MADRAS CHRISTIAN COLLEGE

(AUTONOMOUS)

College with Potential for Excellence - UGC

DEPARTMENT OF ECONOMICS

M.A. ECONOMICS

COURSE STRUCTURE & SYLLABUS

(EFFECTIVE FROM ACADEMIC YEAR 2018-19)

M.A. ECONOMICS SYLLABUS
EFFECTIVE FROM ACADEMIC YEAR 2018-19

Sl. No.	Subject Name	Course Category	Hours	Credits
Semester I				
1	Advanced Micro Economic Theory	Core	6	5
2	Mathematical Methods for Economics	Core	6	5
3	Indian Economy	Core	6	4
4	Growth Economics	Core	6	4
5	Elective 1-1	Elective	6	5
	Total		**30**	**23**
Semester II				
Sl. No.	**Subject Name**	**Course Category**	**Hours**	**Credits**
1	Macro-Economic Theory and Analysis	Core	6	5
2	Statistical Methods for Economics	Core	6	5
3	Development Economics	Core	6	4
4	Environmental Economics	Core	5	4
5	Elective 2-1 (or) Elective 2-2	Elective	5	5
	Total		**28**	**23**
Semester III				
Sl. No.	**Subject Name**	**Course Category**	**Hours**	**Credits**
1	Econometric Methods	Core	6	5
2	Public Economics	Core	6	4
3	Research Methods in Economics	Core	6	4
4	Theory of Money and Finance	Core	5	4
5	Elective 3-1(or) Elective 3-2	Elective	5	5
	Total		**28**	**22**
Semester IV				
Sl. No.	**Subject Name**	**Course Category**	**Hours**	**Credits**
1	Applied Econometrics	Core	6	4
2	International Trade and Finance	Core	6	4
3	Capital Markets and Investment Theories	Core	6	4
4	Dissertation	Core	6	5
5	Elective 4-1	Elective	6	5
	Total		**30**	**22**

- Soft skill programme : 4 credits (2 hours per week) in second and third semester each.
  Internship : 2 credits.

M.A. ECONOMICS SYLLABUS
EFFECTIVE FROM ACADEMIC YEAR 2018-19

LIST OF ELECTIVES

Sl. No.	Subject Name	Course Category	Credits
1	Industrial Economics*	Elective	5
2	Agricultural Economics*	Elective	5
3	Game Theory*	Elective	5
4	Theory of Industrial Organization*	Elective	5
5	Operations Research	Elective	5
6	Labour Economics	Elective	5
7	Economics of Gender and Development	Elective	5
8	Selected topics in Cooperative Game Theory	Elective	5
9	Health Economics	Elective	5
10	Economics of Insurance	Elective	5
11	Economics of Social Sector	Elective	5
12	New Institutional Economics	Elective	5
13	Regional Economics	Elective	5
14	Tamil Nadu Economy	Elective	5
15	Complexity Economics	Elective	5
16	Computer Applications in Economic Analysis	Elective	5

* Approved in the last BOS meeting held on 6th July 2017 and further approved by Academic Council held on 19th July 2017.

M.A. ECONOMICS SYLLABUS
EFFECTIVE FROM ACADEMIC YEAR 2018-19

PROGRAMME OUTCOMES

P.O. NO.	PROGRAMME OUTCOMES ***Students of M.A Economics will be able to:***
P.O - 1	Strengthen the understanding of basic microeconomic and macroeconomic theory
P.O.- 2	Understand the working of the Indian economy and the world economies in today's globalized world
P.O.- 3	Determine economic variables such as inflation, unemployment, poverty, GDP, Balance of payments using statistical methods
P.O.- 4	Analyse macroeconomic policies including fiscal and monetary policies of India and other nations
P.O.- 5	Understand growth theories and analyse what makes economies grow in today's context.
P.O.- 6	Appreciate how the capital markets of the country is intrinsically linked to the macroeconomic performance of the nation
P.O. -7	Understand and appreciate how important the environment is in the development process and why sustainable development is the only way forward for any economy.

I M.A. ECONOMICS
(SEMESTERS I & II)

I MA ECONOMICS

CORE: ADVANCED MICRO ECONOMIC THEORY

Semester: I Credits: 5
Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Differentiate between traditional and pragmatic approaches to demand analysis	PO 1	C
CO 2	Learn the theorems pertaining to preference relation and utility	PO 1	U
CO 3	Understand the duality in production function	PO 1	An
CO 4	Analyse the features of modern production functions such as CES and Translog Production Function	PO 1	An
CO 5	Frame Utility function and demand function when there is asymmetric and incomplete information	PO 1	Ap
CO 6	Understand Principal-Agent problem and Moral Hazard in Consumption	PO 1	E
CO 7	Understand various theories for oligopoly market structure and its equillibirum conditions	PO 1	U
CO 8	To analyse the general equilibrium condition by integrating the markets	PO 1	An
CO 9	To apply the general equilibrium conditions for social choice and welfare of the society	PO 1	Ap

Objectives:

This course in Micro Economics aims at providing knowledge to the students to formally analyze the behavior of individual agents such as consumers, producers and markets. It also provides micro foundations for Macro Economics through general equilibrium analysis.

Module I: Theory of Consumer Behavior

Preferences and Itility – Preference Relations – The Utility Function – Indirect utility function – Lump sum principle – Expenditure function - Relative prices and Real Income – Income and Substitution effects – Money metric utility function – Revealed Preference and the Substitution effect.

Module II: Theory of the Firm
Returns to Scale and varying proportions - Duality in production - Profit function – The Envelope theorem – Profit Maximization and Input Demand - Cost Minimizing Input Choices – Cost Functions – Shepherd's Lemma and the Elasticity of Substitution – Short run and long run distinction – Translog cost function.

Module III: Uncertainty
Von Neumann – Morgenstern Utility – Risk aversion – Mean – Variance Utility – The demand for insurance – State dependent utility – Subjective probability theory – Asymmetry of Information - Moral Hazard and Principal – Agent Problem

Module IV: Market Structure
Cournot Equilibrium – Bertrand Equilibrium – Nash Equilibrium – Multi-market Oligopoly – Strategic Substitutes and Complements– Quantity Leadership – Price Leadership – Collusion Repeated Oligopoly Games – Sequential Games – Limit Pricing.

Module V: General Equilibrium and Welfare
Price and Individual Welfare- Efficiency of the Competitive outcome - Equilibrium in exchange – existence, uniqueness, stability of general equilibrium – Walrasian Equilibrium with contingent commodities - Social Choice and Arrow's Theorem – Rawlsian form – The Utilitarian form – Flexible forms.

References:

- Jehle, G. A. and Reny, P. J. (2011). Advanced Micro Economic Theory, Prentice Hall
- Varian. H. R.(1991). Micro Economic Analysis, Third Edition, Norton & Co Publishers.
- Nicholson, W. and Snyder, C. (2010). Intermediate Micro Economics & its applications, South-western Cengage learning.
- Nicholson, W. and Snyder, C. (2007). Micro Economic Theory Basic Principles & Extensions, Tenth Edition. South-western Cengage learning
- Gravelle, H. and Rees, R. (2004). Micro Economics. Third Edition. Prentice Hall.

I MA ECONOMICS

CORE: MATHEMATICAL METHODS FOR ECONOMICS

Semester: I Credits: 5
Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	To understand the mathematical structure of standard economic theoretical framework	PO 1	U
CO 2	Equip students with mathematical tools to solve optimization problems appear in economic theory	PO 1	U and Ap
CO 3	To analyse mathematically the dynamics of the growth process in an economy	PO 5	An
CO 4	Equip students with tools to read the technical writing appear in standard economic journals	PO 1	U and Ap
CO 5	To analyse the dynamics of macroeconomic policies in an economy	PO 4	An

Objectives:

The paper aims to introduce students to the basic building blocks of mathematical analysis used in modern economic theory and equip them with tools to do optimization in both static and dynamic economic environments.

Module I: Introduction to Analysis

Sets - Basic concepts - Ordered sets - Relations-Order relations - Metric Spaces-open and closed sets - Convergence: Completeness and Compactness - Linear spaces - Affine sets - convex sets - Normed Linear Spaces - convexity in Normed Linear space - Preference Relations - Monotonicity and Non-satiation – continuity - convexity - Functions-Functions as Mappings-Correspondences-Monotone functions - Monotone correspondences - Continuous Functions - Continuity of Correspondences - Continuous Maximum Theorem-Fixed Point Theorem (Brouwer's version)

Module II: Vector and Matrix Algebra

Vectors and Vector Spaces: Linear Dependence and Independence of Vectors -Vector Spaces and Subspaces - Basis of a Vector Space-Matrix Algebra - Trace, Rank and Inverse of a Matrix-Orthogonal matrix - Quadratic Form - Definition, Types and Properties - Linear Equation: Consistency of Linear Equations - Solution of a System of Linear Equations (Homogenous and Non-homogenous) - Linear Transformations-Eigen Values and Eigen Vectors.

Module III: Classical Optimization Techniques

Unconstrained Optimization - Two and Three variables- Vector and Matrix Differentiation - Jacobian and Hessian Matrices-Constrained Optimization - Lagrangian Multiplier Technique - Applications - Utility maximization, Profit maximization and Cost minimization.

Module IV: Linear and Non-Linear Programming

Optimization with Inequality Constraints - Linear Programming - Formulation-Primal and Dual-Graphical and Simplex methods - Duality Theorem-Non-Linear Programming-Kuhn-Tucker conditions - Economic Applications

Module V: Economic Dynamics

Differential Equations-Basic Ideas-Types-Solution of Differential Equations (Homogenous and Exact)-Linear Differential Equations with Constant Coefficients (First and Second Order)-Applications- Solow's model-Harrod-Domar Model-Applications to Market models- Difference Equations: Types - Linear Difference Equations with Constant Coefficients (First and Second order) and solutions-Applications- Samuelson's Accelerator-Multiplier model-Cobweb model.

References:

Module I

- Carter, Michael (2001). Foundations of Mathematical Economics, MIT Press, Cambridge,Massachusetts,London
- Ok,E.A. Real Analysis with Economic Applications, Princeton University Press

Module II

- Hoy et al. (2012). Mathematics for Economics, Prentice Hall India Learning Private Ltd
- Hummel, J. A. (1967). Introduction to Vector Functions, Addison-Wesley Publishing Company
- Simon, C. P. and Blume, L. (1994). Mathematics for Economists, W.W.Norton and Company
- Strang, G. (2009). Introduction to Linear Algebra, Wellesley-Cambridge Press

Module III

- Hoy et al. (2012). Mathematics for Economics, Prentice Hall India Learning Private Ltd
- Intrilligator, M. (1971). Mathematical Optimization and Economic Theory, MIT Press
- Simon, C. P. and Blume, L. (1994). Mathematics for Economists, W.W.Norton and Company

Module IV

- Chiang, A. C. and Wainwright, K. (2005). Fundamental Methods of Mathematical Economics, McGraw-Hill Education
- Hoy et al. (2012). Mathematics for Economics, Prentice Hall India Learning Private Ltd
- Intrilligator, M. (1971). Mathematical Optimization and Economic Theory, MIT Press

- Simon, C. P. and Blume, L. (1994). Mathematics for Economists, W.W.Norton and Company

Module V

- Chiang, A. C. and Wainwright, K. (2005). Fundamental Methods of Mathematical Economics, McGraw-Hill Education

I MA ECONOMICS

CORE: INDIAN ECONOMY

Semester: I Credits: 4

Hours: 5

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the important macroeconomic concerns of the Indian economy – Unemployment, Rising prices, migration and other pertinent issues.	PO 2	U
CO 2	Understand the various development strategies adopted by the Indian Government.	PO 2	U
CO 3	Understand the issues with regard to social infrastructure and the ways to bring about a more inclusive Indian economy	PO 2	U
CO 4	Understand the context of and the policies of the Central Monetary Authority of the country and the ramifications of such policies.	PO 2; PO 5	U
CO 5	Understand the importance of the New Economic Policy of 1991; role of foreign trade in India; the changing landscape of Indian services sector, besides others.	PO 2	U and An
CO 6	Understand industrial development during the plan period and the role and importance of small scale and cottage industries in India.	PO 2	U
CO 7	Economic planning and the impact of government sponsored initiatives	PO 2	U and An

Objectives:

The purpose of this course is to develop in the students, a deep understanding of various issues of the economy so that they are able to comprehend and critically analyze the current Indian economic problems.

Module I: Framework of Indian Economy

National Income: Trends and Structure of National Income - Demographic Features - Indicators of Economic Growth and Development - Rural-Urban Migration and issues related to Urbanization - Poverty debate and Inequality, Nature - Policy and Implications – Unemployment and its nature - Central and State Governments' policies – Policy Implications - Employment trends in Organized and Unorganized Sector.

Module II: Development Strategies

Agricultural- Pricing, Marketing and Financing of Primary Sector - Economic Reforms - Rationale of Economic Reforms - Liberalization, Privatization and Globalization of the Economy - Changing structure of India's Foreign Trade - Role of Public Sector Redefining the role of Public Sector, Government Policy towards Public Sector, problems associated with Privatization, issues regarding Deregulation - Disinvestment and future of Economic Reforms.

Module III: The Economic Policy and Infrastructure Development

Energy and Transport - Social Infrastructure - Education, Health and Gender-related issues, Social Inclusion - Issues and policies in Financing Infrastructure Development - Indian Financial System- Issues of Financial Inclusion - Financial Sector Reforms - Review of Monetary Policy of RBI. - Capital Market in India.

Module IV: The Economic Policy and Industrial Sector

Industrial Sector in Pre-reforms period, Growth and Pattern of Industrialization - Industrial Sector in Post-reform period - Growth and pattern of Micro, Small, Medium Enterprises (MSMEs) - Problems of India's Industrial Exports

Module V: The Economic Planning and Govt. Schemes

Structure and Functions of NITI Aayog – Goods and Services Tax (GST) – Smart Cities Mission - Impact of Demonetization: Rural and urban areas – Sector wise impact – Central Government Sponsored Schemes - SSY - NCS - PMJDY – PMKVY – PMUY – DUGKY – DIP – APY.

References:

- Dutt. R. and Sundaram, K. P. M. (2015). Indian Economy, 62nd Edition Sultan Chand & Sons, New Delhi.
- Agrawal. M.K. and Agrawal A.N.(2015). Indian Economy: Problems of Development and Planning, New Age International Publishers, New Delhi.
- Ahluwalia, I. J. and Little, I.M.D. (2012). India's Economic Reforms and Development, Oxford University Press, New Delhi.
- Arvind Panagaria (2011). India: The Emerging Giant, 2nd Edition Oxford Univerty Press, New Delhi.
- Bardhan, P.K. (1999). The Political Economy of Development in India, Oxford University Press, New Delhi.
- Bawa, R.S. and Raikhy. P.S. (1997). Structural Changes in Indian Economy, Gurunanak Dev University Press, Amritsar.
- Jalan, B. (2016). The Indian Economy: Problems and Prospects. Viking. New Delhi.
- Brahmananda, P.R. and Panchmukhi V.A. (2001). '*Development Experience in Indian Economy, Inter-state Perspective*,' Bookwell, New Delhi.
- Chakravarty, S., (1987). Development Planning: The Indian Experience, Oxford University Press, New Delhi.
- Dhingra, I.C. (2006). The Indian Economy: Environment and Policy, S Chand & Sons, New Delhi.
- Gupta,S.P., (1989). Planning and Development in India: A Critique. Allied Publishers Private Limited, New Delhi.

