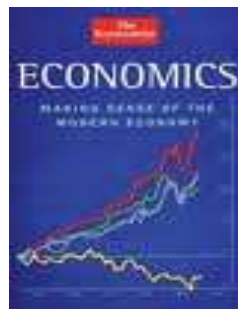**DEPARTMENT OF ECONOMICS**
BHARATHIAR UNIVERSITY
COIMBATORE – 641 046

M.SC (APPLIED ECONOMETRICS)
(2010-11)

BOARD OF STUDIES MEETING
SYLLABUS REVISION
(2010-2011)

BHARATHIAR UNIVERSITY: COIMBATORE –46

M.Sc. (Applied Econometrics) CBCS

Syllabus with effect from the academic year 2010 - 2011
(Applicable to the students admitted from July, 2010 onwards)

ELIGIBILITY FOR ADMISSION TO THE COURSE

Any Graduate who have studied Economics / Econometrics / Statistics / Mathematics / Business Economics / Commerce / Management as one of the papers, of study is eligible for admission to M.Sc (Applied Econometrics)

COURSE OF STUDY AND SCHEME

Sem	Code No	Subject	Credit	University Examination		
				Internal (%)	External (%)	Total
I	10ECOC13A	Basic Mathematical Methods	4	25	75	100
	10ECOC13B	Statististical Methods	4	25	75	100
	10ECOC13C	Information Technology	4	25	75	100
	10ECOC13D	Marketing Management	4	25	75	100
	10ECOC1EA	**Elective:** Managerial Economics	4	25	75	100
		Supportive - I	2	12	38	50
II	10ECOC23A	Mathematical Economics	4	25	75	100
	10ECOC23B	Macro Economics	4	25	75	100
	10ECOC23C	Basic Econometric Methods with CA	4	25	75	100
	10ECOC23D	Foreign Trade Procedure & Documentation	4	25	75	100
	10ECOC2EB	**Elective :** Operation Research	4	25	75	100
		Supportive - II	2	12	38	50
III	10ECOC33A	Advanced Econometrics	4	25	75	100
	10ECOC33B	Economics of Human Resources	4	25	75	100
	10ECOC33C	Growth and Development	4	25	75	100
	10ECOC33D	Financial Econometrics	4	25	75	100
	10ECOC33E	India's International Trade	4	25	75	100
	10ECOC3EC	**Elective:** Industrial Economics	4	25	75	100
		Supportive - III	2	12	38	50

IV	10ECOC43A	Applied Econometrics	4	25	75	100
	10ECOC43B	Public Economics	4	25	75	100
		Research Project & Viva-voce	8	40 (Viva)	160	200
		Industrial Visit & Viva-voce	4	20	80	100

Total Marks: 2250   **Credit: 90**

Supportive courses offered to other departments

I	10ECOGS..	Basic Economics	2	12	38	50
II	10ECOGS..	Agricultural Economy of India	2	12	38	50
III	10ECOGS..	Elements of Public Economics	2	12	38	50
IV	10ECOGS..	Introduction to Indian Economy	2	12	38	50
V	10ECOGS..	An Introduction to Environmental Economics	2	12	38	50

Chairman

Subject Title   **: BASIC MATHEMATICAL METHODS**

Course Number   **:** 10ECOC13A

Subject Description:

This course deals with the basic knowledge relating to set theory, relation and functions, derivations, optimization problems and matrix algebra and their applications in economics.

Goals:

The course intends to equip students to develop working knowledge of basic mathematical operations and tools. The course aims at using such skills to apply to economic theory and managerial decisions.

Objectives:

- To impart various mathematical and statistical methods

- To apply quantitative techniques in managerial practices.

Contents:

UNIT – I
Set Theory – Meaning – Types – Set Operations – Rules in Set Algebra – Relations – Functional Relations and Functions. Number System – Use of Numbers is essential in mathematics – Types – Graphical representation of Complex Numbers – The Argaud diagram.

UNIT – II

Algebra – Equations – Equations – Linear and quadratic Equations – Simultaneous Equations- Ratio, Proportion and Variation – Logarithms – Progressions – Arithmetic Progression – Geometric progression – Harmonic progression – Binomial Expansion.

UNIT – III

Differential Calculus – Geometry of Marginal Analysis – Differential Calculus – Its Relation to Marginal analysis – Process of Differentiation – Rules of Differentiation – Maximum and Minimum Values of a Function – Order Conditions for Maximum and Minimum Values. Integration – definition – Basic Rules of Integration – Methods of Integration.

