

# **COURSES OF STUDIES**

**(Under CBCS)**

## **For M.A. Programme in Economics**

**(Syllabus of Courses Effective from the Academic Year: 2015-16)**



### **Syllabus of Courses to be Offered**

**(Core Courses, Department Elective Courses & Open Elective Courses)**

**DEPARTMENT OF ECONOMICS**

**SCHOOL OF SOCIAL SCIENCES  
CENTRAL UNIVERSITY OF ORISSA  
KORAPUT, ODISHA, INDIA**



# **COURSE STRUCTURE**

## **M.A. Programme in Economics**

### **SEMESTER-I**

<b>COURSE CODE</b>	<b>NATURE OF COURSE</b>	<b>COURSE TITLE</b>	<b>L-P-T-D</b>	<b>CREDIT</b>
ECO 401	CORE	MICROECONOMIC ANALYSIS	3-0-1-0	4
ECO 402	CORE	MACROECONOMIC ANALYSIS	3-0-1-0	4
ECO 403	CORE	MATHEMATICS FOR ECONOMICS	3-0-1-0	4
ECO 404	CORE	STATISTICS FOR ECONOMICS	3-0-1-0	4
<b>OPEN ELECTIVE-I</b> <b>(ANY ONE FROM THE FOLLOWING COURSES OR ANY OTHER COURSE FROM OTHER DEPARTMENTS OF THE UNIVERSITY)</b>				
ECO 405	ELECTIVE	ENVIRONMENTAL ECONOMICS	3-0-1-0	4
ECO 406	ELECTIVE	INSTITUTIONAL ECONOMICS	3-0-1-0	4
ECO 407	ELECTIVE	ENERGY ECONOMICS	3-0-1-0	4

### **SEMESTER-II**

<b>COURSE CODE</b>	<b>NATURE OF COURSE</b>	<b>COURSE TITLE</b>	<b>L-P-T-D</b>	<b>CREDIT</b>
ECO 408	CORE	ADVANCE MICROECONOMIC ANALYSIS	3-0-1-0	4
ECO 409	CORE	ADVANCE MACROECONOMIC ANALYSIS	3-0-1-0	4
ECO 410	CORE	BASIC ECONOMETRICS	3-0-1-0	4
ECO 411	CORE	INDIAN ECONOMIC ANALYSIS	3-0-1-0	4
<b>OPEN ELECTIVE-II</b> <b>(ANY ONE FROM THE FOLLOWING COURSES OR ANY OTHER COURSE FROM OTHER DEPARTMENTS OF THE UNIVERSITY)</b>				
ECO 412	ELECTIVE	OPTIMIZATION TECHNIQUES	3-0-1-0	4
ECO 413	ELECTIVE	FINANCIAL INSTITUTIONS AND MARKETS	3-0-1-0	4
ECO 414	ELECTIVE	ECONOMICS OF LAW	3-0-1-0	4

### **SEMESTER-III**

<b>COURSE CODE</b>	<b>NATURE OF COURSE</b>	<b>COURSE TITLE</b>	<b>L-P-T-D</b>	<b>CREDIT</b>
ECO 501	CORE	INTERNATIONAL TRADE	3-0-1-0	4
ECO 502	CORE	ECONOMICS OF GROWTH AND DEVELOPMENT	3-0-1-0	4
ECO 503	CORE	PUBLIC ECONOMICS	3-0-1-0	4
ECO 504	CORE	RESEARCH METHODOLOGY	3-0-1-0	4
<b>OPEN ELECTIVE-III</b> <b>(ANY ONE FROM THE FOLLOWING COURSES OR ANY OTHER COURSE FROM OTHER DEPARTMENTS OF THE UNIVERSITY)</b>				
ECO 505	ELECTIVE	INDUSTRIAL ECONOMICS	3-0-1-0	4
ECO 506	ELECTIVE	MATHEMATICAL ECONOMICS	3-0-1-0	4
ECO 507	ELECTIVE	ECONOMICS OF INFORMATION AND TECHNOLOGY	3-0-1-0	4

- ❖ Core-Compulsory, Elective-Optional, L-Lecture, P-Practical, T-Tutorial, & D-Dissertation.
- ❖ Elective courses to the students of Department of Economics and to the students of other departments will be offered subject to the availability of the faculty members in the department.
- ❖ Elective courses will be offered subject to minimum intake of five students per a particular course.



## SEMESTER-IV

COURSE CODE	NATURE OF COURSE	COURSE TITLE	L-P-T-D	CREDIT
ECO 508	CORE	DISSERTATION	0-0-0-7	8
ECO 509	CORE	HISTORY OF MODERN ECONOMIC ANALYSIS	3-0-1-0	4
<b>DEPARTMENT ELECTIVE-I &amp; DEPARTMENT ELECTIVE-II</b>				

### LIST OF DEPARTMENTAL ELECTIVE COURSES

COURSE CODE	NATURE OF COURSE	COURSE TITLE	L-P-T-D	CREDIT
ECO 510	ELECTIVE	INTERNATIONAL FINANCE	3-0-1-0	4
ECO 511	ELECTIVE	ADVANCE ECONOMETRICS	3-0-1-0	4
ECO 512	ELECTIVE	FINANCIAL ECONOMICS	3-0-1-0	4
ECO 513	ELECTIVE	ECONOMICS OF INSURANCE	3-0-1-0	4
ECO 514	ELECTIVE	AGRICULTURAL ECONOMICS	3-0-1-0	4
ECO 515	ELECTIVE	REGIONAL ECONOMICS	3-0-1-0	4
ECO 516	ELECTIVE	OPERATIONAL RESEARCH	3-0-1-0	4
ECO 517	ELECTIVE	HEALTH ECONOMICS	3-0-1-0	4
ECO 518	ELECTIVE	COMPUTER APPLICATION IN ECONOMIC ANALYSIS	3-0-1-0	4
ECO 519	ELECTIVE	ECONOMICS OF GENDER AND DEVELOPMENT	3-0-1-0	4
ECO 520	ELECTIVE	ECONOMICS OF DEMOGRAPHY	3-0-1-0	4
ECO 521	ELECTIVE	WELFARE ECONOMICS	3-0-1-0	4
ECO 522	ELECTIVE	URBAN ECONOMICS	3-0-1-0	4
ECO 523	ELECTIVE	TRIBAL ECONOMICS	3-0-1-0	4
ECO 524	ELECTIVE	WORLD ECONOMY	3-0-1-0	4
ECO 525	ELECTIVE	GAME THEORY AND ITS APPLICATIONS IN ECONOMICS	3-0-1-0	4
ECO 526	ELECTIVE	ECONOMICS OF NATURAL RESOURCES	3-0-1-0	4
ECO 527	ELECTIVE	ECONOMICS OF SERVICE SECTOR	3-0-1-0	4
ECO 528	ELECTIVE	EDUCATION ECONOMICS	3-0-1-0	4
ECO 529	ELECTIVE	MICRO FINANCE AND RURAL DEVELOPMENT	3-0-1-0	4
ECO 530	ELECTIVE	ECONOMICS OF HUMAN DEVELOPMENT	3-0-1-0	4
ECO 531	ELECTIVE	MONETARY ECONOMICS	3-0-1-0	4
ECO 532	ELECTIVE	ECONOMICS OF INFRASTRUCTURE	3-0-1-0	4
ECO 533	ELECTIVE	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT	3-0-1-0	4
ECO 534	ELECTIVE	ECONOMIC HISTORY OF ASIAN COUNTRIES: CHINA, SOUTH KOREA & JAPAN	3-0-1-0	4
ECO 535	ELECTIVE	COST BENEFIT ANALYSIS	3-0-1-0	4
ECO 536	ELECTIVE	RURAL ECONOMICS	3-0-1-0	4
ECO 537	ELECTIVE	INDIAN PUBLIC FINANCE	3-0-1-0	4
ECO 538	ELECTIVE	BUDGETARY THEORY AND PRACTICE	3-0-1-0	4
ECO 539	ELECTIVE	FINANCIAL ECONOMETRICS	3-0-1-0	4
ECO 540	ELECTIVE	LABOUR ECONOMICS	3-0-1-0	4
ECO 541	ELECTIVE	APPLIED ECONOMETRICS	3-0-1-0	4
ECO 542	ELECTIVE	TIME SERIES ECONOMETRICS	3-0-1-0	4

**Note:** The word “Prerequisite” means, the candidate should have passed in the specified prerequisite course(s) to register in that particular course(s). For example, if a student wants to register in ECO 412 in 2<sup>nd</sup> semester, he/she must have passed ECO 403 in 1st semester.



# **COURSE DESCRIPTION**

## **SEMESTER-I**

**COURSE NAME: MICROECONOMIC ANALYSIS**

**COURSE CODE: ECO 401**

**Nature of Course: Core**

**Prerequisite: None**

### **MODULE-I: THEORY OF CONSUMPTION**

Cardinal Utility Approach - Law of Diminishing Marginal Utility, Equi-Marginal Utility, Ordinal Utility Approach - Indifference curve properties, Consumer's equilibrium, Price, income & substitution effects, Derivation of Demand Curve. Revealed Preference Theory of Demand. Recent Development in Demand Theory - Hicksian Revised Theory, Consumer's Choice under Risk and Uncertainty. Consumer Surplus, Marshall's Measurement of Consumer Surplus, Measurement of Consumer Surplus through indifference Curve analysis, Elasticity of Demand.

### **MODULE-II: THEORY OF PRODUCTION, COST AND REVENUE**

Economies of Scale; Internal Economies and Diseconomies, External Economies and Diseconomies. Production Possibility Curve. Production Function, Law of Variable Proportions, Returns to Scale. Isoquants - Properties, Producer's equilibrium, Expansion Path, Elasticity of substitution. Euler's theorem; Linear Homogenous Production Function, Cobb-Douglas & CES production functions; Concepts & Derivations of Short Run and Long Run Cost Curves. AC & MC Relationship, Revenue Concepts-AR, MR and TR, Revenue and cost relationships.

### **MODULE-III: PERFECT COMPETITION, MONOPOLY AND MONOPOLISTIC COMPETITION**

Perfect Competition; Price Determination, Equilibrium of the Firm and Industry. Monopoly - Price and Output Determination. Comparison between Monopoly equilibrium and Perfect Competition Equilibrium, Discriminating Monopoly-Price Discrimination, Equilibrium under Discriminating Monopoly. Bilateral Monopoly and Monopsony. Sources of Monopoly, Regulation of Monopoly-Through Taxation, and Price Regulation, Monopolistic Competition - Price and Output Determination. Critique of Chamberlin's Theory of Monopolistic Competition. Excess Capacity under Monopolistic Competition.

### **MODULE-IV: ALTERNATIVE THEORIES OF THE FIRM**

Critical evaluation of marginal analysis; Baumol's Model of Sales Revenue Maximization. Williamson's Managerial Model managerial discretion. Full cost pricing rule. Bain's limit pricing theory and its recent developments.



## READING LIST

1. Layard, P.R.G. and A.W. Walters (1979), Microeconomic Theory, McGraw Hill.
2. James M. Henderson and Richard E. Quandt, Microeconomic Theory- A Mathematical Approach, McGraw Hill Book Co.
3. Baumol, W. J. (1982), Economic Theory and Operations Analysis, Prentice Hall of India, Delhi.
4. Koutsoyiannis, A. (1979), Modern Microeconomics, (2<sup>nd</sup> Edition), Macmillan Press, London.
5. Roychowdhury, K.C. (1980), Microeconomics, Tata McGraw Hill, New Delhi.
6. Hugh Gravelle, Ray Rees, Microeconomics, Pearson Education Ltd Jehle and Reny, Advanced Microeconomic Theory, Pearson India.
7. Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton.
8. Stigler, G. (1996), Theory of Price, (4th Edition), Prentice hall of India, New Delhi.
9. Jehle and Reny, Advanced Microeconomic Theory, Pearson India.
10. Varian, H. R. (2010) Intermediate Microeconomics: A Modern Approach.

## COURSE NAME: MACROECONOMIC ANALYSIS

### COURSE CODE: ECO 402

**Nature of Course: Core**

**Prerequisite: None**

#### MODULE-I: NATIONAL INCOME

Circular Flow of Income in two-, three- and four-sector economy; Measurement of National Income; National income and economic welfare. Theory of income and employment—Classical theory of income and employment; Keynes theory of employment. Determination of national income in two sector basic model—Expenditure approach and investment-saving approach; Determination of national income in three sector model and four sector model

#### MODULE-II: CONSUMPTION FUNCTION

Keynes' psychological law of consumption — implications of the law; short-run and long-run Consumption function; Empirical evidence on consumption function; Income-consumption Relationship — absolute income, relative income, life cycle and permanent income hypotheses

#### MODULE-III: INVESTMENT FUNCTION

Determinants of investment- Marginal efficiency of capital and Rate of interest ;Marginal efficiency of investment and level of investment; The accelerator and investment behavior; The investment multiplier ;Multiplier- accelerator interaction.

#### MODULE-IV: DEMAND FOR MONEY

Classical approach to demand for money — Quantity theory approach, Fisher's equation, Cambridge quantity theory, Keynes's liquidity preference approach, transaction, precautionary and speculative demand for money — aggregate demand for money, Post-Keynesian approaches to demand for money —Approaches of Baumol ,Tobin, Patinkin and Friedman.



## READING LIST

1. Ackley, G (1978), Macroeconomics: Theory and Policy, Macmillan, New York
2. Blackhouse, R. and Salansi, A (Eds.) (2000), Macroeconomics and the Real World (2 Vols.), Oxford University Press, London
3. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York
4. Dornbusch, R. and Stanley, F (1997), Macroeconomics, McGraw Hill, Inc., New York
5. Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi
6. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi
7. Mankiw, N. G, Macroeconomics, Worth Publishers, 7<sup>th</sup> edition, 2010
8. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.  
Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw Hill, New York
9. Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi
10. Surrey, M.J.C. (Ed.) (1976), Macroeconomic Themes, Oxford University Press, Oxford.

## COURSE NAME: MATHEMATICS FOR ECONOMICS

### COURSE CODE: ECO 403

**Nature of Course: Core**

**Prerequisite: None**

### MODULE-I: INTRODUCTION AND REVIEW

Introduction and importance of mathematics for economics, Review of the number system, , elementary co-ordinate geometry, theory of sets, relations and functions, , solution of linear and quadratic equations, theory of graphs and limit of a function at a point

### MODULE-II: MATRIX ALGEBRA AND DETERMINANT

Basic of matrix, Matrices Elementary operations, types, Rank of matrix; matrix inversion; Solution of simultaneous equations; Cramer's rule, vectors, the evaluation and properties of determinants.

Some applications in economics (SAE) partial equilibrium market model, national income model

### MODULE-III: DIFFERENTIAL CALCULUS

Principles of differentiation; rules of differentiation; differentiation of implicit functions; Partial and total differentiation; application of optimization-- maxima and minima without constraints; maxima and minima subject to constraints, Economic application of differentiation, partial differentiation.

### MODULE-IV: INTEGRAL CALCULUS AND LINEAR PROGRAMMING

Dynamics and integration; Principles of integration; Indefinite and definite integrals; Application of integrals in economics, Consumer surplus and producer surplus

Linear programming, Concept and formulation of LP problems, Solutions of LP: Graphical and Simplex methods



### READING LIST

1. Allen, R.G.D. (1967) *Mathematical Analysis for Economists*, Macmillan.
2. Budnick, F.S. (1993) *Applied Mathematics for Business, Economics and Social Sciences*, McGraw Hill.
3. Chiang, A.C. (2005) *Fundamental Methods of Mathematical Economics*, McGraw Hill, ND.
4. Dorfman, Samuelson and Solow (1958) *Linear Programming and Economic Analysis*, McGraw Hill,
5. Henderson (2003) *Microeconomic Theory- A Mathematical Approach (3e)*, McGraw Hill.
6. Hoy, Livernois, McKenna, Rees and Stengos (2004), *Mathematics for Economics*, Prentice Hall, ND.
7. Baumol, W.J. (1977) *Economic Theory and Operations Analysis*, Prentice Hall, ND.
8. Handry, A.T. (1999) *Operation Research*, Prentice Hall, ND.
9. Nicholson, R.H. (1986) *Mathematics for Business and Economics*, McGraw Hill, NY.
10. Samuelson, P.A. (2005) *Micro Economics (18e)*, McGraw Hill, International Edition.

### COURSE NAME: STATISTICS FOR ECONOMICS

### COURSE CODE: ECO 404

**Nature of Course: Core**

**Prerequisite: None**

#### MODULE-I: INTRODUCTION: DATA AND STATISTICS

Introduction and Importance of Statistics in Economics; Sources and limitation of Secondary Data; Need for collecting Primary data, Graphical Presentations of data, Sampling Design.

#### MODULE-II: DESCRIPTIVE STATISTICS

Descriptive Statistics- Measures Of Central Tendency, Dispersion; Movement, Skewness, Kurtosis, Simple Correlation and Regression,

#### MODULE-III: PROBABILITY AND EXPECTATION

Probability theory: Different Concepts and Approaches, Concept of Random Variable, Probability distribution: Bi-nominal, Poisson, and Normal.

#### MODULE-IV: THEORY OF ESTIMATION

Concept of an estimator and its sampling distribution, Properties of a good estimator; Formulation of statistical hypotheses --- Null and alternative ; Goodness of fit ; Confidence interval and level of significance. Statistical inference and hypothesis testing, Z test, Small Samples: T test, F test, Chi square test.

### READING LIST

1. Fleming Michael C. and Joseph G. Nellis (1996), *The Essence of Statistics for Business 2e* Prentice Hall, Hemel Hempstead.
2. Neil Weiss (1993), *Elementary Statistics 2e: Addison Wesley*, Reading, MA.
3. Das N G (2008), *Statistical Methods* Tata Mc-Graw Hill.
4. Gupta S C and V K Kapur (1970), *Mathematical Statistics* Sultan Chand and Sons.
5. Gupta, S P (1978), *Statistical Methods*, Sultan Chand and Sons, Delhi.



