15 Lectures)

Statistics-II: Hypothesis testing: Simple, composite, null, and alternate hypotheses, level of significance, tests of significance based on chi-square, t and F statistics, confidence intervals, confidence intervals for mean and variance of the normal population, confidence interval for proportions. (15 Lectures)

List-II- Industrial Economics

ECB-606D: Industrial Economics-II

General Issues – Debate on level playing field; competition from imports; labour flexibility; Subcontracting and ancillarisation; -- markets. (6 Lectures)

Institutional Issues – Governance; Regulatory mechanism; Infrastructure; (4 Lectures)

Industrial Sickness: Definition; magnitude; structure; consequences and remedial measures; (4 Lectures)

Small & Medium Enterprises – Credit constraint; technology constraint; efficiency and productivity; factor intensity; Marketing and sales; ; Asset specificity as strategic measure; challenges posed by globalization. (8 Lectures)

Industrial Finance – Sources; structure; unequal access; agencies. (3 Lectures)

Industrial Policy – Pre and Post 1991; FEMA; Disinvestment policy in India; Export-Import (EXIM) Policy, Competition policy; Price Policy (15 Lectures)

Strategy – Backward and forward linkages in Indian industry, Industrial Diversification, Marketing Strategies and Information System for Industries. (5 Lectures)

Reading List-

- Alhuwalia I.J: Industrial Growth in India, Oxford University Press New

- Bagwell K: The economics analysis of advertising. Mimeo, Columbia University, 2005.
- Barthwal R.R: Industrial Economics , Wiley Eastern Ltd., New Delhi.
- Cherunilam, F: Industrial Economics : Indian Perspective (3rd Edition), Delhi .
- Desai, B. (1999): Industrial Economics in India (3rd Edition), Himalaya Publishing
- Divine, P.J. and R.M. Jones et. al.(1976): An Introduction to Industrial Economics, George, Allen and Unwin Ltd., London.
- Hay D. and D.J. Morris (1979): Industrial Economics Theory and Evidence. Himalaya Publishing House, Mumbai.

List-'II' Financial Market
ECB-606E: Financial Markets- II

Development Financial Institutions (DIIs) and Investing Institutions: Concept of Development Banking, All India and State Level DFIs – Their Objective and Functions, Financial and Promotional Assistance to Industry – An Aggregative View (8 Lectures)

Life Insurance Corporation, GIC and UTI – Their Role in Savings Mobilization, Investment Policies and Role in Subscriptions to Corporate Securities. (8 Lectures)

Types of Non-banking Financial Institutions (NBFI) Growth of NBFI, Types, Maturity and Purpose of Deposits with NBFI, Growth of Deposits with NBFI and their role in a globalised world. (8 Lectures)

Concept of Financial Services– meaning – features – importance, Financial instruments- types and recent innovation, Organization and Growth of Financial Services in India, , Elementary knowledge of some important financial services-viz-merchant banking, factoring, leasing , credit rating etc. Regulation of Financial Services Market-SEBI & RBI (11 Lectures)

Different Types of Foreign Capital Investment in India – Foreign Capital Investment, NRI Investment by Foreign Institutional Investors (FIIs), Euro-issues-Study of Recent Trends, Measures for Attracting Foreign Capital to India. (10 Lectures)

ECB-607

Field Survey/Project Work/Dissertation

Paper-XXII will consists of Dissertation/Project Work/Field Work and Viva-Voce. Dissertation submitted by the students would be evaluated by External Examiners appointed by the University for marks of 70 (Seventy). Remaining 30(Thirty) marks would be for Viva-Voce that will be conducted by the Department as per the rules and regulations of the University.