UNIT – IV

Derivatives – First and Second Order Derivatives – Differential Co-efficient and Point Elasticity of Demand – Total, Average and Marginal Cost Curves – Relation between Average and Marginal Cost Curves – Minimum Average Cost Curve – Cost Function in Cubic Form – Total, Average, Marginal Revenue Curves – Maximum Total Revenue – Conditions for Profit Maximisation.

UNIT – V

Matrices – types – Addition and Subtraction of Matrices – Matrix Multiplication – associative Law Holds for Conformable Matrices. Determinants – Properties of Determinants – Rank – Methods – Application of Matrices to the Solution of linear Equations – Cramer's Rule – Partitioned Matrices – Application of Determinants and Matrices in economics.

References:

1.Allen R.G.D., "Mathematical Analysis for Economists", ELBS, Macmillan.
2.Medha and Madhnani, "Mathematics for Economics", Sultan Chand, New Delhi.
3.Dowling.T.E., Introduction to Mathematical Economics, McGraw Hill.
4.Alpha C Chiang, "Fundamental Methods of Mathematical Economics", 3ed McGraw Hill,
   New York.

Course Number   **:** 10ECOC13B

Subject Description:

         This course deals with the basic knowledge relating to set theory, relation and functions, derivations, optimization problems and matrix algebra and their applications in economics.

Goals:

         The course intends to equip students to develop working knowledge of basic mathematical operations and tools. The course aims at using such skills to apply to economic theory and managerial decisions.

Objectives:

- To impart various mathematical and statistical methods

- To apply quantitative techniques in managerial practices.

Contents:

UNIT– I
Introduction – Functions of Statistics – Applications of Statistics – Limitations of Statistics – Statistical Survey – Collection of Data – Sampling and Sample Designs – Classification and Tabulation of data.

UNIT - II
Measures of central value – Objectives of averaging – Calculation of Arithmetic Mean – Discrete Series – Continuous Series – Mathematical properties of Arithmetic Mean – Merits and limitations of mean – Median – Computation of Median – Discrete Series – Continuous Series – Mathematical property of median – merits and limitations of median – Mode – Calculation of Mode – Discrete Series – Continuous Series – Merits and limitations of mode.

UNIT – III
Measures of dispersion – Significance of measuring variation – Methods of studying variation – Mean Deviation – Calculation of Mean deviation – Continuous series – merits and limitations – Standard deviation – Difference between mean and standard deviation – Calculation of Standard deviation – merits and limitations – Lorenz curve.

UNIT– IV
Skewness – measures of Skewness – correlation analysis – Regression Analysis – Index numbers – Analysis of time series – Interpolation and Extrapolation – Probability – Theoretical distributions – Binomial – Poisson – Normal distribution – Test of hypothesis.

UNIT– V
Analysis of Variance (ANOVA) and 'F' test – Business forecasting – partial and multiple correlation – Non-parametric tests – Advantages – Kruskal-Wallis or 'H' test – Spearman's Rank Correlation – Limitations – Decision Theory.

References:

1. Dr. S.P. Gupta "Statistical Methods," Published by Sultan Chand & Sons.
2. D.R. Agarwal, "Mathematics and Statistics in Economics," Vrinda Publications (p) LTD.

Subject Title   : INFORMATION TECHNOLOGY

Course Number   : 10ECOC13C

Subject Description:

 This subject aims at providing the basic knowledge on information technology.
To enable students to gain knowledge on use of hardware, software, services and Supporting infrastructure to manage and deliver information using voice, data and video.

Goals:
To gain knowledge on the information revolution.

Objectives:

- To provide skill on concepts of computers.

- To understand the recent trend in IT.

Contents:

UNIT – I
Definition of Computer and uses – Historical Perspective – Parts of a computers – Components of a PC, System Unit, memory of a Computer, Monitor, Mouse, Key board, Printer, Scanner, Modem – Types of a Computer – Positive and Negative aspects of Computers.

UNIT – II
Hard ware – Processing and Memory – Computer Store Data – Input devices – Key input, Pointing devices – The Mouse and the Track ball, Joystick – Touch sensitive Screens – Pen-based system- Data Scanning Devices – Voice Recognition Devices – Out put devices – Monitors, Audio Output – Printers - Impact and Non-impact Printers, Plotters, Microfilm, Micro Fiche and CD-Rom, Robots.