6. Gupta C B (1957), An Introduction to Statistical Methods, Vikas Publishing House, Delhi
7. Monga G S (2010), Mathematics and Statistics for Economists.,Vikas Publication House Pvt Ltd.
8. Mood, A.M. and F.A. Graybill(1974) , Introduction to the Theory of Statistics Tata Mc-Graw Hill.
9. Murray R. Spiegel (1992). Theory and Problem of Statistics, Schaum's Outline Series, Metric edition.
10. Gupta S C (1981), Fundamentals of Statistics, Himalaya Pub House.

## **COURSE NAME: ENVIRONMENTAL ECONOMICS**

### **COURSE CODE: ECO 405**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: ECONOMY AND ENVIRONMENT**

The historical development of environmental economics– Early economic paradigms and the Environment, Post war economics and the rise of environmentalism, Interaction Between Ecological and Economic Systems; Environment-Development-Poverty Nexus, Institutional economics Paradigm, The market model of environmental values;

#### **MODULE-II: ENVIRONMENT AND SUSTAINABLE DEVELOPMENT**

The concept of sustainable development, Measuring of sustainable development, sustainable macroeconomics accounting of national income and wealth, Green accounting, The environment Kuznets curve, theory of Krutilla-Fisher Equation for preservation or development; Environmental cost-benefit Analysis for sustainable development, Rationale of discounting future in the context of sustainability; Endogenous growth theory and sustainable development; Technological change and environment

#### **MODULE-III: ENVIRONMENTAL VALUATION**

Meaning of environmental valuation, the uses of economic value, costs, benefits, willingness to pay and willingness to accept, Total economic value, Option value, Existence value, Empirical measures of option and existence value, Total economic value and decision making; Description of valuation methodologies: Revealed preference versus stated preference, hedonic price approach, Household production function, Travel cost approach, Defensive and Contingent valuation method.

#### **MODULE-IV: THE ECONOMICS OF POLLUTION**

The optimal level of pollution, Pollution as externality, alternative definitions of pollution, The market achievement and optimal pollution, Property rights and market bargain theorems, Coase theorem. The optimal pigovian tax, Pollution charges and abatement costs, Pollution reduction subsidies, Marketable pollution permits, The theory of marketable permits, The advantages of marketable permits, Types of permit system, Permit trading in practice.





## READING LIST

1. Baumol, W.J. and W.E. Oates (1988) The Theory of Environmental Policy (2nd Edition) Cambridge University Press, Cambridge.
2. Bhattacharya, R N (latest edition), Environmental Economics: An Indian Perspective (E), Oxford University Press, New Delhi, 2011.
3. Dasgupta, P (2001), Human well being and natural environment, Oxford University Press
4. Fisher, A, C. (1981) Resource and Environmental Economics, Cambridge University press Cambridge.
5. Kolstad, C.D. (1999) Environmental Economics, Oxford University Press, New Delhi.
6. Murty. M.N, Environment, Sustainable Development and Well-being, Oxford University Press, New Delhi.
7. Nick Hanley, Jason F. Shogren and Ben White, Environmental Economics- In Theory and Practice, MacMillan Press Ltd.. Hampshire.
8. Pearce D.W. and R. Turner (1991) Economics of Natural Resource Use and Environment, John Hopkins University Press, Baltimore.
9. Singh K and Shishodia A. Environmental Economics: Theory and Application, Sage Publication, New Delhi, 2007-2012.
10. Tietenberg, T. (1994) Environmental Economics Policy and Harper Collins New York.

## COURSE NAME: INSTITUTIONAL ECONOMICS

### COURSE CODE: ECO 406

**Nature of Course: Elective**

**Prerequisite: None**

### MODULE-I: BASIC INTRODUCTION TO INSTITUTIONAL ECONOMICS

Institutional Economics as a departure from Neo-Classical and Marxian Economics, Historic development of Institutional Economics, Old and New Institutional Economics, Core issues in New Institutional Economics

### MODULE-II: PROBLEMS OF INFORMATION ASYMMETRY

Prisoner's dilemma and Nash equilibrium, Assurance problem, Principal-Agent Problem, Problem of Adverse Selection, Problem of Moral Hazard, Market for Lemons, Market Signalling.

### MODULE-III: PROPERTY RIGHTS ISSUES

Concepts of Property and defining Property Rights, Problems of Ill-defined Property rights, Externalities-Market failure and property rights, Issues relating to ill-defined property rights, Social vis-à-vis Individual Choices, Neo-classical Maximisation vis-à-vis Methodological Individualism, Prisoner's Dilemma, Hardin's Tragedy of Commons, Collective Action, and Assurance Problem.

### MODULE-IV: TRANSACTION COSTS AND BOUNDED RATIONALITY

Issues relating to transaction costs, Social cost vis-à-vis individual costs, Identification and measurements of transaction costs, Coase Theorem, Bounded Rationality, Public Policy, Insurance Sector, Social issues, Ecological and Environmental Issues.



## READING LIST

1. Furburton & Richter, 'Institutions and Economic Theory', Dryden Press.
2. Pindyck, Robert S., Rubinfeld, Daniell L., & Mehta, Prem L., "Microeconomics", 7th Edition, (2009), Pearson.
3. Frank, Robert H., "Micro Economics and Behaviour", McGraw Hill International Editions, (1991).
4. Eggertson, Thrainn, "Economic Behaviour and Institutions", Cambridge University Press, (1999).
5. North, Douglas C., "Institutional Change and Economic Performance", Cambridge University Press, (2004).
6. Olson Mancur (1965), The Logic of Collective Action, Harvard University Press, Cambridge.
7. Shaw, M E. (1971). Group Dynamics: The Psychology of Small Group Behaviour, McGraw Hill, New York.
8. Ahuja H. L., "Advanced Economic Theory – Microeconomic Analysis", 17<sup>th</sup> Revised Edition, (2008), S. Chand & Company Ltd.

## COURSE NAME: ENERGY ECONOMICS

### COURSE CODE: ECO 407

**Nature of Course: Elective**

**Prerequisite: None**

### MODULE-I: INTRODUCTION TO ENERGY ECONOMICS

Natural Resources - classification - importance - Role of Natural Resources in Economic Development - Energy Resources - Types and classification - Properties of Energy - Forms of Energy - Emergence of Energy Economics - Its nature and scope - Energy indicators - Energy Economics relation with other branches.

### MODULE-II: ENERGY AND DEVELOPMENT

Role of Energy in Economic Development - Energy Intensity and Energy Elasticity - National and International comparison - Low, Middle and High Income Economies - Role of International Institutions - OPEC, OAPEC, IEA, and World Bank.

### MODULE-III: ENERGY CONSERVATION AND ENVIRONMENT

Energy Planning and Energy Conservation: Meaning, objectives and importance - Energy Management - Meaning, Objectives and Importance - Recent Developments - Energy Auditing - Energy Accounting - Energy Pricing and Taxes - Role of Economists in Promoting Sustainable Energy Management. Energy Crisis - causes, consequences - Remedial measures - Environmental Crisis - causes, consequences, remedial measures - Impact of Energy Consumption and Production on Environment with illustrations - Role of Energy and Environmental Economists in solving Energy and Environmental Crisis.

### MODULE-IV: INDIA'S ENERGY PROFILE

Indian Energy Sector - Organizational Structure - Energy Supply (Coal, Lignite, Oil, Gas and Powers - Hydro, Nuclear, Thermal) - Energy Demand (Agriculture, Industry, Transport, Domestic, etc) - Renewable Energy Sources and Technology (Solar, Wind, Biogas, Biomass,



Geothermal, OTEC, Tidal, Wave Hydrogen, Fuel Cell, Bio-diesel) - Renewable Energy Programs  
-Energy under Five Year Plans - Energy Issues and Policy Options for India.

### READING LIST

1. Agarwal, M.C. and Monga , J.R. - Economic and Commercial Geography, (National Publishing House, New Delhi, 1992).
2. Common, M. - Environmental and Resource Economics (Longman, London,1996)
3. Hemalatha Rao - Rural Energy Crises: A Diagnostic Analysis ( Ashish Publishing House, New Delhi, 1990).
4. Kneese. A.V and Sweeny, J.L, Handbook of Natural Resource and Energy Economics (North Holland, 1993).
5. Munasinghe,M and Meier, P - Energy Policy and Modeling (Cambridge University Press, UK, 1993).
6. Paul Stevens (Ed) - The Economics of Energy, Vol. I and II (Edward Elgar 2000).
7. Raikhy, P. S. and Parminder Singh., Energy Consumption in India - pattern and Determinants (Deep and Deep, New Delhi, 1990).
8. Sankar U, Public Sector Pricing: Theory and Applications (IEA Trust for Research and Development, 1992).
9. TERI - Teri Energy Data Directory and Year Book 2005-06 (The Energy Research Institute, 2005).
10. William Burch (Ed.) - Readings in Ecology, Energy and Human Society: Contemporary Perspectives (Harper and Row, New York, 1997).

## SEMESTER-II

**COURSE NAME: ADVANCE MICROECONOMIC ANALYSIS**

**COURSE CODE: ECO 408**

**Nature of Course: Core**

**Prerequisite: None**

### MODULE-I: OLIGOPOLY AND ECONOMIC BEHAVIOUR OF FIRM

Oligopoly–Price and Output Determination; Non-collusive oligopoly; Homogeneous Product-Cournot & Stackelberg model; Non-homogeneous Product; Chamberlin’s model & the kinked demand curve model. Collusive Ologopoly; Cartels, mergers, and price leadership.

### MODULE-II: THEORY OF DISTRIBUTION

Marginal productivity theory, Modern Theory of distribution, Wage Determination under Collective Bargaining, Theory of Profit; Dynamic Theory, Innovation Theory, Risk and Uncertainty Theory. Macro theories of distribution– Marxian and Kaldor’s.

### MODULE-III: WELFARE ECONOMICS

Pigovian welfare economics; Pareto optimal conditions; Value judgement; Social welfare function; Compensation principle; Inability to obtain optimum welfare–Imperfections, market



failure, externalities, decreasing costs, uncertainty and non-existent and incomplete markets; Theory of second best–Arrow’s impossibility theorem.

#### **MODULE-IV: GENERAL EQUILIBRIUM**

Partial and General Equilibrium, Input-output approaches to general equilibrium, General Equilibrium of consumption, production and exchange, Existence, Stability and uniqueness of equilibrium and general equilibrium.

#### **READING LIST**

1. Walter Nicholson, Christopher M. Snyder, Microeconomic Theory: Basic Principles and Extensions, Cengage Learning.
2. Jehle and Reny, Advanced Microeconomic Theory, Pearson India.
3. Layard, P.R.G. and A.W. Walters (1979), Microeconomic Theory, McGraw Hill.
4. Varian, H. (2000) Microeconomic Analysis, W.W. Norton.
5. James M. Henderson and Richard E. Quandt, Microeconomic Theory- A Mathematical Approach, McGraw Hill Book Co.
6. Koutsoyiannis, A. (1979), Modern Microeconomics, (2<sup>nd</sup> Edition), Macmillan Press, London.
7. Pyndyck, R.S. & D.L. Rubinfeld (1999), Microeconomics, (3<sup>rd</sup> Edition) Pentice Hall of India.
8. Sen, A.K. (1970), Collective Choice and Social Welfare, Holden Day Inc.
9. San Fransico. Stigler, G. (1996), Theory of Price, (4<sup>th</sup> Edition), Prentice Hall of India, New Delhi.
10. Weintrub, E.R. (1974), General Equilibrium Theory, Macmillan, London.

### **COURSE NAME: ADVANCE MACROECONOMIC ANALYSIS COURSE CODE- ECO 409**

**Nature of Course: Core**

**Prerequisite: None**

#### **MODULE-I: SUPPLY OF MONEY**

Concept of money supply; mechanistic model of money supply; behavioral model of money supply determination, RBI approach to money supply; money supply determination in an open economy; control of money supply.

#### **MODULE-II: NEO-CLASSICAL AND KEYNESIAN SYNTHESIS**

Neo-classical and Keynesian views on interest; The IS-LM model; Extension of IS-LM model with government sector; Relative effectiveness of monetary and fiscal policies.

#### **MODULE-III: MACROECONOMICS IN AN OPEN ECONOMY AND NEW CLASSICAL MACROECONOMICS**

Mundell-Fleming model — Asset markets, expectations and exchange rates; fixed v/s flexible exchange rates; monetary approach to balance of payments. The new classical critique of micro foundations, the new classical approach; Policy implications of new classical approach — empirical evidence.



#### **MODULE-IV: THEORY OF INFLATION AND BUSINESS CYCLES**

Classical, Keynesian and Monetarist approaches to inflation; Structuralist theory of inflation; Philips curve analysis. Short run and long run Philips curve; Tobin's modified Philips curve; Policies to control inflation. Business cycle- meaning and features; Theories of Business cycle- Hawtrey, Keynes, Samuelson, Kaldor, Hicks, Goodwin's model.

#### **READING LIST**

1. Ackley, G (1978), Macroeconomics : Theory and Policy, Macmillan, New York
2. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
3. Dornbusch, R. and F. Stanley (1997), Macroeconomics, McGraw Hill, Inc., New York
4. Hall, R.E. and J.B. Taylor (1986), Macroeconomics, W.W. Norton, New York
5. Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi
6. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi
7. Levacic, R and Rebmann, A "Macro Economics- An introduction to Keynesian –neo-classical controversies", second edition, Macmillan, London.
8. Mankiw, N. G, Macroeconomics, Worth Publishers, 7<sup>th</sup> edition, 2010
9. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
- Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw Hill, New York
10. Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

### **COURSE NAME: BASIC ECONOMETRICS**

#### **COURSE CODE: ECO 410**

**Nature of Course: Core**

**Prerequisite: None**

#### **MODULE-I: INTRODUCTION AND SCOPE OF ECONOMETRICS**

Scope and importance Econometrics steps, importance and limitations of econometrics applications, variables, parameter and constant, sample and population, types of data and functions

#### **MODULE-II: SIMPLE AND MULTIPLE REGRESSION MODEL**

Two variable linear regression model (2VLRM) analyses, CLRM and its assumptions, OLS method of estimation, properties of estimators and, BLUE, MVLRM

#### **MODULE-III: MULTICOLLINEARITY**

Multicollinearity: problem types, causes, consequences, detection and remedial measures, regression on dummy variables

#### **MODULE-IV: AUTOCORRELATION AND HETEROSCEDASTICITY**

Autocorrelation problem causes, AR scheme, consequences, detection and remedies, Heteroscedasticity problem patterns, consequences, detection and remedial measures. Simultaneous equations model (SEM), identification-order and rank conditions and application



## READING LIST

1. Gujarati, Damodar N., Basic Econometrics, 4th Edition, TATA McGraw Hill Publishing, 2004.
2. Wooldridge, Jeffrey M., Introductory Econometrics: A Modern Approach, Third edition, Thomson South-Western, 2007.
3. Johnstone, J., Econometrics Methods, 3rd Edition, McGraw Hill, New York, 1994.
4. Ramanathan, Ramu, Introductory Econometrics with Applications, Harcourt Academic Press, 2002 (IGM Library Call No. 330.0182 R14I).
5. Koutsoyiannis, A. The Theory of Econometrics, 2nd Edition, ESLB.
6. Greene, W.H., Econometric Analysis, 4th edition, Prantice Hall, 2000.
7. Pindyck, Robert S. and Daniel L. Rubinfeld, Econometric Models and Economic Forecasts, 1976, International Student edition, McGraw-Hill (330.0182/P65E).
8. Cheng, Hsian (1986) Analysis of Panel Data, Cambridge University Press.
9. Cryer JD and Chan KS (2008), Time Series Analysis with Applications in R, 2nd edition. Springer-Verlag, NY.

## COURSE NAME: INDIAN ECONOMIC ANALYSIS

### COURSE CODE: ECO 411

**Nature of Course: Core**

**Prerequisite: None**

#### MODULE-I: ECONOMIC DEVELOPMENT AND PLANNING IN INDIA

Determinants of economic development; Indicators of Development—PQLI, Human Development Index (HDI) and Gender Development Indices; Human resource development; Role of state, market and other institutions.

Planning in India: Objectives and strategy of planning; Failures and achievements of Plans; Recent Plan –objectives, allocation and targets

#### MODULE-II: DEMOGRAPHIC FEATURES, RESOURCE BASE AND INFRASTRUCTURE

Broad demographic features of Indian population; Theory of demographic transition and its applicability in Indian context; Population Policy; Rural –urban migration; Poverty and inequality  
Resource Base in India: Physical Infrastructure-Energy, Transport, Communication; Social Infrastructure- Education and Health; Growth of the Service Sector

#### MODULE-III: AGRICULTURE, INDUSTRIAL AND EXTERNAL SECTOR OF INDIA

The Agricultural sector —Need for second Green revolution; Issues in food security and PDS; policies for sustainable agriculture.

Industrial sector:-scenario since Industrial policy of 1991; Public Sector enterprises and their performance; Privatization and disinvestment debate

Structure and direction of foreign trade; Latest foreign trade policy; foreign exchange management-FERA AND FEMA; Foreign capital and MNCs in India; Rationale for reforms and LPG policy; W.T.O. and its impact on Indian Economy.



#### **MODULE-IV: ODISHA ECONOMY AND ITS GROWTH AND DEVELOPMENT**

A macro glance of Odisha; Odisha Economy in relation to India and major states in recent decades: in terms of indicators on - per capita SDP, per capita consumption (rural and urban), income growth, human development; policies relating to social sector; natural resource base in Odisha; Agriculture and allied sector in Odisha and policies initiated by government, industrial development– Problems and Prospects; state of public finance in Odisha

#### **READING LIST**

1. Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), India's Economic Reforms and Development (Essays in honour of Manmohan Singh), Oxford University Press, New Delhi
2. Datt, R. (Ed.) (2001), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.
3. Datt, R. and K.P.M. Sundharam, "Indian Economy", S. Chand & Company Ltd., New Delhi
4. Economic survey (annual), planning and coordination department, directorate of economics and statistics, government of Odisha.
5. Government of India, Economic Survey (Annual), Economic Division, Ministry of Finance, New Delhi.
6. Kapila U, "Indian economy since independence", Academic foundation, New Delhi
7. Misra, S.K. and V.K. Puri, "Indian Economy — Its Development Experience", Himalaya Publishing House, Mumbai
8. Reserve bank of India Bulletin
9. Reserve Bank of India, Report on Currency and Finance, (Annual).
10. Sen, R.K. and B. Chatterjee (2001), Indian Economy: Agenda for 21st Century (Essays in honour of Prof. P.R. Brahmananda), Deep & Deep Publications, New Delhi

### **COURSE NAME: OPTIMIZATION TECHNIQUES**

#### **COURSE CODE: ECO 412**

**Nature of Course: Elective**

**Prerequisite: ECO 403**

#### **MODULE-I: STATIC OPTIMISATION**

Review of Classical Constrained, Unconstrained optimization: necessary conditions and sufficient conditions for optimization.