I MA ECONOMICS

CORE: GROWTH ECONOMICS

Semester: I Credits: 4
Hours: 5

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the basics of how economies grow and why they grow differently	PO 5	U
CO 2	Understand how macroeconomic concepts can be applied in the analysis of growth of nations	PO 5	U
CO 3	Infer through the theories of economic growth, how economists have been able to solve burning world economic problems and crises.	PO 3	An, Ap
CO 4	Understand the importance of technology and other related factors in propelling nations towards faster economic growth.	PO 3, PO 5	U
CO 5	Enable students to start thinking in terms of sustainable growth, inclusive economic welfare, etc.	PO 2 , PO 5	U; An

Objectives:

The course is aimed at acquainting the students with the fundamental models used to analyze the theoretical and empirical issues in economic growth and development. Growth economics occupies a significant position in economic theory and practice. India being a developing country, this subject becomes extremely relevant for the students.

Module I: Foundation Stones of Growth and Development

Long term Consequences of population – Technological change – Natural Resources – Environment - Harrod-Domar model - Growth models in Indian Planning - R&D spillover and productivity growth –Evidence OF Impact of Globalization on interpretation of growth and development

Module II: Theoretical Foundations of Economic Growth

Understanding the working of theories of economic growth- Old and new – RBC - Adam Smith on growth – Capital accumulation – Division of Labour – Specialization - Distribution – Aggregate demand and productivity growth – Empirical results

Module III: Growth Theories

Exogenous growth theories – Solow – Solow-Swan and Meade - Endogenous growth theories – Arrow and Romer

Module IV: Theories of Income Distribution

Theories of Income Distribution – Role of capitalists in growth context – Pasinetti – Kaldor – Kalecki

Module V: Capital Accumulation, Technology and Technical Progress

Growth Theories on Capital Accumulation and Technology and Technical Progress – Joan Robinson- Keynes-Ramsey- Vintage Growth Models – Economic Growth and Welfare

References:

- Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
- Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
- Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
- Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols.1 & 2, Elsevier, Amsterdam.
- Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
- Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
- Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York
- Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), Oxford University Press, New Delhi.
- Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.
- Meier G.M. leading Issues in Development Economics

I MA ECONOMICS

ELECTIVE: INDUSTRIAL ECONOMICS

(MAE0101)

Semester: I Credits: 5

Hours: 5

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the behavior and working of firms operating in competitive markets in a better way.	PO 1	U
CO 2	Analyse real world issues using theoretical lenses.	PO 1	U; An
CO 3	Understand industrial growth, prospects and problems with specific reference to the Indian industry.	PO 3	U
CO 4	Understand and analyse the strategic behavior of firms such as collusions, cartels, etc.	PO 1	U
CO 5	Understand how firms price their products in the real world.	PO 1	U

Objectives:

This course aims to provide an understanding of how theories from industrial economics can help students comprehend the behaviour of firms in imperfectly competitive markets. The course is also aimed at helping students with the theoretical tools that can be used to analyse real world issues. The unit dedicated to industrial growth in India is designed to provide the student a good understanding of industrial growth, prospects and problems with specific reference to the Indian subcontinent.

Module I: Basics of Industrial Economics

Industrial categorization and pattern of production – Sole proprietorship and partnership – Joint Venture – Small Micro Enterprises – Micro Small Medium Enterprises- Large Scale Industries – Externalities – Capital-Output Ratio – Technological changes – Technical progress – Scale of Economies – Total Factor Productivity – Technology.

Module II: Industrial Growth in India

Industrial growth in India – Trends and Prospects – efficiency – productivity and performance Constraints – Industrial sickness – factors favouring industrial location – Industrial location policy in India – Liberalisation – Privatisation – Globalisation.

Module III: Strategic Behaviour of Firms

Oligopoly models – Strategic behavior amongst firms – cartels – tacit collusion – monopolistic Competition – differentiated products - markets with network goods – limit price and strategic conduct – monopoly and restrictive trade practices in India.

Module IV: Bargaining, Competition and Substitutes

Multi-market oligopoly – Parker's five competitive forces –Bargaining power of consumers – Bargaining power of suppliers – Threat of new entrants – Threat of substitute products – other variables – MNC Competing goods – The degree of Competition in the industry – Strategy formation.

Module V: Market Pricing

Pricing methods and Pricing technology – Public Utility Services – Administered price by public enterprises – pricing in private sector – going rate pricing – mark up pricing – market penetration pricing – shadow prices - significance.

References:

- Mookherjee, D. (1997). Indian Industry: Policies and Performance. Oxford University Press, Edited.
- Jean Tirole: The Theory of Industrial Organization, (MIT Press) Prentice Hall India.
- Oz Shy: Industrial Organization, MIT Press.
- Stephen Martin: Advanced Industrial Economics, Blackwell.
- Kaushik Basu: Lectures in Industrial Organization Theory, Blackwell.
- Richard Schmalensee and Robert D. Willig (Ed:), Hand Book of Industrial Organization, Volume I and II, North Holland.
- Donald A. Hay and Derek J. Morris: Industrial economics and organization; theory and evidence, Oxford University Press.

I MA ECONOMICS

CORE: MACRO ECONOMIC THEORY AND ANALYSIS

Semester: II Credits: 5
Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the working of the economy as a whole, integrating the different markets.	PO 1; PO 3	U
CO 2	Understand and analyse how the markets function in the short run.	PO 1	U
CO 3	Understand the role rational expectations plays in influencing macro-economic variables.	PO 1	U
CO 4	Understand and analyse how the open economy operates.	PO 1	U
CO 5	Understand and appreciate the role of stabilization policies such as fiscal and monetary policy on the economy.	PO 1	U
CO 6	Understand the various approaches to the working of business cycles.	PO 1	U

Objectives:

This course on Macro Economics intends to make the students under the working of the economy as a whole, integrating the different markets. It gives special emphasis on the role of expectations and information in the estimation of economic variables such as prices interest rates and exchange rate.

Module - I Markets in the Short Run

Goods Market, Financial Markets IS-LM-BP Models – Medium Run – AS-AD model Philips Curve, the Natural Rate of Unemployment - Long Run – Savings – Capital accumulation and output – Technological progress and Growth.

Module – II Expectations

Rational Expectations – Expectations & Financial markets – Expectations and Consumption Investment – Expectation and output and policy - Inter temporal view of consumption and investment – Inflation expectations the DAD and SAS model.

Module – III Open Economy

Openness in goods and financial markets - Output interest rate and exchange rate – Exchange rate regimes, Exchange rate and the Balance of Payments.

Module – IV Stabilization Policies

Stabilization Policies – theory of policy - Tinbergen's approach - Fiscal Policy – Monetary Policy – Optional Policy mix – Crowding out effect – Bond financial and tax – Financed government expenditure – Mundell – Fleming model - Rules Vs discretion – Government debt and budget deficits.

Module – V Business Cycle

Business Cycle patterns - Sticky prices and sticky information - New perspectives on booms and recessions - New Keynesian Responses – New classical approach - Real Business Cycle – Supply Shocks.

References:

- Barro, Robert J. & Sala-i- Martin, Xavier (1995), Economic Growth, MacGrow Hill.
- Blanchard, Olivier (2000), Macroeconomics, Prentice Hall.
- Blanchard, Olivier and Stanley, Fischer (1989), "Lectures on Macroeconomics", The MIT Press Dornbusch, Rudiger , Fischer,Stanley & Startz,Richard (2004), Macroeconomics, 9th Edition, MacGrow Hill.
- Mankiw Gregory (2002), Macroeconomics, 5th Edition, Worth Publishers
- Romer, David (2003), Advanced Macroeconomics, 3rd Edition, Mc Grow Hill Publishers.
- Snowdon, B. and Vane H, R, (2005) Modern Macroeconomics: Its Origin, Development and Current State, Edward Elgar Publishing Ltd.

I MA ECONOMICS

CORE: STATISTICAL METHODS FOR ECONOMICS

Semester: II Credits: 5
Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	To help student understand the relevance of the theory of probability and its application in various economic situations.	PO 1; PO 3	U
CO 2	To understand sampling theory in detail	PO 1; PO 3;	U; Ap
CO 3	To help students to understand the relevance of using different types of probability distributions (Binomial, Poisson and Normal) and using the same for further analyses.	PO 3	U; Ap
CO 4	To understand the various theories related to estimation of best estimator	PO 3	Ap; U
CO 5	To understand the concept and application of testing of hypothesis	PO 1; PO 3	U; Ap
CO 6	To understand and apply statistical tools such as correlation and regression	PO 1; PO 3	U; Ap

Objectives:

The main objective of this course is to equip students with theory and applications of statistical methods which would enable them to apply in actual data analysis.

Module I: Probability Theory and Distributions

Concept of Probability-Conditional probability and Bayes' Theorem-Random Variables-Discrete and Continuous-Density and Distribution functions - Joint, marginal and conditional distributions-Mathematical Expectations with Theorems-Special Distributions-Binomial, Poisson, exponential, normal and Gama distributions-Markov Inequality-Chebyshev inequality-Law of Large numbers-Central Limit Theorem.

Module II: Sampling Theory

Population and Sample (Parameter and Statistic)- Sampling with and Without Replacement-Random samples, Random numbers-Sampling Distributions-Sampling Distributions of means, sampling distributions of proportions, Sampling distributions of differences and sums-Standard Error.

Module III: Estimation

Estimator and estimate-Point and interval estimation-Reliability of an estimate-Mean Squared Error-Properties of a good estimator-Cramer-Rao Lower Bound- Methods of estimation-Least Squares, Method of Moments, Maximum Likelihood-Neyman-Pearson Theory.

Module IV: Testing of Hypothesis

Null and Alternative Hypothesis-Type I and Type II Errors-Critical region-level of significance-P value-One sided and two sided tests-Power of a test- Decision making-Small sample distributions-'t','F', χ^2 Distributions-Applications-ANOVA-one way and two way classification-Goodness of fit.

Module V: Correlation and Regression

Simple, Partial and Multiple Correlation and Regression (Analysis of data and Interpretation)

References:

Module I

- Degrrot,Morris H and Schervish, Mark J (2012) Probability and Statistics, Fourth Edition, Addison Wesley
- Larson, Richard J and Marx, Morris (2012) An Introduction to Mathematical statistics and It's Appliocations, Fifth Edition, Prentice Hall
- Hogg,Robert., et al (2013) Introduction to Mathematical Statistics, Pearson
- Spiegel,Murray R and Stephens,Larry J (2008) Theory and Problems of Statistics, Schaum's Outline, McGraw Hill
- Spiegel,Murray R., et al (2009) Probability and Statistics, Schaum's Outline, MCGraw Hill

Module II

- Mendenhall., et al (2009) Introduction to Probability and Statistics, Thirteenth Edition, Cengage Learning
- Spiegel,Murray R and Stephens,Larry J (2008) Theory and Problems of Statistics, Schaum's Outline, McGraw Hill
- Spiegel,Murray R., et al (2009) Probability and Statistics, Schaum's Outline, MCGraw Hill

Module III

- Larson, Richard J and Marx, Morris (2012) An Introduction to Mathematical statistics and It's Applications, Fifth Edition, Prentice Hall
- Hogg,Robert., et al (2013) Introduction to Mathematical Statistics, Pearson
- Spiegel,Murray R and Stephens,Larry J (2008) Theory and Problems of Statistics, Schaum's Outline, McGraw Hill
- Spiegel,Murray R., et al (2009) Probability and Statistics, Schaum's Outline, MCGraw Hill

Module IV

- Degrrot,Morris H and Schervish, Mark J (2012) Probability and Statistics, Fourth Edition, Addison Wesley
- Larson, Richard J and Marx, Morris (2012) An Introduction to Mathematical statistics and It's Appliocations, Fifth Edition, Prentice Hall
- Mendenhall., et al (2009) Introduction to Probability and Statistics, Thirteenth Edition, Cengage Learning
- Spiegel,Murray R and Stephens,Larry J (2008) Theory and Problems of Statistics, Schaum's Outline, McGraw Hill
- Spiegel,Murray R., et al (2009) Probability and Statistics, Schaum's Outline, MCGraw Hill

Module V

- Spiegel,Murray R and Stephens,Larry J (2008) Theory and Problems of Statistics, Schaum's Outline, McGraw Hill
- Spiegel,Murray R., et al (2009) Probability and Statistics, Schaum's Outline, MCGraw Hill

I MA ECONOMICS

CORE: DEVELOPMENT ECONOMICS

Semester: II Credits: 4
Hours: 5

PG Programme: M.A. Economics Course: Development Economics

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the basic nature of Development Economics with specific reference to India	PO 5; PO4	U
CO 2	Understand and appreciate the various development models.	PO 5	U
CO 3	Understand how resources are allocated and how choice of projects are made.	PO 5	U, An
CO 4	Understand and analyse the economic implications of development on the environment	PO 5	U, An
CO 5	Understand and analyse how nations finance their economic development plans in various ways	PO 5	U, An

Objectives:

Module I: Introduction to Development Economics

India's development strategy – The design of Indian development – Development perspectives – Development – Inflation – Policy framework – Transition to an open economy – Stabilization and Economic Reform in India – Poverty and Policy reforms – The characteristics of underdevelopment and structural change – Stages of development, Industrialization and growth – Kaldor's growth ideology – Classical – Neo-classical and endogenous notion of growth and development.

Module II: Economic Development Models

Factors in the development process and obstacles to development -Agriculture in economic development – Growth of the money economy – Agriculture and industry interdependence – Rural – Urban migration – Urban unemployment – Capital in economic development – Technical progress – Human capital and Investments in Human capital – Education – Infrastructure – Social obstacles to development – Dualism – Regional inequalities – Prebisch model – Seer's model – An Export growth model – Theories of dependence and unequal change – Population and Development – Enke's work and Simon's challenge – Optimum population – Low level equilibrium trap – Critical Minimum Effort Thesis.

Module III: Resource Allocation and Policy Choices

State – Allocation – Sustainable Development – Choice of techniques – Resource allocation – Role of State – Market failures – Policy Models – Policy choices – Balanced v/s Unbalanced growth – Investment criteria – Social welfare function – Project appraisal – Market prices and social values – Shadow prices – Little-Mirrlees formulation – UNIDO approaches to project appraisal.

Module IV: Development and the Environment

Development and the Environment – Market-based approach to environment analysis – Externalities – Renewable-non-renewable resources – Measuring environmental values – National Income Accounting – Sustainable development – Natural capital and equity – International agencies and the environmental issues – Climate change.

Module V: Financing Economic Development

Financing economic development – Financial systems and Development – Informal financial sector -Developments in Banking System – Development Bank and Micro-credit – Financial liberalization – Foreign Assistance Debt and Development – Dual-gap analysis and foreign borrowing – Types of International capital flows – International Debts and Debt servicing issues – International Monetary Assistance in the Development Process – Monetary and fiscal policy in context

References:

- Bardhan, P. and C. Udry (1999), Development Microeconomics, Oxford University Press.
- Basu, K. (2003), Analytical Development Economics: The Less Developed Economy Revisited, The MIT Press.
- Meier, G. and J. Rauch (2004), Leading Issues in Economic Development, 7th edition. Oxford University Press.
- Thirlwall, A.P. (2006), Growth and Development, 8th edition, Palgrave Macmillan.
- Meier, G. (2001). The Old Generation of Development Economics and the New, In: G. Meier and J. Stiglitz (eds), Frontiers of Development Economics, World Bank.
- Ray, D. (2009), Development Economics, Princeton University Press.