UNIT – III
Soft Ware – Program Design and Programming Languages – Systems Analysis and MIS – Word Processing and Desktop Publishing – spread Sheets – Data Bases – Multimedia and Presentation Packages – Other Useful Applications.

UNIT – IV
Operating Systems – Windows – Working in Windows – Components of a Window, Creating a Short cut for a Program. Excel – Functions of Micro Soft Excel – Uses of Spreadsheets, spread Sheet Basics – Starting Micro soft Excel, Components of Excel Work book. Power Point – Power Point Window – Creating Presentation – Creating a Presentation Using Autocantent Wizard – Templates – Creating a Blank presentation – Sawing a Presentation. Word – Word

Processor Basics – Menus in Micro Soft Word – Editing and Designing the document – Mail Merge.

UNIT – V
Network – Inter and Intra Networks – E.Mail – Web – Browsing.

References:

1. S. Jaiswal "Fundamentals of Information Technology," Galgotia Publications Pvt Ltd.
2. Andrew S. Tanenbaum "Structural Computer Organisation," Prentice Hall of India Pvt Ltd.

Subject Title   : MARKETING MANAGEMENT

Course Number   : 10ECOC13D

Subject Description:

   The Subject aims at providing basic knowledge on marketing, functions of marketing, pricing of the product, physical distribution product promotional stratifies and cousumer probeebin

Goals:
   This paper methods to develop understanding about the concept of marketing, is functions and skills required to promote a product for marketing.

Objectives:
- To acquire basic knowledge about the functions of market.
- To understand the product planning and development
- To apply the principles marketing in scientific decision making process and problem solving in modern marketing management process.

Unit – I: Introduction: Nature, Scope and Importance of Marketing - Evolution of Marketing Concept – Marketing Environment – Functions of Marketing – Market Segmentation: Concept, Benefits, Methods – Consumer Behaviour – Buying Motives, Theories.

Unit – II: Product and Pricing: Concept of Product – Product Planning – New Product Development, Meaning and Steps – Product Life Style – Pricing: Significance and Factors Affecting Pricing – Pricing of Objectives – Pricing Policies – Kinds of Pricing – Pricing of New Product.

Unit – III: Physical Distribution: Importance of Distribution Channel – Kinds of Channel Members – Factors Influencing Distribution Channel - Types of Middlemen – Function of Middlemen – Inventory Control.

Unit – IV: Promotion: Production Promotion – Meaning, Objectives and Methods of Product Promotion.   Advertising: Meaning, Objectives and Kinds of Advertising – Scientific Advertising – Advertising Management – Personal Selling: Meaning and Importance of Personal Selling – Kinds of Salesmen – Selling Process.

Unit – V: Marketing and Society: Need for Consumer Protection – Measures for Consumer Protection – Consumerism – Evolution and Approaches to Consumerism – Laws to Protect Consumers.

Reference
1. **Philip Kotler:** Marketing Management Practice – It all of India, New Delhi.
2. **Gupta C.B. & Rajan Nair. N:** Marketing Management, Sultan Chand & Sons, New Delhi.
3. **Ramasamy V.S. and Namakumari. S:** Marketing Management, Macmillan India, New Delhi.

Subject Title   : MANAGERIAL ECONOMICS

Course Number   : 10ECOC1EA

Subject Description:

This subject is aimed at providing knowledge on basic Economic Principles, as well as applied skills to enable the students to gain managerial decision making and skills.

Goals:

This paper intends to give the students a good understanding of the economic theory and applying it in business decisions.

Objectives:
- To gain sound knowledge in basic Economic theories, concepts and models.

- To gain sound knowledge to apply economic theories and models to execute managerial functions.

Contents:

UNIT – I
Managerial Economics – Meaning, Nature and Scope – Economic Theory and Managerial Economics – Role and Responsibilities of Managerial Economist. Demand Analysis – Demand Forecasting – Methods of Demand Forecasting.

UNIT – II

Cost Analysis – Concepts – Classifications – Determinants – Cost-output Relationship – Economies and Diseconomies of Scale – Cost Control – Cost Reduction. Production Function – One Variable Input – Two Variable Inputs – All Variable Inputs - Short-run and Long-run –

UNIT – III

Supply Analysis – Meaning – Law of Supply – Elasticity of Supply – Factors Influencing Supply. Market Structure – Perfect Competition – Monopoly and Monopsony – Price Discrimination – Monopolistic Competition – Oligopoly and Oligopsony.

