

## M.A. APPLIED ECONOMICS

*(New Syllabus for the University Department applicable from the academic year  
2011-2012 onwards)*

Code	Course	Hard/Soft	Credits
<b>SEMESTER – I</b>			
ECON 411	Microeconomics – I	H	4
ECON 412	Macroeconomics – I	H	4
ECON 413	Mathematical Economics	H	4
ECON 414	Statistical Methods	H	4
ECON 415	Economics of Growth and Development	H	4
ECON 416	Demography	S	3
ECON 417	Economics of Education	S	3
<b>SEMESTER – II</b>			
ECON 421	Microeconomics – II	H	4
ECON 422	Macroeconomics – II	H	4
ECON 423	Econometric Methods I	H	4
ECON 424	Public Economics	H	4
ECON 425	International Trade	H	4
ECON 426	Economics of Microfinance	S	3
ECON 427	Financial Economics	S	3
ECON 428	Industrial Economics	S	3
<b>SEMESTER – III</b>			
ECON 511	International Finance	H	4
ECON 512	Indian Public Finance	H	4
ECON 513	Econometric Methods – II	H	4
ECON 514	Environmental Economics	H	4
ECON 515	Economics of Money and Banking	S	3
ECON 516	Optimization Techniques	S	3
ECON 517	Islamic Economics	S	3
<b>SEMESTER – IV</b>			
ECON 521	Research Methodology	H	4
ECON 522	Indian Economy: Issues and Policy	H	4
ECON 523	Project and Viva	H	4 + 2
ECON 524	Applied Econometrics	S	3
ECON 525	Health Economics	S	3
ECON 526	Financial Econometrics	S	3

\*Total number of credits for Hard core papers is 70; hence a minimum of 20 credits must be secured by the students from Soft core papers for the award of the degree.

# M.A. APPLIED ECONOMICS

Semester I

ECON 411

MICROECONOMICS-I

4 CREDITS

## Unit I: Advances in Demand Theory

Revealed Preference Theory and derivation of demand and indifference curve-Revision of Demand theory by Hicks-Logical Ordering-Recent developments in demand theory-Pragmatic Approach (The Constant Elasticity of Demand function, The Dynamic Demand function, Lagged Adjustment in interrelated markets)- The Linear Expenditure systems, the Indirect utility function, the Expenditure function, Modern utility analysis of Choices involving risk or uncertainty- Bernoulli, Neumann Morgenstern, Friedman savage and Markowitz Hypotheses- Lancaster's Demand theory-Bandwagon effect-Veblen effect – Cobweb theorem.

## Unit II: Advances in Production Theory

Relation between returns to scale and returns to a factor- multi product firm- production function: Cobb Douglas, CES, VES and Translog production function- Production function Vs production process-Technical progress and production function.

## Unit III: Advances in Theory of Costs and Optimization

Traditional and modern theories of Costs-Empirical evidence- Derivation of Long run total cost curve from production function-Economies of Scale and Long Run Average Cost Curves.

## Unit IV: Price and Output Determination

Marginal analysis as an approach to price and output determination: Perfect competition- short run and long run equilibrium of the firm and industry- Composite demand and composite supply, Monopoly –short run and long run equilibrium, price discrimination – Degree of monopoly power-monopoly control and regulation; Bilateral monopoly; Monopolistic competition-General and chamberlain approaches to equilibrium, equilibrium of the firm and group with product differentiation; Oligopoly-non collusive ( Cournot, Kinked demand curve and Stackelberg's solution) and collusive (cartels and mergers, price leadership and basic point price system) models; workable competition.

## Unit V: Alternative methods of Pricing and Optimization

Pricing principle – Average or full cost pricing- Mark up pricing- Limit pricing theory- Bains version- silos – Labini model of limit pricing- Public Utility Pricing.

## Readings

1. Koutsoyiannis, A. (2000) Modern Microeconomics, (2<sup>nd</sup> Edition), Macmillan press, London
2. Layard, P.R.G. and Walters, A.W. (1978), Microeconomic Theory, McGraw Hill, London.
3. Sen A. (1999), Microeconomics: Theory and Application, Oxford University Press, New Delhi
4. Stigler,G. (1996), Theory of Price, PHI, New Delhi
5. Varian, H.R. (2000), Microeconomic Analysis, W.W.Norton, New York
6. Mankiw, N.G. (2009), Economics: Principles and Applications, Cengage Learning, India edition

# M.A. APPLIED ECONOMICS

Semester I

**ECON 412**

**MACROECONOMICS-I**

**4 CREDITS**

## **Unit I: Measuring Key Macroeconomic Variables**

Various Concepts and Measurements of Aggregate Income – Income, Expenditure and the Circular Flow – Rules for Computing GDP – Real vs. Nominal GDP – Measuring the Cost of Living (consumer and whole sale price indices) – Measuring the Unemployment Rate – Unemployment, GDP and the Okun's Law.

## **Unit II: Theories of Consumption**

The Classical Views on Consumption – The Psychological Law of Consumption – Kuznets's Consumption Puzzle – Fisher's Inter-temporal Choice Model – Permanent Income Hypothesis – Life Cycle Hypothesis – The Random Walk Hypothesis and consumption.

## **Unit III: Theories of Investment**

The Neoclassical Theory of Investment – Capital Theory and Theory of the Firm – Finance and the Cost of Capital – The Accelerator Theory of Investment – The Stock Market and Tobin's Q Theory – Inflation and Investment – Policies affecting Investment.

## **Unit IV: Theories of Money Demand**

Inventory Theoretic Approach (William Baumol) – Liquidity Preference as Behavior Towards Risk (James Tobin) – A Restatement of Quantity Theory of Money (Milton Friedman) – The Buffer Stock Notion (David Laidler) – Partial Adjustment Mechanism – Empirical Issues in Money Demand Estimations.

## **Unit V: Theories of Money Supply**

The Concept and Measurement of High Powered Money – Sources of Variation in High Powered Money – The Money Multiplier Model – Factors affecting Money Multiplier – Behavioral Model of Money Supply – The Portfolio Model of Money Supply.

## **Unit VI: The IS – LM Model**

The Neoclassical and Keynesian Macroeconomic Models – The Interaction of Real and Monetary Sector – The Neoclassical and Keynesian version of IS-LM Model – Fiscal and Monetary Policy Analysis in IS-LM Model – Fiscal Policy and Crowding out – Ricardian Equivalence – The Relative Efficacy of Fiscal and Monetary Policy – The Aggregate Supply in the Short and Long Run – Aggregate Demand and Price Determination – Pigou Effect and Real Balance Effect in the IS-LM Model – Aggregate Demand in the Open Economy – The Mundell-Fleming Model – The Fiscal and Monetary Policy Operation under Fixed and Floating Exchange Rate Regime – Trade Policy in IS-LM Models.