I MA ECONOMICS

CORE: ENVIRONMENTAL ECONOMICS

Semester: II Credits: 4
Hours: 5

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Envision sustainable development ideas environment quality degradation and negative externalities owing to rapid industrialization.	PO 7	U
CO 2	Understand the concept of sustainable economic development and the various approaches to the same concept.	PO 7	U
CO 3	Understand and analyse various theories underlying the judicious use of natural resources and sustainable economic development.	PO 7	U
CO 4	Understand the concept, nature of biodiversity and linkages Resource Economics and Ecological Economics.	PO 7	U, An
CO 5	Understand the linkages between the various dimensions related to health and the Environment in the Development Process	PO 7	U, An

Objectives:

Course objective is to help students envision sustainable development ideas environment quality degradation and negative externalities owing to rapid industrialization are issues in hand. Climate change, deforestation and unsustainable use of resources are issues that have been drawing attention in the development agenda. An understanding of the interactions between the environment and economics is essential to formulate strategies for sustainable development, framing suitable policies to tackle environment issues.

Module 1: A Holistic Approach towards Sustainable Economic Development: Environment and the Economy.

Equillibrium Approach – Humankind needs and nature relationship – Population size – Issues – Environment problems – Technology – Production needs – Consumption needs – Depletion of natural resources – Overexploitation of resources and scarcity – Issues of pollution – Externalities and Market Failure.

Module II: Understanding Linkages between Environment and Economics

Material Balance Model – Law of Thermodynamics and Entropy – Welfare Economics – Efficiency and Competitive markets – Environment as a public good and Externality – Pigou and Coase Theorem – Connman Pool Resources – The Tragedy of Commons – Efficient Allocation of Resources – Opportunity Cost

Module III: Envisioning ideas for Sustainable Development

Economic Resources and Sustainable Development – Natural resources – Uses – Scarcity – Exploring alternatives – Optimum Use Criteria – Environmental accounting – Integration of environmental accounts with the system of National Accounts – Environment Impact Assessment (EIA) – Sustainable development for Iata Generational and Intergenerational Equity – Measurement of SD – Strong and weak sustainability – Strategies for Sustainability – EKC.

Module IV: Biodiversity and Economics of Environment, Resource Economics and Ecological Economics

Resources – Types – Hotelling's Rule – Solow Hartwick's rule – Optimality in Forest Harvesting – Taxes – Subsidies – Credits – Coase's theorem and Property rights – Ostrom's Collective Action.

Module V: Environment Linkages of Health Dimensions and Environment in the Development Process

Determinants of Health – Environmental factors – Outcomes – Morbidity and Mortality – Demand and Supply of Healthcare – Human Capital versus Physical Capital – Environmental education for Sustainable Development – Global issues – World Summits on Environmental issues and Sustainable Development - MDG

References:

- R. N. Bhattacharya (2006), Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.
- Ulaganathan, Sankar (2006), Environmental Economics, Oxford University Press, New Delhi.
- Hanley, Shogren and White (2004), Environmental Economics in Theory and Practice, McMillan India Limited, Delhi.
- Singh & Shishodia (2010), Environmental Economics: Theory and Applications, Sage Publications, New Delhi.
- Rathore, M.S. (Ed.) (1996), Environmental and Development, Rawat Publications. Jaipur.
- Garge, M. R. (Ed.) (1996) Environmental Pollution and Protecation, Deep and Deep Publications, New Delhi.
- Lodha, S. L. (Ed.) (1991), Environmental of Environment. RBSA Publishers, Jaipur.
- Rajlakshmi N. And Dhulasi B. (1994), Environomics, Allied publishers Ltd., New Delhi.
- Singh, G. N. (Ed.) (1991), Environmental Economics, Mittal Publications, New Delhi.
- Mehta, C.S. (1994), Environment and Law, RBSA Publishers, New Delhi.
- Karpagam, M. (1993), Environmental Economics, Sterling Publishers, New Delhi. .

I MA ECONOMICS

ELECTIVE: GAME THEORY

(MAE0201)

Semester: II Credits: 5

Hours: 5

MA Programme: M.A. Economics Course: Game Theory

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	To understand the importance of strategic interdependence of agents in economic interactions	PO 1	U
CO 2	To apply the game theoretic concepts and tools to evaluate microeconomic theory	PO 1	Ap
CO 3	To understand the equilibrium notion in situations of strategic interactions	PO 1	U
CO 4	To understand and evaluate extensions of Nash equilibrium in game theory situations	PO 1	U and E
CO 5	To apply the insights gained to explain what students observe in the real world situation of strategic interactions	PO 1	Ap

Objectives:

Game theory models are situations of strategic interactions. The objective of this paper is to introduce students with limited mathematical background to ideas in classical game theory with a special focus on examples.

Module 1: Games with Complete Information

Games in Extensive Form with complete information – Strategies – Backward induction – Threats, Promises and Commitments – Ultimatum game - Rosenthal's centipede game – Continuous games – Stackelberg's model of duopoly – Games in Normal form – Dominated Strategies - Examples – Prisoner's Dilemma, Global warming game, Second-price auctions – Iterated elimination of dominated strategies – Examples – Backward Induction and Iterated elimination of strategies.

Module 2: Nash Equilibria

Definition of Nash Equilibria – Finding Nash Equilibria by Inspection – Cases of Prisoner's dilemma, Stag-Hunt game, Chicken Game, Battle of sexes and water pollution game – Finding Nash equilibria by iterated Elimination of dominated strategies – Finding Nash equilibria using Best response – Cournot's model of Duopoly.

Module 3: Games in Extensive form with Incomplete Information

Utility functions and Lotteries – Examples –games in extensive form with incomplete information – Conversion to normal form – Example- game of buying a used car

Module 4: Mixed Strategy Nash Equilibria

Concept of mixed strategy- Mixed strategy profile- Mixed strategy Nash equilibrium – Nash's Existence Theorem (Without Proof) – Fundamental Theorem of Nash equilibria – Finding mixed strategy equilibria using Fundamental theorem of Nash equilibria – Other ways to find mixed strategy Nash equilibria:- by differentiating payoff functions and using Best response Correspondences- Examples of Two player Zero-sum games and Ultimatum mini game – Critique of Nash equilibrium.

Module 5: Subgame Perfection and Other Topics in Games in Extensive form with Complete Information

Subgame perfect Nash equilibria – Subgame perfect equilibria and backward induction – Subgame perfect Nash Equilibria in infinite horizon games – Duels and Truels, Rubinstein bargaining model, Repeated game – Folk theorem – The Samaritan's dilemma – The Rotten Kid Theorem.

References:

- Gintis,Herbert and schecter,Stephen (2016) Game Theory in Action: An Introduction to Classical and Evolutionary Models, Princeton University Press
- Osborne, Martin J (2004) An Introduction to Game Theory, Oxford University Press
- Tadelis, Steven (2013) Game Theory: An Introduction, Princeton University Press
- Fudenberg,Drew and Tirole,Jean (1991) Game Theory, MIT Press
- Gintis,Herbert and schecter,Stephen (2016) Game Theory in Action: An Introduction to Classical and Evolutionary Models, Princeton University Press
- Hargreaves,H.Shaun and Varoufakis,Yanis (2004) Game Theory: A Critical Text, Routledge
- Gibbons, Robert A Primer in game Theory, Prentice Hall
- Osborne, Martin,J (2004) An Introduction to Game Theory, Oxford University Press
- Tadelis, Steven (2013) Game Theory: An Introduction, Princeton University Press
- Watson, Joel (2013) Strategy: An Introduction to Game Theory, Third edition, W.W.Norton& Company

I MA ECONOMICS

ELECTIVE: AGRICULTURAL ECONOMICS

(MAE0202)

Semester: I Credits: 5

Hours: 5

PG Programme: M.A. Economics Course: Agricultural Economics

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the importance of agriculture to Indian Economic development and to development, in general.	PO 4	U
CO 2	Understand theories related to Agricultural Economics and their applicability in real life agricultural scenarios.	PO 4	U, Ap
CO 3	Understand and Analyse the Indian agricultural situation, natural, human and capital resources; commodity product marketing; and agricultural problems and policies.	PO 4	U, An
CO 4	Understand and analyse international issues and their impact on Indian agriculture.	PO 4, PO 2	U, An
CO 5	Understand various Government schemes that are important in Indian agriculture such as Agricultural Price Policy, Public Distibution System, etc.	PO 4	U

Objectives:

To acquaint the students with introductory Agricultural Economics and theories and their applicability in real life agricultural scenarios. This elective throws specific focus on the Indian agricultural situation, natural, human and capital resources; commodity product marketing; and agricultural problems and policies. International issues and their impact on Indian agriculture is also taken up.

Module I: Agriculture and Economic Development

Nature and role of agriculture in economic development - Farm Organisation - Agricultural Production – Agri-based and Agro-based markets; Inter-sectoral linkages of Agriculture - Efficiency of irrigation and fertilizers on agricultural production.

Module II:

(a) Theories of Agricultural Development

Transformation of traditional agriculture - Mellor's Theory of Agricultural Development, Boserup's Theory of Agricultural Growth, Fei-Ranis, Dale Jorgenson and Schultz Theory of Transformation of Traditional Agriculture.

(b) Agricultural Production and Productivity

Agricultural production - Resource use and efficiency, Production Function Analysis in Agriculture, Factor combination and resource substitution, Cost and supply curves, Size of the farm and laws of returns - Farm budgeting and cost concepts, Technical change labour absorption.

Module III: Agricultural Markets and Prices

Agricultural Markets and Marketing Efficiency - Marketing functions and costs; Market Structure and Imperfections; Regulated Markets; Marketed and marketable surplus; Behaviour of Agricultural Prices - Cobweb model; Price and Income Stability; State Policy with respect to agricultural marketing; Warehousing; Prices; Taxation and crop insurance; Need for State intervention; Objectives of Agricultural Price Policy - Instruments and evaluation; Food Security in India and Public Distribution System (PDS); Minimum Support Price; Role of farm subsidies - Farmer suicides

Module IV: Agricultural Finance

Role of Capital and Rural Credit; Organized and Unorganized Capital Market; Rural savings and Capital formation; Characteristics and sources of rural credit — Institutional and non-institutional; Reorganization of rural credit — Cooperation in India Cooperative movement, Problems and prospects of Cooperative Institutions, Commercial Banks, Regional Rural Banks; Role of NABARD.

Module V: Agriculture and External Sector

Sustainable Agriculture — Indigenous Practices; Bio-technological practices and growth potential-Agri-technology start-ups -Genetically Modified Crops (GMO) - Organic farming - Problems and prospects of Indian Agriculture with specific focus on Globalization of Indian Economy - Issues in Liberalization of domestic and international trade in agriculture -
WTO and Agreement on Agriculture (AOA) - Impact of World Trade Organisation on Indian Agriculture.

References:

- Agricultural Statistics at a Glance (2010), Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
- Bhaduri, A. (1984), The Economic Structure of Backward Agriculture, Macmillan, Delhi.
- Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
- Dantwala, M.L. et.al (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
- Gulati, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
- Kahlon, A.S. and Tyagi D.S. (1983), Agriculture Price Policy in India, Allied Publishers, New Delhi.
- Rudra, A. (1982), Indian Agricultural Economics: Myths and Reality, Allied Publishers, New Delhi.
- Saini, G.R. (1979), Farm Size, Resource Use Efficiency and Income Distribution, Allied Publishers, New Delhi.

- Acharya and Agarwal (1987), Agricultural Marketing in India, Oxford & IBH Publishing Company.
- Agricultural Research Data Book (2009), Indian Agricultural Statistics Research Institute, Pusa, New Delhi 110 012
- Agricultural Statistics at a Glance (2010), Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
- Bhalla, G. S. and Singh G., (2001), Indian Agriculture: Four Decades of Development, Sage Publications.
- Bhalla, G.S., (2007), Indian Agriculture since Independence, National Book Trust, India.
- Chadha, G.K.; S. Sen and H.R. Sharma, (2004), Land Resources, State of the Indian Farmer, Vol. 2, Academic Foundation, New Delhi.
- Dantwala, M. L.et al (1991), Indian Agricultural Development since Independence: A Collection of Essays, Oxford & IBH Publishing Co., New Delhi.
- Dhawan, B. D., 1988, Irrigation in India's Agricultural Development, Sage Publications Pvt. Ltd.

II M.A. ECONOMICS
(SEMESTERS III & IV)

M.A. ECONOMICS II YEAR SYLLABUS
EFFECTIVE FROM ACADEMIC YEAR 2018-19

SEMESTER III				
Sl. No.	**Subject**	**Course Category**	**Hours per week**	**Credits**
1	Econometric Methods	Core	6	5
2	Public Economics	Core	6	4
3	Research Methods in Economics	Core	6	4
4	Theory of Money and Finance	Core	5	4
5	Operations Research	Elective 3-1	5	5
6	Labour Economics	Elective 3-2		
	Sub Total		**28**	**22**
	Soft skill		**2**	**4**
	Total		**30**	
SEMESTER IV				
Sl. No.	**Subject**	**Course Category**	**Hours per week**	**Credits**
1	Applied Econometrics	Core	6	4
2	International Trade and Finance	Core	6	4
3	Capital Markets and Investment Theories	Core	6	4
4	Dissertation	Core	6	5
5	Economics of Gender and Development	Elective 4-1	6	5
	Total		**30**	**22**

II M.A. ECONOMICS

ECONOMETRIC METHODS

(CORE COURSE)

Semester: III Credits: 5

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand basic econometrics techniques which will help and prepare them for their research projects.	PO 3	U, Ap
CO 2	Understand basic regression and its applications in economic analysis.	PO 3	U, Ap
CO 3	Understand and apply estimation of a multiple linear regression model and the various tests of significance associated with it.	PO 3	U, Ap
CO 4	Understand and testing equality of two regression coefficients.	PO 3	U, An
CO 5	Understand the sources of multicollinearity; theoretical and practical consequences of multicollinearity; detection and remedial measures.	PO 3	U, An
CO 6	Understand the sources of heteroscedasticity; theoretical and practical consequences of multicollinearity; detection and remedial measures.	PO 3	U, An
CO 7	Understand the application of simultaneous equations method.	PO 3	U, An

Objectives:

Econometrics is concerned with the use of statistical methods and procedures in the analysis of economicdata. The main objectives of the course are to introduce students to basic econometrics techniques which will help and prepare them for their research projects. This course is designed to provide students with sufficient knowledge of econometrics necessary to understand and evaluate and interpret econometrics researches.

Module I: Introduction

Econometrics – Definition – Scope, Methodology of Econometric Analysis – Population Regression Function – Stochastic PRF – Samples Regression Function – Stochastic Form of SRF

– Significance of Error Term U – Classical Linear Regression Model - Assumptions – The Method of Least Squares.