#### **MODULE-II: CONSTRAINED OPTIMIZATION**

Constrained optimization: Lagrangean function and multiplier, Comparative statics: maximum theorem, implicit function and its derivative, envelope theorem.

#### **MODULE-III: DYNAMIC OPTIMISATION AND CHOICE UNDER UNCERTAINTY**

Optimal Control Theory and Hamiltonian, Dynamic Programming Risk and portfolio analysis, Linear Models, matrix algebra and vector analysis.

#### **MODULE-IV: DIFFERENTIAL EQUATIONS AND STABILITY**

Differential Equations and its economic application, Stability Theory and its economic application, Phase Diagrams, Some Economic Application (SAE).



### READING LIST

1. Dixit (1976): Optimization in Economic Theory, OUP.
2. Beavis & Dobbs (1990): Optimization and Stability Theory for Economic Analysis, CUP.
3. Intrilligator (1971); Mathematical Optimization and Economic Theory, Prentice Hall.
4. Hadley (1960): Linear Algebra, Addison-Wesley, Massachusetts.
5. Chiang (1992): Dynamic Optimization, McGraw Hill Inc.
6. Kamien & Schwartz (1981): Dynamic Optimization, North Holland.

## **COURSE NAME: FINANCIAL INSTITUTIONS AND MARKETS**

### **COURSE CODE: ECO 413**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: FINANCIAL SYSTEM**

The structure of the financial systems-Functions of the financial sector. Financial System and Economic Development-Indicators of Financial Development. Risk and financial assets, return on assets, portfolio management, types of risk, risk - return trade off.

#### **MODULE-II: BANKING INSTITUTIONS & NBFIS**

Commercial Banks, Profitability and efficiency of Banks, Development Banks-Role and functions, Investment banking, Merchant banking, Definition and Types of NBFIs, Growth and impact of NBFIs, Mutual Funds; UTI and Other Mutual Funds; Insurance Companies, Provident Funds and Pension Funds. Co-operative Banks, Modern Banking in India.

#### **MODULE-III: REGULATORY AND PROMOTIONAL INSTITUTIONS**

The Reserve Bank of India; Roles and Functions, Monetary Policy of the RBI, Techniques of Monetary Control, Recent Policy Developments, Liquidity Adjustment Facility (LAF), The Securities and Exchange Board of India; Genesis, Organizations, Objectives and Functions, Performance of SEBI, IRDA and its role in financial markets, Financial Sector reforms in India.

#### **MODULE-IV: MONEY AND CAPITAL MARKETS**

Role and structure of money market and capital market – features of a developed money market, call money market. Treasury bill market, commercial bill market including commercial paper and certificate of deposits, discount market–Government securities market – markets for derivatives. Discount Market. Various types of bonds market. Primary and secondary market for securities. International financial market and foreign exchange market. Equity market, IPO. Understanding Stock markets and its functioning.

### READING LIST

1. Bhole, L.M. (1999), Financial Institutions and Markets; Tata McGraw Hill Company Ltd., New Delhi.
2. Bhol, L.M. (2000), Indian financial Systems, Chugh Publications, Allahabad.
3. Edminister, R.O.(1986), Financial Institutions, Markets and Managements, McGraw Hill, New York.
4. Goldmith, R.W.(1969), Financial Structure and Development, Yale, London.





5. Hanson, J.A. and S.Kathuria (Eds) (1999), India: A financial Sector for the Twenty-First Century, Oxford University Press, New Delhi.
6. Harker, P.T. and A. Tenias (2000) (Ed) Performance of Financial institutions, Cambridge University, Press, Cambridge.
7. Johnson, H.S. (1993), financial institutions and Markets, McGraw Hill, New Delhi.
8. Khan, M.Y. (1996), Indian Financial system, Tata McGraw Hill, New Delhi.
9. Machi Raju, M.R, (1999), Indian Financial Systems, Vikas Publishing, New Delhi.
10. Prasad, K.N. (2001), Development & India's Financial Systems, Sarup & Sons., New Delhi.

## **COURSE NAME: ECONOMICS OF LAW**

### **COURSE COD: ECO 414**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE -I: LAW RELATING TO CONSUMER ACTIVITIES**

Bargaining Theory; Economic Theory of contract, Remedies as incentives, Duress; Tort Law, Tort Liability and economic models; economics of accidents; fault, victim and strict liability; consumer protection and consumer Courts.

#### **MODULE-II: LAW OF BUSINESS ORGANISATIONS**

Structure of firm-Kinds, Corporation, Corporate vest, Capital, shares, debentures, insiders' trading; Anti Trust; RBI, IRDA, MRTP, SEBI, Economics of mergers, Amalgamations and takeovers.

#### **MODULE-III: ECONOMIC THEORY OF CRIME AND PUNISHMENT**

The traditional theory of Criminal law: Economic Theory of Crime and punishment; Reforms of Criminal Procedure and Futility Theses; Law relating to economic offences-Corruption and Human rights.

#### **MODULE-IV: MACRO ECONOMICS, INTERNATIONAL ASPECTS AND LAW**

Property rights, Distribution of income and Law; Economic and Social costs of poverty: Economics of Social Sector; Wealth Distribution by liability Rules, Progressive Taxation and Efficiency; National and Global Environmental problems. W.T.O-TRIPS and TRIMS, export-import Policy, MNCS and Foreign Direct investment; FEMA.

#### **READING LIST**

1. Bouckaert, B and G.DeGeest (Ed). (1999) Encyclopaedia of Law and Economics (Volume I to V) Edward Elagr Publishing Ltd., UK.
2. Cooter, R.D. and T.S. Ulen (Ed) (2000). Law and Economics (3rd Edition), Addison Wesley, New York.
3. Dan Schmidt, K.G. And T.S. Ulen (2000), Law and Economics, (3rd Edition) Addison Wesley, New York.
4. Newman, P. (Ed) (1998), The New palgrave dictionary of Economic and Law, Stockton PreYork.
5. Oliver J.M. (1979), Law and Economics, George Allen and Unwin, London.



6. Posner, R.A. (1998), Economic Analysis of Law (5th edition), Little Brown, Boston.
7. Posner, R.A. and F. Parist (Eds). (1997), Law and Economics, Edward
8. Elgar Publishing Ltd., UK. Masseyu, L.P. (1995), Administrative Law, Estern Book Company,
9. Lucknow Indian Law institute, Annual Survey of Indian Law, Indian Laqw institute, New Delhi.

## SEMESTER-III

### COURSE NAME: INTERNATIONAL TRADE

### COURSE CODE: ECO 501

**Nature of Course: Core**

**Prerequisite: None**

#### **MODULE-I: THE PURE THEORY OF INTERNATIONAL TRADE**

Introduction to the international economics; Trade based on absolute advantage, comparative advantage and opportunity costs; Factor endowment and Heckscher – Ohlin model, theorem of factor price equalization, Leontief paradox; Standard trade model; demand and supply, Offer curves. Trade as an engine to growth; Terms of trade and economic growth-secular deterioration of terms of trade hypothesis-a critical review

#### **MODULE-II: NEW THEORIES OF INTERNATIONAL TRADE AND DYNAMIC FACTORS**

New Theories: Economies of scale, Imperfect competition -trade based on product differentiation and intra-industry trade, dynamic technological differences-product cycle model.  
Economic growth and international trade: Growth of factors of production- Rybczynski theorem, Technical progress; Growth and trade-small country and large country; Immiserizing growth; changes in taste

#### **MODULE-III: THEORY OF INTERVENTIONS AND ECONOMIC INTEGRATION**

Theory of intervention- Free trade and protection; Trade restriction-Tariffs (Partial and general equilibrium analysis), Stolper-Samuelson theorem; optimum tariff; Non –tariff barriers: Quotas, Voluntary export restraints, international cartels, dumping, export subsidies.  
Free Trade Areas versus Customs Union, custom union-Trade Creation and Trade Diversion; Static and dynamic benefit from custom unions Trade policy and reforms in India

#### **MODULE-IV: TRADE POLICIES IN INDIA**

Trade policies and trade policies in India during the last five decades; recent changes in the direction and composition of trade and their implication; Rationale and impact of trade reforms since 1991 on balance of payments, employment and growth; Working and regulations of MNCs in India; Instruments of export promotion and recent import and export policies and agenda for future.



## READING LIST

1. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge, University Press Massachusetts
2. Carbough, R.J. (1999), International Economics, International Thompson Publishing, New York
3. Chacholiades, M (1990), The Pure Theory of International Trade, McGraw Hill.
4. Cherunilam F, International Economics, Fifth Edition, the Tata McGraw-Hill Companies, 2011
5. Dunn, R.M. and Mutti, J.H (2000), International Economics, Routledge Publishers, London
6. Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
7. King, P.G. (1995), International Economics and International Economic Policy : A Reader, McGraw Hill International, Singapore.
8. Paul, R. K & Obstfeld, M (1999), International Economics: Theory and Policy, Addison-Wesley
9. Salvatore D (1998), International Economics, Prentice Hall.
10. Sodersten, Bo (1991). International Economics, The Macmillan Press.

## **COURSE NAME: ECONOMICS OF GROWTH AND DEVELOPMENT** **COURSE CODE: ECO 502**

**Nature of Course: Core**

**Prerequisite: None**

### **MODULE-I: INTRODUCTION TO ECONOMIC GROWTH AND DEVELOPMENT**

Difference between economic growth and development, Factors affecting economic growth; capital, labour and technology, Measurement of development and development gap; GDP, Per capita income, Indicators of economic development: HDI, PQLI, A critical analysis of the most recent Human Development Report, Criticism of Human Development Index (HDI) as a measure of economic development. Sustainable Development; its indicators and obstacles.

### **MODULE-II: THEORIES OF ECONOMIC GROWTH**

Growth models; Harrod-Domar model; Neo-classical growth models- Solow model; Joan Robinson's growth model; Growth model of Kaldor; Golden Rule of Capital Accumulation, Endogenous Growth Model.

### **MODULE-III: THEORIES OF ECONOMIC DEVELOPMENT**

Classical theory of development-contributions of Adam Smith, Ricardo & Malthus; Karl Marx and development of capitalist economy-theory of social change, surplus value and profit; Schumpeter's theory of development; innovation, role of credit, profit and disintegration of capitalism. Big push theory of development.

### **MODULE-IV: SECTORAL ASPECTS OF DEVELOPMENT AND MACROECONOMIC POLICIES**

Role of agriculture in economic development; Globalization and agricultural growth; Rationale and pattern of industrialization in developing countries; Role of Industries in economic growth. The choice of technology; Infrastructure and its importance; Export-led growth; Balance of payments; Role of monetary and fiscal policies in developing countries; External resources-FDI & FII, aid vs. trade, technology inflow; MNC activity in developing countries.



## READING LIST

1. Meier, G. M. (1995), Leading Issues in Economics Development, (6<sup>th</sup> Edition), Oxford University Press, Delhi.
2. Todaro, M.P. (1996), (6<sup>th</sup> Edition), Economic Development, Longman, London.
3. Thirlwal, A.P. (1999), (6<sup>th</sup> Edition). Growth and Development, Macmillan, U.K.
4. Sen, A.K. (Ed.), (1990), Growth Economics, Penguin, Harmondsworth.
5. Myrdal, G. (1957), Economic Theory and Underdeveloped Regions, Duckworth, London.
6. Schumpeter, J. A. (1949), The Theory of Economic Development, Harvard University Press Cambridge.
7. United Nations (1994), Human Development Report, United Nations, New York.
8. Bhagwati, J. & P. Desai (1970), India Planning for Industrialization, Oxford University Press, London.
9. Chakravarti, S. (1987), Development Planning. The Indian Experience, Clarendon Press, Oxford.
10. Ray Debraj (1998), Development Economics, Princeton University Press.

## COURSE NAME: PUBLIC ECONOMICS

### COURSE CODE: ECO 503

**Nature of Course: Core**

**Prerequisite: None**

#### MODULE-I: INTRODUCTION AND ALLOCATION OF RESOURCES

Public finance vs. private finance, fiscal functions- allocation, distribution and stabilization role of government; public goods, - pure and partial public goods, private goods and merit goods, Market failure; imperfections, decreasing costs, externalities; fundamental principle of public finance – Maximum Social Advantage. Allocation of resources-provision of private and public goods; Voluntary exchange models; Impossibility of decentralized provision of public goods.

#### MODULE-II: TAXATION AND PUBLIC EXPENDITURE

Sources of public revenue, direct and indirect taxes, effects of tax on production, distribution and economic activities. Principle of taxation-Benefit theory, Ability to pay theory, Theory of optimal taxation and incidence of taxation, taxable capacity, features and trend of Indian tax system, problem of double taxation. Tax evasion and the black economy; Tax reforms in India.

Wagner's law of increasing state activity, Peacock-Wiseman Hypotheses, canons of public expenditure, effects of public expenditure on production, distribution and economic activities, public sector pricing policy, trends and pattern of public expenditure in India.

#### MODULE-III: PUBLIC DEBT

Sources of public borrowing, importance of public borrowing, effects of public debt, tax vs. debt, burden of public debt- classical vs. others, shifting of debt burden, intergenerational shifting, Public Borrowings and Price Level; Crowding Out of Private Investment, methods of debt redemption, trends and pattern of public debt in India. Issues in Debt Management in India.

#### MODULE-IV: BUDGETARY POLICY AND FISCAL FEDERALISM

Budgetary Policy: Balanced vs. unbalanced budget, budget as an instrument of economic policy, Objectives of fiscal policy, Interdependence of fiscal and monetary policies; budgetary deficits



and its implications; Fiscal policy for stabilization-automatic vs. discretionary stabilization; Zero based budgeting; salient features of the most recent union budget of India.

Fiscal Federalism: Fiscal federalism in India; Resource transfer from Union to States-Criteria for transfer of Resources; Centre-State financial relations in India; Finance Commission of India.

### READING LIST

1. Atkinson, A. B. and J. E. Siglitz (1980), Lectures on Public Economics, Tata McGraw Hill, N.Y.
2. Auerbach, A. J. and M. Feldstern (Eds.) (1985), Handbook of Public Economics, Vol. I, North Holland, Amsterdam.
3. Goode, R. (1986), Government Finance in Developing Countries, Tata McGraw Hill, New Delhi.
4. Houghton, J. M. (1970), The Public Finance Selected Readings, Penguin, Harmondsworth.
5. Hindriks, Jean and Gareth D. Myles, Intermediate Public Economics, Prentice Hall of India.
6. Herber, B. P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.
7. Jha, R. (1998), Modern Public Economics, Routledge, London.
8. Musgrave, R.A. (1959), The Theory of Public Finance, McGraw Hill, Kogakusha, Tokyo.
9. Musgrave, R. A. and P. B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.

## COURSE NAME: RESEARCH METHODOLOGY

### COURSE CODE: ECO 504

**Nature of Course: Core**

**Prerequisite: None**

#### MODULE-I: RESEARCHER'S APPROACHES

Meaning and objectives of research, types of research, need and significance of research, research methods vs research methodology. Formulation of a Research problem, meaning and need of research design, features of a good design-different research designs for exploratory, descriptive, diagnostic and experimental research. Review of literature. Method of writing a research proposal.

#### MODULE-II: COLLECTION OF DATA

Primary and secondary data, Methods of collection of Primary Data; Pilot Survey, Personal Investigation, Indirect oral investigation, Information received through local agents and correspondents, mailed questionnaire - secondary data Sources, Limitations of Secondary Data, precautions in the use of Secondary Data. Coverage of secondary data available from Census, NSSO, CSO, NFHS, RBI, Planning Commission and other sources. Field survey methodology; questionnaire design, difference between questionnaires and schedules, sampling design-sample size and its determination, collection of sensitive information. Case study method.

#### MODULE-III: PROCESSING AND ANALYSIS OF DATA & TESTING OF HYPOTHESIS

Editing, coding, classification, objects, rules, tabulation, preparation of a statistical table, requisites of a good table. Types of Tables, Format of a simple one way table, three way table. Analysis of qualitative data. Multiple Regression and Correlation Analysis. Research questions and



hypothesis, definition of Hypothesis, characteristics, sources of Hypothesis, Importance of hypothesis, problems in formulating Hypothesis, statistical Hypothesis - simple and composite, Null Hypothesis, prerequisites for testing of Hypothesis, testing of Hypothesis, Goodness of fit, Types of errors in testing of Hypothesis, level of significance.

#### **MODULE-IV: REPORT WRITING**

Reporting requirements and mechanics of dissertation writing, significance of report writing, and different steps in writing report. Foot note and end note. Rules for bibliography and references writing-APA & MLA method. Roles of Computer in Research and Reporting. Steps for writing dissertation. Method of writing an article for a national seminar/publication in a journal.

#### **READING LIST**

1. Anderson, Thesis and Assignment writing.
2. Cohen, M.R. and Nagal Introduction to Logic and Scientific methods Book-II.
3. Robbin, L. The Nature and Significance of Economic Science.
4. Kothari, C.R. Research Methodology.
5. Bernard, H. R. (2010), Analysis of Qualitative Data, Sage, UK.
6. Bhaumik, S.K (2007), 'Methodological Issues in Field Surveys' in K K Bagchi (ed.).
7. Research Methodology in Social Sciences: A practical Guide, Abhijit Publications, Delhi.
8. Bryman, Alan (2004), Social Research Methods , Oxford University Press, Oxford, 2<sup>nd</sup> edition.
9. Somekh, B and C Lewin (2005), Research Methods in Soc. Sciences, Vistaar Publications, Delhi.
10. Fink, Arlene & J kosecoff (1998), How to Conduct Surveys A step by step Guide, Sage, UK.