UNIT – IV

Pricing Policies – Pricing Methods – Specific Pricing Problems – Price Discounts and Differentials – Product-line Coverage and Pricing – Price Forcasting. Profit – Meaning – Nature – Profit Policies – Profit Planning and Forcasting.

UNIT – V

Capital Budgeting – Cost of Capital – Risk – Probability and Investment Decisions. Business Cycle – Business Policies – Economic Forcasting for Business – Econometrics for Management – Mathematical Economics of the Firm – Economic Basis of International Business.

References:

1. R.L. Varshney and K.L. Maheswari "Managerial Economics" Sultan Chand & Sons – Educational Publishers, New Delhi.
2. M.L.Trivedi "Managerial Economics – Theory and Applications," Tata Mc Graw Hill, 2002.
3. AHUJA .H.L. – Business Economics, S.Chand & Co, New Delhi,2004.

Subject Title   : **MATHEMATICAL ECONOMICS**

Course Number   : 10ECOC23A

Subject Description:

> This course deals with the basic knowledge relating to set theory, relation and functions, derivations, optimization problems and matrix algebra and their applications in economics.

Goals:

> The course intends to equip students to develop working knowledge of basic mathematical operations and tools. The course aims at using such skills to apply to economic theory and managerial decisions.

Objectives:

- To impart various mathematical and statistical methods

- To apply quantitative techniques in managerial practices.

Contents:

UNIT – I

Trigonometry – Types of Functions. Analytical Geometry – Co-ordinates of point – Length of Line Joining two points – Mid-Point - The Straight Line – Variables and Functions.

UNIT – II

Partial and Total Derivatives – Technique of Partial Differentiation – Partial Derivatives of Second Order – Cross partial Derivative – Partial Derivatives of Functions of More than Two Variables – Applications of partial Derivatives in Economics – Total Differential – Second Order Total Differential – Derivatives of Implicit Functions – Maxima and Minima of a Function of Two Variables.

UNIT – III

Differential Calculus – Production Function – Constant product Curves: Isoquants – Shape of Isoquant – Isoquant and Ridge Lines – Least Cost Combination – Homogeneous Function – Definition and properties – Properties of Linearly Homogeneous Function – Cobb – Doubles Production Function – Expansion Path for Cobb-Douglas Function. Elasticity of Substitution – elasticity of linearly Homogenous Functions – C.E.S. Functions.

UNIT – IV

Linear Programming – Introduction – The General LP Problem – Transformation of Linear Inequalities into Linear Equations: Slack Variables – Geometry of Linear Programming Problem – Feasible and Basic solutions – Degeneracy – Simplex Method – Minimization Example of Linear programming – Simplex Method for Solving Minimisation Problem – Duality – Linear Programming and Basic Economic concepts.

UNIT – V

Input – Output analysis – Assumptions – The Technological Co-efficient Matrix – Closed and Open Input-Output Model – Co-efficient of Matrix and Open Model – The Hawkins-Simon conditions – Solution for two Industries – Co-efficient of closed Model – The Leontief Production Function – Weaknesses and Limitations. Game Theory – concepts – Classification – Description – Payoff Matrix – Saddle Point Solutions – Mixed Strategy – Dominated Strategies.

References:

1.Allen R.G.D., "Mathematical Analysis for Economists", ELBS, Macmillan.
2.Medha and Madhnani, "Mathematics for Economics", Sultan Chand, New Delhi.
3.Dowling.T.E., Introduction to Mathematical Economics, McGraw Hill.
4. Alpha C Chiang, "Fundamental Methods of Mathematical Economics", 3ed McGraw   Hill, New York.

Subject Title : **MACRO ECONOMICS**

Course Number : 10ECOC23B

Subject Description:

This course aims at students to gain strong fundamentals of macro economy theories policies and models in a historical prospective.

Goals:

The paper examines the basic principles underling the functioning of an economy and deals with the determination of major macroeconomic aggregates.

Objectives:

- To introduce the students on the sectoral flow of national income, its accounting and factors influencing income at current and constant prices.

- To enable students develop a critical insight on classical Keynesian macro economic models and a functioning at four different market conditions.

- To make students to understand roll of expectation uncertainty and the relationship between inflation and employment by providing exp9osure to the contributions of Friedman and Phelps and Phillps.