Module II: Estimation

Estimation of Multiple Linear Regression Model - OLS Estimators - Variance Covariance Matrix – Gauss Markov Theorem - Testing Of Significance 'F' And 't' Test – Coefficient of Determination R^2 - Adjusted R^2 – Jarque - Bera Test.

Module III: Extension and Multicollinearity

Double Log Model – Elasticity – Semi Log Model – Growth Rate – Reciprocal Model –Testing Equality of Two Regression Coefficients – Restricted Least Squares – Prediction With Multiple Linear Regression – Choosing Between Linear And Log Linear Models – Multi Collinearity – Sources – Theoretical And Practical Consequences – Detection – Frisch Confluence Analysis – Farrar And Glauber Test – Remedial Measures.

Module IV: Heteroscedasticity and Auto correlation

Heteroscedasticity – Sources – Consequences – Detection – Graphical; Park ;Glejser ; Gold feld – Quandt ; Breusch Pagan Godfrey (BPG) and White's General Heteroscedasticity Test – Remedial Measures –When σ^2_i is known - when σ^2_i not known – White's Robust Standard Errors. Auto Correlation – Sources – Consequences – Detection – Graphical; Run's Test; Durbin Watson 'd' Test; Breusch Godfrey (BG) Test – Remedial Measures – When ρ is Known – When ρ is not Known – Cochrane-Orcutt (C-O) Iterative Method.

Module V: Simultaneous Equations Method

Definition – Structural Equations and Parameters – Simultaneous Equation Bias –Reduced Form Equations and Parameters – Identification – Derivation of Order and Rank Conditions – Test of Simultaneity – Hausman Test – Test of Exogeneity – Indirect Least Square Method – Two Stage Least Square Method- Instrumental Variable Method – Three Stage Least Square Method.

Suggested Reading:

Textbooks:

- Damodar N Gujarati & Sangeetha (2009), Basic Econometrics, Fifth edition, Tata McGraw Hill.
- Wooldridge J (2012): Introductory Econometrics: A Modern Approach, 5/E South Western.
- Green, William H., Econometric Analysis. Prentice Hall.

References:

- Maddala G.S. (2002) Introduction To Econometrics , 3rd edition , John Wiley & Sons Ltd.
- Johnston J (2006): Econometrics Methods ,3rd Edition, McGraw Hill.
- Damodar N Gujarati, (2011) Econometrics By Example ,Ist edition , Palgrave Macmillan.
- Sankar Kumar Bhaumick (2015). Principles of Econometrics – A Modern Approach Using E – Views, 1st Edition, Oxford University Press.
- Neeraj R. Hatekar (2010) Principles of Econometrics - An Introduction Using R. Ist Edition, Sage.
- Marno Verbeek (2012): A Guide To Modern Econometrics , 4thEdition,Wiley And Sons.
- Nachane DM (2006): Econometrics – Theoretical Foundations and Empirical Perspective, Oxford University Press.
- Ramanathan R (2002): Introductory Econometrics with Applications 5th Edition. Thomson Asia Private Limited.

II M.A. ECONOMICS

PUBLIC ECONOMICS

(CORE COURSE)

Semester: III Credits: 4

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand basic econometrics techniques which will help and prepare them for their research projects.	PO 3	U, Ap
CO 2	Understand basic regression and its applications in economic analysis.	PO 3	U, Ap
CO 3	Understand and apply estimation of a multiple linear regression model and the various tests of significance associated with it.	PO 3	U, Ap
CO 4	Understand and testing equality of two regression coefficients.	PO 3	U, An
CO 5	Understand the sources of multicollinearity; theoretical and practical consequences of multicollinearity; detection and remedial measures.	PO 3	U, An
CO 6	Understand the sources of heteroscedasticity; theoretical and practical consequences of multicollinearity; detection and remedial measures.	PO 3	U, An
CO 7	Understand the application of simultaneous equations method.	PO 3	U, An

Objectives:

This course investigates the role of the public sector in the economic arena, explaining why government intervention is needed, how it influences the behaviour of the private sector andthe welfare effects of such influences. The course covers issues related to policy formulation and execution such as the role ofthe government, provision of public goods, optimal design of tax and social policies, public expenditure, public debt and fiscal deficit.

Module I: Introduction

Objectives – Allocation, Distribution and Stabilization – Public Choice - Evaluation Public Finance Policy – Welfare Criteria and Market Failure - Impossibility of decentralised provision of

public goods (contributions of Samuels and Musgrave) Tieboutmodel,Theory of Club Goods,Stabilization policy: Uncertainty and Expectations: Failure of inter-temporal markets social goals (removing distributional inequalities and regional imbalances) - Reforms in expenditure budgeting – Programme budgeting and zero-base budgeting – balanced budget multiplier.

Module II: Tax Theory

Introduction:Types of taxes – the excess burden of taxation – Partial Equilibrium Analysis – Welfare Cost of taxation – General Equilibrium Analysis – The Welfare Cost of Income Taxes – Further considerations on other Direct and Indirect Taxes – Theory of Incidence and Shifting (Different Tax Cases) – Tax evasion and Black Money – Theory of Optimal Taxation – VAT – GST -

Module III: Public expenditure

Wagner's Law – components of Public expenditure – Public Sector Vs Public Choice – Public Expenditure – Cost, Benefit Analysis and externalities – Cost benefit Analysis and Consumer Surplus

Module IV: Public Debt

Internal debt in the Compensatory System – External Debt – Local Finance and National Finance – The Burden of debt – Wasteful use of foreign Loans – Interests as Social costs – Types of Debt Instruments – Ricardian Equivalence Theorem – Financing a deficit – Brennan and Buchanan's Approach – Public choice and Public Debt – A burden on future generations? – Fiscal deficit – Fiscal Responsibility and Budget Management Act (FRBM) – Fiscal Rules Consolidation - Issues in Public Debt - India's Public Debt Management Policy – Linkage between deficit finance, debt and growth.

Module V: Federal Finance

Fiscal Federalism – Inter Governmental Grants – Public Choice vs Inter Governmental Grants – Public Choice versusFiscal Federalism – Decentralization – Application of the theory of clubs. Virtual and horizontal imbalances constitutional provisions – Finance commission: Devolution of resources and grants.

Suggested Reading:

Textbooks:

- Stiglitz, J. and Rosengard, J. (2015) Economics of the Public Sector, 4th edition, W. W. Norton& Company
- Atkinson, A. and Stiglitz, J. (1980), Lectures on Public Economics, McGraw-Hill ; reprinted byPrinceton University Press (2015).

- Alan Peacock (1979), The Economic Analysis of Governments, St. Martin Press, New York.

References:

- Kaplow, L. (2008) The Theory of Taxation and Public Economics, Princeton University Press.
- Auerbach, A., and M. Feldstein (1987), Handbook of Public Economics, Vol. 1 &2. North Holland, Amsterdam.
- Mirrlees et al. (2010a), Dimensions of Tax Design: The Mirrlees Review, Oxford University Press
- Mirrlees et al. (2010b), Tax By Design: The Mirrlees Review, Oxford University Press
- Myles, G. (2008) Public Economics, Cambridge University Press
- Salani´e, B. (2011), The Economics of Taxation, MIT Press, Amsterdam.
- Bhatia H.L. (2007). Public Finance. Vikas Publishing House Limited.
- Auerbach, A.J. and M. Feldstern (Eds.) (1985), Handbook of Public Econoics, Vol. 1, North Holland.
- Musgrave R.A. (1959). The theory of Public Finance.- A Study in Public Economy
- Musgrave R.A. & Musgrave F.B. (2004). Public Finance in Theory & Practice.

II M.A. ECONOMICS

RESEARCH METHODS IN ECONOMICS

(CORE COURSE)

Semester: III Credits:4

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the pertinent to related to carrying out research in economics.	PO 3; PO 1	U
CO 2	Understand how selection of research topic is done.	PO 3	U, Ap
CO 3	Understand and undertake how review of extant literature is done and appreciate the ethical issues relating to research in economics	PO 3	U, Ap
CO 4	Identify and analyse primary and secondary data sources.	PO 3	U, Ap
CO 5	Understand how theories are tested and how findings are communicated.	PO 3	U
CO 6	Understand the usage of SPSS and other statistical packages in research.	PO 3	U, Ap

Objectives:

This course in research methods deals with issues pertinent to research in economics such as review of extant literature, critically appraise the ethical issues relating to research in economics; identify and analyse primary and secondary data sources; appraise and synthesise the relevant literature, explaining how the theories have been tested; design a research project, carry out research involved and communicate findings. The coursework is practical in approach and is intended to help students in organizing their research-oriented activities.

Module I: Scientific Research

Principles of Scientific Method – Basic elements and steps in scientific Research – Types of Research: applied and Action Research, Mixed Methods (Qualitative and Quantitative Studies), Development and Participatory Research.

Module II: Research Process and Methods of Research

Identification, Selection and Formulation of a Research Problem – Review of Related Literature and summarizing – Sources and Criteria for selection – Preparation of Research Design

and its components – Parametric and Non-Parametric Approach - Exploratory, Descriptive and Experimental Methods.

Module III: Tools of Data Collection

Research Data – Primary and Secondary Sources - Data Collection Methods – Laboratory Randomness Experiment -Sampling and Sampling Designs – Sample Size: Sampling and Non Sampling Errors – Reliability of samples – Data collection tools – Scaling Techniques – Process of Data – Formulation of Hypotheses and Testing.

Module IV: Data Interpretation and Report Writing:

Data Processing – Scoring, Categorization and Coding – Draw of inference and interpretation – Research Report – Basic components and Format of Research Report – Types of Research Reports – Research Findings - Presentation and Publication - Reference materials – Quotation - Bibliography - Footnotes – Glossary – Appendix.

Module V: Application of SPSS to Economic Research

Basic Statistical Analysis (Inferential Analysis) – Exploratory data analysis: Summary statistics – Distribution Plots – Normality Plots with Tests – Compare Means - Means, The One-sample T Test, The Independent-samples T Test, The Paired- samples T Test - One- Way Analysis of Variance- ANOVA - Correlation Analysis

Suggested Reading:

Textbooks:

- Keshab Bhattarai (2015), "Research Methods for Economics" University of Hull Business School, 3rd Edition, London, UK
- Kurien C. T., (1973), 'A Guide to Research, saugau Publishers
- Kothari, C.R., (2012), "Research Methodology: Methods and Techniques, Willey Eastern Limited., Limited.
- Bridget Somekh and Cathy Lewin, (2012) "Theory and Methods in Social Science Research" New Delhi: Sage Publication,

References:

- Deepak Chawala and Neena sandhi, (2011), "Research Methodology: Concept of Cases", New Delhi: Vikas Publication House Pvt Limited.
- Krishnasamy O.R., (2010), "Methodology of Research in social Sciences" Himalaya Publishing House, Bombay.
- Shahjahan S., (2005), " Research Methods for Management" Third Edition, Jaico Publishing House, Mumbai
- PanneerSelvam, R (2010), "Research Methodology" PHI Learning Private Limited, New Delhi.

- Young, P.V., (1994), "Scientific Social Survey and Research, Prentice Hall, New Delhi.
- Turabian, K.L. (2007). A Manual for Writers of Research Papers, Theses and Dissertations. The University of Chicago Press. Chicago and London.

II M.A. ECONOMICS

THEORY OF MONEY AND FINANCE

(CORE COURSE)

Semester: III Credits: 4

Hours: 5

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	To help students to grasp and understand the basic concepts of evolution of money and how it has evolved from a basic exchange to the more complex electronic transactions.	PO 1	U
CO 2	Classical and Keynesian and post Keynesian theories in money helps the students to understand the forces affecting supply and demand for money.	PO 1; PO 2	U
CO 3	To understand and analyse the significance and role of financial and non-financial intermediaries in a developing economy	PO 4	U; An
CO 4	To analyse and understand the application of monetary instruments and monetary measures like multiple indicator approach and other initiatives used by the RBI to control money supply .	PO 2, PO4	Ap; U

Objectives:

This course is designed to provide students with a detailed understanding of the economic theory behind the way in which monetary policy can be designed and implemented. The course focuses on how monetary policy affects real economic activity, and then studies the instruments and goals of monetary policy with specific reference to India. The policy framework that acts as the premise on which the monetary policy operates is also discussed.

Module I: Money and its evolution

Classical quantity theory of money-Neutrality of money-Problem of invalid dichotomy-Real balance effect-Integration of money and real sectors-Keynesian theory of monetary economy-role of money in Keynesian approach-liquidity preference.

Module II: Demand for money

A. Post Keynesian approaches to Demand for money
    1. Transaction Demand for Money-An inventory theoretical Approach

2. Portfolio Approach to money demand-Interest Elasticity of transactions, Precautionary and speculative demand for money
3. Restatement of quantity theory of money
4. Monetarism vs Keynesian

B. Properties of financial assets-Markowitz The portfolio Selection-Efficient market hypothesis.

Module III: Money and Interest Rates

Real and monetary Theories of the rate of interest-Loanable Funds Theories of Interest-The expectations theory-Segmented market theory-The liquidity premium theory-Interest rate in India

Module IV: Finance and money supply

A. Financial Intermediation - Economic rationale for financial intermediation-Role of financial and non-financial intermediaries-structure of the financial markets -inside and outside money-

Role of financial markets and institutions; monetary history of RBI-Management of non-performing assets – Debt Recovery Tribunals-Corporate Debt Restructuring System-SARFAESI Act.

B. Money Supply - Money stock measures-Factors affecting money supply-Money Multiplier-Money supply analysis.

Module V: Monetary Policy

Objectives-targets, indicators and instrument-lags-Rules vs Discretion in monetary policy(time consistency problem), Monetary policy in India- Narasimham Committee on Banking Sector Reforms 1991 and 1998, Liquidity adjustment facility-REPO, MSF, MSS-Inflation targeting, monetary targeting, multiple indicator approach-Efficiency of credit control instruments. Capital adequacy ratio and Basel norms.

Suggested Reading:

Textbooks:

- Bain, Keith and Howells (2009). Monetary Economics: Policy and its Theoretical Basis, Palgrave
- Harris, lawerence(1988), Monetary Theory; McGraw hill book company.
- Jadhav Narendra (2006): Monetary Policy, Financial Stability& Central Banking, Macmillan.
- Handa, Jagdish (2002). Monetary economics. Routledge, 2002.

References:

- Khan, M.Y. (1996), Indian financial System, Tata McGraw Hill, New Delhi.
- McCallum.Bennett.T.(1989);Monetary Economics :Theory and Policy, Macmillan Publishing company.
- Don Patinkin 1965; Money, Interest and prices, Harper and Row Publishers.
- Goyal, Ashima. History of monetary policy in India since independence. Springer Briefs in Economics. New Delhi: Springer, 2014.
- Memos, Mint Street. "Report on Currency and Finance." (2007).
- Reserve Bank of India. Report on Currency and Finance. Reserve Bank of India., 1969.