### **COURSE NAME: INDUSTRIAL ECONOMICS**

#### **COURSE CODE: ECO 505**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: ORGANIZATIONAL FORM AND STRUCTURE AND PRODUCTIVITY**

Organisational forms-Types and choice of form of organization; Business motives-Alternatives types of motives/goals, Evaluation of goals.

Market structure: Seller's Concentration; Product Differentiation; Profitability; Innovation  
Industrial Productivity- Measurement; Partial and total trends.

#### **MODULE-II: MARKET CONDUCT AND EFFICIENCY**

Market conduct- Theories of Product pricing; Investment expenditure-methods of investment expenditure; Theories and empirical evidence on Merger and Acquisition (M&As) and Diversification.

Economic efficiency- Meaning; factors determining efficiency and firm size; limits and obstacles to the size of firm-a synthesis on the size of firm, efficiency and decision making process.

#### **MODULE -III: THEORIES OF INDUSTRIAL LOCATION AND PATTERN**

General determinants of industrial location; Approaches to industrial location analysis: - Alfred Weber's theory; Sergeant Florence's theory of industrial location, Market area theory, Central



place theory of Losch; Industrial imbalances-causes and remedies; Need for balanced regional development of industries; Government policy and approach for the development of backward regions in India.

#### **MODULE-IV: INDIAN INDUSTRIAL GROWTH, LABOUR AND FINANCE**

Industrial policy in India- Role of Public and private sectors; recent trends in Indian industrial growth; policies and program for the development of small scale industries in India.

Industrial labour- Problems, policies and reforms in India; Industrial legislation and social security measures in India.

Sources of finance- choice of funding-external versus internal sources, Institutional finance with special reference to IFCI, ICICI, IDBI; Financial Statement-Balance Sheet; Profit and loss account; Assessment of financial soundness

#### **READING LIST**

1. Desai, B (1999), Industrial economy of India, Himalaya Publishing House, Mumbai.
2. Cherunilam, F. (1994), Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai.
3. Hay, D A and Morris D J (1979), Industrial Economics: Theory and Evidence, Oxford University Press, New Delhi.
4. Divine, P.J. and R.M. Jones et. al. (1976), An Introduction to Industrial Economics, George Allen and Unwin Ltd., London.
5. Government of India, Economic Survey (Annual).
6. Sivaya, K V and Das, V B M (latest edition), Indian industrial economy, Sultan Chand.
7. Mishra and Puri (latest edition), Indian economy, Himalaya publisher
8. Barthwal, R. R (1985), Industrial Economics, Wiley Eastern limited, New Delhi.
9. Seth R, Industrial Economics, Ane Books Pvt Ltd.
10. Singh, A and A.N. Sandhu (1988), Industrial Economics, Himalaya Publishing House, Mumbai.

### **COURSE NAME: MATHEMATICAL ECONOMICS**

#### **COURSE CODE: ECO 506**

**Nature of Course: Elective**

**Prerequisite: ECO 403**

#### **MODULE-I DIFFERENTIAL CALCULUS**

Principles of differentiation; rules of differentiation; differentiation of implicit functions; Partial and total differentiation; Unconstrained maxima and minima with more than one explanatory variable. Lagrange's multiplier method, application to consumer's equilibrium in commodity market and producer's equilibrium in factor market

#### **MODULE-II: INTEGRAL CALCULUS**

Dynamics and integration; Principles of integration; Indefinite and definite integrals; Application of integrals in economics Consumer surplus and producer surplus; Domar Growth Model.



### **MODULE-III: DIFFERENTIAL EQUATION AND DIFFERENCE EQUATION**

Concepts, Solutions of first and second order linear and non-linear differential equations-homogeneous and non-homogeneous cases; Applications of differential equations applied to market equilibrium.

### **MODULE-IV: INPUT-OUTPUT ANALYSIS AND GAME THEORY**

Static and dynamic Input-Output Analysis, Open and closed models

Concept of game, pay-off matrix, pure and mixed strategies, Two person Zero-sum game- saddle point solution, Non-constant-sum game, Cooperative and non-cooperative games, Nash equilibrium.

### **READING LIST**

1. Chiang, Alpha C. (2005) Fundamental Methods of Mathematical Economics, 4th edition, McGraw-Hill.
2. Allen, R. G. D. (1959) Mathematical Economics, Second edition, Macmillan.
3. Allen, R.G.D. (1967) Macro-Economic Theory: A Mathematical Treatment.
4. Chiang, Alpha C. (1999) Elements of Dynamic Optimization. Long Grove, IL Waveland Press.
5. Yamane, Taro (1985) Mathematics for Economists, Second edition, Prentice Hall.
6. Simon C and L. Blume, Mathematics for Economists, Viva books, 2009.
7. Dorfman, Samuelson and Solow, Linear programming and Economic Analysis, Dover, 1958.
8. Dimitri Bertsekas, Non-Linear Programming, Atlanta Scientific, 2000.
9. Ravindran, A., D.T. Phillips and J.J. Solberg, Operations Research Principles and Practice. 1987, 2/e, John Wiley and Sons.
10. Taha, H.A., Operations Research: An Introduction, 1976. 4/e, Macmillan Pub. Co.

## **COURSE NAME: ECONOMICS OF INFORMATION AND TECHNOLOGY**

### **COURSE CODE: ECO 507**

**Nature of Course: Elective**

**Prerequisite: None**

### **MODULE-I**

Definition of information-industry Value Chain Knowledge Economy-information of Economy-information Economy. Nature and Scope of information Technology-Variety Sources of information.

### **MODULE-II**

The Role of Mass Media, The Tele Communications industry-Origins, The Computer industry – Origins of hardware and software. The Broadcast industry, Cable and Satellite Television. Theory of public good, information as a public good, Role of Government in information and the Media-Broadcast and Cable Television, Telecommunications.

### **MODULE-III**

Information Technology-Labour and Employment-Globalization; Effect on Productivity-Contingent labour-part time employment – impact on Older persons, Gender Issues-Human Resource Development.





#### **MODULE-IV**

Information Technology and the Media in the Global Economy-Global information infrastructure – Relationship between Trade and infrastructure-The General agreement on Trade and Services – WTO basic Telecommunication agreement – WTO information Technology agreement-Trade related intellectual property rights. Issues in Media and information Economics – Gap between developed and developing Nations-Piracy-The legal and regulatory environment –The role of the government-information.

#### **READING LIST**

1. Linda Low, Economics of Information Technology and the Media, World Scientific Singapore University Press, National University of Singapore, Singapore, 2000.
2. Hal R. Varian, Joseph Farrell, & Carl Shapiro: The Economics of Information Technology: An Introduction, Cambridge University Press.
3. David Ulph and Nir Vulkan. Electronic commerce and competitive firstdegree price discrimination. Technical report, University College, London, 2000.
4. Erik Brynjolfsson and Lorin M. Hitt. Beyond computation: Information technology, organizational transformation and business performance. Journal of Economic Perspectives, 14(4):23–48, 2000.
5. Thomas N. Hubbard. The demand for monitoring technologies. Quarterly Journal of Economics, pages 533–560, May 2000.

## **SEMESTER-IV**

**COURSE NAME: DISSERTATION**

**COURSE CODE: ECO 508**

**Nature of Course: Core**

**Prerequisite: None**

#### **OBJECTIVES**

Students who complete their post-graduation in Economics are mentally equipped to pursue research in the same discipline. It is generally accepted that research is nothing but extension and application of knowledge in a certain specialized field. Therefore regular students who do their post-graduation will be given an opportunity to get exposed to a few elements of social research and also they are expected to complete a research project/dissertation under the expert guidance and supervision, Elementary knowledge of research methodology shall consolidate and deepen their understanding of various branches of Economics. Preparing a dissertation is intended to train them in scientific thinking and art of systematic presentation. It is essentially a job-oriented exercise to enable them to take up the exciting field of social and economic research.

#### **DISSERTATION: STRUCTURE AND EVALUATION**

- a) Students shall submit a dissertation of maximum 25,000 words in three copies to the Head of the Department on or before 15<sup>th</sup> April of the concerned academic year (4<sup>th</sup> Semester).



- b) The dissertation shall be prepared under the guidance of an internal post graduate recognized faculty, and the supervisors/guides will be allotted to students by the Head of the Department with a proper procedure.
- c) The supervisors shall be allotted to the students in the beginning of the concerned academic year (3<sup>rd</sup> Semester) in order to provide sufficient time for a qualitative dissertation work.
- d) Evaluation of the dissertation and presentation & viva voce shall have equal weightages.
- e) The dissertation (writing part) shall carry 50 marks out of which the internal and external examiners shall carry equal weightages. Assessment of each dissertation (writing part) out of 50 marks is based on the methodology, analysis, contents, report writing and quality of the research work.
- f) A presentation and viva voce of each candidate shall be held where he/she will have to make a presentation of the dissertation and defend his/her research work. The viva voce shall carry 50 marks out of which the internal and external examiners shall carry equal weightages.

**COURSE NAME: HISTORY OF MODERN ECONOMIC ANALYSIS**  
**COURSE CODE: ECO 509**

**Nature of Course: Core**

**Prerequisite: None**

**MODULE-I: MARGINALIST AND NEO-CLASSICAL THOUGHT**

Marginalist revolutions--W.Jevons Walras, De-homogenizing marginalism, Marshallian synthesis, Welfare economics of A.C. Pigou. Schumpeter; role of Entrepreneur and innovations.

**MODULE-II: CLASSICAL POLITICAL ECONOMY**

Adam Smith and his economic theory, Ricardo's contribution to classical economic thought, Ricardo-Malthus glut controversy, Classical Stationary State with special reference to Mill's views, A general Overview of Classical Economic Thought, Karl Marx - Organic Composition of Capital. Break Down of Capitalism, Marxian Theories of Value, Surplus Value, Profit and Crisis of Capitalism. Essential Differences between Classical Economics and Marxian Economics.

**MODULE-III: KEYNESIAN'S THOUGHT**

The aggregate economy, Liquidity Preference Theory and Liquidity trap, Marginal Efficiency of Capital and Marginal Efficiency of Investment, wage rigidities, underemployment equilibrium, role of fiscal policy, deficit spending and public works, multiplier principle, cyclical behaviour of the economy, uncertainty and role of expectations.

**MODULE-IV: INDIAN ECONOMIC THOUGHT**

Main themes of Kautilya's Arthasashtra; Economic Ideas; Dada Bhai Naoroji, Ranade, Gokhale; M.K. Gandhi, Bhimrao Ambedkar, Deendayal Upadhyay and J K Mehta. A synthesis of economic thought, Comparison of Indian economic thought with western economic thought.

**READING LIST**

1. Blackhouse, R. (1985), A History of Modern Economic Analysis, Basil Blackwell, Oxford.
2. Ganguli, B.N. (1977), Indian Economic Thought: A 19th Century Perspective, Tata McGraw



Hill, New Delhi.

3. Grey, A. and A.E. Thomson (1980), The Development of Economic Doctrine, (2nd Edition), Longman Group, London.
4. Kautilya (1992), The Arthashastra, Edited, Rearranged, Translated and Introduced by L.N. Rangarajan, Penguin Books, New Delhi.
5. Schumpeter, J.A. (1954), History of Economic Analysis, Oxford University Press, New York.
6. Seshadri, G.B. (1997), Economic Doctrines, B.R. Publishing Corporation, Delhi.
7. Blaug, M. (1997), Economic Theory in Retrospect: A History of Economic Thought from Adam Smith to J.M. Keynes, (5th Edition), Cambridge University Press, Cambridge.
9. Dasgupta, A.K. (1985), Epochs of Economic Theory, Oxford University Press, New Delhi.
10. Hunt E.K. and Mark, Lautzenheier (2011): History of Economic Thought, PHI Learning.

## **COURSE NAME: INTERNATIONAL FINANCE**

### **COURSE CODE: ECO 510**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: BALANCE OF PAYMENTS**

Meaning and Components of balance of payments; Measurement of Balance of Payments, Surpluses and Deficits; General Theory of Balance of Payments-the types and causes for disequilibrium; The process of adjustment under Gold Standard, Fixed exchange rates and flexible exchange rates, devaluation; Expenditure-reducing and Expenditure-switching policies and direct control for adjustment.

#### **MODULE-II: FOREIGN EXCHANGE MARKET**

Theories of exchange rate determination; Purchasing Power Parity theory, Monetary and Portfolio balance approaches; Equilibrium exchange rates; Stability in the exchange market and market intervention policy. Exchange rates volatility; reasons and consequences.

#### **MODULE-III: INTERNATIONAL CAPITAL MOVEMENTS**

International Capital movements; The transfer problem-The Euro currency market-International Development Agencies; Theory of Short term capital movements and East Asian crisis and lessons for developing countries. FDIs and FIIs roles in international capital mobility. Currency crises, Foreign exchange reserve in India.

#### **MODULE-IV: INTERNATIONAL MONETARY SYSTEM**

Rise and fall of gold standard and Bretton-Woods system; Need, adequacy and determinants of International reserves; Conditionality clause of IMF; Role of International Finance agencies (IMF, World and ADB) in solving International liquidity problem; Reforms in International Monetary System, Emerging International monetary system with special reference to post Maastricht development and developing countries.



## READING LIST

1. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge, University Press, Massachusetts.
2. Carbough, R.J. (1999), International Economics, International Thompson Publishing, New York.
3. Chacholiadas, M. (1990), International Trade: Theory and Policy, McGraw Hill, Kogkusha, Japan.
4. Dana, M.S. (2000), International Economics: Study Guide and Work Book (5th Edition) Toutledge Publishers, London,
5. Kenen, P.B. (1994), The International economy, Cambridge University Pres, London.  
Kindleberger, C.P. (1973), International economics, R.D.Irwin, Homewoor.
6. Kind, P.G. (1995), International Economics and International Economic Policy: A Reader, McGraw Hill International, Singapore.
7. Krugman, P.R and M.Obstfeld (1994), International Economics: Theory and Policy, Glenview, Foresman.
8. Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle River, N.J. New York.
9. Soderston, BN.O (1991), International Economics, the Macmillan Press Ltd., London.
10. Tirole, Jean (2002), Financial Crises, Liquidity and the International Monetary System, New Jersey: Princeton University Press.

## COURSE NAME: ADVANCE ECONOMETRICS

### COURSE CODE: ECO 511

**Nature of Course: Elective**

**Prerequisite: ECO 410**

#### **MODULE-I: INTRODUCTION AND DUMMY VARIABLE REGRESSION MODEL**

Introduction, dummy variable technique – testing structural stability of regression models comparing to regression, interaction effects, seasonal analysis, use of dummy variables

#### **MODULE-II: AUTOREGRESSION MODEL**

Autoregressive and distributed lag models –Koyak model, Partial adjustment model, Adaptive expectations, Instrumental variables

#### **MODULE-III: TIME SERIES AND PANEL DATA ANALYSIS**

Time Series – ARMA, ARIMA – Diagnostic Test – Casualty Test, Co integration Test – Correcting Mechanism, panel data analysis.

#### **MODULE-IV: MULTIVARIATE ANALYSIS**

Multivariate Analysis, Ridge Regression, Solution to Multi-colinearity, Lag Models, Koyacks Distributed Lag Models, Other Transformation Specification Errors – RESET (Regression, Specification Error Test) – Box-Cox Test.



## READING LIST

1. Gujarati, Damodar N., Basic Econometrics, 4th Edition, TATA McGraw Hill Publishing, 2004.
2. Wooldridge, Jeffrey M., Introductory Econometrics A Modern Approach, Third edition, Thomson South-Western, 2007.
3. Johnstone, J., Econometrics Methods, 3<sup>rd</sup> Edition, McGraw Hill, New York, 1994.
4. Ramanathan, Ramu, Introductory Econometrics with Applications, Harcourt Academic Press, 2002 (IGM Library Call No. 330.0182 R14I).
5. Koutsoyiannis, A. The Theory of Econometrics, 2<sup>nd</sup> Edition, ESLB, 1977.
6. Greene, W.H., Econometric Analysis, 4<sup>th</sup> edition, Prantice Hall, 2000.
7. Intriligator, M.D. Econometric models, Techniques and Applications, 1978, North Holland (330.0182/I8E).
8. Pindyck, Robert S. and Daniel L. Rubinfeld, Econometric Models and Economic Forecasts, 1976, International Student edition, McGraw-Hill (330.0182/P65E).
9. Maddala, G.S., Limited Dependent and Qualitative Variables in Econometrics, Cambridge University Press.
10. Asteriou Dimitriou,(2006), Applied Econometrics, Palgrave Macmillan, New York.

## COURSE NAME: FINANCIAL ECONOMICS

### COURSE CODE: ECO 512

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: EXPECTED UTILITY THEORY AND CHOICE UNDER UNCERTAINTY.**

The Economic properties of utility functions – concept & measures to model attitudes towards risk –Expected utility maximization – Risk aversion – Motivation – First order stochastic dominance – Second order stochastic dominance - stochastic dominance Vs dominance.

#### **MODULE-II: RISK, ASSET PRICING MODELS AND TERM STRUCTURE OF INTEREST RATE**

Trade- off between risk and return (the Markowitz model) – Efficient frontier of risky assets Value at risk of a portfolio – computing VAR – Definition of VAR - Security market line – standard and Zero Beta CAPM – Empirical evidence on CAPM – Deriving APT- Measuring performance using APT - Drawing the term structure – Methods of computing the yield to maturity – Market Expectations theory of the term structure – yield curve analysis – Liquidity preference theory of the term structure – Market segmentations theory of the term structure – Estimating the expected return of a bond for portfolio analysis.

#### **MODULE-III:- MODELS OF SECURITIES PRICES IN FINANCIAL MARKETS**

Single period models – Asset dynamics – Portfolio and Wealth process – Multi-period models – General model specifications – Cox-Ross Rubinstein Binomial model – Continuous time models – Simple facts about the Merton Black-Scholes model – Brownian Motion process – Diffusion process– Stochastic Integrals – it's rule.

#### **MODULE-IV: EFFICIENCY & VOLATILITY IN FINANCIAL MARKETS AND OPTION-FEATURES & PRICE BOUNDS**

Three forms of EMH and their implications for financial markets – Random walk – Martingales - Causes of Volatility – volatility testing.