## **Readings**

1. Rosalind Levacic and Alexander Rebmann (1982), *Macroeconomics: An Introduction to Keynesian – Neoclassical Controversies*, Macmillan.
2. Errol D'Souza (2008), *Macroeconomics*, Pearson.
3. David Romer (1996), *Advanced Macroeconomics*, McGraw-Hill.
4. David, G Pierce and Peter J Tysome (1985), *Monetary Economics: theories, evidence and policy*, Butter worths.
5. Laidler, D.E.W. (1984), *The Buffer Stock Notion in Monetary Economics*, *Economic Journal* 94, 17-34.

# M.A. APPLIED ECONOMICS

Semester I

**ECON 413**

**MATHEMATICAL ECONOMICS**

**4 CREDITS**

## **Unit I: Basic Calculus**

Concept of function and types of functions – limit, continuity and derivative – Rules of differentiation – Rules of partial differentiation and interpretation of partial derivatives – Problems of maxima and minima in single and multivariable functions – Applications of differentiation in economics – Concept of integration – Simple rules of integration and its application to consumer's surplus and producer's surplus

## **Unit II: Linear Algebra**

Determinants and their basic properties – Solution of simultaneous equations through Cramer's rule – Concept of matrix – their types, simple operations on matrices, matrix inversion and rank of a matrix – Concept of vector – its properties – Matrices and vectors – Eigen roots and Eigen vectors – Introduction to input-output analysis.

## **Unit III: Differential Equations**

Exponential growth – Separable equations – linear differential equations and integrating factors – Second-order differential equations – Economic applications of differential equations.

## **Unit IV: Difference Equations**

Solving first-order difference equations – Application of first-order difference equations to financial problems – The cobweb model – Second-order difference equations – Economic applications of second – order difference equations – Growth models and lagged market equilibrium models.

## **Unit V: Linear Programming**

Basic concept, formulation of a linear programming problem Its structure and variables – Nature of feasible, basic and optimal solution – Solution of linear programming through graphical – Formulation of the dual of a programme and its interpretation – Concept of duality and statement of duality theorems – Concept of a game – Strategies – simple and mixed – Value of a game – Saddle point solution.

## **Readings**

- 1 Sydsaeter, Knut and Peter Hammond (2006), Essential Mathematics for Economic Analysis, 2nd Ed. Financial Times, Prentice Hall: Harlow, England.
- 2 Yamane, Taro (1975), Mathematics for Economists, PHI, New Delhi.
- 3 Allen, R.G.D. (1974), Mathematical Analysis for Economists, Macmillan Press, New Delhi.
- 4 Gupta, S.C. (1993), Fundamentals of Applied Statistics., S.Chand, NewDelhi.
- 5 Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- 6 Handry, A.T. (1999), Operations Research, PHI, New Delhi.

# M.A. APPLIED ECONOMICS

Semester I

ECON 414

STATISTICAL METHODS

4 CREDITS

## Unit I: Sampling Theory

Population and sample- Parameter and statistic-(Census method and sampling method of Data collection); Objects of Sampling- Methods of Sampling- Random and Non- Random; Techniques of sampling under each method- Sampling error and Non-Sampling error-Sampling distribution of a Statistic-Law of Statistical Regularity-Law of Inertia of Large Numbers-Central limit theorem

## Unit II: Mathematical Expectation

Random variable-Discrete and continuous- Probability function of discrete Random Variable ( Probability Mass Function)- Probability function of Continuous Random Variable ( Probability Density Function)- Cumulative Distribution function; Mathematical Expectation- Theorems on Mathematical Expectation-Variance- Theorems on Variance

## Unit III: Theory of Estimation

Meaning and concept of an Estimation-Concept of an Estimator-Types of Estimation-Point and Interval Estimation- Desirable properties of an Estimator-Standard error of Estimator- Confidence limits for a population parameter

## Unit IV: Theoretical Distribution

Definition-types of theoretical distribution-Discrete theoretical distribution-Binomial Distribution-Poisson distribution; Continuous theoretical Distribution-Normal Distribution-Standard Normal Variate -Z distribution; Other Theoretical Distribution-Students "t" Distribution-Chi-Square ( $\chi^2$ ) Distribution- F-Distribution

## Unit V: Statistical Inference

Formulation of Statistical Hypothesis; Testing of Hypothesis-Null Hypothesis and Alternative Hypothesis-Stages in Hypothesis testing-Types of Error in Hypothesis testing- Type I error and Type II error-Level of Significance and confidence coefficient-Critical region or rejection region; Two tailed test and one-Tailed Test; Computation of Test statistic and significance Test-small sample test-'t' Test-  $\chi^2$  test- F test; Large sample test- Z test; Test of Significance concerning correlation coefficient; Power of Test; Analysis of Variance

## Readings

1. Speigal.M. R. (2000) - Theory and problems of Statistics, McGraw Hill, London.
2. Monga,G.S.(2003) - Mathematics and Statistics for Economists, Vikas Publications, New Delhi.
3. Gupta.S.C.(2000) - Fundamentals of Applied Statistics, S.Chand, New Delhi.

# M.A. APPLIED ECONOMICS

Semester I

**ECON 415**

**ECONOMICS OF GROWTH AND DEVELOPMENT**

**4 CREDITS**

## **Unit I: Basics in Economic Growth**

Modern economic growth –basic features, trends and patterns- relevance of historical experience to contemporary Under Developed countries- limited relevance- factors for – differing initial conditions- role of international migration and international trade.

## **Unit II: Growth and Development**

Growth and development- conceptual issues. Issues in measurement- national income and per capita income – International comparison of per capita incomes – measurement of purchasing power parity. GNP- a biased index of development and welfare- construction of poverty weighted index of social welfare. Alternative measures of development – human development index- gender based development index, gender empowerment measure- international poverty index, global hunger index- social sector and development- Education and health.

## **Unit III: Growth Theories - I**

Approach to the study of economic development – linear stage theory, structural change models, Neo Marxian dependency approach, false paradigm model, dualistic approach, neo-liberal free market approach, endogenous growth theory.

## **Unit IV: Growth Theories - II**

Growth models; Harrod-Domar-knife edge equilibrium problem, Cambridge models- Joan Robinson, Kaldor, Neoclassical growth models- Solow swan Meade – criticism of neoclassical theory-emergence of endogenous growth models. Technological progress- embodied and disembodied – Hicks and Harrod version, production function approach to growth, total factor productivity and growth accounting.

## **Unit V: Development Policies**

Development and environment: Market based approach to environmental analysis, Harvesting of renewable nonrenewable resources, Measuring environmental values, economic growth and environment – sustainable development- policy measures. Ill effects- rain forest destruction, green house gases, global warming, climate change- policy- policy options in developing and underdeveloped countries.