II M.A. ECONOMICS

OPERATIONS RESEARCH

(ELECTIVE COURSE)

(MAEC0301)

Semester: III Credits: 5

Hours: 5

CO-No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO-1	Solve problems through economic model building.	PO 1; PO 2	Ap
CO-2	Maintain an ideal inventory system using the approaches to inventory control.	PO 3	C
CO-3	Construct networks and perform Program Evaluation and Review.	PO 4	C
CO-4	Identify the Critical Path for optimization of projects on time and cost.	PO 1; PO 4	An
CO-5	Solve for optimal values of transportation cost and Cost of Assignment and also assess the relevance of these optimal values in managerial decision-making.	PO 1; PO 5	Ap; E
CO-6	Construct a Decision Tree and perform Decision Tree Analysis for optimal decision-making.	PO 6	E

Objectives:

Operations Research is a science of modeling and optimization. It allows for modeling of real-world problems by using mathematics, statistics, and computers. It provides tools and theories to solve these real-world problems by finding the optimal solutions subject to constraints of time, labor, resource, material, and business rules. This course is designed to equip students with an approach to intelligent decision-making to develop and manage processes and businesses.

Module: 1 Introduction to Management and Operations Research

Management and Decision making: Decision making and Quantitative techniques – Definition of OR, Characteristics and Methodology of OR, Historical development of OR, Applications and Limitations of OR.

Module: 2 Optimisation Techniques

Linear Programming: Post-optimality analysis – Transportation problem: General Transportation Table, IBFS – North-West Corner Rule, Least- Cost method -Vogel's Approximation Method, , Testing the Optimality: Stepping Stone method, Modified Distribution (MODI) Method – Assignment problem: Methods of solving assignment problems: Complete Enumeration Method, Hungarian Assignment Method.- Net work Analysis –PERT and CPM Techniques.

Module: 3 Inventory Models

Inventory Management: Types of inventories, inventory decisions, inventory costs, inventory management systems – Inventory models: Classical Economic Order Quantity (EOQ) Model, EOQ with Price breaks, Build up Model / EOQ Model for Production runs, Inventory Model with Planned shortages – Ideal Inventory System – Approaches to Inventory Control.

Module: 4 Queuing Models

Queuing Systems: General structure and operational characteristics of a queuing system – Queue Discipline, Queuing Models: Deterministic and Probabilistic Queuing Models.

Module: 5 Decision Theory

Elements of Decision making: Decision making under uncertainty: Maxi – Min and Maxi – Max Criteria, Hurwicz Criterion, Laplace Criterion, Mini – Max Regret Criterion, EMV and EOL Criterion – Decision-Tree Analysis.

Suggested Reading:

Textbooks:

- Hillier, F. S. and G. J. Lieberman, *Introduction to Operations Research*, McGraw-Hill Publishing Company, New York, NY, 1995.
- Taha, H. A., *Operations Research*, Prentice Hall, Upper Saddle River, NJ, 1997.
- Winston, W. L., *Operations Research*, Duxbury Press, Belmont, CA, 1994.

References:

- J K Sharma., "Operations Research, Problems and Solutions, 3e", Macmillan India Ltd.

- P. SankaraIyer, ”Operations Research”, Tata McGraw-Hill, 2008.
- A.M. Natarajan, P. Balasubramani, A. Tamilarasi, “Operations Research”, Pearson Education, 2005.
- P. K. Gupta and D. S. Hira, “Operations Research”, S. Chand & co., 2007.
- J K Sharma., Operations Research Theory &Applications , 3rd Edition, Macmillan India Ltd, 2007.

II M.A. ECONOMICS

LABOUR ECONOMICS

(ELECTIVE COURSE)

(MAEC0302)

Semester: III Credits: 5

Hours: 5

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand issues pertaining to the labor market, wage theories, employment policies, trade unions and collective bargaining in the globalized economy.	PO 1	U
CO 2	Understand theoretical as well as empirical issues relating to the labor market with special reference to India.	PO 2	U
CO 3	Understand various theories of wage determination and analysis of rigidity in labour markets.	PO 2	U
CO 4	Understand industrial disputes and the role of collective bargaining in the settlement of industrial disputes	PO 2	U
CO 5	Understand labour legislation in India.	PO 2	U
CO 6	Understand the concept of social security and its evolution and the status of social security in India.	PO 2	U

Objectives:

This course deals with issues pertaining to the labor market, wage theories, employment policies, trade unions and collective bargaining in the globalized economy have become virtually important for developing countries. This paper exposes students to theoretical as well as empirical issues relating to the labor market with special reference to India.

Module I: Labour Markets

Nature and Characteristics of labor Markets in developing Countries like India, Demand for Labor in relation to size and pattern of Investment, Choice of Technologies and labor Policies; Supply of Labor in relation to Labor Force; Labor Market Policies: Mobility and Production of Labor; Rationalization; Methods of recruitment and Placement, Employment service organization in India

Module II: Employment

Employment and Development Relationship – Poverty and Unemployment in developing countries – Unemployment – Concept, Types and Measurement, particularly in India; Impact of Rationalization, Technological Change and modernization on employment in organized private

industry, Public Sector and employment in Agricultural Sector; Analysis of Educated unemployment; Employment Policy in Five Year Plans and its evaluation.

Module III: Wage Determination

Classical, Neo Classical and bargaining theories of wage determination; Minimum wage, Fair wage in theory and practice; Discrimination in Labor markets, Wage determination in Rural, urban, organized and unorganized sectors. Inflation - Wage relationships; Analysis of rigidity in labour markets. Efficiency of Labor markets in wage determination; National Wage Policy; Wages and Wage boards in India; Bonus System and Profit Sharing.

Module IV: Industrial Relations

Labour movement – Growth, Pattern and Structure of Labor Union in India, Achievements of Labor Unions; Causes of Industrial Disputes and their settlement and prevention mechanism; Role of tripartism; Current trends in Collective Bargaining; Role of Judicial Activism; Labor Legislation in India; Indian Labors Laws and Practices in relation to International Labor standards.

Module V: State and Labour

Concept of Social Security and its evolution; Social assistance and Social insurance; Review and appraisal of state policies with respect to social security and labor welfare in India;Special Problems of labour, Child labour, Discrimination and gender bias in treatment of labour; Receeding state and its effects on working of labor markets; Globalisation and Labor markets.

Suggested Reading:

Textbooks:

- Lester, R A (1964) ; Economics Of Labor ; (2nd Edition) Macmillan, New York.
- Papola, TS, PP Gosh and AN Sharma (Eds) (1993); Labor , Employment and Industrial Relations in India, B R Publishing Corporations, New Delhi.
- Campbell R. McConnell and Stanley L. Brue (1992); Contemporary Labour Economics;(3rd Edition);Mcgraw Hill Book Company
- Joyce P Jacobsen and Gilbert L Skillman (2004). Labour Markets and Employment Relationships: A Comprehensive Approach. London: Blackwell Publishing.

References:

- Datt G. (1996). Bargaining Power wages Emplyoment; An analysis of agricultural Labour Markets in India, Sage Publications, New Delhi.
- Breman, Jan (2002), 'The Labouring Poor in India: Patterns of Exploitation, Subbordination, and Exclusion', Oxford University Press.
- Datt R. (2000), "Regional Patterns of Industrial Relations in India: Changing Scenario after Liberalization," Indian Journal of Labour Economics, 43(4), 1061-1098.

- Hajela, P.D. (1998); LaborRestructuring in India; A critique of the new Economic Policies of Common Wealth Publishers, New Delhi
- Jhabvava, R ana R.K. Subramanya (Eds) (2000); The Unorganised Sector, Work Security a Social Protection; Sage Publications, New Delhi.
- Chaudhuri, K. and Pal, R. (2005) An Empirical Analysis of Industrial Disputes: Evidence from Indian States (Co-author K. Chaudhuri), Journal of Quantitative Economics, New Series Vol 3, No 1
- Rosenberg M R (1998) Labour Markets in Low Income Countries In Chenery. H B and I Srinivasan , (Eds) The Handbook of development Economics , North Holand, New York
- Venkata Ratnam C S (2001) ,Globalisation and Labour Management Relations; Dynamic Change , Sage Publications.
- Robert G. Ehrenberg and Robert S, Smith (1985); Modern Labour Economics- Theory and Public Policy; (2nd Edition) Scott, Foresman and Company ,Glenview, Illinois London, England.
- Howard M. Wachtel (1988); Labour and the Economy;(2nd edition) Harcourt Brace Jovanovich, publisher.

II M.A. ECONOMICS

APPLIED ECONOMETRICS

(CORE COURSE)

Semester: IV Credits: 4

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand basic econometrics techniques which will help and prepare them for their research projects.	PO 3	U, An
CO 2	Understand inclusion and exclusion of variables in a statistical model; model specification and selection.	PO 3	U, Ap
CO 3	Understand and apply dummy variable models in economic analysis.	PO 3	U, Ap
CO 4	Understand the meaning of lags and reasons for the presence of lags in economic analysis; dynamic econometric model and their usage in economic analysis.	PO 3	U, An
CO 5	Understand the concept and application of panel data regression models and its application.	PO 3	U, An
CO 6	Understand time series analysis and its usage in economic analysis.	PO 3	U, An

Objectives:

This paper focuses on econometrics, with specific focus on focus on application and practice. The main objective of this course is to teach students to use and interpret a set of quantitative methods frequently employed in empirical analysis of economic phenomena. In line with the aim of the course to introduce the basic tools to analyze relationships among economic variables and to draw conclusions thereof, this course introduces the students to a range of econometric models such as dummy variable models, distributed lag models, panel data regression models and time series models, besides others.

Module I: Model Specification and Selection

Specification Errors – Inclusion of Irrelevant Variables – Exclusion of Relevant Variable – Measurement Error - Ramsey's RESET Test – Model Selection Criteria - R^2 Criteria – Akaike's Information Criterion (AIC) – Schwarz's Information Criterion (SIC) .

Module II: Dummy Variable Models

Definition – ANOVA and ANCOVA Models – Dummy Variable Trap – Uses – Test of Structural Stability – Interaction Effect – Deseasonalization – Piecewise Linear Regression – Qualitative Response Regression Model – Linear Probability Model – Limitations of LPM – LOGIT and PROBIT Models.

Module III: Dynamic Econometric Models

Role of Lag – Reasons – Distributed Lag Models – Ad Hoc Estimation –Auto Regressive Model – Koyck Approach to Distributed Lag Model – Median Lag – The Adaptive Expectations Model – Partial Adjustment Model – Almon Approach to Polynomial Distributed Lag Model – Causality – Granger Causality Test.

Module IV: Panel Data Regression Models

Panel Data – Pooled Regression – The Constant Co-Efficient Model – Fixed Effect or Least Square Dummy Variable (LSDV) Regression Model – Random Effect Model – Fixed Effect Vs Random Effect – Hausman Test – Breusch And Pagan Test.

Module V: Time Series Analysis

Stochastic Process – Stationary Stochastic Processes – Non Stationary Stochastic Processes Random Walk Without Drift – Random Walk With Drift – Unit Root – Trend Stationarity – Difference Stationary Stochastic Process – Integrated Stochastic Process – Test of Stationarity – Auto Correlation Function (ACF) And Correlogram – Unit Root Test – Dickey Fuller (DF) Test – Augmented Dickey Fuller (ADF) Test –Transforming Non-Stationary Time Series – Cointegration – Testing Cointegration – AR,MA,ARMA Models – Box Jenkin (BJ) Methodology – Partial Correlation Function (PACF) and Correlograms – Estimation of the ARIMA Model – Forecasting.

Suggested Reading:

Textbooks:

- Damodar N Gujarati & Sangeetha (2009), Basic Econometrics, Fifth edition, Tata McGraw Hill.
- Wooldridge J (2012): Introductory Econometrics: A Modern Approach, 5/E South Western.
- Green, William H., Econometric Analysis. Prentice Hall.

References:

- Maddala G.S. (2002) Introduction To Econometrics , 3rd edition , John Wiley & Sons Ltd.
- Johnston J (2006): Econometrics Methods ,3rd Edition, McGraw Hill.
- Damodar N Gujarati, (2011) Econometrics By Example ,Ist edition , Palgrave Macmillan.
- Sankar Kumar Bhaumick (2015). Principles of Econometrics – A Modern Approach Using E – Views, 1st Edition, Oxford University Press.

- Neeraj R. Hatekar (2010) Principles of Econometrics - An Introduction Using R. Ist Edition, Sage.
- Marno Verbeek (2012): A Guide To Modern Econometrics , 4th Edition,Wiley And Sons.
- Nachane DM (2006): Econometrics – Theoretical Foundations and Empirical Perspective, Oxford University Press.
- Ramanathan R (2002): Introductory Econometrics with Applications 5th Edition. Thomson Asia Private Limited.

II M.A. ECONOMICS

INTERNATIONAL TRADE AND FINANCE

(CORE COURSE)

Semester: IV Credits: 4

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the classical, neo-classical and modern theories of trade	PO 1	U
CO 2	To know the causes of emergence of intra-industry trade and its impact on developing countries	PO 1; PO 2	U, An
CO 3	To examine various theories and laws pertaining to international trade and methods to stabilize the exchange rate	PO 1	U, An
CO 4	To have clarity about BOP accounts and price income adjustment methods to correct disequilibrium in BOP Ac.	PO 1	U, An
CO 5	To apply methods to correct disequilibrium through the domestic banking system and the working of the foreign trade multiplier	PO 1	U, An
CO 6	To evaluate the global trading system through economic integration with special reference to IMF, WTO, and World Bank	PO 1; PO 2	U, An
CO 7	To analyse the trade policies followed in India especially Trade Reforms 1991, when the Indian economy was opened up for global trade	PO 2	U, An

Objectives:

The course introduces students to both classical and modern theories of international trade in goods and services, as well as empirical research on trade. The course also focuses on theories of international finance flows, determination of interest and exchange rates in interconnected economies, macroeconomic policies available to the government, besides others. The students will develop an understanding of the main international economics and issues and deepens their understanding of why international trade and foreign investment takes place and the global context in which international trade and finance operates.

Module I: Introduction

An overview of the classical Neo Classical and modern theories of trade - The Rybezynski Theorem – Concept and Policy implications of immiserizing growth – causes of emergence and measurement of intra – industry trade and its impact on developing economics.

Module II: Production, Trade and Growth

Alternative Theories of Trade and Intra – Industry Trade – Imitation lag hypothesis – (Posner) – Product Cycle Theory – (Vernon) – Linder's Theory – Demand Oriented – Kemp Model – Krugman Model – Intra Industry Trade – (Falvey Model) – Economic Growth and international Trade – International Factor Movements

Expenditure – reducing and expenditure switching policies and direct controls for adjustment – policies for achieving internal and external equilibrium simultaneously under alternative exchange rate regimes.

Module III: International Finance

Fundamentals of International Monetary Economics – Balance of payments Account – The foreign exchange Market – Monetary Portfolio balance approaches to the external Balance – Portfolio Adjustments – Current account adjustment to the BOP disequilibrium – Price and income Adjustments.

Module IV: International Monetary Economics

International Monetary Theory and application – International Monetary Equilibrium – the automatic Adjustment Process – Hoarding and Dishoarding – The Monetary Approach – Relative Price Changes – The Specie Flow Mechanism – Income Adjustment – International Capital Mobility – Channel of Adjustments – BOP and Domestic Banking System - Foreign trade multiplier with or without repercussions and determination of national income and output.