Basic taxonomy of option analysis – Payoff structure of an option – Price Bounds for Options  
Risk Neutral pricing – basic notions of Binomial – Multinomial – Black-Scholes Pricing – What  
the hedge ratio ('Delta') – Gamma – Vega Theta – Rho means.

### READING LIST

1. David A. Duffie and Thomas W. Miller (2003), Derivatives: Valuation and Risk Management, OUP.
2. J. Cvitanic and Zapatero F (2004), Introduction to Economics and Mathematics of Financial Markets, MIT Press, Cambridge, London.
3. E. J. Elton and M.J. Gruber (1995), Modern Portfolio Theory and Investment Analysis, Wiley, London.
4. Z. Bodie, A. Kane and A.J. Marcus (2004), Investments, Irwin McGraw – Hill, London.
5. Prasanna Chandra, Financial Management, Theory and Practice, Tata McGraw Hill, New Delhi.
6. Harker P. T. and S. A. Zenios (2000) (Eds) Performance of Financial Institutions, Cambridge University Press, Cambridge.
7. Johnson , H. J. (1993) Financial Institutions and Markets, McGraw Hill, New York.
8. Khan M. Y. (1996) Indian Financial System Tata McGraw Hill, New Delhi.
9. Prasad, K. N. (2001), Development of India's Financial System, Sarup & Sons, New Delhi.
10. Harker, P.T. and S.A. Zenias (2000) (Ed.), Performance of Financial Institutions, Cambridge University Press, Cambridge.

## COURSE NAME: ECONOMICS OF INSURANCE

### COURSE CODE: ECO 513

**Nature of Course: Elective**

**Prerequisite: None**

#### MODULE-I: INTRODUCTION

Economic Security; Human quest for economic security through time, exposure to losses; Role of insurance; Definition of insurance. Risk pooling and risk transfer; Economic and legal perspectives; Social Vs Private insurance; Life Vs Non-life insurance; Classification of life, Health and General Insurance policies.

#### MODULE-II: RISK AND RISK MANAGEMENT

Fundamentals of uncertainty and risk; Pure risk and speculative risk; Expected utility and decision making under uncertainty; Expected utility and the demand for insurance; Moral hazards and insurance demand; Concept of risk management; Essentials of risk management; Elements of risk management, Risk assessment; Risk control and risk financing.

#### MODULE-III: INSURANCE AND ECONOMIC DEVELOPMENT

Risk management and insurance in economic development, Insurance institutions as financial intermediaries, Insurance institutions as investment institutions, insurance institutions in Indian capital market. World Wide risk sharing - Concept of reinsurance, Fundamentals of reinsurance, Types of reinsurance; Reinsurance distribution systems; Reinsurance markets in Developing countries.



#### **MODULE-IV: TYPES OF INSURANCE AND INSURANCE REGULATION**

Fundamentals of Life; Health and General Insurance; Functions and importance of Life, Health and General Insurance; Mathematical basis of life insurance; Plans and legal aspects of life insurance; Provisions of policies, Selection and classification of risks; Types of evaluation. Theories of regulation, insurance regulation in India; Insurance Regulation and Development Authority. (IRDA).

#### **READING LIST**

1. Bailey R (Ed) (1999), Underwriting in Life and Insurance, LOMA, Atlanta, Ga.
2. Bhole, L.M. (1990) The Indian Financial System, Tata McGraw Hill, New Delhi.
3. Bickelhaupt, D.L. (1992), General Insurance, Irwin. Inc. Burr Ridge.
4. Black K.Jr. and H.D. Skipper Jr(2000), Life and Health Insurance, Prentice Hall, Upper Saddle River, New Jersey
5. Finsinger, J, and MV. Pauly (Eds). (1986), The Economic of Insurance Regulation: A Cross National Study, Macmillan, London.
6. Graver E.E and L.N.Hayes (Eds). (1994) Mc. Grill's Life insurance. The American College, Bryn Mawr Pa.
7. Hedad, G.L. and S. Horn II (1991), Essentials of Risk Management, Vol.1 Insurance Institute of America, Malvern, Pa.
8. Skipper, Jr.H.D. (Ed) (1988). International Risk and Insurance: An Environmental Managerial Approach, Irwin Mc.Graw Hill, Boston.
9. Tacchino, K.B. and D.A. Little (1993), Planning for Retirement Needs, The American College, Bryn Mawr, PA.

### **COURSE NAME: AGRICULTURAL ECONOMICS**

### **COURSE CODE: ECO 514**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: AGRICULTURE, ECONOMIC DEVELOPMENT AND PRODUCTION**

Nature and scope of agricultural economics; Role of agriculture in economic development; Interdependence between agriculture and industry; Approaches of Schultz, Mellor and Boserup Agricultural production — Resource use and efficiency; Cost and supply curves; Size of farm and productivity debate; Supply response in agriculture.

#### **MODULE-II: AGRICULTURAL MARKETING AND PRICES**

Agricultural markets and marketing efficiency — Marketing functions and costs; Market efficiency; Market structure and imperfections; Marketed and marketable Surplus; policy with respect to agricultural marketing; Regulated markets; Contract farming.  
Objectives of agricultural price policy — Instruments and evaluation; Terms of trade between agricultural and non-agricultural prices; Risk and uncertainty in agriculture; Agricultural insurance scheme-National Agricultural Insurance Scheme and Weather Based Crop Insurance Scheme.



### **MODULE-III: INSTITUTIONAL ASPECT AND INVESTMENT IN AGRICULTURE**

Land tenures and farming systems — Peasant, capitalist, collective and state farming; Tenancy and crop sharing — Forms, incidence and effects; Land reform measures and performance; Women and land reforms. Sustainable agriculture and indigenous practice.

Role of Public investment and capital formation in Indian agriculture; Public and private investment complementarily debate in Indian agriculture.

### **MODULE-IV: AGRICULTURE GROWTH IN INDIA AND EXTERNAL SECTOR**

Recent trends in agricultural growth and productivity in India; Regional disparities in Indian agriculture, cropping pattern shifts; pricing of inputs and role of subsidies; Bio-technological practices and growth potential.

International trade in agricultural commodities; Nature and features of agri-business; Role of MNCs; Globalization of Indian economy and problems and prospects of Indian agriculture; Impact of World Trade Organization on Indian agriculture.

### **READING LIST**

1. Bhaduri, A. (1984), the Economic Structure of Backward Agriculture, Macmillan, Delhi
2. Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
3. Drummond, H. E and Goodwin, J W (2004), Agricultural Economics, Pearson Delhi
4. Frank, E (1988), Peasant Economics, Cambridge University Press
5. Government of India, Economic Survey (Annual), New Delhi
6. Heady, E. O and Dillon, J.L (1960), Agricultural Production Functions, Kalyani Publisher
7. Lekhi, R.K. and Singh, J (latest edition), Agricultural Economics: An Indian Perspective, Kalyani Publisher
8. Rudra, A. (1982), Indian Agricultural Economics: Myths and Reality, Allied Publishers, Delhi.
9. Soni, R.N (latest edition), Leading Issues in Agricultural Economics, Vishal Publishing.

## **COURSE NAME: REGIONAL ECONOMICS**

### **COURSE CODE: ECO 515**

**Nature of Course: Elective**

**Prerequisite: None**

### **MODULE-I: REGIONAL ECONOMIC PROBLEMS**

Objectives and scope of regional economic analysis; Inter-disciplinary aspects of regional economics; Concept of a region, its definition, types and description; economic behaviour related to space; Composition and structure of regional activities; The regional economic problems – Causes.

### **MODULE-II: THEORIES OF REGIONAL ECONOMIC DEVELOPMENT**

Theories of regional economic development: Cumulative causation (Perroux, Myrdal, Hirschman) – Export base theory - Central place theory (Christaller), Sector theory (Colin- Kuznets) - Stage theory (Rostow).

### **MODULE-III: THEORY OF LOCATION AND REGIONAL DISPARITIES**

Theory of location – Weber's theory of location – Spatial dispersion of progress – Dispersion of innovation and technical progress – Sectoral growth centres – Area – Urban bias





Regional disparities – Trends in regional income disparities – Inter-state variations of poverty and unemployment – Comparative analysis of industrial development in different states – Agricultural development in different stages

#### **MODULE-IV: REGIONAL IMBALANCES IN INDIA**

Regional imbalances – Regional economic advantages and regional optimization and financial institution in India – Inter-state disparity and fiscal devaluation in India – Problems of developing the backward area – Regional planning in India during the plan period – Area approach - Integrated overall development – Regional planning in rural India under various plan period.

#### **READING LIST**

1. Beckman, M.J (1968), Location theory, Randem House, New York.
2. Brahmananda, P.R. and Panchmukhi, (2001), Development Experience in the Indian Economy, Bookwell, New Delhi.
3. Dean, R.D et. al. (eds.) (1970), Special Economic Theory, Free Press, New York.
4. Losch (1970), The Economics of Location, Yale University Press, New Haven
5. Misra, R.P (1974), Regional Development Planning in India, Vikas, New Delhi
6. Myrdal, G (1968), Economic theory and Underdeveloped Regions, Vora, New Delhi
7. Richardson (1960), Elements of Regional Economics, Penguin Books, London.
8. Shrivastave, Q.S (1992), Regional Economics, Anmol Publications, New Delhi.
9. Tinbergen, J. (1969). The Elements of Space in Development Planning, North Holland , Amesterdan
10. Walter, I (1968), Methods of Regional Analysis, MIT Press, Cambridge

### **COURSE NAME: OPERATIONAL RESEARCH**

#### **COURSE CODE: ECO 516**

**Nature of Course: Elective**

**Prerequisite: ECO 403**

#### **MODULE-I: INTRODUCTION**

Introduction to Operations Research. , General description of Operations Research, Review of mathematics and statistics and basic probability

#### **MODULE-II: LINEAR PROGRAMMING**

Formulation of Linear Programming Problems. Graphical Solution and the Simplex Algorithm. Duality and sensitivity analysis.

#### **MODULE-III: INTEGER PROGRAMMING**

Transportation and Assignment Problems. Integer and Goal Programming. a. Formulation of Integer Programming Problems. b. Branch and Bound Technique

#### **MODULE-IV: NON-LINEAR PROGRAMMING AND MARKOV CHAINS**

Stochastic processes - States, Markov Chains - Transition matrices - Types of chains - Steady-state probabilities, Kuhn-Tucker conditions, the constraint Qualification, Duality in nonlinear programming – Integer programming – Algorithms for integer programming



## READING LIST

1. Chiang, Alpha C. (2005) Fundamental Methods of Mathematical Economics, 4th edition, McGraw-Hill.
2. Allen, R. G. D. (1959) Mathematical Economics, Second edition, Macmillan.
3. Allen, R.G.D. (1967) Macro-Economic Theory A Mathematical Treatment.
4. Chiang, Alpha C. (1999) Elements of Dynamic Optimization. Long Grove, IL Waveland Press.
5. Yamane, Taro (1985) Mathematics for Economists, Second edition, Prentice Hall.
6. Simon C and L. Blume , Mathematics for Economists, Viva books, 2009.
7. Dorfman, samuelson and Solow, Linear programming and Economic Analysis, Dover, 1958.
8. Dimitri Bertsekas, Non-Linear Programming, Atlanta Scientific, 2000.
9. Ravindran, A., D.T. Phillips and J.J. Solberg, Operations Research Principles and Practice. 1987, 2/e, John Wiley and Sons.
10. Taha, H.A., Operations Research An Introduction, 1976. 4/e, Macmillan Pub. Co.

## COURSE NAME: HEALTH ECONOMICS

### COURSE CODE: ECO 517

**Nature of Course: Elective**

**Prerequisite: None**

#### MODULE-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 determinants of health-poverty , malnutrition; Economic dimensions of health care- Demand and supply of health care.

#### MODULE-II: FINANCING OF HEALTH SERVICE

Theory and practice – Review of per capita and public expenditure on health services over time and in different parts of the country – An analysis of the sources of public funds for health – The need for a general health insurance, pre-payments scheme, savings-linked insurance system etc. – Financing health services through specific (health cess) and general (direct and indirect taxes) local government revenues – The role of government financing institutions in financing health.

#### MODULE-III: EVALUATION OF BENEFITS AND COSTS OF HEALTH SERVICES

Private benefits and private costs of providing health services, The failure of the market to provide essential health services, The provision of health services by the government – The application of benefit cost analysis to public health and family planning projects – The role of health in economic development, Benefits and costs (both private and social) of training professional manpower such as physicians, dentists, pharmacists and nurses. A review of the Indian National Health Policy and a discussion of other feasible alternatives.

#### MODULE-IV: INDIAN HEALTH SECTOR ISSUES

Growth in expenditure of personal health services – Characteristics of health services – healthcare problems, public's and economist's views – Analysis of demand for health services and supply of it– Rising healthcare costs, Factors affecting health – Nutritional status – Changes in morbidity pattern and trends immortality rates – Development policies, health strategy and role of non-health



system – Socio-economic determinants of health status – Health foals, strategies and inter-sectoral action, Implementation of inter-sectoral programme for health – Institutional.

### READING LIST

1. Galenson W and W Pyatt, Quality of Labour and Economic Development in Certain Countries, International Labour Organisation, Geneva, 1964.
2. Pearce D and P Dasgupta, Social Benefit Cost Analysis, Macmilan, London, 1982.
3. Weisbroad B. A., Economics of Public Health, University of Pennsylvania Press, Pennsylvania, 1961.
4. Weisman J. Cost Benefit Analysis and Health Service Policy, Scottish Journal of Political Economy, Vol. 20, No. 1, February 1962..
5. Krishnakumar T and Rao K.N., Financing of Health Services in India: Perspectives and Issues, Department of Economics, University of Hyderabad (Mimeographed), September 1987.
6. Jimenz E., Pricing Policy in the Social Sectors, the Johns Hopkins University Press, New York, 1987.
7. Klarman H.E. the Economics of Health, Columbia University Press, Columbia, 1965.
8. Panchamukhi P.E. Economics of Health: A Trend Report, in ICSSR, A Survey of Research in Economics, Vol. VI, Infrastructure, Allied Publishers, Delhi.

### COURSE NAME: COMPUTER APPLICATION IN ECONOMIC ANALYSIS

#### COURSE CODE: ECO 518

Nature of Course: Elective

Prerequisite: ECO 410

#### MODULE-I: INTRODUCTION TO COMPUTER AND OPERATING SYSTEMS AND USE OF COMPUTER FOR OFFICE AUTOMATION

Computer Organisation; CPU; Types of Memory; Input and Output devices; Classification of computers; Programming languages; Operating System- DOS and Windows; Data Representation and the Number systems: decimal, binary, octal and hexadecimal. MS word and its features and uses. Spread sheet - Concept and use of spread sheet, Structure of a spread sheet, Spread in-built functions, Chart feature of a spread sheet, Operation and Use of MS-Excel and Lotus Smart-suite.

#### MODULE-II: BASIC OF DATABASE AND SLIDE FORMATION AND PRESENTATION

Introduction to Economic and Business Data Processing; The concepts of relational database; Simple programming techniques (in MS-Access); Using Queries, Forms and Report Wizard; Working from Command Window; Economic Application of MS-Access; Handling and command descriptions of MS-Power Point; Slide creation and presentation through MS-Power point.

#### MODULE-III: STATISTICAL DATA PROCESSING TECHNIQUES

Statistical Package handling and command description Statistical Package for Social Science (SPSS); Basic statistical and econometric functions and their analysis - Analysis of Regression, Analysis of correlation, Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA).



**MODULE-IV: TIME-SERIES ANALYSIS AND METHODS OF USING EVIEWS & STATA**

Package handling and command descriptions of EVIEWS and STATA; Simple time series Analysis – Trend analysis; Estimation of demand function, production function and investment function using time series data, Basics of internet; Search Engines.

**READING LIST**

1. Balguruswamy, E. (1997), Programming in Basic, Tata McGraw Hill, New Delhi.
2. Byron S. Gottfried (1997); Programming with Basic, Schaum's Cutline Series, McGraw Hill, New York.
3. Jaggi, V.P. and Jain, Sushma (1994), Computers for Beginners. Academic Press, New Delhi.
4. Jaggi, V.P. and Jain, Sushma (1994), Basic for Beginners, Academic Press, New Delhi.
5. Kerns (1993), Essentials of Microsoft Windows, Word and Excel, Prentice Hall of India, New Delhi.
6. Martin S. Matthew (1997), Excel for Windows 95, Tata McGraw Hill, New Delhi.
7. Ram, B. (1997), Computer Fundamentals, Second Edition, New Age International, New Delhi.
8. Tom Sheldon (1997), Windows 95 Made Easy, Tata McGraw Hill, New Delhi.

**COURSE NAME: ECONOMICS OF GENDER AND DEVELOPMENT**

**COURSE CODE: ECO 519**

**Nature of Course: Elective**

**Prerequisite: None**

**MODULE-I: INTRODUCTION TO GENDER STUDIES AND ITS DEMOGRAPHIC ASPECT**

Importance and Concepts of women studies-women in patriarchal and matriarchal societies and relevance to present day society in India, Demography of female Population- Age structure, Mortality rates and sex ratio-causes of declining sex ratios and fertility rates in LDCs and particularly India, women and access to nutrition, health, education and social and commodity resources and their impact on female mortality and fertility, economic status and in work participation rate.

**MODULE-II: WOMEN IN DECISION MAKING AND CONCEPT OF WOMEN'S WORK**

Factors affecting decision making by women-Property Rights, Access to and control over Economic resources, Assets-Economics status of women and its effect on work participation rate; Income level, health and education in developing countries and India - Concept of women's work-valuation of productive and unproductive work, visible and invisible work, paid and unpaid work, participation of women in pre-industrial and industrial societies.

**MODULE-III: WOMEN AND LABOUR MARKET**

Factors affecting female entry in labour market-Supply and demand for female labour in developed and developing countries, particularly India-Studies of female work participation in Agriculture, Non-Agricultural Rural Activities. Information Sector, Cottage and Small Scale Industries, organized industry and service sector-Wage differentials in female activates.



#### **MODULE-IV: SOCIAL SECURITY AND DEVELOPMENT POLICIES FOR WOMEN**

Social Security of Women-Access to credit and insurance markets; role of voluntary organizations, Self Help Groups in providing social security-Effectiveness of Collective bargaining; Schemes for Safety net for women.