## **Readings**

1. Debraj Ray, (1998), Development Economics Oxford University Press.
2. Simon Kuznets, (1966), Economic Growth, Rate structure and Spread, Yale University Press.
3. Michael P. Tadaro,(1998), Economic Development Longman,
4. Adam Szirmai, (2005), Dynamics of socio economic development-An introduction, Cambridge University Press.
5. Amartya Kumar Sen, Growth Economics, Penguin Harmondsworth
6. Gerald Meir, (2003), Leading Issues in Economic Development, Oxford University Press.
7. A.P. Thirwall, (1994), Growth and Development ELBS.

# M.A. APPLIED ECONOMICS

Semester I

ECON416

DEMOGRAPHY

3 CREDITS

## Unit I: Introduction to Demography

Meaning and scope of demography; Components of population growth and their inter-dependence; Theories of population — Malthus; Optimum theory of population; Theory of demographic transition

## Unit II: Population Change: Determinants and Techniques of Analysis

Determinants – Fertility, Nuptiality, Migration and Mortality; Techniques - Crude birth and death rates, age specific birth and death rates, standardized birth and death rates; Fertility - Total fertility rate, gross reproduction rates, net reproduction rate; Factors affecting fertility — Socio-economic factors, economic status, health, education, nutrition, caste, religion, race, region, rural-urban and status of husband and wife; Nuptiality — Concept and analysis of marital status, single mean age at marriage; Mortality — Mortality at birth and infant mortality rate; Sex and age pattern of mortality; Factors for decline in mortality in recent past; Life table — Construction and uses; Migration – Net migration rate

## Unit III: Population: Structure and projection

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, Demographic Dividend and Age pyramids; concept of stationary, stable and quasi - stationary population; Projections — Uses and techniques – Cohort Component Projection technique.

## Unit IV: Source of Demographic data in India

Study of census in India— History of Census in India; Nature of information collected in 2001 and 2011 census in India; National Family Health Survey (NFHS) I, II and III and District Level Household Survey(DLHS); their relative merits and demerits.

## Unit V: Population and Development with reference to India

Population policy in India — the shift in policy from population control to family welfare, to women empowerment; Population, economy and environment linkages – population and human development issues – Population and Millennium Development Goals (MDG); education and fertility, Migration and urbanization – trends, pattern and consequences; population aging – Causes, trends, issues and consequences; Skewed sex ratio in India.

## Readings

1. Jacob S. Siegel and David A. Swanson (2004): The Methods and the materials of Demography, Second Edition, Elsevier Science. USA.
2. John weeks (2005): Population: An introduction to concepts and issues, Wordsworth Learning. Singapore 9<sup>th</sup> edition.
3. Bogue, D., (1969): Principles of Demography, John Wiley & Sons, New York.
4. Pathak, K.B. and F.Ram, (1998) Techniques of Demographic Analysis, Mumbai: Himalaya Publishing House.
5. Preston, Samuel H., Heuveline, Patrick, and Guillot, Michel (2001) Demography: Measuring and Modeling Population Processes. Oxford: Blackwell Publishers.
6. Bose, A. (1996), India's Basic Demographic Statistics, B.R. Publishing, Delhi.
7. Agarwal, S.N. (1985) India's Population Problem, Tata McGraw Hill, Mumbai.

# M.A. APPLIED ECONOMICS

Semester I

**ECON417**

**ECONOMICS OF EDUCATION**

**3 CREDITS**

## **Unit I: Theory of Human Capital Formation**

Concept of human capital forms of human capital – human capital and economics growth – measures of human capital – limitations of human capital approach.

## **Unit II: Education and Human Capital Formation**

Education as an economic good. consumption and investment aspects of education- private and social benefit of education – contribution of education to economic development – the methods of schults and education and human values.

## **Unit III: Demand For Education**

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.

## **Unit IV: Supply of Educational Facilities**

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

## **Unit V: 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.

## **Unit VI: Education and Manpower Planning**

Importance of educational and manpower planning in development and less – development countries – the operation of markets for unskilled and skilled labour – approaches to educational and manpower planning cost benefit approach – O.E.C,D. approach – M.R.P. approach – educational planning in E.D.C's – educational planning in India.

## **Unit VII: Migration and On-the-Job Training**

Migration and human capital formation – labour market and migration in India – on-the-job training and skill formation.

## **Readings**

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

## M.A. APPLIED ECONOMICS

Semester II

**ECON 421**

**MICROECONOMICS - II**

**4 CREDITS**

### **Unit I: Alternative Theories of the Firm**

Critical evaluation of marginal analysis; Baumol's sales revenue maximization model; Williamson's model of managerial discretion; Marris model of managerial enterprise; Behavioural model of Cyert and March.

### **Unit II: Advances in Distribution Theory**

Macro theories of distribution - Ricardian, Marxian, Kalecki and Kaldor's -Staffa model-Neo-classical approach - Marginal productivity theory - Product exhaustion theorem - Elasticity of technical substitution, Technical progress and factor shares - Theory of distribution in imperfect product and factor markets - Determination of rent, wages, interest and profit.

### **Unit III: Welfare Economics**

Welfare Criteria - Pigovian welfare economics - Pareto optimal conditions - Value judgment - Social welfare Maximization - Inability to obtain optimum welfare – Imperfections, market failure, decreasing costs, uncertainty and non-existent and incomplete markets; Theory of Second Best-Arrow's impossibility theorem - Rawl's theory of justice, equity-efficiency trade off.

### **Unit IV: General Equilibrium Theories**

Partial and general equilibrium; Walrasian general equilibrium - stability and uniqueness of equilibrium –Two sector model - Stopler Samuelson theorem - Rybczynski theorem..

### **Unit V: Economics of Uncertainty**

Individual behaviour towards risk, expected utility and certainty equivalence approaches, risk and risk aversion- sensitivity analysis, the economics of insurance - risk pooling and risk spreading - Mean-variance analysis and portfolio selection - The economics of search - Adaptive search - the efficient market hypothesis, stochastic models of inventory demand - search and transaction cost. Economics of information.

### **Readings**

1. Koutsoyiannis, A. (2005) - Modern Microeconomics, Macmillan press, London
2. Layard, P.R.G. and Walters, A.W. (2001) - Microeconomic Theory, McGraw Hill, London.
3. Sen A(2005). - Microeconomics: Theory and Application, Oxford University Press, New Delhi
4. Stigler,G (2008). - Theory of Price, PHI, New Delhi
5. Varian, H.R.(2005) - Microeconomic Analysis, W.W.Norton, NewYork
6. Baumol,W.J (1998). - Economic Theory and Operations Analysis, Prentice Hall, New York
7. Pindyck and D. Rubinfeld (2005) - Microeconomics, East West Press, London
8. Nicholson Walter (2007)- Microeconomic Theory, The Drydon Press, London
9. E.K .Browning and J.M. Browning (2003) - Microeconomics; Theory and Applications, Kalyani Publisher, New Delhi.