Module V: Global Trading Systems

a. Issues in world monetary arrangements – trade policy – instruments – impact of restrictions – New Protectionist Approach to trade Policy Intervention; Economic Integration – Forms of Integration – Specific Country case; global Issues in International Economics – International Monetary System – Bretton Woods System – Goals of IMF, SDRs – International Liquidity – GATT, WTO – Impact of liberalization.- European union
b. Trade Policy in India – Trade Reforms since 1991 and changes thereafter. Foreign Trade Policy 2015-20.

Suggested Reading:

Textbooks:

- Krugman P., Obstfeld M., Melitz M. (2015). International Economics: Theory and Policy, 2015 (10th edition).
- Appleyard D., Field A. and S. Cobb (AFC), International Economics, 6th edition, 2008

References:

- Sodersten B., Reed G. (SR) International Economics, 3rd ed. Macmillan, 1994.
- D. Petropoulou, A. Vanags (UL) International Economics. University of London, Subject Guide, 2011.
- Feenstra, R. Advanced International Trade. Princeton University Press, 2004.
- Auerbach, A., and M. Feldstein (1987), Handbook of Public Economics, Vol. 1 &2. North Holland, Amsterdam.
- Bhagwati & Srinivasan (1983), Lectures on international trade, The MIT Press.
- Copeland L. (CL) Exchange rates and International Finance, 5th edition, 2008

II M.A. ECONOMICS

CAPITAL MARKETS AND INVESTMENT THEORIES

(CORE COURSE)

Semester: IV Credits: 4

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	To help student understand the nuances of causes of fluctuations in capital market and the risks associated with investments into these markets.	PO 6	U
CO 2	To understand the need of fundamental and technical analysis for making effective investment decisions and equipping students to use appropriate tools to understand the market conditions.	PO 2; PO 6	U; An
CO 3	To help students to understand the role of derivative markets and its various instruments and its relevance in the modern world.	PO 4; PO6	U; An
CO 4	To analyse Indian capital markets and the various measures adopted by the country to increase foreign investments.	PO 2, PO4	Ap; U

Credit : 3

Objectives:

The aim of this course is to expose students to the framework of modern portfolio theories and investment analysis with which one can critically evaluate alternatives relating to investing in financial securities and construct portfolio with desired risk return characteristics.This course Is an introduction to asset pricing and capital markets, designed to help students understand the economic concepts and financial theory necessary for analyzing investments. The major topics for this course will include: the principle of no arbitrage, risk and risk aversion, the risk-return trade-off, and applications of portfolio management.

Module I: Introduction to capital markets

Capital Markets and its functions- Institutional framework of Capital Markets- Investments versus speculation-Investment categories-Investment process-types of risk –systematic and unsystematic – risk and return and its impact on investment decision.

Module II: Fundamental and Technical Analysis

a. Fundamental analysis-Economic analysis-Short term and long term forecasting-analysis of macroeconomic indices-industry analysis-key characteristics in Industry analysis- Industry

share price relative to industry earnings-industry life cycle theory-Introduction to financial ratios, earnings per share –Price Earnings ratio-applied stock valuation.

b. Technical analysis- Fundamental versus Technical analysis- market indicators forecasting individual stock performance- Dow theory-Price indicators-Volume indicators-credit balance theory-chart analysis.
c. Credit rating-definition, types and functions- International and Indian agencies.

Module III: Theories of capital markets and investments

Efficient Market Hypothesis and random walk theory-Markowitz Modern Portfolio Theory-Capital Asset pricing model-capital market line-Arbitrage pricing theory-Chaos theory in the financial markets.

Module IV: Derivative Markets

Introduction to derivate markets-Futures and options-historical evolution to these instruments-Difference between forwards and futures-Put and call options-determinants of option value-options positions and strategies-Black Scholes model of option pricing-Interest and currency Swaps.

Module V: Indian Capital Market.

Evolution of the Indian Stock market-Indian financial system –Structure, functions and regulatory framework- SEBI-Mutual Funds-Venture Capitalist-Hedge Funds-Merchant Banking-Universal Banking –External commercial borrowing-performance of Indian stock market, Current issues-scams and international financial crises.

Suggested Reading:

Textbooks:

- F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, Foundations of Financial Markets and Institutions, Pearson Education, 3rd edition, 2009.
- Khan, M.Y., Indian Financial system, Tata McGraw Hill, New Delhi 1996.
- Donald E. Fischer, Ronald J. Jordan, Security Analysis and Portfolio Management, Prentice Hall,6th edition,2006.
- Richard Pike and Bill Neate, Corporate Finance and Investment (Decisions and Strategies), Prentice Hall of India Private Limited, New Delhi (1999).

References:

- Johnson, H.S, financial institutions and Markets, McGrow Hill, New Delhi, 1993.
- Fama, E.F. and Miller, M. H., "Theory of Finance", H.Y. Hold, Rinehert and Winston, 1972.
- Hull, J., "Options, Futures and Other Derivative Securities", Upper Saddle River, N. J., Prentice Hall, 6th edition, 2006, ISBN 013149908-4.

- Chandra, Prasanna (2008), Investment Analysis and Portfolio Management, Tata McGraw Hills
- King, David N. (1999), Financial Claims and Derivatives, International Thomson Business Press.
- Financial dailies: Livemint and Economic Times.

II M.A. ECONOMICS

ECONOMICS OF GENDER AND DEVELOPMENT

(ELECTIVE COURSE)

(MAEC0401)

Semester: IV Credits: 5

Hours: 6

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand how gender inequality is conceptualized through various indices and ratios.	PO 2; PO 3	U
CO 2	Understand the various theoretical perspectives in gender and development.	PO 2	U
CO 3	Analyse women's labour force participation – with specific reference to women in Indian agriculture, informal sector, cottage and small scale industries, organized sector, besides others.	PO 2	An
CO 4	Understand how to measure gender inequality through various indices.	PO 2	U
CO 5	Apply Gender thinking to public policy concepts such as Gender auditing and Gender Budgeting Biases in National Income Accounting.	PO 1	U, Ap
CO 6	Analyse gender in public policy both at the global level and also at the national level.	PO 1	U. An

Objectives:

The effect of gender inequality on economic development cannot be overlooked. This course is designed to bring in the element of gender into mainstream development rhetoric. The course starts with the concept of gender inequality and the various manifestations of the same in the economy. Women participation in the labour market, non-inclusion of domestic work in National Income accounting, various gender-related theories, indices and frameworks, and the influence of gender on public policy are the various themes of this course.

Module I: Conceptualizing Gender Inequality

Defining gender inequality –Few facets of gender inequality - son preference, fertility, reproduction, education, health, mortality, sex ratio, child sex ratio – Multiple roles of women:

Reproductive, productive and community-managing roles – Sexual division of labour in households – Gender stereotyping – Implications ofGender Inequality on Economic Development – Globalization and gender inequality.

Module II: Theoretical Perspectives in Gender and Development

Theoretical perspective in gender and development – The Welfare Approach – The Women in Development (WID) Approach - Shift in perspectives: From Equity to Anti-poverty to Efficiency – The Gender and Development Approach – The Empowerment Approach – Defining Power: Power-over; Power-to; Power-with; Power-from-within – Processes of Empowerment: Personal, collective and empowerment in close relationships – Women Empowerment as a Bottom-up approach - The Feminization-U hypothesis – The glass-ceiling hypothesis – Gender Analysis Frameworks – Need, importance, advantages and limitations – Harvard Analytical Framework and People-Oriented Planning – Moser Framework – Gender Analysis Matrix (GAM) – Women's Empowerment (Longwe) Framework – Social Relations Approach.

Module III: Women in the Labour Market

Women's Labour Force Participation – Historical and Current Trends – Factors affecting Female Labour force participation - Supply and demand for female labour in developed and developing countries – Women workforce in India – Women in Agriculture – Women in non-agricultural activities; informal sector; cottage and small scale industries – Women in the organized sector – Self-Help Groups (SHG) and women employability and entrepreneurship - Wage differentials – Unpaid domestic work – Market and non-market production.

Module IV: Measuring Gender (In)equality

Gender differences in the developed and the developing world - Gender Equity index (GEI), Gender Inequality Index - Gender-related Development Index (GDI), Global Gender Gap Index (GGGI), Gender Empowerment Measure (GEM) - Gender Auditing and Gender Budgeting - - Biases in income accounting – Approaches to measuring non-market work – Time use issues.

Module V: Gender and Public Policy

Gender Policy at the National, Regional and at the Global level - Gender Policy in India – National Policy for the Empowerment of Women (NPEW), 2001 – National Policy for Women (2016, draft) – The role of International Organizations (UNDP, WEF, etc) in Gender Policy and the Sustainable Development Goals (SDGs) – Women and Development at the State Level – Specific women-oriented policies by the Government of Tamil Nadu

Suggested Reading:

Textbooks:

- March, C., Smyth, I., Mukhopadhyay, M. (2005). A Guide to Gender Analysis Frameworks. OXFAM.
- TasliKaan (2007). A Conceptual Framework for Gender and Development Studies: From Welfare to Empowerment

References:

- Cranny-Francis & Waring (2003). "Gender Studies: Terms and Debates". Sage publications
- 'Engendering Development – Through Gender Equality in Rights, Resources and Voice'. A World Bank Policy Research Report. January 2001.
- Benería L (2003). Paid and unpaid labor: meaning and debatesin Gender, Development and Globalisation', Routledge, London, 2003.
- Boserup, E. (1970). Women's Role in Economic Development.
- Campillo F (2003).'Unpaid household labour: a conceptual approach' in M Gutiérrez (ed) Macro-Economics: Making Gender Matter, Zed Books, London, 2003.
- Overview to World Development Report 2012: Gender Equality and Development (2012)
- Sen A (1990), More than 100 Million Women are Missing, The New York Review of Books
- Sen A (1999) Women's Agency and Social Change, Ch.8 of Development as Freedom
- Sikoska T, 'Measurement and valuation of unpaid household production: a methodological contribution' in M Gutiérrez (ed) Macro-Economics: Making Gender Matter, Zed Books, London, 2003.
- UNDP (1995). Valuing women's work' in Human Development Report, UNDP, New York.
- N. Kabeer (1994): Reversed Realities: Gender Hierarchies in Development Thought. New Delhi.
- Candace West; Don H. Zimmerman. *Doing Gender*. Gender and Society, Vol. 1, No. 2. (Jun., 1987), pp. 125-151

I MA ECONOMICS
ELECTIVE: THEORY OF INDUSTRIAL ORGANISATON

Semester: II Credits: 5
Hours: 5

PG Programme: M.A. Economics Course: Theory of Industrial Organization

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the basics of how economies grow and why they grow differently	PO 5	U
CO 2	Understand how macroeconomic concepts can be applied in the analysis of growth of nations	PO 5	U
CO 3	Infer through the theories of economic growth, how economists have been able to solve burning world economic problems and crises.	PO 3	An, Ap
CO 4	Understand the importance of technology and other related factors in propelling nations towards faster economic growth.	PO 3, PO 5	U
CO 5	Enable students to start thinking in terms of sustainable growth, inclusive economic welfare, etc.	PO 2 , PO 5	U and An

Objectives:

Industrial organization is a field that builds on the theory of the firm by examining the structure of and boundaries between firms and markets. The course focuses mainly upon the theory of the firm and the industry and focuses on firms' strategic behavior in price and non-price competition. The course applies price theory and game-theoretic techniques to explain industry structure, conduct, and performance.

Module 1: Introduction to Industrial Organisation

Introduction and Review of Market Structure. Technology and costs. Perfect Competition. Monopoly – MRTP in India. Measuring market power. Imperfect (Oligopolistic) Competition – Introduction to game theory. Static games. Nash equilibrium. Prisoner's dilemma. Cournot model. Bertrand model. Capacity constraints in price competition.

Module 2: Cartels and Collusion

Dynamic games. Extensive form games. Sub-game perfect equilibrium. Stackelberg model. Repeated games and tacit collusion. Non-Cooperative collusion under imperfect information.

Module 3: Firm Behaviour

Industrial structure and incumbent advantage. Limit pricing and credibility, Dixit model of capacity investment. Product differentiation – Product differentiation resolves Bertrand Paradox. Spatial Competition. Pricing, Location and Entry.

Module 4: Price Discrimination and Vertical Restraints

Price discrimination – Perfect, Second degree, Third degree price discrimination. Non-linear pricing and bundling. Application: post-patent drug price anomaly. Vertical restraints (Exclusive Territories, Tie-In, Resale Price Maintenance, etc.) and Vertical Externalities (Double Marginalisation, Downstream Moral Hazard).

Module 5: Information Economics

Price dispersion and search – Price dispersion for homogenous products. Diamond paradox. Equilibrium price dispersion with costly search. Auctions. Games of incomplete information. Bayesian equilibrium. First-price auctions, second-price auctions. Winner's curse. Applications.

References:

- Anindya Sen (1996); Industrial Organisation, Oxford University Press.
- Jean Tirole (1988); The Theory of Industrial Organisation, MIT Press.
- Nicolas Boccard (2010); Industrial Organisation: A Contract Based Approach.
- Carlton. D and Perloff. J; Modern Industrial Organisation, Harper / Collins.
- Clarkson, Kenneth. W; Industrial Organisation Theory: Evidence and Public Policy.
- Paul Belleflamme and Martin Peitz (Second Edition); Industrial Organisation: Markets and Strategies.

II M.A. ECONOMICS
SELECTED TOPICS IN COOPERATIVE GAME THEORY
(ELECTIVE COURSE)
Credits: 5

MA Programme: M.A. Economics Course: Selected topics in Cooperative Game Theory

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	To understand the situations of cooperative game theory where players face mutually binding agreements. s	PO 1	U
CO 2	To understand and analyse the differences between cooperative and noncooperative game theory.	PO 1	U, An
CO 3	To solve the problem of mathematical matching or a procedure for finding a stable matching system.	PO 1	U, Ap
CO 4	To apply cooperative game theory to problems of social justice.	PO 1	U, Ap
CO 5	To apply the insights of cooperative game theory to coalition and majority games and in conflict situations.	PO 1	U, Ap

Objectives:

Cooperative game theory is a branch of game theory where players face mutually binding agreements. This is a collection of topics in cooperative game theory aimed at providing students with an understanding of key concepts with minimum use of formal mathematics.

Module I: Introduction

Basic Ideas- Difference between Cooperative and Noncooperative game Theory - Representational Forms in Game Theory – the Extensive Form, The Normal Form and The Characteristic Function Form – Formal Definition of a Cooperative Game in Characteristic Function Form – Basic Properties of a Cooperative Game – Core of a Cooperative Game (Elementary Idea)

Module II: Mathematical Matching

The Matching Problem- Stability of a Matching System- A Procedure for Finding Stable Matching Systems- Gale-Shapley Algorithm (Deferred Acceptance Algorithm) – Generalizations of Gale-Shapley Algorithm to Cases Involving Indifferences, Cases of Number of Men do not equal the Number of Women and Existence of a Preference List that Doesn't Include All members of the Opposite Sex – Optimality of a Stable Matching System – Conditions for the Existence of a Unique Stable Matching System- Some Economic Applications of Two-Sided Matching Problem.

Module III: Social Justice

Decisions Under Majority Rule – Voting Paradox – Mathematical Representation of the Problem – Assumptions Regarding Individual Preferences – Social Choice Function – Axioms for the Social Choice Function –Concept of Decisive Set – Arrow's Theorem – Sen's Proof for Arrow's Theorem –Sen's Views on Liberalism and the Pareto Principle – Utilitarian Theorems of John Harsanyi.