Review of legislation for women's entitlements, mainstreaming gender into development policies, Women's empowerment in India.

#### **READING LIST**

1. Boserup, E.(1970), Women's Role in Economic Development, George Allen and Unwin, London.
2. Desai, N. and M.K.Raj (Eds) (1979), Women and Society in India, "Research Centre for Women Studies, SNDT University, Bombay.
3. Government of India (1974), Towards Equality –Report of the Committee on the Status of Women in India, Department of Social Welfare Ministry of Education and Social Welfare, New Delhi.
4. Krishnaraj, M., R.M. Sudarshan and A.Shariff (1999), Gender, Population and Development, Oxford University Press, New Delhi.
5. Ramachandrudu, G. (1991), Demographic Methods, AU. Press, Visakhapatnam.
6. Seth, M. (2000), Women and Development; The Indian Experience, sage publications, New Delhi.
7. Srinivasan, K. and Shroff (1998), India : Towards Population and Development Goals, oxford University Press, New Delhi
8. Venkateswaran, S. (1995), Environment Development and the Gender Gap, Sage Publications, New Delhi
9. Wazir, R. (2000), The Gender Gap in Basic Education: NGOs as change Agents, Sage Publications, New Delhi.
10. Nussbaum (2001), Women and Human Development: The Capabilities Approach (The Seeley Lectures).

### **COURSE NAME: ECONOMICS OF DEMOGRAPHY**

#### **COURSE CODE: ECO 520**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: POPULATION AND DEVELOPMENT**

Meaning and scope of demography; Components of population growth and their inter-dependence; Measures of population change; Structure, distribution and sources of population data; Theories of population — Malthus, Optimum theory of population; Theory of demographic transition — Views of Medows, Enke and Simon; Population and development

#### **MODULE-II: STRUCTURE OF POPULATION**

Population trends in the twentieth century; Population explosion — Threatened or real, distant or imminent; International aspects of population growth and distribution; Pattern of age and sex structure in more developed and less developed countries; Determinants of age and sex structure;



Demographic effects of sex and age structure, economic and social implications; Age pyramids and projections — Individual aging and population aging.

### **MODULE -III: POPULATION AND DEVELOPMENT WITH REFERENCE TO INDIA**

Population, economy and environment linkages — Population, health, nutrition, productivity nexus; Population and human development issues; Culture and fertility; Education and fertility, Demography and household economic behaviour.

### **MODULE -IV: POPULATION POLICY IN INDIA**

Evolution of population policy in India — The shift in policy from population control to family welfare, to women empowerment; Family planning strategies and their outcomes; Reproductive health, maternal nutrition and child health policies; Population and strategies for human development of different social groups; Social impact of new reproductive technologies and their regulation; The new population policy; Tasks before the National Population Commission.

### **READING LIST**

1. Agarwala S.N. (1972), India's Population Problem, Tata McGraw-Hill Co., Bombay.
2. Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.
3. Bose, A. (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.
4. Choubey, P.K (2000), Population Policy in India, Kaniska Publications
5. Jhingan, M.L, Bhatt B.K and Desai J.N, Demography, Vrinda Publications.
6. Raj H, Population Studies, Surajeet publication, New Delhi.
7. Raj, H, Fundamentals of Demography, Surajeet Publications, New Delhi.
8. Sharma, R.K (latest edition), Demography and Population Problems, Atlantic Publishers
9. Sing, V.C and Zacharia, E, Elements of Demography, Allied Publishes
10. Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage, New Delhi

## **COURSE NAME: WELFARE ECONOMICS**

### **COURSE CODE: ECO 521**

**Nature of Course: Elective**

**Prerequisite: ECO 401**

### **MODULE-I: PRE-PARETIAN WELFARE ECONOMICS**

Benthamite Approach to Aggregate Welfare; Optimum Resource Allocation and Welfare maximization, Assumption of Uniform Income-Utility Function of Individuals: Question of Income Distribution; issue of Interpersonal comparisons of Utility.

### **MODULE-II: PARETIAN WELFARE ECONOMICS-I**

Marshallian Welfare Economics; Consumer's Surplus : Measurement of Consumer's Surplus-difficulties involved, Criticism; Principle of Compensating variation; Hicks's Four consumers surpluses; concept of Consumer's Surplus; Consumer's Surplus and Tax Bounty Analysis.



### **MODULE-III: PARETIAN WELFARE ECONOMICS-II**

Pareto Optimality exchange conditions, The production optimum, the consumption optimum, Concept of Contract curve; Top level optimum; Infinite number of non-comparable optima Vs unique social optimum.

### **MODULE-IV: SOCIAL WELFARE FUNCTION**

Compensation criteria-Contributions of Barone, Kaldor and Hicks. The Scitovsky double criterion, Concept of Commodity indifference map, Samuelson's. utility possibility curve; value judgements and welfare economics-, Bergson's social welfare function Arrow's possibility theorem, Recent Developments in welfare Economics.

#### **READING LIST**

1. Arrow, K.J.(1951), Social Choice and Individual Values, Yale University Press, New Haven.
2. Baumol, W.J. (Ed) (2001) Welfare Economics, Edward Elgar Publishing Ltd., UK.
3. Broadway, R.W and N.Bruce (1984), Welfare Economics, Basil Blackwell, Oxford.
4. Duesenberry J.S. (1949), Income, Saving and the Theory of Consumer Behavior, Harvard University Press, Cambridge, Mass.
5. Feldman, A.M. (1980), Welfare Economics and Social Choice Theory, Martinus Nijhoff, Boston.
6. Little, I. M. D. (1939) A Critique of Welfare Economics (2nd Edition), Oxford University Press, Oxford.
7. Marshall, A. (1946), Principles of Economics, Macmillan, London.
8. Myint, H. (1948), Theories of Welfare Economics, Longmans, London Ng.Y.K. (1979), Welfare Economics, Macmillan, London.
9. Pigou A.C. (1962), The Economics of Welfare (4th Edition), Macmillan.
10. Quirk, J. and R.Saposnik (1968), Introduction to General Equilibrium Theory and Welfare Economics, McGraw Hill, New York.

## **COURSE NAME: URBAN ECONOMICS**

### **COURSE CODE: ECO 522**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I**

Nature and scope of urban Economics, structure and growth of Urban economy, urban Public Services; Growth of Urban Economy.

#### **MODULE-II**

Urban Growth; Central Place Theory and its application to the study of Urban Growth-the Urban economic base and urban growth; the communication theory of Urban growth; City size and urban growth; urban spatial structure; Concentric Zone Hypothesis-The Radial Sector theory. The Multiple Nuclei Hypothesis.

#### **MODULE-III**

Urban Housing, Labour Market and Poverty; Housing market Imperfection-trends in slum Housing-tearing down the slums. Urban Labour Market: Determination of Labour incomes-wage



differentials-the culture of urban poverty –Measures of Urban poverty-The nature of urban poverty-The causes of urban poverty; Public Policies for reducing urban poverty-macro Economic policies income-Maintenance Policies-negative income taxes.

#### **MODULE-IV**

Urban Development Problems in India, Land Prices and land Speculation-Urban Land celling; Congestion and Urban transport pricing Policy; Cost and supply of alternative urban transport system. Urban Growth Strategies-An approach to Metropolitan Planning in Developing Countries; nationalurbanization policy with reference of India.

#### **READING LIST**

1. G. F. Bussars; Repid Problmes of Urbanisation in India.
2. Asok Owtra john: An Approach to urban Studies in India.
3. John D. Herbert and Alfrad P.Van: Urban Planning in the Developing. Countries.
4. Ashish Bose ; Studies in India’s Urbanization.
5. R.K. Bharadwaj ; Urban Development in India.
6. NCAER; Market Towns and Spatial Development.
7. Richard F. Muth : Urban Economic Problems.
8. Harry, S. Perloff; Issues in Urban economics.
9. Harry, W. Richardson; Urban Economics.

### **COURSE NAME: TRIBAL ECONOMICS**

#### **COURSE CODE: ECO 523**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: TRIBAL DEMOGRAPHY**

Demography: Concept, feature and importance Tribal Demography : An appraisal, An over-view of India’s Tribal Demography – Distribution of tribal population in India – Need for Micro Level Studies, Tribal Population in Odisha – An analysis of growth of Tribal Population from 1961 Census to 2011 Census – Growth Rate – Fertility Rate, Sex Ratio, Density of Population, Work Participation Rate.

#### **MODULE-II: EDUCATION AND HEALTH IN TRIBAL AREAS**

Emerging initiatives in the field of Education of Tribes – DPEP, SSA Programmes and initiatives under SC and ST Development Department, Government of Odisha.

Health Problems in Tribal Areas – Common diseases among Tribals, Methods of curing – Indigenous and Modern – NRHM in Tribal Areas.

Integrated Child Development Scheme (ICDS) in tribal areas, Efforts made by UNDP, UNFPA, WHO, DFID and UNICEF to improve the nutritional care of mother and child in Tribal Areas.

#### **MODULE-III: TRIBAL ECONOMY**

Economic System and Economic Structure among Tribals – Economic Typology – Characteristics of Tribal Economy. Tribal Production System – Tribal Agriculture – Shifting Cultivation, Settled Cultivation – Terraced Agriculture – Cooperative and Exchange Labour. Allied Activities –





Horticulture, Floriculture – Animal Husbandry – Forest and Forest Collection – Wage Labour – Tribal Markets.

#### **MODULE-IV: TRIBAL PROBLEMS, POLICIES, PLANNING AND DEVELOPMENT INTERVENTIONS**

Land Problems of Tribals – Land distribution, Land alienation, causes and consequences, Displacement – Causes and Consequences, Indebtedness, Bonded Labour and Land alienation continuum – Trends of Economic Exploitation.

Tribal Development during Five Year Plans – SMPT Block, TD Block, Tribal Development Agency, Sub-Plan Approach, MADA, and Cluster Approach – PTGs and Micro Projects.

Emerging Development Initiatives – Role of NGOs, Women Empowerment through Micro Finance and SHGs – Liquor Free Movement.

#### **READING LIST**

1. Behera, K.K. (2003) : Organization and Management of Tribal Markets, Independent Publishing Company, New-Delhi.
2. Behera, M.C & Jumyir Basar (2010) Ed. : Interventions and Tribal Development, Serial Publications, New Delhi.
3. Mohapatro, P.C. (1987) : Economic Development of Tribal India. Ashish Publishing House, New Delhi.
4. Pradhan, G. (2009) : Didayi, the Primitive Tribe, COATS, Koraput.
5. Sahu, N.C. (1986) : Economics of Forest Resources: Problems and Policies in a regional economy. B.R. Publishing corporation, New Delhi.
6. Samal, Jagabandhu (1992) : Some Aspects of Tribal Economy – A Case Study of Koraput District. Ph.D dissertation of GIPE, Pune (Mimeo)
7. Kalla, A.K. & P.C. Joshi (Ed.) 2004 Tribal Health and Medicines, Concept Publishing Company, New-Delhi.
8. Padhi B.R. and B. Padhi (Ed.)2010 Tribal Development in India – Section V – Health and Tribal Development – Mangalam Publications – Delhi – 53.
9. Deogaonkar S.G. (1994) Tribal Administration and Development – Concept Publishing Company – New-Delhi.
10. Mohapatro, P.C. (2009) Problems of Tribal Development in Orissa in Sustainable Development of Bonda Hills, P.M. Mohapatra et. All (Ed.), COATS, Koraput, Odisha.

### **COURSE NAME: WORLD ECONOMY**

### **COURSE CODE: ECO 524**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: INTRODUCTION TO WORLD ECONOMY**

An overview of the world economy; Major economies of the world, Income and Income Growth of World Economy during the last two decades. Linkages in the Major Economies- Trade, Investment and Capital Flows, Major Economic Groups.



### **MODULE-II: WORLD ECONOMY: THE DEMOGRAPHIC DIMENSION**

Recent Trends in world population, Birth Rate, Death Rate, Infant Mortality Rate, Child Mortality Rate, Total Fertility Rate, Life. Expectancy at birth in US, UK, Germany, France, Japan, China, India, Sri Lanka, Australia and Bangladesh.

### **MODULE-III: AGRICULTURE AND INDUSTRY IN THE WORLD ECONOMY**

Main food producers of the world; Trends in the production of main food crops; World food Security. Main Industrial Economies of the World; Role of industrial development in the growth of major world economies.

### **MODULE-IV: WORLD TRADING SYSTEM**

Trends in the international trade; Main trading nations of the world;. Role of international trade in the growth and development of Major World Economies. Emergence of WTO. Role of WTO in World Economy. International Monetary Fund, World Bank Global Financial Crisis and its impact on World Economy.

### **READING LIST**

1. World Bank, World Development Report, Oxford. Various Issues.
2. Human Development Report, UNDP, Various issues.
3. Trade and Development Report, UNCTAD, Various issues.
4. Rosser J. B. and Rosser M.V. (2005): Comparative Economics in a Transforming World Economy, Prentice Hall.
5. Daniels J. P and David D. V (2011): Global Economic Issues and Policies, Routledge, New York.
6. Yarbrough B.V and Yarbrough R.M (2007): The World Economy, Trade and Finance, Cenage Learning.
7. Thirlwall, A.P(1999): Growth and Development, Macmillan, London,
8. Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle, NJJ. New York.

### **COURSE NAME: GAME THEORY AND ITS APPLICATIONS IN ECONOMICS**

### **COURSE CODE: ECO 525**

**Nature of Course: Elective**

**Prerequisite: ECO 403**

### **MODULE-I: INTRODUCTION AND REVIEW**

Introduction: concept and definition of game theory, Theory of rational choice, interacting decision makers.

### **MODULE-II: STRATEGIC GAMES AND NASH EQUILIBRIUM**

Strategic games: examples Nash equilibrium: concept and examples, Best response functions, Dominated Actions, Symmetric games and symmetric equilibrium.



### **MODULE-III: ILLUSTRATIONS OF NASH EQUILIBRIUM AND MIXED STRATEGY NASH EQUILIBRIUM**

Cournot's model of duopoly market, Bertrand's model of duopoly market, Electoral Competition, War of Attrition, Auctions, Accident Laws. Strategic games with randomization, Mixed strategy Nash equilibrium: concept and examples, Dominated Actions, Formation of Players' beliefs

### **MODULE-IV: EXTENSIVE GAMES AND NASH EQUILIBRIUM**

Introduction to extensive games, Strategies and outcomes, Nash equilibrium, Subgame perfect Nash equilibrium, Backward induction, Stackelberg model of duopoly markets Ultimatum game

### **READING LIST**

1. Osborne, M.J. An Introduction to Game Theory, Oxford University Press, 2004.
2. Mas-Colell, A., M.D. Whinston and J.R. Green Microeconomic Theory, Oxford University Press, 1995.
3. Gibbons, R. A Primer in Game Theory, Pearson Education, 1992.
4. Bierman and Fernandez, Game Theory with Economic Applications, Second Edition, Addison Wesley (1998).
5. Binmore, Fun and Games, Heath (1992).
6. Dixit and Nalebuff, Thinking Strategically, W.W. Norton (1991).
7. Fudenberg and Tirole, Game Theory, MIT Press (1991)
8. Gibbons, Game Theory for Applied Economists, Princeton University Press (1992).
9. Krishna, Auction Theory, Academic Press (2002). auction theory.
10. Osborne and Rubinstein, A Course in Game Theory, MIT Press (1994).

## **COURSE NAME: ECONOMICS OF NATURAL RESOURCES COURSE CODE: ECO 526**

**Nature of Course: Elective**

**Prerequisite: None**

### **MODULE-I: ECONOMICS OF RENEWAL AND EXHAUSTIBLE RESOURCES**

A resource taxonomy, Resource scarcity, Renewable resources, Growth curves, The rate of exploitation, Costs and Revenues, Preservation values, Exhaustible resources, Principles of exhaustible resource use, Optimal resource use.

### **MODULE-II: MINERAL RESOURCES**

Importance of minerals in economic development, Assessment of Indian mineral resources, International mineral trade, reserves and resources of world minerals supplies, Hazards due to mining-environmental and health, prevention of hazards due to mining; Structure and Organisation of mineral industry in India, future mineral consumption and Indian economy, Uses and Exploration of Mineral Resources; National Mineral Policy, Mineral taxation

### **MODULE-III: FOREST AND WATER RESOURCES**

Forest Resources-Uses, Forest Type and Management, World Forest Cover, Forest Resources of India, Deforestation, Effect of Deforestation on Tribal People, Forest Degradation in India, Sustainable Forest Management; forestry policy- Joint Forest Management



Water resources- Surface Water and Ground Water, Water Resources in India, Methods for managing Water Resources; Environmental Impacts of Large Dams, Problems Associated with Rehabilitation of Displaced People/Tribal due to Major Dams, River Water Disputes, Water Pollution; Policy instruments for controlling water pollution; Water Sheds.

#### **MODULE-IV: LIVELIHOODS AND NATURAL RESOURCE MANAGEMENT**

Concepts and scope of livelihood, livelihood framework analysis, various capitals involved, indigenous communities and traditional livelihoods, forms of natural resources and dependencies of local people. Non-Timber Forest Products (NTFP) as a source of rural livelihood.

Natural resource crisis and impacts on the livelihood of people- threats of traditional livelihood from globalization, urbanization, privatization, mining and migration; Mechanism for environment regulation in India; Environmental protection laws and their implementation, Importance of sustainable resource management.

#### **READING LIST**

1. Dasgupta P (2001), human well being and natural environment, oxford university press
2. Fisher, A. C. (1981) Resource and Environmental Economics, Cambridge University press Cambridge
3. Francois, R.( 1984), Ecology of Natural Resources. John Wiley & Sons Ltd
4. Kolstad C.D. (1999) Environmental Economics, Oxford University Press, New Delhi.
5. Malhotra, KC and Bhattacharya, P.(2010). Forest and Livelihood. Pub. Centre for Economic and Social Studies. Hyderabad
6. Murty. M.N, Environment, Sustainable Development and Well-being, Oxford University Press, New Delhi
7. Pearce D.W. and R. Turner (1991) Economics of Natural Resource Use and Environment, John Hopkins University Press, Baltimore.
8. Sinha, R.K. and Sharma, N.L.(1970). Mineral Economics, Oxford and IBH
9. Tietenberg, T. (1994) Environmental Economics Policy and Harper Collins New York
10. Wanger K.D ( 1998), Environmental Management, W.B. Saunders Co. Philadelphia, USA.