## M.A. APPLIED ECONOMICS

Semester II

**ECON 422**

**MACROECONOMICS - II**

**4 CREDITS**

### **Unit I: The Labour Market**

Profit Maximization and Labour Demand – Utility and Labour Supply – Aggregate Supply with/without Money Illusion – Neoclassical Labour Market Equilibrium – Introducing Unemployment – Principles of Effective Demand - The Keynesian Underemployment Equilibrium.

### **Unit II: Inflation and Unemployment**

The Phillip's Relationship – Theoretical Underpinnings of Phillip's Curve – Natural Rate Hypothesis – Theory of Adaptive Expectation – Expectation Augmented Phillip's Curve – The Rational Expectation and Luca's Supply function – Policy Ineffective Theorem – The Lucas Critique – Rational Expectation and Implications of Monetary Policy.

### **Unit III: Theories of Business Cycles**

Multiplier-Accelerator Interaction Model – Monetarists Interpretation of Business Cycles – Real Business Cycle Theory – Political Business Cycle Model.

### **Unit IV: The Post Keynesian Macroeconomics**

Walrasian and Keynesian Adjustment mechanism – Reinterpretation of Keynes – Dual Decision Hypothesis – Neo-Keynesian Quantity Constraint Models – Micro Theoretic foundations for Wage and Price Rigidity – Small Menu Cost – Efficient Wage Theory – Staggered Wage Setting – Insider-Outsider Model – Models of Coordination Failure.

### **Unit V: Recent Advancements in Macroeconomic Policies**

The Debate over Rules vs. Discretion – Taylor's Rule and Monetary Policy – Inflation Targeting – Issues Relating to Inflation Targeting – Country Experiences with Inflation Targeting.

### **Readings**

1. Rosalind Levacic and Alexander Rebmann (1982), *Macroeconomics: An Introduction to Keynesian – Neoclassical Controversies*, Macmillan.
2. Errol D'Souza (2008), *Macroeconomics*, Pearson.
3. David Romer (1996), *Advanced Macroeconomics*, McGraw-Hill.
4. David, G Pierce and Peter J Tysome (1985), *Monetary Economics: theories, evidence and policy*, Butter worths.
5. Laidler, D.E.W. (1984), *The Buffer Stock Notion in Monetary Economics*, *Economic Journal* 94, 17-34.

## M.A. APPLIED ECONOMICS

Semester II

**ECON 423**

**ECONOMETRIC METHODS - I**

**4 CREDITS**

### **Unit I: Basic Regression Analysis**

Nature and Scope of Econometrics – Simple Regression Model: Specification, OLS Method, Assumptions of CLRM and Gauss Markov Theorem, Hypothesis Testing and Goodness of Fit – Extensions of Simple Regression Model: Regression through Origin, Scaling and Units of Measurement, Functional Forms of Regression Model – Maximum Likelihood Estimation

### **Unit II: Multiple Regression Models**

Model Specification, Interpretation Multiple Regression Equation, Testing Hypothesis: Individual Partial Regression Coefficient and Overall Significance, Goodness of Fit – F-tests,  $R^2$  and Adjusted  $R^2$ .

### **Unit III: Relaxing Select CLRM Assumptions**

Multicollinearity, Heteroscedasticity and Autocorrelation- Nature, Consequences, Detection and Remedial Measures. General Criteria for Model Selection, Types of Specification Errors and Testing Model Specification, Errors of Measurement

### **Unit IV: Single Equation Model: Forecasting and Causality**

Concepts of Forecasting: Exante-Expost, Conditional-Unconditional – Mean Prediction and Individual Prediction, Errors in Prediction, Forecasting with Serially Correlated Errors  
Tests for causality

### **Unit V: Dummy Variable Models**

Qualitative Independent Variables: Qualitative Variables with Two Categories and Many Categories, Estimating Seasonal Effects, Testing for Structural Change, Piecewise Linear Regression, Qualitative and Limited Dependent Variable: Binary Choice Model, Probit Model, Logit Model, Limited Dependent Variable

### **Readings**

1. Gujarati, D (1998) - *Basic Econometrics*, 4th Edition, New York: McGraw Hill
2. Johnston, J (1995) - *Econometric Methods*, 3rd edition, New York: McGraw Hill.
3. Pindyck, Robert S. and Daniel L. Rubinfeld (1995) – *Econometric Models and Economic Forecasts*, 4<sup>th</sup> Edition, Irwin McGraw-Hill, New York
4. Ramanathan, Ramu (2000) – *Inroductory Econometrics with Applications*, 5<sup>th</sup> Edition, Cengage Learning India Pvt. Ltd., New Delhi

# M.A. APPLIED ECONOMICS

Semester II

**ECON 424**

**PUBLIC ECONOMICS**

**4 CREDITS**

## **Unit I: Theory of Public Goods**

Pareto Optimality: Pure Exchange Economy and Economy with Production; Social Welfare Maximization; Theory of Second Best; Market Failure and Rationale for Government Intervention; Public Goods: Pure and Impure Public Goods; Samuelson Condition, Free Rider Problem, Lindahl Solution; Political Process-Public Choice, Limitations of Getting Rational Choice

## **Unit II: Public Choice**

Problems of preference revelation and aggregation of preferences; Voting systems; Arrow impossibility theorem; An economic theory of democracy; Politico-eco-bureaucracy; Rent seeking and directly unproductive profit seeking (DUP) activities.

## **Unit III: Rationale for Public Policy**

Demand revealing schemes for public goods - Contributions of Clarks, Groves and Leyard, Tiebout model, theory of club goods; Stabilization Policy - Keynesian case for stabilization policy; Uncertainty and expectations; Failure of inter-temporal markets; Liquidity preference; Social goals; Poverty alleviation; Provision of infrastructural facilities, removing distributional inequalities and regional imbalances.

## **Unit IV: Taxation and Public Debt**

Trade off between equity and efficiency in Taxation; Theory of measurement of dead weight losses; The problem of double taxation. Classical view of public debt; Compensatory aspect of debt policy; Burden of public debt; Sources of public debt.

## **Unit V: Fiscal Policy**

Objectives of fiscal policy - full employment, anti-inflation, economic growth, redistribution of income and wealth; Interdependence of fiscal and monetary policies; Budgetary deficits and its implications; Fiscal policy for stabilization - automatic vs. discretionary stabilization; Alternative measures of resource mobilization and their impact on growth, distribution and prices; Balanced budget multiplier.