Module IV: The Shapley Value in Cooperative Games

Cooperative Transferable Utility Games – Concept of Coalition – Coalition Function Games – Examples – Additive Games – Super additive Games – Majority Games – Examples of Majority Games – Symmetric Players and Null Players - The Sum of Games - The Concept of Shapley Value.

Module V: Applications of Shapley Value in Conflict Situations

Case of Dissolving a Partnership – The Shapley Value as the Average of Players' Marginal Contributions – Examples of two Player Market Games and Market with Two Buyers and Two Sellers –The Shapley Value as a Players' Index of Power in Weighted Majority Game (Shapley-Shubik Power Index) –Power Index in the Analysis of Decision Making Bodies – Cost Games.

Suggested Reading:

Text Books:

- Gura, Ein-Ya and Michael B. Maschler (2008) Insights into Game Theory -An Alternative Mathematical Experience, Cambridge University Press.

References:

- Roth A.E. and Sotomayor, M (1990) Two-sided Matching: A Study in Game Theoretic Modeling and Analysis, Cambridge University Press.
- Gale, D and Shapley,L.S (1962) " College Admissions and the Stability of Marriage", American Mathematical Monthly, 69, pp.9-15
- Hunt, Earl (2007) The Mathematics of Behavior, Cambridge University Press, Chap.6
- Chakravarty, Satya R, ManipushpakMitra and Palash Sarkar (2015) A Course on Cooperative Game Theory, Cambridge University Press.

II M.A. ECONOMICS
HEALTH ECONOMICS
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: Health Economics

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand health indicators such as morbidity, mortality and life expectancy rate.	PO 1	U
CO 2	Analyse the theoretical issues in health demand and health supply systems in India	PO 2	U, An
CO 3	Understand in detail about nutrition and measure of poverty in India.	PO 2	U
CO 4	Understand the availability of health infrastructure in India including public and private expenditure on health and functioning of the health care system and the various health plans adopted by the Government.	PO 2	U
CO 5	Examine the principles of health insurance with specific reference to the ageing population	PO 2	U, An
CO 6	Evaluate the role of public and international health institutions such as WHO, UNICEF and other voluntary organisations.	PO 2	U, An

Objectives:

Health economics is the study of how scarce healthcare resources are allocated among competing interventions and among groups in society. This course introduces basic concepts and practical issues faced by decision makers at all levels in the health system in allocating scarce resources so that the choices they make maximise health benefits to the population.

Module I: Introduction

Definition of Health – Health Indicators – Demography of India – Mortality – Morbidity – Life Expectancy at Birth – Sex Ratio – Disability-Adjusted Life Year (DALY) – Quality-Adjusted Life Year (QALY) Techniques, Calculations and Comparisons – Body Mass Index (BMI) - Nutrition and Health – Measures of Nutrition – Nutrition and measures of poverty –Human Development Index –Global Development Index -Development indicators.

Module II: Demand for Health Care

Private, Merit and Public goods – Resource allocation between health care and other commodities **–** Relevance of Consumer demand theory to health – health care and consumer choice – demand

for medical care – factors influencing demand for medical care – Price, Income and Cross elasticity of demand.

Module III: Supply of Health Care

The Supply of Public and Private Health care service - Health as a durable good – Hospital Production function – objectives' and constraints of hospital firm – Optimisation of Hospital size – Hospital Cost and efficiency – Physician as labour – Physician Supply curve – Physician payment mechanism - Physician induced demand – Hospital – Doctor Interaction.

Module IV: Policies and Programmes of Health Care

Health Insurance – Private and Public Health Insurance – role and functions -Health Policy – - Growth of Aging population - Policy and Programmes for Aging Population –ASHA – National Nutritional Programmes – Universal Immunization Programme (UIP) –Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) –JanaiSshsishu Suraksha Karyakarm (JSSK) – Rashtriya Kishore SwasthyaKaryakram (RKSK) – National Health Scheme (NHS).

Module V: Health and Institutions

Role and Functions of WHO –UNICEF-FPAI- National Health Assurance Mission –National Rural Health Mission – National Urban Health Mission – National Family Health Survey

Suggested Reading:

Text Books:

- Health Economics by Bhattacharya, Hyde and Tu (2013).
- Monica Dasguptha, Lincoln C. Chen and T.N.Krishnan (eds), Health, Poverty and Development in India, Oxford University Press, New Delhi. (1996)
- Glied S, Smith P. The Oxford handbook of health economics. 1st ed. New York: Oxford University Press; 2011.
- Feldstein PJ. Health care economics. 7th ed. New York: Delmar Publishers; 2012.

References:

- Mills A, "Economics of Health in developing Countries" Oxford University Press, Oxford.
- Mills A Lee K (Edited) "Health Economics Research in Developing Countries" Oxford University Press
- Human Development Report 2016
- World Health Report 2006, 2007, 2008 and 2010
- National Family Health Survey III and IV

- Culyer AJ. The dictionary of health economics. 2nd ed. Cheltenham, UK: Edward Elgar; 2010.
- Fuchs, Victor R. "What is Health Economics?" In The Future of Health Policy. Boston: Harvard University Press
- K.N. Reddy and V.Selvaraju, Health Care Expenditure by Government of India, Seven Hill Publication, New Delhi (1994)
- Handbook of Development Economics I and II Edition.

II M.A. ECONOMICS
ECONOMICS OF INSURANCE
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: Economics of Insurance

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the basic concepts of insurance such as exposure to losses; risk pooling, life and general insurance, etc.	PO 2	U
CO 2	Understand the fundamentals of uncertainty, risk management, re-insurance, etc with specific context to developing countries.	PO 2	U
CO 3	Understand and analyse insurance as a tool for planning for wealth accumulation and retirement needs.	PO 2	U
CO 4	Understand regulation of the insurance market and the role played by IRDA	PO 2	U
CO 5	Have an indepth understanding of the three major types of insurance – life, health and general insurance.	PO 2	U, An

Objectives:

The vital role of insurance in the task of risk bearing and the risk elimination in economics affairs has not being appreciated adequately in our country. With the opening of insurance sector for the private Indians and foreign players, the interest in the subject has been kindled. This course of Insurance Economics attempts to give a fairly comprehensive view of the subject to the post Graduate students in Economics and pave the way for p[possible future expansion of the teaching of an important branch of economics.

Module I: Introduction

Economic Security; human quest for security through time; exposure to losses; role of insurance; definition of insurance; Risk pooling and Risk Transfer; economics and legal perspective, 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 Decision making under uncertainty; Expected utility and the demand for insurance; moral hazard and insurance demand; concept of risk management; Essentials of Risk Management; elements of Risk management- Risk Assessment: Risk control and Risk Financing; worldwide risk sharing- concept

of re- insurance, fundamental of re- insurance, type of re- insurance. re- insurance distribution system , re- insurance market in developing countries

Module III: Life, health and General Insurance

Essentials of life and health insurance- Fundamental of life and health insurance functions of life and health insurance; mathematical basis of life insurance; plans of life insurance; legal aspects of life insurance; provision of policies; selection and classification of risk; Basis of premium construction; valuation and distribution of surplus; individual health insurance; uses, types of evaluation; principles of underwriting of life and health insurance; group insurance and superannuation (pension) scheme; set up and management of Insurance Companies

Essentials of general insurance-Definition of general insurance; types of general insurance; Importance of General Insurance; Importance of general insurance in a countries economic development; concepts of short term risk; fundamental of following concepts – Common Laws: Equity; indemnity, insurable interest, contribution subrogation, representation; utmost good faith, material fact, physical hazards, moral hazards; policy endorsement, conditions / warranties ; selection of risk; interception of risks; rating and calculation of premiums; tariffs and non- tariffs; making of a general insurance; technology development and general insurance.

Module IV: Planning for Wealth Accumulation and Retirement Needs

Wealth accumulation planning; Life cycle planning ; planning for accumulation, objectives, purchase of insurance and accumulation of planning; Investments – tax advantages and non – tax advantages; essentials of individual requirement planning; analysis of retirement; income needs; retirement planning strategies; investment for retirement, pension plans; Basic Principle of pension plans;Pension plans India; estate planning; process of estate planning tools; life insurance for estate liquidity.

Module V: Regulation of Insurance

Regulation of Insurance; purpose of government's intervention in the market; Theories of revelation; Insurance regulation in India; Insurance regulation and development authority (IRDA).

Suggested Reading:

Textbooks:

- Black, K Jr. and H D Skipper Jr. (2000); Life and Health Insurance, Prentice Hall, Upper Saddle River, New Jersey

References:

- Akerlof, George A. (1970): The Market for Lemons: Quality Uncertainty and the Market Mechanism,Quarterly Journal of Economics 84: 488-500.
- Bailey R (Ed.) (1999). Underwriting in Life Insurance, LOMA, Atlanta, Ga.
- Bhole, L M (1990), India Financial System; Tata McGraw Hill, New Delhi
- Bickelhaupt, D L (1992), General Insurance, Irwin Inc.,Burr Ridge, III

- Finsinger, J. And M V Pauly (eds) (1986); Economics of Insurance Regulation; Cross National Study, Macmillan, London.
- Graves, E E and L Hayes, (Eds), 1994, McGill's Life Insurance, The American College, BlynMawr, PA
- Picard, Pierre (2000): Economic Analysis of Insurance Fraud, in: Dionne, G. (ed.): Handbook ofInsurance, Boston, 315-362.
- Head G L and S Horn II (1991); Elements of Risk Management Vol I – Insurance Institute of America, Malvern, PA
- Skipper Jr, H D (Ed), 1998, International Risk and Insurance: An Environmental managerial Approach, Irwin McGraw Hill, Boston
- Tacchino, K. B. And D A Little, (1993)- Planning for Retirement Needs, The American College, BlynMawr, PA

II M.A. ECONOMICS

ECONOMICS OF SOCIAL SECTOR

(ELECTIVE COURSE)

Credits: 5

PG Programme: M.A. Economics Course: Economics of Social Sector

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the insights of economic theory with specific reference to design and implementation of public related to the social sectors.	PO 1	U
CO 2	Understand what is meant by social economics and the role of the government in creating equality in human societies.	PO 2	U
CO 3	Understand the concept of welfare economics with specific reference to healthcare.	PO 2	U
CO 4	Understand the importance of education in creating human capital; private and social demand for education.	PO 2	U
CO 5	Understand the various sources of social discrimination, causes and consequences of the same.	PO 2	U
CO 6	Understand the several components of human development index and the importance of these indices on development of the social sector.	PO 2	U

Objectives:

To understand the insights to the economic theory in the design and implementation of public policy related to the social sectors. This course finds roots in social economics, health, education and the problem of discriminations in the society.

Module I: Introduction – Social Economics

Introduction of Social Economics: Definition – Equality in Human Societies – Role of government – Social security – Subsidies – Social banking – Refugees, Slavery and Beggary. - Principles of Social Doctrines: Marx, Pope and Gandhi.

Module II: Economics of Health

Concept of Welfare Economics – Health dimensions – Determinants of Health - Demand and Supply of Health care – Financing of healthcare - Concept of human life value – Inequalities in health – Healthcare constraints.

Module III: Economics of Education

Education as an instrument of economic growth – Concept of human capital – components of human capital – Private and Social demand for education – Educational planning and economic growth – Manpower requirements approach – Human resource mobilization and utilization.

Module IV: Social Discrimination

Sources of Social Discrimination – Class, Caste, Religion, Race and language – Monopoly power - Consumerism – Provision of information – Economic crimes and their prevention – Violation of Human Rights – Terrorism: Causes and consequences – Need to control terrorism

Module V: Human Development Index

Indicators – Life expectancy, Per Capita income and Education - Index – HDI Reports, UNDP - Dimensions - Poverty – Inequality – Gender.

Suggested Reading:

Textbooks:

- SeetaPrabhu, K. Economic Reform and Social Sector Development, Sage Publications, New Delhi, 2012.

References:

- Baumol, W J, & Oates, W E, Theory of Economical Policy, Cambridge University Press, 2000.
- Culyer, A.J., The Economics of Social Policy, Martin Robertson and Co. Ltd., London. 1993.
- Douglass C. North and Roger Leroy Miller, The Economics of Public Issues, Harper & Row Press, New York. 2001.
- Dreze, Jean and Amartya Sen, Hunger and Public Action, Clarendon Press, London.1999.
- Jeroen, CJM, Handbook of Environmental and Resource Economics, Edward Elgar Publishing Ltd. 1999.
- Sharp, Ansel M et al., Economics of Social Issues, New Delhi: Universal Book Stall, 2001.

II M.A. ECONOMICS
NEW INSTITUTIONAL ECONOMICS
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: New Institutional Economics

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand about NIE as an economic perspective that attempts to extend economics by focusing on the social and legal norms and rules (which are institutions) that underlie economic activity	PO 1	U
CO 2	Understand the recent formalizations of institutional approach that is widely applied in the study of economic issues.	PO 1	U
CO 3	Understand the nature and significance of various institutional approaches in Economics such as the old and the new institutions, formal and informal institutions, etc.	PO 1	U
CO 4	Understand and apply New Institutional Economics to Markets, Firms and the State.	PO 2	U
CO 5	Understand the concept of Transaction Costs and estimation of transaction costs in an institutional framework.	PO 1	U
CO 6	Understand the application of New Institutional Economics to property rights and contracts.	PO 1	U
CO 7	Understand NIE with specific reference to India.	PO 2	U

Objectives:

The mainstream Neo-classical Economics is primarily an equilibrium economics where in there is no scope for an analysis of economic institutions. However in the dynamics of economic problems the role of institutions' has been tremendous. New institutional economics (NIE) is an economic perspective that attempts to extend economics by focusing on the social and legal norms and rules (which are institutions) that underlie economic activity and with analysis beyond earlier institutional economics and neoclassical economics. This course presents recent formalizations of institutional approach that is widely applied in the study of economic issues

Module I: Introduction

Definition of Economic institutions – Nature and Significance of Institutional Approach in Economics - Functions of Social and Economic Institutions – Old Institutional Economics – New Institutional Economics – Formal – Informal Institutions.

Module II: New Institutional Economics Applied to Markets, Firms and the State

Markets – Market as an Organisation – Elementary Rules of a Private Ownership Economy- Price Rigidity – Market Organisationas a result of Market Cooperation.

Firm – The Orthodox New Classical Firm - Incentive and Limits Integration – Ownership and control- New Institutional Economics of the Firm.

State –A Simple Neo-classical view of the State – Role of Political Institutions – Political Markets – International Relations – General Remarks on Organisations: The Firm, The Market and the State

Module III: Transaction Costs

Concept of Transaction – Transaction Costs – Definitions – Estimation of Transactions Costs – Transaction Costs in an Institutional Framework.

Module IV: Ownership and Contract

Property rights – Absolute and Relative – Private Property – Common Pool Resources – Economic Analysis of Property Rights

Elements of Contract Theory - Three types of Contract Theory – Managerial Theory of the Firm Expenses – Preference Model – The Principal Agent Model – Moral Hazard- Adverse Selection – Implicit Contracts – Incomplete Contract Model – Self Enforcing Agreements .