### **COURSE NAME: ECONOMICS OF SERVICE SECTOR**

#### **COURSE CODE: ECO 527**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE- I**

Concept of service- Attributes of service, Main types of services and their classification, service-goods relationship, economic services; Rural-Urban Services-dualism. Services Economy- Concept and its role in development. Knowledge Economy- Concept and Characteristics, Innovation and R&D.

#### **MODULE-II**

Services and information Technology-The Interconnection-Promotion of Services through IT in India. Financial Services-Security Markets and their Management in India- Management and Marketing of financial services in India.



### MODULE-III

Travel, Transport, Communication, Insurance and Tourism: interrelationship – Growth of Transport-Transport Planning –Development of infrastructure-Role of the State and PrivateSector. Hospitality and Entertainment Service-Hotel industry-Feasibility and Planning of Hospitality - Hotel Regulations-Tariff clarification-Food and Catering Services.

### MODULE-IV

Dynamics of services sector growth in India, Three-sector hypothesis and India, Role of service sector in Indian Economy, Decomposition of Services sector growth in India and its implications. Employment in Services Sector- a gender perspective. Business Services, Telecommunications, Tourism, Hotel, Real estate, IT and insurance sector in India. Public Private Partnerships in Services.

### READING LIST

1. Alister Matheson & Geoffrey Walt- Tourism: economic Physical and Social Aspects
2. A.K. Bhatia – International tourism: Fundamentals and Practices.
3. U.A. Avadani, ‘Investment and Security Markets in India’, Himalaya Publishing House, Bombay..
4. R.K.Sen and B.Chatterjee, ‘Indian Economy Agenda for the 21st Century, Deep and Deep Publications, New Delhi.
5. Baumol, W.J., Blackman, S.A. Batey and Wolff, E.N. (1985). Unbalanced Growth Revisited: Asymptotic Stagnancy and New Evidence. American Economic Review 75:806-17.
6. Glasmeier, A. and Howland, M. (1994). Service-led Rural Development: Definitions, Theories and Empirical Evidence, International Regional Science Review, 16, 197-229.
7. Hindley, B. and Smith, A. (1984). Comparative Advantage and Trade in Services, World-Economy, December, 7(4), 369-89.
8. Melvin, J. R. (1989). Trade in Producer Services: A Heckscher-Ohlin Approach, Journal of Political Economy, 97(5), October, 1180-1196
9. Seth, V. K. (2007). Economics of Services, Ane Books India, 2007.

## COURSE NAME: EDUCATION ECONOMICS

### COURSE CODE: ECO 528

Nature of Course: Elective

Prerequisite: None

### MODULE-I: INTRODUCTION TO EDUCATION ECONOMICS

Definition and scope of economics of education- Human capital the concept; Historical developments in the human capital theory; components of human capital; PQLI and HDI, investment in human capital – contribution of education to economic growth.

### MODULE-II: DEMAND FOR EDUCATION AND SUPPLY OF EDUCATIONAL FACILITIES

Education and productivity, private and social demand for education- investment in education, rate of return analysis, private and social rates of return, limitations of rate of return approach, rate of return and earnings distribution, equity aspects.



Components of educational supply; private and public facilities, pattern of organization & operation of education industry, organization and operation of different production limitations function analysis.

### **MODULE-III: FINANCING OF EDUCATION**

Private resources in education and their limitations – rationale behind public involvement in education – forms of public financing subsidization, secondary, and post – secondary education in India – trends and issues – The New Education Policy.

### **MODULE-IV: INDIAN EDUCATION SYSTEM**

Indian Education system –Rationale of government funding and regulation of education- Alternative method of financing education- Resource allocation to primary, secondary and higher education. Problems of education system in India, Efficiency, equity and distributional aspects Implications for gender and social groups- Role of private and public sectors, Union and State governments- Special programmes for education. Educational system and its problems in Odisha.

### **READING LIST**

1. Mark Blaug,(2000) Economics of Education
2. K.Venkatasubramanian,(1998) Education and Economic Development of TN.
3. G.S.Parnes, Planning Education for Economic Social Development.
4. Cohn,(2005) Economics of Education.
5. Tilak( 2006), Economics of Inequality in Education
6. Sudha V.Rao (2003), Education and Rural Development
7. Theodore W. Schultz (1999), Investment in Human Capital
8. Nalla Gounden A.M. (1998), Education and Economic Development

## **COURSE NAME: MICRO FINANCE AND RURAL DEVELOPMENT**

### **COURSE CODE: ECO 529**

**Nature of Course: Elective**

**Prerequisite: None**

### **MODULE- I: DEVELOPMENT OF MICROFINANCE PRODUCTS**

Concept of Micro Finance – Genesis and History of Micro Finance – Contributions of Md. Yunus Growth of Micro Finance in India – Micro Finance for poverty reduction in India – Micro Finance and the Millennium Development Goals – Pros and cons of Micro Credit Programme – Micro Finance Models in India – Impact of Micro Finance on Poverty eradication

### **MODULE-II: MICROFINANCE AN INSTRUMENT FOR WOMEN EMPOWERMENT**

Concept of empowerment of women– Components of women empowerment – Constraints faced by women for empowerment – Role of Micro Finance in economic development of women – Empowerment of women and Micro - business.

### **MODULE-III: SELF HELP GROUP AND RURAL DEVELOPMENT APPROACH**

The Concept, Why Self Help Groups? – Objectives – Functions of SHGs Promotion– Formation of SHG - Constraints of Women SHGs - What are the Important Steps for Sustainable



Development of SHGs? What are the Skills needed for Managing Successful SHGs? - Linking of Self Help Group to Bank, Stepwise process of Operating of SHG – SHG Federation.

#### **MODULE-IV: PROGRESS UNDER THE SHG BANK –LINKAGE PROGRAM**

SHG - Banking programme an introduction - NABARD as implementing agency in India and the strategy adopted – The demand side of Micro – finance – the supply side of micro finance – the MFI or the Non-Government Micro finance sector (NGMS) – Achievements in SHGs through SHG –banking- Impact of the formal banking set – up – Why could SHG – banking achieve such good results – Risk in SHG – Banking as implemented by the formal banking system.

#### **READING LIST**

1. Daniel Lazar (2008), Micro Finance and poverty eradication, New Century Publications, ND.
2. Desai Vasant. (2005) Rural Development in India, Himalaya Publishing House
3. Rais Ahmad (2009) Micro Finance and Women Empowerment, Mittal Publication New Delhi.
4. Vijayakumar. A, (2009) Banking, Micro Finance and Self Help Group in India, New Century Publications, New Delhi
5. Praveen Sharma, Indian Economic Association, Anil Kumar Thakur (2009), Micro-Credit and Rural Development
6. Cernea, Michael M. (1988), NGOs and Local Development, The World Bank, Washington, Discussion Paper.

### **COURSE NAME: ECONOMICS OF HUMAN DEVELOPMENT**

#### **COURSE CODE: ECO 530**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: CONCEPTS OF HUMAN DEVELOPMENT**

Development Human Development and Economic Development: Physical Quality of life index, Human Resource Development; Usefulness of Concept-Theories of Human Development-Gender Empowerment Measure.

#### **MODULE -II: HUMAN DEVELOPMENT INDEX**

Limitations of Human Development measure-Political Freedom index Human Development index and Poverty index-Human Poverty index.

#### **MODULE-III: STATUS OF HUMAN DEVELOPMENT IN INDIA AND IN INDIAN STATES**

Human Development and Human Rights. The State and Progress of Human Development- Human Development and Dalits.

#### **MODULE-IV: IMPACT OF HUMAN DEVELOPMENT ON ECONOMIC DEVELOPMENT**

Expenditure in India and States (Public spending) Social Capital –Economic Attainments and Well-being. Development Expenditure in India and States (Public spending) Social Capital – Economic Attainments and Well-being.



### READING LIST

1. Abusslesh Sharifi, India Human Development Report, Oxford.
2. Chalam, K.S., Human development in South India, Anmol Pub.
3. Human development in South Asia, 2001, published for the Mahbubul Haq Human development Center, Oxford.
4. Human Development Report for various years, UNDP.
5. Human development Report, UNDP, 1990.
6. National Human development Report; Government of India, 2002.

### COURSE NAME: MONETARY ECONOMICS

### COURSE CODE: ECO 531

**Nature of Course: Elective**

**Prerequisite: None**

#### MODULE- I: DEMAND FOR AND SUPPLY OF MONEY

Demand for Money: Quantity theory of money – Keynesian analysis – Monetarist approach – Empirical evidences. Supply of Money: Central bank and money supply – Creation of money and role of commercial Banks.

#### MODULE-II: MONEY AND INTEREST RATES

Understanding interest rates behavior and term structure of interest rate. Factors influencing changes in equilibrium interest rate and liquidity preference framework – Role of money and interest rates on real economic activity and inflation. Applications: Changes in income, money and prices on equilibrium interest rates.

#### MODULE-III: BANKING INSTITUTIONS AND NBFIs

Development banks-role and functions; investment banking and merchant banking; financial sector in India - Proliferation of commercial banking and non-banking financial intermediaries. Regional Rural Banks and other banking institutions'. Recent reforms in banking systems. NBFIs- Role and functions.

#### UNIT IV: RBI AND MONETARY POLICY IN INDIA

Monetary policy in developed; and developing countries-Instruments of monetary policy- Effectiveness of monetary policy. Reserve Bank of India and its monetary policy: Overall monetary policy framework – instruments, targets and objectives – transmission mechanism – operating procedure, liquidity management and OMOs – challenges in the conduct of monetary policy. Recent reforms in monetary policies.

### READING LIST

1. Bhole, L.M. (2000), Indian Financial Systems, Chugh Publications, Allahabad.
2. Goldsmith, R.W.(19 (39), Financial Structure and Development, Yale, London.
3. Hanson, J.A. and S.Kathuria (Eds.)(1999), India : A financial Sector for the Twenty-First Century, Oxford University, Press, New Delhi.
4. Harker, P.T. and A.Tenias (2000) (Ed) Performance of Financial Institutions, Cambridge University Press, Cambridge.





5. Johnson, H.S.(1993), Financial Institutions and Markets, Tata McGraw Hill, New Delhi. Khan, M.Y. (1996), Indian financial System, Tata McGraw Hill, New Delhi.
6. Machi Raju, M.R. (1999), Indian Financial Systems, Vikas Publishing, New Delhi.
7. Prasad, K.N. (2001), Development & India's Financial Systems, sarup & Sons, New Delhi. Avadhani, Study in Indian Financial System.
8. Mishkin, Frederic (2008): The Economics of Money, Banking, and Financial Markets, 7th edition, Pearson Addition Wesley, New York
9. Rangarajan, C. and B. H. Dholakia (1979): Principles of Macroeconomics, Tata-McGraw Hill Publishing Company Limited, New Delhi
10. Reddy, Y.V. (2000): Monetary and Financial Sector Reforms in India: A Central Banker's Perspective, UBSPD, New Delhi.

## **COURSE NAME: ECONOMICS OF INFRASTRUCTURE**

### **COURSE CODE: ECO 532**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I**

Introduction: Infrastructure and economic development-infrastructure as a public good; social and physical infrastructure; special characteristics of public utilities; The peak load, off load problem; Dual principal controversy; marginal cost pricing Vs other methods of pricing of public utilities; cross subsidization-free prices, quality and efficiency.

#### **MODULE-II**

The structure of transport costs and location of economic activities, Demand for transport; Model of freight and passenger demand; model choice; cost functions in the transport sector; principle of pricing; special problems of individual modes of transport and inter-model coordination in the Indian context. Rate making in telephone utilities; principle of decreasing costs in telephone industry; criteria for fixation of postal rate; Measurement of standards of service in telephone and postal utilities; Reforms in the telecom sector.

#### **MODULE-III**

Energy Economics: Primacy of energy in the process of economic development; factors determining demand for energy; effects of energy shortages; energy conservation; renewable and non-conventional sources of energy, energy modelling; optimal energy policy.

#### **MODULE-IV**

Electricity, Gas and Water Supply: Bulk supply and pricing of electricity; the relative economics of Thermal, Hydel and Nuclear power; The case for a national power grid; Financing of water utilities; urban and rural water supply; uses of natural gas; the exploitation of natural gas, pricing problem. Social infrastructure: Social infrastructure-Concept of Social infrastructure – Organization and financing of supply of social services, private Vs Public sector financing; pricing of social services; Development of social services in the successive five year plan.



## READING LIST

1. Crew M.A. and P.R. Kleindorfer (1979), Public Utility Economics, Macmillan, London.
2. Indian Council of Social Sciences Research (ICSSR) (1976), Economics of infrastructure. Vol. VI, New Delhi.
3. National Council of Applied Economic Research (NCAER) (1996), India infrastructure Report: Policy implications for Growth and Welfare, NCAER, New Delhi.
4. Parikh, K.S. (Ed) (1997), India Development report 1997, Oxford, New Delhi.
5. Parikh, K.S. (Ed). (1999), India Development Report – 1999-2000, Oxford, New Delhi.
6. Turvey R. (Ed). (1968), Public Enterprises, Penguin, Harmondsworth.

## COURSE NAME: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT COURSE CODE: ECO 533

Nature of Course: Elective

Prerequisite: None

### MODULE-I

Investment - Alternatives, and attributes - Investment speculation – Security of investment- Investment process, Sources of investment information Securities market-Primary & Secondary- Structure and Functions.

### MODULE-II

Return and Risk - Concepts and measurement of returns; Sources of Risk – systematic Risk vs unsystematic risk. Measurement of Risk.

### MODULE-III

Approaches to valuation - Fundamental Analysis - Technical Analysis - Efficient Market Hypothesis - Forms of market efficiency - Empirical evidence on market efficiency. Valuation of marketable Securities - Intrinsic value of bonds and preference shares: equity valuation - Growth models, Earnings multiplier approach.

### MODULE-IV

Portfolio construction; selection and evaluation - Markowitz Model Efficient Frontier and selection of optimal portfolio, - Single Index Model – Capital Asset Pricing Model, risk and adjusted measures for portfolio Performance evaluations.

## READING LIST

1. Prasanna Chandra : investment Analysis & Portfolio Management Tata McGraw hill Publications Ltd.
2. Punit-havathy Panda : Security Analysis & Portfolio Management –Vikas Publication Pvt.Ltd.
3. Bodie, Kane and Marcus; Investments – Tata McGraw Hill.
4. Fisher & Jordan : Security Analysis & Portfolio management J.C.Francis ; investments; Analysis and Management.
6. Bhol, L.M. (2000), Indian Financial Systems, Chugh Publications, Allahabad.



**COURSE NAME: ECONOMIC HISTORY OF ASIAN COUNTRIES:  
CHINA, SOUTH KOREA & JAPAN  
COURSE CODE: ECO 534**

**Nature of Course: Elective**

**Prerequisite: None**

**MODULE-I**

Problems of Economic History of ASEAN: China, Japan and South Korea, Different Approaches of Study and Their Limitations, Sources for the study of Modern Economic History of ASIAN: China, Japan and South Korea.

**MODULE-II**

China, Japan and South Korea during the first half of the 20th century: Industrial Development and effects of industrial development, Labour Organization and Labour Problems. The population problems, Financial Imperialism, Foreign Trade, Agrarian Settlements and Land Revenue, Changes in the Agrarian Life, Indigenous Trade, Development of credit and Banking System.

**MODULE-III**

Economy of ASEAN during the Second half of the 20th century: Economic and Educational Reforms, The Land Reforms and changes in Agrarian Life, Industrialization and Socialization. Foreign Trade, Development of Roads and Railways, competition and Collaboration with Global Economy, Internal Aspects of the Economic problem.

**MODULE-IV**

Economic Reforms and Their impact on: Agriculture Industry and Service Sector in ASEAN, China, South Korea and Japan. Trade Development Strategies: Export Promotion Versus Import Substitution in ASEAN, China, South Korea and Japan; Lessons for India. Trade Reforms and Their impact on Balance of Payment; Employment and National Income; Foreign Direct Investment, Exchange Rate Developments; and Issues related with East Asian Financial Crises.

**READING LIST**

1. 'Reshaping the Asia Pacific Economic Order', by Hadi Soesastro, Christopher Charles Findley, 2006.
2. "Institutional Balancing in the Asia Pacific: economic" by Kaithe 2009, P. 209.
3. "China and World Economy" by Zhouggn she hui ke Xue Yawn shi jie juia ji, 2002.
4. "A New look at the US-China-Japan Triangle" Toward Building a Stable Framework" Asian Perspectives, Vol. 27, No3, 2003, PP 177-219 by Yoshihide Soeya, Jianweiwang and David A Weleh.
5. "The Economic History of Korea" by Myung soo Cha, Yeungnam University. EH. Net Encyclopedia.
6. "Economic Growth and Democratization in North East Asia, Part I & II.
7. "The Rise of China and its effectson Taiwan, Japan and South Korea" US Policy choices, Jan. 2006 Dick K Nanto.
8. "Look East: India's Economic ties with Japan, South Korea, China, 3 Dec. 2009.
9. "China, Japan and South Korea to consider Free trade Pact" Oct. 11, 2009 MYT.



**COURSE NAME: COST BENEFIT ANALYSIS**  
**COURSE CODE: ECO 535**

**Nature of Course: Elective**

**Prerequisite: None**

**MODULE-I**

Concepts of Benefits and Costs – Direct and Indirect: Tangible and Intangible- Problems in the evaluation of Benefits and Costs .Accounting prices - Meaning of Accounting prices- Accounting prices and Pareto Optimality-Marginal Cost and Willingness to pay-Limitations of Market Prices-The "Second Best" problem - Accounting prices in the Absence of markets. Nature of Cost Benefit Analysis, Need for Cost Benefit Analysis; with, particular reference to the developing economies. Welfare functions of Cost Benefit Analysis (a) Surplus Analysis (b) Social Welfare Function Approach.