## **Readings**

1. Goode, R.(2000) - Government Finance in Developing Countries, TMH, New Delhi
2. Jha. R.(1999) - Modern Public Economics, Routledge, London.
3. Musgrave, R.A. and P.B. Musgrave (1970) - Public Finance in Theory and Practice, McGraw Hill, Tokyo
4. Atkinson, A.B. and J.E. Stiglitz (2000) - Lectures on Public Economics, TMH, New York.
5. Herber, B.P (2001). - Modern Public Finance, Richard D. Irwin, Homewood.
6. Stiglitz, J.E (2005) - Economics of the Public Sector.
7. Bailey, S.J (2004). Public Sector Economics, Macmillan
8. Atkinson, A. and Stiglitz, J (2000). Lectures in Public Economics, McGraw Hill

## M.A. APPLIED ECONOMICS

Semester II

**ECON 425**

**INTERNATIONAL TRADE**

**4 CREDITS**

### **Unit I: Theories of International Trade**

Factor endowments and Heckscher-Ohlin theorem; Factor price equalization theorem; Empirical verifications of Heckscher-Ohlin theory - Leontief paradox; Factor intensity reversal; Stolper-Samuelson theorem; Technological gap model; Product cycle model; Economies of scale and international trade.

### **Unit II: Alternative Theories of Gains from Trade**

International trade under imperfect competitions—concepts and measurement of intra industry trade; Neo Hotelling model; Neo Chamberlain models; Strategic trade theory; Measurement of gains from trade and their distribution; Concepts of terms of trade; Offer curves and equilibrium terms of trade; Terms of trade and economic growth.

### **Unit III: Imperfect Competition and Trade**

Testing theories of inter-industry trade, introduction to the concept of intra-industry trade; imperfect competition, technology-based theories of trade; skill-based and demand-based product differentiation and intra-industry trade; testing theories of intra-industry trade

### **Unit IV: Growth Effects and Theories of Protection**

Effects of growth on trade; Rybczynski Theorem; Immiserising growth; Technical progress and economic growth; Tariff—partial and general equilibrium effects analysis; Optimum tariff; Tariff and terms of trade; Non-Tariff Barriers; Theory of dumping; Anti-dumping measures.

### **Unit V: Economic Integration and Global Trade**

The theory of customs unions and welfare effects; actual experiences of economic integration of nations. Multilateral Trade Negotiation, The GATT Rounds, WTO & the Indian Position

### **Readings**

1. Carbaugh, R. J (2008) - International Economics, (11th Edition). Thomson South Western, New Delhi
2. Salvatore, D (2007) - International Economics, (8th Edition). Wiley India, New Delhi
3. Krugman P. R. and Obsfeild M.(2006) - International Economics- Theory and Policy, (5th Edition). Addison Wesley
4. Soderston, B. and Reed G.(1999) - International Economics, 3rd Edition, McMillan Press Ltd., London

## M.A. APPLIED ECONOMICS

Semester II

**ECON426**

**ECONOMICS OF MICROFINANCE**

**3 CREDITS**

### **Unit 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

### **Unit 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.

### **Unit III: An Assessment of Innovative Initiatives of NGOs in Entrepreneurship**

Role and strategy of NGO – Functions of NGOs – NGOs and their role in poverty alleviation – NGOs in Entrepreneurship Development - Strengths and weakness of NGOs – Women and Micro Finance – Gender issue in micro finance – Rationale behind SHG and need to institutionalization – Genesis of rural credit system – Genesis of SHG.

### **Unit IV: 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.

### **Unit V: 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

### **Readings**

1. Daniel Lazar (2008), Micro Finance and poverty eradication, New Century Publications, New Delhi.
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.
7. Farrington, John, Leiwis, D.J.,(1993), NGOs and the State in Asia, Routledge, London.

# M.A. APPLIED ECONOMICS

Semester II

**ECON427**

**FINANCIAL ECONOMICS**

**3 CREDITS**

## **Unit 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 – risk: Risk versus return: Mean – variance analysis.

## **Unit 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.

## **Unit 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.

## **Unit IV: Efficiency & Volatility in Financial Markets**

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

## **Unit V: Option-Features and Price Bounds**

Basic taxonomy of option analysis – Payoff structure of an option – Price Bounds for Options (depending on their type, the time left to expiry and their strike price) – put – call parity relationship - Risk Neutral pricing – basic notions of Binomial – Multinomial – Black-Scholes Pricing – What the hedge ratio ('Delta') – Gamma – Vega Theta – Rho means.

## **Readings**

1. David A. Duffo 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. Bruce Tuckman (2002), Fixed Income Securities, Willey Finance..
6. J. C. Hull (2004), Options, Futures and other Derivatives, Prentice- Hall, New Jersey.

## M.A. APPLIED ECONOMICS

Semester II

**ECON428**

**INDUSTRIAL ECONOMICS**

**3 CREDITS**

### **Unit I: Industries and Development**

Basic concepts of industrial economics- rational of industrialization, evolution of industries in India, need, importance and role of industries in economic development, industry and agriculture sector linkages, industrial development-experience of developed and developing countries.

### **Unit II: Industrial Entrepreneurs**

Concepts and definition of industrial entrepreneurs, entrepreneurial motivation, types , characteristics and functions of industrial entrepreneurs, role of entrepreneurs in economic development, role of women entrepreneurs in the industrial development, rural entrepreneurship development in India, institutional finance to entrepreneurs development, problems and remedies of industrial entrepreneurs.

### **Unit III: Location and Dispersion**

The general determinants of industrial location- technical factors, economic and infrastructural factors, other factors, theories of industrial location-the central place theory, Renner's theory, Rawstron's principles, Weber's theory, the market area theory of Tord Palander, Central place theory of Losch-trend of industrial location in India.

### **Unit IV: Industrial Finance**

Importance of finance to industrial development, Owned, and external funds for industrial development; Role, and types of institutional finance- functions of IFCI, IDBI, SIDBI, MSFC ,ICICI, SFCs, SIDC, commercial banks, etc in industrial development, trend and problems of industrial finance in India.

### **Unit V: Industrial Development and Problems**

Recent trends in industrial growth in India- growth of major industries- Cotton textiles, Iron and Steel; Jute; Sugar; Coal; Cement and engineering goods; Development and problems of small-scale industries in India, Role of public and private sectors in India. Effects of liberalization on industrial development in India, role of MNCs in industrial development, Sick industries and remedies, Industrial policy of India.

### **Readings**

1. Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.
2. Brahmananda, P.R. and V.R. Panchamukhi (Eds) (1987), The Development Process of the Indian Economy, Himalaya Publications
3. Barthwal,R.R.(1992), IndustrialEconomics:An Introductory Text Book, Wiley Eastern Ltd. New Delhi.
4. Cherunilam, F. (1994), \_Indsutrial Economics : Indian Perspective, (3rd Edition), Himalaya Publishing House, Mumbai
5. Kuchhal, S.C. (1980), Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad.
6. Reserve Bank of India, Report on Currency and Finance (Annual). And Government of India, Economic Survey (Annual).