Module V: New Institutional Economics – Development and Future

NIE and Third World Development – Implications for Development Theory –The Basis of a New Paradigm – Modern Institutionalism – State Failure in Weak States – Institutional Approach to Structural Adjustments – A Case Study of India.

Suggested Reading:

Textbooks:

- Erik G Furubotn and Rudolf Richter (2002): Institutions and Economic Theory – University Michigan Press.

- Acemoglu, Daron, Simon Johnson and James A. Robinson. 2005. Institutions as a fundamental cause of long-run growth. In Philippe Aghion and Stephen N. Durlauf (Eds.), Handbook of economic growth: volume 1A (pp. 385–472). Amsterdam: Elsevier.

References:

- Harris John, Janet Hunter and Colin M Lewis (Eds) (1995): The Institutional Economics and Third World Development; Rootledge

- Douglas North (1990): Institutions, Institutional Change and Economic Performance - Cambridge University Press

II M.A. ECONOMICS
REGIONAL ECONOMICS
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: Regional Economics

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand how economic activity is distributed across space and investigates the implications of including spatial aspects in economic analysis.	PO 1	U
CO 2	Understand different types of regions, objectives and scope of regional economics.	PO 1; PO 4	U
CO 3	Understand various theories of regional development.	PO 1	An
CO 4	Understand micro and macro approaches to regional Economics.	PO 1; PO 2	U
CO 5	Understand and analyse convergence and divergences of disparities in per capita regional income.	PO 1	U, An
CO 6	Understand how regional policies are formulated and to achieve consistency between national and regional objectives.	PO 1	U. An

Objectives:

The study of regions in economics is an old tradition whose value has recently been rediscovered with the advent of local competition for attractive industries as well as the increasing responsibility of local, state, and national governments for development issues.This course explores how economic activity is distributed across space and investigates the implications of including spatial aspects in economic analysis.

Module I: Introduction to Regional Economics

What is Region-Different types of regions; regional Income; Problems of estimation; indicators of regional development objectives and scope of regional Economic Analysis – Inter disciplinary aspects of regional economics causes of regional economic problem.

Module II: Location of Firms

One market One input case; More generalized versions; locational interdependence; Hotelling phenomena; General Equilibrium; Uncertainty; maximizing vs Satisfying – Theories of regional Economic development (Perroux, Myrdal and Hirschman) – Export base theory (Christaller) sector theory (Colin Kuznets)

Module III: Micro and Macro Approaches to Regional Economics

Weber's theory of Location – spatial dispersion of progress – dispersion of innovation and technical progress Spatial price theory: Price Equilibrium in geographically separated and interlinked markets; Market area Boundaries; Reilly's Law; Models of Pricing under free entry; Spatial Monopoly and Price Discrimination; Spatial Monopolistic Competition.

Spatial Macro Economics : Inter-regional income models; Inter-regional business cycles; Inter-regional trade and factor movements; Regional balance of Payments; export base models; Demand Growth models; Regional Multiplier

Module IV: Regional Growth and Techniques of Regional Analysis

Growth Pole Analysis; Convergence and Divergence of disparities in per capita regional income. Techniques of Regional Analysis: Regional and interregional input – output analysis; Attraction Model; Gravity model; Shift – Share Analysis, Impact studies – Inter-state variations of poverty and unemployment comparative analysis of industrial development in different states.

Module V: Regional Policy

People prosperity vs Place Prosperity; Formulation of Interregional objectives; consistency between national and regional objectives; Alternate regional policy measures; Historical Evidence; Inter-regional differences in India's development – Regional Policy in Indi-.Regional planning in rural India during various plan periods.

Suggested Reading:

Textbooks:

- Rosenthal, S., & Strange, W. 2004. Handbook of Regional and Urban Economics. Elsevier.

- Richardson, H.W. (1969), Regional Economics, Weidenfield ;M and Nicolson, London.
- Fujita, Masahisa, Krugman, Paul, & Venables, Anthony. 1999. The Spatial Economy: Cities, Regions, andInternational Trade. Cambridge: The MIT Press.
- Hoover, E.M. (1974), An Introduction to Regional Economics, Alfred A.Knopf, New York.

References:

- Chand, M. and V.K. Puri (1983), Regional Planning in India, Allied Publishers, New Delhi.
- Isard, W. (1960), Methods of Regional Analysis, MIT Press, Cambridge, Mass.
- Nair, K.R.G. (1982), Regional Experience in a Developing Economy, Wiley-Eastern, New Delhi.
- Richardson (1960), Elements of Regional Economics, Penguin Books, London
- Myrdal G (1968), Economic theory and Underdeveloped Regions, Vora, New Delhi.
- Misra R.P (1974), Regional Development Planning in India, Vikas, New Delhi.
- Brahmananda, P.R. and Panchmukhi, (2001), Development Experience in the Indian Economy Bookwell New Delhi

II M.A. ECONOMICS
TAMILNADU ECONOMY
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: Tamil Nadu Economy

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the relevance of regional economies and to focus on the economic development issues of Tamil Nadu.	PO 4	U
CO 2	Understand the physical and historical landscape of the State.	PO 4	U
CO 3	Understand the human capital endowments of the state – population, size, growth and density of population, etc.	PO 4	An
CO 4	Understand Economic Planning and Development in Tamil Nadu.	PO 4	U
CO 5	Understand how agriculture and industry operate in the State.	PO 4	U, An
CO 6	Understanding the presence of the Service Sector in the state of Tamil Nadu	PO 4	U. An

Objectives:

To understand the relevance of regional economics; and to focus the economic development issues of Tamil Nadu.

Module I: Introduction

History of Tamil Nadu – Dravidian Culture – Dravidian Movement – Contribution of Self Respect Movement and Justice Party. The geographical features of Tamil Nadu – Natural Resources in Tamil Nadu: Land, Forest, Water, Fisheries and Minerals.

Module II: Human Capital

Human Resources in Tamil Nadu: Size, growth and density of population in Tamil Nadu – The occupation pattern in Tamil Nadu – Analysis of the 2011 census. Social Inputs in Development Efforts: Education, Health, and Nutrition – Water Supply, Housing and Slums – Evaluation of poverty alleviation programmes in Tamil Nadu.

Module III: Planning

Economic Planning and Development in Tamil Nadu: Vision 2023 – Special Economic Zones (SEZ) - Trends in Export & Import – IT Sector - Role of Power – Power as a bottle in Tamil Nadu economy - Welfare Schemes - Evaluation of Poverty Alleviation Programmes in Tamil Nadu.

Module IV: Agriculture and Industry

Agriculture: Agricultural Growth – Cropping pattern – Agricultural inputs: Irrigation, fertilizer – Agricultural Marketing: Co-operative movement in agriculture – Animal husbandry, forestry and fisheries. Industry: growth of industry – changes in industrial structures – Major industries: cotton textiles, sugar, cement, automobiles, leather and electronics – Small and Cottage industries – light Engineering industries – Industrial Finance.

Module V: Service Sector

Infrastructure in Tamil Nadu: Transport: road, rail, air and sea - Energy generation: Hydro, thermal and nuclear power systems - Banking – Housing - Social Welfare - Programmes of the State Government - Education and health - Unemployment – Anti-poverty strategies – PDS - Women Development – Current issues in Tamil Nadu.

Suggested Reading:

Textbooks:

- MIDS, Tamilnadu Economy: Performance & Issues, IBH Publishing Co., New Delhi. 2017.
- Leonard A.G., Tamil Nadu Economy, Macmillan Books Ltd, New Delhi, 2006.

References:

- Kurien, C.T and James Joseph, Economic Change in Tamil Nadu: A Regionally and Functionally Disaggregated Study, Allied Publishers Pvt. Ltd., New Delhi. 1979.
- Manickam. S, Economic Development of Tamilnadu in Perspectives, 2007.
- Perumalsamy. S, Economic Development of Tamil Nadu, S. Chand, New Delhi, 1995.
- Rajalakshmi, N, Tamil Nadu Economy, Business Publication, Mumbai. 1999.
- www.tngov.in
- http://www.geocities.com/tamiltribune/e/index.html
- http://www.tidco.com/tn_policies/focus_tamilnadu_Nov_2002.
- http://www.webindia123.com/tamilnadu/economy/agriculture.htm
- http://www.cmie.com/database/?service=database-products/tamil-nadu.htm

II M.A. ECONOMICS
COMPLEXITY ECONOMICS
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: Complexity Economics

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand complexity economics as an alternative perspective on economic modeling drawing from cross disciplinary resources.	PO 1	U
CO 2	Understand the basic features of complex systems as a heterodox approach to Economics.	PO 1	U
CO 3	Analyse the non-linear nature of Economics and non-equilibrium behavior in economics.	PO 1	An
CO 4	Understand Economic networks and analyse the strength of weak ties using examples.	PO 1	U
CO 5	Understand the evolution in Economic Systems through the study of models of evolutionary behavior.	PO 1	U
CO 6	Understand of NettLogo – ass an Agent-based computational modeling in Economics.	PO 1	U

Objectives:

Complexity economics provides an alternative perspective on economic modeling drawing resources from cross disciplinary platform of complexity theory. It challenges the standard theoretical paradigm in economics and offers better insights into the functioning of economy. This paper aims to introduce students to the basic framework of complexity economics.

Module I: Introduction

Complexity – Basic concepts – Features of complex systems – Economy as a complex adaptive system – Criticisms of neoclassical economic paradigm – Mathematical framework of standard economic theory – Limitations of the mathematical structure of neoclassical economic theory - Complexity economics as a heterodox approach to economics.

Module II: Nonlinearity in Economics

Meaning of nonlinearity - Causal links in nonlinear systems – Feedback loops – negative and positive feedbacks – Self organization in complex systems – predictability in complex systems – chaos theory and its applications in economics – Non-equilibrium behavior in economics.

Module III: Economic Networks

Basic concepts – Nodes and Players –Graphs and Networks –paths and cycles –Directed paths – components and connected subgraphs – complete networks – neighbourhood – Degree and Network Density – Diameter and small worlds – clustering – Degree distributions – Correlation and Assortativity – patterns of clustering – Homophily – strength of weak ties –structural holes – Contagion and diffusion – Models of diffusion- Networked markets – Economic examples.

Module IV: Complex Adaptive Systems

Evolution in economic systems – Models of evolutionary behavior – Adaptation – Introduction to genetic algorithms and their applications in economics – Evolution of behavior in Iterated Prisoners' Dilemma (IPD) – Evolving automata and its economic applications.

Module V: Introduction to NetLogo

Background of NettLogo - Agent based computational modeling in economics –Goals of NetLogo – Basic Concepts – Patches and turtles – agent sets – global variables – Interface globals – procedures – plotting – Lists – Links – Simple model of an economy – Models library – examples – segregation model – El Farol model.

Suggested Reading:

Text Books:

- Miller, John H and Scott E Page (2007) Complex Adaptive Systems: An Introduction to Computational Models of Social Life, Princeton University Press.
- Arthur, Brian .W (2015) Complexity and the Economy, Oxford University Press.
- Jackson, Matthew O. (2008) Social and Economic Networks, Princeton University Press

References:

- Kirman, Alan (2011) Complex Economics: Individual and Collective Rationality, Routledge
- Easley, David and Jon Kleinberg (2010) Networks, Crowds and Markets: Reasoning about a Highly Connected World, Cambridge University Press.
- Wilensky, Uri and William Rand (2015) An Introduction to Agent-Based Modeling: Modeling Natural , Social and Engineered Complex Systems with NetLogo, The MIT Press
- Elsner, Wolfram; Torsten Heinrich and Henning Schwardt (2015) The Microeconomics of Complex Economies:Evolutionary, Institutional, Neoclassical and Complexity Perspectives, Academic Press
- Goldberg, David E (1989) Genetic Algorithms in Search, optimization and Machine Learning, Addison-Wesley Publishing Company
- Mitchell, Melanie (2009) Complexity: A Guided Tour, Oxford University Press

II M.A. ECONOMICS
COMPUTER APPLICATION IN ECONOMIC ANALYSIS
(ELECTIVE COURSE)
Credits: 5

PG Programme: M.A. Economics Course: Computer Applications in Economic Analysis.

CO No	Course Outcomes Upon completion of this course, students will be able to	POs addressed	CL
CO 1	Understand the application of computer applications in Economics using MS Excel.	PO 3	U
CO 2	Application-oriented entering of data into the statistical packages such as Excel, E-Views, Stata, etc.	PO 3	Ap
CO 3	Understand statistical packages can be used in summarizing data using descriptive statistics, cross tabulations.	PO 3	Ap
CO 4	Understanding univariate, bivariate and multivariate analysis of data and testing of significance of parameters.	PO 3	Ap
CO 5	Understand and apply other important analysis in Economic forecasting such as panel data analysis, etc.	PO 3	Ap

Objectives:

Module I:**Introduction**

Spread sheet: Meaning, Overview and Application areas; Features of MS-Excel; Entering Information. Saving work books and Formatting, Spread sheet Function – Analytical Tool Pack – Statistical Commands and applications.

Module II: Entering data

Data Entry in SPSS – Variable view – Data View – Types of variables - E-Views and STATA - Importing data-. Creating Graphs; Printing Worksheets and Multi dimension Graphs. Data Work book for statistical analysis.

Module III: Statistical Processing Techniques and Methods

Statistical Processing Techniques and Methods -Summarizing and analysis of data; Descriptive Statistics; Frequencies, Cross Tabulation and $\chi 2$ - Comparison of means – 't' tests and ANOVA. Correlation and Regression analysis; Estimation of Growth Rates and elasticities.

Module IV: Univariate, Bivariate and Multivariate Analysis

An overview of Techniques used in Research- Univariate, Bivariate and Multivariate analysis; Trends Forecasting; Testing the significance of parameters.

Module V: Few important analysis used in economic analysis

Factor analysis – Cluster analysis. Dummy variable models – Time series Analysis - Panel Data analysis.

(All the modules must be taught with practical economic data using either SPSS or E-Views or STATA packages)

Suggested Reading:

Text Books:

- J M Wooldridge, 2009. Introductory Econometrics – A Modern Approach (4th ed), South-Western, 2009 (International Student Edition)
- Christopher F Baum, 2006. An Introduction to Modern Econometrics using Stata, Stata Press books, StataCorp LP
- Rajendra Nargundkar : Marketing Research. Tata McGraw Hill.
- Kinnear and Taylor, Marketing Research by McGrawhill.

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- Dimitriousasteriou& Stephen g . Hall (2011) Applied Econometrics , Palgrave macmillan.
- Gupta, S.C. and V.K. Kapoor (1983), Fundamentals of Applied Statistics, S. Chand and Sons, New Delhi. • Huda, R.P., •
- Koutsoyanis, A, An Introduction to Econometrics,
- Intrilligator, M.D. (1978), Econometric Models, Techniques and Applications, Prentice Hall, Englewood Cliffs, N.J. •
- Greenstein, Marilyn and Fein Man, M. Todd, Electronic Commerce: Security, Risk Management, and Control, Tata McGraw Hill, New Delhi. Additional Reading List
- Lipschultz, M.M. and S. Lipschultz (1982), Theory and Problems of Data Processing, Schum's Outline Series, McGraw Hill, New York.
- David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill, New Delhi.