**MODULE-II**

Externalities - Pecuniary and Technological- externalities the source or external effects-externalities, alternative technologies and cost benefit analysis-Collective goods.The Social Rate of Discount-Social Time Preference Rate-The opportunity Cost rate of Discount Equilibrium, Social Time preference Rate and Social Opportunity Cost.

**MODULE-III**

Decision formulae for project choice - Net present value and input constraints - Optimal time phasing-Internal Rate of Return-Present value versus Internal rate of return - other criteria.Risk and Uncertainty -Relevance of risk and Uncertainty - Uncertainty and Decision Criteria-Some rules of Thumb.

**MODULE-IV**

Plans, Projects, choice and Project design, The selection of projects and the investment programme , Project design and decentralized evaluation.Private sector projects-The need for public evaluation of private projects-The method of evaluation of private projects:.Some applications - Demodar valley flood control scheme-Socio economic survey of Nagarjuna Sagar Project.

**READING LIST**

1. A.K.Dasgupta and, D.W.Pearce ; Coast Benefit Analysis, Theory and Practice. D.W.Pearce: Cost Benefit Analysis.
2. I.M.D, Little and J.A.Mirrlen Project Appraisal and Planning for Developing countries. E.J.Mishra :Cost Benefit Analysis.
3. I.M.D.Little and J.Mirlees : Manual of Industrial Project Analysis, Vol.1;, Social Cost Benefit Analysis.
4. B.Sarveswara Rao: Report on Bogie-Economic; :Survey of Nagarjuna Sagar project.



## **COURSE NAME: RURAL ECONOMICS**

### **COURSE CODE: ECO 536**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: RURAL ECONOMY OF INDIA**

Features of rural economy; Place of agriculture in rural economy; Diversification of rural economic activities- Livestock, Fishery, poultry, Forestry, horticulture and floriculture ;Public utilities in rural economy-irrigation facilities, transport and communication and rural electrification.

#### **MODUL-II: RURAL CREDIT SYSTEM**

Role of rural credit; Characteristics and sources of rural credit-Institutional and non-institutional; Re-organisation of rural credit-Cooperatives, commercial banks, Regional rural banks; Role of NABARD, Rural indebtedness and farmer suicide

#### **MODULE-III: RURAL LABOUR MARKET AND UNEMPLOYEMENT**

Rural labor supply; Mobility of labor and segmentation in labor markets; marginalization of rural labor; Nature, extent and trends in rural unemployment; Agricultural wages in India-Minimum Wages Act; Male-female wage differences; Non-agricultural rural employment —Trends and determinants.

#### **MODULE-IV: ISSUES IN RURAL ECONOMY**

Problems of marginal and small farmers, rural industrialization-importance, Issues and problems, development of agro-based industries; rural poverty-extent and causes; strategies for rural development.

#### **READING LIST**

1. Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
2. Desai V, Study of rural economics, Himalaya Publishing Company.
3. Drummond, H. E and Goodwin, J. W (2004), Agricultural Economics, Pearson, Delhi. .
4. Gulati, A. and Kelly, T (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
5. Jain S P, Indian Rural Economics, Vikas Publishing, New Delhi,
6. Kahlon, A.S. and Tyagi D.S. (1983), Agriculture Price Policy in India, Allied Publishers, New Delhi.
7. Lekhi R.K. and Singh, J (latest edition), Agricultural Economics: An Indian Perspective, Kalyani Publisher
8. Rudra, A. (1982), Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.
9. Soni, R.N (latest edition), Leading Issues in Agricultural Economics, Vishal Publishing
10. Tyagi B.P (latest edition), Agricultural and rural development, Jai prakashan Nath & Co, Meerut.



**COURSE NAME: INDIAN PUBLIC FINANCE**

**COURSE CODE: ECO 537**

**Nature of Course: Elective**

**Prerequisite: None**

**MODULE-I: THE INDIAN TAX SYSTEM**

Constitutional Assignment of Expenditures-Union, States and Concurrent: 73rd and 74<sup>th</sup> Amendments, Role of Local Governments; Assignment of Taxes to Various levels of Governments; The Indian Tax System: Centre-Personal Income and Corporate Profit Taxes, Wealth Tax, CENVAT, Import Duties (Customs), Service Tax; States: Sales Tax, State Excise, Motor Vehicle Tax, Stamps and Registration, Land Revenue, Agricultural Income Tax

**MODULE-II: GOVERNMENT EXPENDITURE, DEFICIT AND PUBLIC DEBT**

Growth of Expenditure: Changing Composition, functional, Capital and Revenue heads; Evaluation of Structure of Government Expenditure: Centre and States. Deficit: Fiscal Deficit, Primary Deficit, Revenue Deficit-States and Centre and Combined States and Centre; Public Enterprises and the Budget; Public Debt: Internal and External Debts, Debt Dynamics in India

**MODULE-III: INTER-GOVERNMENTAL TRANSFERS**

Aspects of Fiscal Federalism, Theory, Vertical Fiscal Gap, Theory of Grant, Matching and Non-Matching, Conditional and Unconditional grants; Finance and Planning Commissions, Pattern of Transfers, Equity and Efficiency Aspects, Possible lines of Reforms.

**MODULE-IV: TAX REFORMS**

Reforms in Personal Income Tax, Corporate Profit Tax, CENVAT, Sales Tax, Stamps and Registration Fees; Tax Reform-Assessment of Progress, fiscal crisis and fiscal sector reforms in India. Good and Service Tax (GST): Good or Bad.

**READING LIST**

1. Chelliah, R.J. (1989) - Towards Sustainable Growth: Essays in Fiscal and Financial Sector Reforms in India, Oxford University Press.
2. Chelliah, R.J.(1990) et al - Primer on Value Added Tax, NIPFP.
3. Government of India, Reports of the Tax Reforms Committee.
4. Government of India, Budget Documents (Various years).
5. Govinda Rao M. and Sen Tapas K(1994). - Fiscal Federalism in India: Theory and Practice
6. Ministry of Finance, Indian Public Finance Statistics (Various Issues).
7. Ministry of Finances, Economic Survey (Various Issues).
8. Mundle, Sudipto (ed.)(2000) - Public Finance-Policy Issues for India, Oxford Uni. Press.
9. Srivastava, D. K. (Ed.) (2000)- Fiscal Federalism in India: Contemporary Challenges and Issues before Eleventh Finance Commission.



## **COURSE NAME: BUDGETARY THEORY AND PRACTICE**

### **COURSE CODE: ECO 538**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: GOVERNMENT AND THE MARKET**

Government in a Market System: Government and the Market, Production, Provision and Privatization, Efficiency and inefficiency in the Public Sector; The Structure of the Governments: Organizing Public service Delivery, Multiple levels of Government, Designing a Federal Structure, Communications between Governments, The State-Local Relationship, and Evolution of Fiscal Federalism in India; Measuring the Size and Scope of Government: The Challenge of Comparison, Federal Government Revenue and Spending, State and Local Revenue and Expenditures, How big should Government Be? What makes Government Grow?; Constraining the Growth of Government.

#### **MODULE-II: GOVERNMENT SPENDING**

Budgeting in the Public Sector: Budgeting Process, Revenue Forecasting, Off-Budget and On-Budget Funds; Budgeting Expenditures; Program, performance and Zero-based Budgeting; Budgeting and Public Choice: Balanced budgets, Deficits and Debts; Cost-Benefit Analysis- The Decision Rule, Kinds of Cost-Benefit Analysis, Present Value and Cost-Benefit Analysis, Technical Issues, Choosing a discount rate, Distributional and Political Considerations; Infrastructure, Capital Spending and Public Sector Borrowing; Efficiency Issues: Why Public Capital?; Equity Issues: Financing Infrastructure, Transportation Infrastructure.

#### **MODULE-III: FUNDING GOVERNMENT: TAXES, FEES AND GRANTS**

Principles of Taxation: Efficiency issues in Tax Design, Equity Issues in Tax Design; Practical Problems in Tax Design: Criteria for Tax/Revenue System Design Tax Expenditures, Interstate Tax Issues, Taxation in Global Economy; Fees and Charges as a Revenue Source: Fees or Taxes?, Types of Fees and Charges, Equity issues in Fees and Charges, Fees and Charges as Growth management tools.

#### **MODULE-IV: INTERGOVERNMENTAL GRANTS IN THEORY AND PRACTICE**

Growth and Decline of Federal Grants: Purposes of Grants, Correcting Spatial Externalities, Redirecting Priorities; Types of Grants: General Purpose or Categorical?; Formula or Project?; Lumpsum or Matching?; Open ended or Closed Ended?, Matching Grants; Efficiency and Equity Effects of Grants: Indifference Analysis of Grants, Lump sum Grants, Fungibility and Maintenance of Effort Flypaper Effect.

#### **READING LIST**

1. Buiter, W.H. (1990): Principles of Budget and Fiscal Policy, MIT Press.
2. David N. Hyman (2007): Public Finance: A Contemporary Application of Theory to Policy, Thomson Asia Pvt. Ltd., Singapore.
3. Davie, B.F. and Duncombe, B.F. (1970): Public Finance, Holt. Rineha and Winstreet, NY.
4. Hyman, David N. (1983): Public Finance: A Contemporary Application of Theory to Policy, The Dryden Press, NY..



5. Jha, Raghendra (1987): Modern Theory of Public Finance, Wiley Eastern, Delhi.
6. Mishra, B. (2006): Economics of Taxation: Theory and Application, Akansha Publishing House, ND.
7. Musgrave, R.A. (1959): The Theory of Public Finance, Tata McGraw Hill, ND. Additional Reading List
8. Bhargava, P.K. (1982): Centre State Resource Transfers in India, Academic Press, Gurgaon.
9. Borkar, V.V. (1971): Income Tax Reform in India, Popular Prakashan, Bombay.
10. Chelliah, R.J. (ed.) (1997): Towards Sustainable Growth, OUP, ND.

## **COURSE NAME: FINANCIAL ECONOMETRICS**

### **COURSE CODE: ECO 539**

**Nature of Course: Elective**

**Prerequisite: ECO 410**

#### **MODULE-I: PREDICTING FINANCIAL RETURN**

Financial time series, asset returns, distributional properties of financial returns, Market efficiency, Principle component analysis, factor analysis.

#### **MODULE-II: MODELS OF VOLATILITY**

Modelling volatility, ARCH, GARCH and various versions of GARCH. Long-memory and stochastic volatility models, Recent developments in volatility estimation using high frequency data.

#### **MODULE-III: RISK AND RETURN MODELS FOR MULTIPLE ASSETS**

Multivariate time series analysis, Weak stationarity and cross correlations, Vector auto regressive models- VAR, Vector moving average models-VMA, ARMA and Model evaluation Vector models for mean, Time varying variance-covariance matrix and the dynamic conditional correlation models.

#### **MODULE-IV: RANDOM WALKS, COINTEGRATION AND VALUE AT RISK (VaR) MODELS**

Pitfalls-Spurious regression, Co-integration and error correction models, Threshold co-integration and arbitrage models. Value at risk-VaR, An econometric approach to VaR calculations, Quantile estimation, Extreme value theory, An extreme value approach to VaR

#### **READING LIST**

1. Pattersan Kerry (2000), An Introduction to Applied Econometrics: A Time Series Approach, Palgrave Macmillan
2. Tsay, Ruey S (2001), Analysis of Financial Time Series, John Wiley and Sons, Macmillan Press.
3. Cochrane, John (2005), Asset Pricing, Princeton University Press, Princeton.
4. Greene, W. H. (2007), Econometric Analysis, 6 edn, Prentice Hall.
5. Grimmett, G. & Stirzaker, D. (2001), Probability and Random Processes, Oxford University Press.
6. Hamilton, J. D. (1994), Time series analysis, Princeton University Press, Princeton, N.J.





## **COURSE NAME: LABOUR ECONOMICS**

### **COURSE CODE: ECO 540**

**Nature of Course: Elective**

**Prerequisite: None**

#### **MODULE-I: LABOUR MARKETS**

Nature and characteristics of Labour Markets in developing countries like India, Demand for labour in relations to size and pattern of investment, Supply of Labour in relation to growth of Labour Force. Labour Market policies, Mobility of labour, methods of recruitment and placement; employment service organization in India.

#### **MODULE -II: WAGE DETERMINATION**

Classical, Neo-classical and bargaining Theories of Wage Determination, Concepts of Minimum Wage, Living Wage and Fair Wage in theory and practice Discrimination in Labour Markets; Wage Determination in various sectors-Rural, Urban, Productivity and wage relationship; National Wage Policy; Wages and Wage Boards in India; Bonus System and Profit Sharing.

#### **MODULE-III: INDUSTRIAL RELATIONS**

Growth, Pattern and Structure of Labour Unions in India, Achievement so Labour Unions; Causes of industrial disputes and their settlement and prevention mechanism. Role of tripartism; Current trends in collective bargaining; Labour Legislation in India.

#### **MODULE-IV: STATE AND LABOUR**

State and Social Security of Labour –Concept of Social Security and its evolution; Social Assistance and Social Insurance- Labour Welfare in India;Special Problems of Labour; Child Labour; Female Labour; Second National Commission on Labour, ILO, Establishment of ILO, Aims and objectives of ILO, Impact of ILO on India.

#### **READING LIST**

1. Datt, G. (1996), Bargaining Power Wages and Employment: An Analysis of Agricultural Labour Markets in India, Sage Publications, New Delhi.
2. Hajela, P.D. (1998), Labour Restructuring in India: A Critique of the New
3. Economic Policies, Common Wealth Publishers, New Delhi.
4. Lester, R.A. (1964), Economics of Labour 92nd Edition), Macmikllan, New York.
5. McConnell, C.R. and S.L.Brue (1986), Contemporary Labour Economics, McGraw hill, New York.
6. Papola, T.S., P.P.Ghosh and A.N.Sharma (Eds) (1993), Labour Employment and
7. Industrial Relations in India, B.R Publishing Corporation., New Delhi.
8. Rosenberg M.R. (1988), Labour Markets in Low Income Countires in chenery H.B.and T.N.srinivasan (Eds), The Handbook of Development Economics, North Holland, New York.
9. Venkata Ratnam C.S. (2001), Globalisation and Labour Management Relations; Dynamics of Change, Sage Publications, Response Books, New Delhi.



**COURSE NAME: APPLIED ECONOMETRICS**

**COURSE CODE: ECO 541**

**Nature of Course: Elective**

**Prerequisite: ECO 410**

**MODULE-I: INTRODUCTION**

Overview of the Course and Review of Understanding Econometrics Introduction – Review of Single Equation Regression Model: Estimation and Hypothesis Testing – Review of Time Series Analysis: Stationary and Unit- Root Tests, Co-integration, VAR

**MODULE-II: APPLICATIONS IN MICROECONOMICS -**

Applications in Microeconomics I Consumer Demand Analysis: Specification and Estimation of Demand Equations – Estimation of Engel Curves – Estimation of Complete Systems of Demand Equations.

**MODULE-III: APPLICATIONS IN MICROECONOMICS-II**

Applications in Microeconomics-II, Production Analysis: Specification and Estimations of Production Function: Cobb-Douglas, CES and Translog, Measurement of Multifactor Productivity.

**MODULE-IV: APPLICATIONS IN MACROECONOMICS**

Applications in Macroeconomics Demand for Money – Term Structure of Interest Rates – Phillips Curve – Exchange Rate and Purchasing Power Parity. Use of Econometrics Software Uploading Raw Data – Summary Statistics – OLS Method:

**READING LIST**

1. Pindyck, Robert S. and Daniel L. Rubinfeld (1997), *Econometric Models and Economic Forecasts*, 4th Edition, Irwin McGraw-Hill, New York.
2. Ramanathan, Ramu (2001) *Introductory Econometrics with Applications*, 5th Edition, Cengage Learning India Pvt. Ltd., New Delhi.
3. Thomas, R.L (1993). *Introductory Econometrics: Theory and Applications*, Longman, London.
4. Patterson, Kerry (2001) – *An Introduction to Applied Econometrics – A Time Series Approach*, MacMillan Press Ltd.
5. Hamilton, J. D. (1994), *Time series analysis*, Princeton University Press, Princeton, N.J.
6. Hayashi, F. (2000), *Econometrics*, Princeton University Press.
7. Mittelhammer, R. C. (1999), *Mathematical Statistics for Economics and Business*, Springer.
8. Greene, William H., *Econometric Analysis*, Prentice-Hall (third edition, 1997), Section 19.7, pp. 912-925.
9. Greene, William H., *Econometric Analysis*, Prentice-Hall (third edition, 1997), Section 19.8, pp. 926-931.
10. Maddala, G. S., *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge University Press (1983), pp.59-78.



**COURSE NAME: TIME SERIES ECONOMETRICS**

**COURSE CODE: ECO 542**

**Nature of Course: Elective**

**Prerequisite: ECO 410**

**MODULE-I: LINEAR REGRESSION MODELS USING TIME SERIES DATA**

Regression models with strictly exogenous regressors, Regression models with predetermined regressors, Regression models with endogenous regressors

**MODULE-II: TIME SERIES MODELS FOR STATIONARY PROCESSES**

Difference equations, Univariate ARMA models, Estimation of ARMA models, Vector autoregressions (VARs), Autoregressive Conditional Heteroskedasticity (ARCH) models

**MODULE-III: NON-STATIONARITY, UNIT- ROOTS AND COINTEGRATION**

Non-stationarity in univariate models, unit- roots in vector models, Spurious regressions, Co-integration and error correction models

**MODULE-IV: OTHER ECONOMETRIC MODELS**

Forecasting with regression models, ARIMA models, Vector autoregressive models, Vector error correction models, Granger causality, Nonlinear models, Discrete-valued time series models. Practice of econometric models through SPSS/E-VIEWS/STATA package.

**READING LIST**

1. Required: Hamilton, J.D. (1994): Time Series Analysis, Princeton University Press.
2. C.W.J., Newbold, P. (1986): Forecasting Economic Time Series, Academic Press (2nd edition).
3. White, H. (2000): Asymptotic Theory for Econometricians, Academic Press.
4. Enders, W. (2003): Applied Econometric Time Series..
5. Baltagi (2005), Econometric Applications of Panel Data, John Wiley and Sons, England.