## M.A. APPLIED ECONOMICS

Semester III

**ECON 511**

**INTERNATIONAL FINANCE**

**4 CREDITS**

### **Unit I: Foreign Exchange Markets**

Structure and functions of foreign exchange markets; Types of foreign exchange transactions; inter-bank market, spot and forward, options market, futures market, exchange trading, arbitrage, market hedging and speculation.; Exchange rate determination—purchasing power parity theory, asset market approach

### **Unit II: Balance of Payments and Adjustment Mechanisms**

The process of adjustment under flexible and fixed exchange rate system—price and income adjustments; foreign trade multiplier with and without foreign repercussions. Devaluation—elasticity and absorption approaches; Expenditure reducing and expenditure switching policies and direct controls; Policies for achieving internal and external balance simultaneously under alternative exchange rate regimes; Monetary approach to balance of payments

### **Unit III: Exchange Rate Theories**

Short Run and Long Run determinations, Purchasing Power Parity, Fixed exchange rate and intervention

### **Unit IV: International Monetary System**

Evolution, operation and collapse of Bretton Woods system, contemporary International monetary system—IMF Fixed and flexible exchange and contemporary system of floating Exchange rate; Theory of optimum currency area; Euro currency markets and international bond markets

### **Unit V: Growth and Reforms**

Growth strategies; inward-issuing vs outward-looking growth orientation; exports and growth; Export-instability, exchange rate variability, and the effects on trade and growth; theories of foreign direct investment and international capital flows; empirical work on these issues; international commodity agreements and cartels; the Dutch disease, or de-industrialization; trade reforms and structural adjustments; the important of scheduling reforms and comparisons of country experiences.

### **Readings**

1. Carbaugh, R. J (1994)- International Economics, (11th Edition). Thomson South Western, New Delhi
2. Salvatore, D (2000) - International Economics, (8th Edition). Wiley India, New Delhi
3. Krugman P. R. and Obsfeild M.(2006) - International Economics- Theory and Policy, (5th Edition). Addison Wesley
4. Soderston, B. and Reed G.(1998) - International Economics, 3rd Edition, McMillan Press Ltd., London
5. Keith Pilbeam (2001) – International Finance, 3<sup>rd</sup> edition, Palgrave

## M.A. APPLIED ECONOMICS

Semester III

**ECON 512**

**INDIAN PUBLIC FINANCE**

**4 CREDITS**

### **Unit I: The Indian Tax System**

Constitutional Assignment of Expenditures-Union, States and Concurrent: 73rd and 74th 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

### **Unit II: Government Expenditure**

Growth of Expenditure: Changing Composition, functional, Capital and Revenue heads; Evaluation of Structure of Government Expenditure: Centre and States.

### **Unit III: Deficit and Public Debt**

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

### **Unit IV: 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.

### **Unit V: 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.

### **Readings**

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

## M.A. APPLIED ECONOMICS

Semester III

**ECON 513**

**ECONOMETRIC METHODS - II**

**4 CREDITS**

### **Unit I: Simultaneous Equations Models**

Introduction to Simultaneous Equation Models – Problem of Identification and Consequences of ignoring Simultaneity – Estimation Procedures: Indirect Least Squares, 2SLS, 3SLS – Application: A Simple Keynesian Model – Estimation with Serial Correlation and Lagged Dependent Variable

### **Unit II: Time Series Analysis**

Basic Concepts in Time Series Econometrics, Stochastic Time Series Models, Stationarity and Testing for Unit Root, Co-integration, ARIMA Models and Forecasting, ARCH and GARCH models

### **Unit III: Dynamic Econometric Models**

Autoregressive and Distributed Lag models: Role of Lag in Economics – Estimation of Distributed Lag Models: Koyck Approach, adaptive Expectation and partial Adjustment Models and Almon Approach – Causality in Economics – Vector Auto-Regression (VAR) Models: Impulse Response Function, Variance Decomposition

### **Unit IV: Analysis of Panel Data**

Pooling Cross-sectional and Time Series Data – Estimation: Fixed Effects Approach, Random Effects Models, Fixed versus Random Effects Model

### **Unit V: Carrying out An Empirical Project**

Selecting a Topic, Review of Literature, Formulating a General Model, Empirical Analysis, Caution on Misleading Uses of Econometrics

### **Readings**

1. Gujarati, D (1995)- *Basic Econometrics*, 4th Edition, New York: McGraw Hill
2. Johnston, J (1991) - *Econometric Methods*, 3rd edition, New York: McGraw Hill.
3. Pindyck, Robert S. and Daniel L. Rubinfeld (1995) – *Econometric Models and Economic Forecasts*, 4<sup>th</sup> Edition, Irwin McGraw-Hill, New York
4. Ramanathan, Ramu (2000)– *Introductory Econometrics with Applications*, 5<sup>th</sup> Edition, Cengage Learning India Pvt. Ltd., New Delhi

## M.A. APPLIED ECONOMICS

Semester III

**ECON 514**

**ENVIRONMENTAL ECONOMICS**

**4 CREDITS**

### **Unit I: Introduction**

An introduction to environmental economics, economy-environment interaction, the Material Balance Principle, Entropy Law, Market failure, property rights, open access resources, collective action

### **Unit II: Environment and Welfare**

Economic activity and environment quality—interactions and tradeoffs; Roots of environmental degradation—consumers and producers surplus; Market and government failure and environmental degradation—public goods, externalities and CPR; Coase theorem; Issues of time—environmental discount rate, time and renewable resource

### **Unit III: Measurement of Environmental Values**

Optimal environmental protection; Concept of environmental value; Valuation approaches—averting behavior approach, hedonic pricing, contingent valuation technique; valuing life and health.

### **Unit IV: Environmental Policy**

Environmental regulations- promoting Coasian markets; Pivogian taxes; command and control verses market based instruments; Effluent and emission taxes verses tradable permits; The tools in practice; Micro planning for environment and eco-preservation—water sheds, joint forest management and self help groups

### **Unit V: Environmental Issues**

International environmental externalities—theoretical illustration and policy responses; Economics and global warming—analytical complexities; damages of greenhouse warming—approaches, tools and international response; Economics and fisheries—simplified model; Sustainable development—changing views on resource limits, policies for sustainable development; Green NNP

### **Readings**

1. Rabindara, N. B (1998). - Environmental Economics - An Indian Perspective. Oxford University Press
2. Charles S. P (2000). - Economics and Global Environment. Cambridge University Press, Cambridge.
3. Barry C. F. and Martha K. F.(2004) - Environmental Economics. McGraw Hills, Irwin.
4. Hussain A. M.(1998) - Principals of Environmental Economics. Rutledge London.
5. Kolstad, C.D (1995). - Environmental Economics. Oxford University Press, New Delhi.
6. Sankar, U (2001). (ed.) - Environmental Economics. Oxford University Press, New Delhi.

## M.A. APPLIED ECONOMICS

Semester III

**ECON515**

**ECONOMICS OF MONEY AND BANKING**

**3 CREDITS**

### **Unit I: Introduction to the Course and Basic Concepts**

Introduction – Concept of money and its functions – Basic banking and general principles of bank management – Role of money and banking for the economy – Historical aspect of money and banking in India

### **Unit II: 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

### **Unit III: Money and Interest Rates**

Money and Interest Rate: 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

### **Unit IV: RBI and Conduct of Monetary Policy in India**

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

### **Unit V: Banking Regulation and Supervision in India**

Banking supervision and regulation in India – CAMELS – Management of credit risk, market risk and operational risk – Basel prudential norms – Derivatives and other off-balance sheet activities – Lessons from recent financial crisis for banking regulation and operations

### **Readings**

1. Mishkin, Frederic (2008): *The Economics of Money, Banking, and Financial Markets*, 7th edition, Pearson Addition Wesley, New York
2. Pierce D.G. and P.J. Tysome (1985): *Monetary Economics: Theories, Evidence and Policy*, 2<sup>nd</sup> Edition, Butterworths, London
3. Rangarajan, C. and B. H. Dholakia (1979): *Principles of Macroeconomics*, Tata-McGraw Hill Publishing Company Limited, New Delhi
4. Rangarajan, C. (2009): *India: Monetary Policy, Financial Stability and Other Essays*, Academic Foundation, New Delhi
5. Reddy, Y.V. (2000): *Monetary and Financial Sector Reforms in India: A Central Banker's Perspective*, UBSPD, New Delhi.
6. Reserve Bank of India: *Report on Currency and Finance*, various issues.

## M.A. APPLIED ECONOMICS

Semester III

**ECON516**

**OPTIMIZATION TECHNIQUES**

**3 CREDITS**

### **Unit I**

Unconstrained and constrained optimizations

### **Unit II**

A special variety of equilibrium analysis – Optimum values and relative maximum and minimum – First derivative test – Second derivative test – Second and higher order derivatives.

### **Unit III**

Linear programming - Simplex method – Statement of basic theorems of linear programming – Shadow prices and their uses.

### **Unit IV**

Non linear programming – its nature - Kuhn-Tucker conditions - Constrained qualification, Kuhn-Tucker sufficiency theorem – Economic applications.

### **Unit V**

Dynamics and integration – Indefinite integrals – Definite integrals –Improper integrals –Domar growth model.

### **Readings**

1. Sydsaeter, Knut and Peter Hammond (2002) - Essential Mathematics for Economic Analysis, Prentice Hall: Harlow, England.
2. Yamane, Taro (1962) - Mathematics for Economists, Prentice Hall,
3. Allen, R.G.D (2008). - Mathematical Analysis for Economists, Macmillan Press, New Delhi.
4. Chiang, A.C (2005)- Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
5. Handry, A.T (1995). - Operations Research, PHI, New Delhi.

## M.A. APPLIED ECONOMICS

Semester III

**ECON517**

**ISLAMIC ECONOMICS**

**3 CREDITS**

### **Unit I:**

Islamic Economics – nature – definition, methodology - assumptions - Islamic man vs economic man, sources – role of revealed knowledge.

### **Unit II**

Contribution of Muslim scholars to economic thought. Critique of Schumpeterian Great Gap thesis. Indebtedness of Medieval Scholastics to Muslim scholars, Contribution of Abuyusuf, Mawardi, Gazal, Ibn Themiah, Ibn Hazm, etc.

### **Unit III**

Islami Economic system – unique features – policy objectives, policy Instruments, comparison with capitalism, socialism, welfare state. Disintegration of socialist system, crises in capitalism – contemporary relevance of Islamic economic system.

### **Unit IV**

Theories of consumption, production and distribution. Consumer behavior – time scale of consumer behavior, wants vs needs, Islamic concept of goods – ethics of consumption, conservation of resources. Motives of production, objectives of production, factors of production, goals of firm. Islamic concept of distributive justice – Distributive schemes of Islam – Zakah, abolition of unearned income, law of inheritance.

### **Unit V**

Interest free banking – rationale of abolition of interest (riba). Theory and practice of interest less banking. Methods of Islamic financing - Musharaka, Mudaraba, Ijara, Murabaha, Salam, Istisna. Interest free banking – prospects and problems in Indian context.

### **Unit VI**

Public Economics – Sources of revenue – Zakah, Kaffarh, taxes,“fai”. Heads of expenditure. Principles of taxation in Islam.

### **Unit VII**

Economic Development – Main stream and Islamic approach. Islamic strategy – role of Government. Poverty – causes – alleviation measures in Islam.

### **Readings**

1. Mohamed Umer Chapra (1996): What is Islamic Economics, Islamic Research and Training Institute, IDB, Jeddah.
2. M.A. Mannan (1986): Islamic Economic Theory and Practice, Cambridge, Islamic Academy Revised Edition.
3. Mohamed Akram Khan(1994): An Introduction to Islamic Economics, International Institute of Islamic Thought and Institute of Policy Studies, Islamabad.

## M.A. APPLIED ECONOMICS

Semester IV

**ECON 521**

**RESEARCH METHODOLOGY**

**4 CREDITS**

### **Unit I: Research Approach**

Meaning of research- objectives of research - Approach to research- Significance of research - Types of research- Research in social science - Facts, theories and concepts in social science research - Research Design - features of a good research design.

### **Unit II: Identifying a Research Problem**

Research problem – Identifying the research problem – formulation of research problem, concept of hypothesis- role and formulation of hypothesis- scientific methods of research- nature of scientific research- stages of scientific methods.

### **Unit III: Research Methods**

Logic and Scientific method- deductive and inductive methods- the case study methods- merits and demerits of case study methods- survey methods- merits and demerits of survey methods- type of survey- selecting the survey method – sample survey different types – merits and demerits.

### **Unit IV: Survey Techniques**

Schedule and questionnaire – principle underlying the construction of questionnaire- measurement and scaling techniques- processing and analysis of data

### **Unit V: Presentation**

Interpretation and report writing- steps- bibliography quality of a good research report

### **Readings**

1. C.R. Kothari (1985),- Research Methodology, Wiley Eastern Ltd., New Delhi.
2. W. G. Cochran (1977)- Sampling Technique, John wiley, New York.
3. W.J. Goode and P.K. Hatt (1952) - Methods in Social Research, McGraw Hill, New York.
4. T.S. Wilkinson and P.L. Bhandarkar (1994) Methodology and Techniques of social Research, Himalaya Publishing
5. Earl Babies (2006), The practice of Social research, Wadsworth Publishing.

## M.A. APPLIED ECONOMICS

Semester IV

**ECON 522**

**INDIAN ECONOMY- ISSUES AND POLICY**

**4 CREDITS**

### **Unit I: Overview**

State of the Economy at the Beginning of the Fifties - Policy of Planned Development – Growth and Structural Change till the ‘eighties – Evolution of Controls and Obstacles to Fast Growth – New Economic Policy – Performance of the Economy since 1991 – Major Aspects of Transformation

### **Unit II: Industrial Development**

Critique of industrial policies-industrial reforms-Sources of Industrial finances- Banks, share market, Insurance companies, Pension funds, Non banking sources and Foreign Direct Investment (FDI) – Role of Foreign Capital for direct investment and portfolio investment- Multinationals – reform of public sector enterprises-privatization and disinvestment debate-globalization and its impact on industrial development- regional disparities in industrial and structural growth -issues facing small scale sector-unorganized sector- Reservation policy relating to small scale Industries- Industrial relations and Labour welfare-National commission on labour- issues in labour market reforms

### **Unit III: India’s External Sector**

Foreign Trade: Salient features of India’s Foreign trade- composition, direction and Organization of Trade – New Economic policy and trade: Intellectual Property Rights, Implications of TRIPS, TRIMS, GATS and New EXIM policy- Impact of WTO on various aspects of Indian Economy- Balance of Payments, tariff policy- New Exchange Rate Regime: Partial and full convertibility, Capital Account convertibility, Exchange rate and WTO requirements

### **Unit IV: Financial Sector in India**

Money and capital markets- Changing role of RBI -financial sector reforms-monetary policy of RBI and interest rate polices- issues of commercial banks-stock exchange-working of SEBI and capital market reforms- Development finance Institutions, foreign banks and non banking financial institutions-Analysis of price behavior in India-policies of price control.

### **Unit V: Current Economic Issues in India**

Adverse impact of Economic Reforms (privatization, liberalization and globalization)- impact of global financial crisis on the Indian economy-response of India to global crisis- Decelerating agricultural growth- Causes of environmental degradation-jobless growth and unemployment – inequality and economic power- poverty and deprivation-parallel economy- Growing regional inequalities- Rural urban disparities- problems of urbanization and migration- Balance of payments crisis -Growing fiscal deficit

### **Readings**

1. Ahluwalia. I.J. and I.M.D Little (Eds) (1999), India’s Economic Reforms and Development, Oxford University Press, New Delhi.
2. Bardhan, P.K. (1999), The Political Economy of Development in India, Oxford University press, New Delhi.
3. Bawa,R.S. and P.S. Raikhy,(1997), Structural Changes in Indian Economy, Gurunanak Dev University press, Amritsar.
4. Chakravarty, S.(1987), Development planning: The Indian Experience, Oxford University press,
5. Datt.R. (2001), Second Generation Economic Reforms in India, Deep and Deep publications,.
6. Ruddar Datt and K.P.M. Sundaram,(2008), Indian Economy, Sultan Chand and Co ,New Delhi.

## M.A. APPLIED ECONOMICS

Semester IV

**ECON 524**

**APPLIED ECONOMETRICS**

**3 CREDITS**

### **Unit I: 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: Stationarity and Unit Root Tests, Co-integration, VAR

### **Unit II: Applications in Microeconomics I**

Consumer Demand Analysis: Specification and Estimation of Demand Equations – Estimation of Engel Curves – Estimation of Complete Systems of Demand Equations

### **Unit II: Applications in Microeconomics II**

Production Analysis: Specification and Estimations of Production Function: Cobb-Douglas, CES and Translog, Measurement of Multifactor Productivity

### **Unit IV: Applications in Macroeconomics**

Demand for Money – Term Structure of Interest Rates – Phillips Curve – Exchange Rate and Purchasing Power Parity.

### **Unit V: Use of Econometrics Software**

Uploading Raw Data – Summary Statistics – OLS Method: Model Specification, Estimation, Interpretation, Diagnostic Checks – Time Series Analysis: Unit Root Tests, Co-integration Analysis, Estimation of VAR Model – Panel Data Analysis

### **Readings**

1. Pindyck, Robert S. and Daniel L. Rubinfeld (1997), *Econometric Models and Economic Forecasts*, 4<sup>th</sup> Edition, Irwin McGraw-Hill, New York
2. Ramanathan, Ramu (2001) *Introductory Econometrics with Applications*, 5<sup>th</sup> 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., London

## M.A. APPLIED ECONOMICS

Semester IV

**ECON525**

**HEALTH ECONOMICS**

**3 CREDITS**

### **Unit I: Health for Development**

The Role of Economics in Health sector - Health - a major component of Social Welfare-recent economic theory of investment in man.

### **Unit II: Demand for Health and Medical Care**

Demand for Health-The Production of Health- Measures of health Status-Determinants of Health Status – The Demand for Medical Care as an investment –Factors influencing Demand – Measure demand.

### **Unit III: Issues in Economics of Health**

Health Care Sector- Nature of Demand and Supply in Health Economics-Input and Output in Health Industry – Difficulties in the Application of Economic Concept in health Sector-Cost and Benefit Analysis in Health Economics.

### **Unit IV: Supply of Health Care Services**

Nature of Supply of Health Care services – Health Production Function –Pricing of Health Care Services

### **Unit V: Health Care policy and Health Planning in India**

Objectives of Health Care Policy –Short term and Long term objectives-Complementarity of Short term and Long term objectives –Components of Health Care System- Need and Demand -Impact of Health and Health Services on Health – Environmental Factors and Health- Health Services in Pre-Independent India – Health Planning in India since independence – Health Programmes Under Five Year Plans- An appraisal of Health Planning.

### **Readings**

1. Yasodha Shanmugasundaram (1994) Theory and Practice of Health Economics in India Allied Publishers Ltd.
2. Government of India (1983) National Health Policy, New Delhi.
3. ICSSR AND ICMR (1981) Health for ALL 2000 A,D, ICSSR ,Delhi.
4. Naik J.P (1977) An alternative System of Health Care Services in India – Some Prospects ICSSR Delhi.
5. Panchamukhi, P.R (1980), Economics of Health: A Trend Report, Volume – VII Infrastructure, ICSSR Delhi.

## M.A. APPLIED ECONOMICS

Semester IV

**ECON526**

**FINANCIAL ECONOMETRICS**

**3 CREDITS**

### **Unit I: Predicting Financial Return**

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

### **Unit II: Models of Volatility**

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

### **Unit 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.

### **Unit IV: Random Walks and Cointegration**

Pitfalls-Spurious regression, Cointegration and error correction models, Threshold cointegration and arbitrage models.

### **Unit V: Value at Risk (VaR) Models**

Value at risk-VaR, An econometric approach to VaR calculations, Quantile estimation, Extreme value theory, An extreme value approach to VaR

### **Readings**

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