Contents:

UNIT – I
National Income – Concept and Measurement – GDP – GNP – Difficulties in the Measurement of National Income - Social Accounting – Presentation of Social Accounts - Importance of Social accounting – Difficulties in Social accounting.

UNIT – II
Classical theory of income, Output and Employment – Keynesian theory of Income, Output and Employment – Say's Law of market – Principles of Effective Demand – Importance of Effective Demand – Aggregate Demand and Aggregate Supply.

UNIT – III
Consumption function – Keyne's Psychological Law of Consumption – Determinants of the Consumption function – Investment function – Types of Investment – Marginal Efficiency of Investment (MEI) – Saving and Investment Equality.

UNIT – IV
Multiplier – Assumption – Leakages – Importance of Multiplier - Super Multiplier - Use of Super Multiplier in Business Cycles - Multiplier in an underdeveloped country – Acceleration – Income Determination – IS and LM Functions – General Equilibrium.

UNIT – V
Monetary Policy – Role of Monetary Policy in a Developing Economy – Fiscal Policy – Inflation – Inflationary Gap – Demand pull Vs Cost push Inflation – Causes of Inflation – Measures to control Inflation – Effects of Inflation – The Phillips Curve .

References:

1. M.L. Jhingan "Advanced Economic Theory," Vrinda Publications (P) Ltd.
2. M.C. Vaish "Macro Economic Theory," Vikas Publishing House (P) Ltd.
R. D. Gupta and A.S. Rana "Keynes and Post Keynesian Economics," Kalyani Publishers.

Subject Title   : BASIC ECONOMETRIC METHODS WITH CA (Computer Application)

Course Number: 10ECOC23C

Subject Description:
     This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:
     To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:

- On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT -I
Meaning, definition and scope of econometrics – types and methodology of econometrics – importance of stochastic assumptions – random variables- functions of random variables.

UNIT -II
Simple linear regression model - Methods of ordinary least squares – assumptions and properties of OLS estimators – test of significance of the parameter estimates – measure of goodness of fit.

UNIT-III
Regression analysis and analysis of variance – the assumptions of randomness of u – the probability distribution of disturbances 'u' – simultaneous equation models.

UNIT – IV
Nature of forecasting – econometric approach to forecasting – policy evaluation using an econometric model. Forecasting with a single –equation linear regression model. Testing the difference between a single prediction and realization.

UNIT -V
Introduction to maximum likelihood estimation – maximum likelihood applied to a linear regression model – transformation of variables and maximum likelihood – Using SPSS, E-Views and STATA packages.

References:

1. William H. Greene "Econometric Analysis," Pearson Education.
2. A.Koutsoyiannis, "Theory of Econometrics: An Introductory Exposition of Econometric Methods", Educational Low-Priced Books Scheme, McMillan Education Ltd.,(1992)..ls2
3. Damodar Gujarathi "Basic Econometrics", Tata MCGraw Hill Ltd,1999.4th ed.

Subject Title   : FOREIGN TRADE PROCEDURE AND DOCUMENTATION

Course Number: 10ECOC23D

Subject Description:

        This Course presale an insight into export promotion measures, procedure for import and exports and various documents involved in the experts.
Goals:
        This courses enables the students to understand the various measures undertaken in India to promote expert and develop basic knowledge on the procedure and documents involved in international trade.

 Objectives:
- To understand the procedure involved in both import and exports
- To be familiar with various documents to be filed and filled beforetrade.
- To apply knowledge both on the procedure & docuements in managing the international trade (foreign)

Unit - I: Export Management: Meaning, Nature and Scope and Functions of Export Management – Types of Exports – Export Licensing Procedures – Functions of Export Management –

Registered Exporters: Export Houses Trading Houses – Canalizing Agents – Organizational – Chart for Export Company.

Unit – II: Export Promotion: Export Promotion Measures – Marketing Development Assistance (MDA) Cash Compensatory Support – Duty Drawback Scheme – Replenishment Licensing. EXIM Scraps – Duty Exemption Scheme - Free Trade Zones – 100 % EOU – Export Promotion Councils and their Functions - Commodity Boards – Trade Development Authority (TDA) - The Federation of Indian Export Organization (FIEO).

Unit – III: Import Trade: Import Trade Control – License – Duty Entitlement Passbook Scheme – Harmonized IEC Code Number – Import of Capital Goods Under EPCG Scheme – Import of Raw Materials, Stock and Sale – Restricted and Banned Imports – Canalization of Imports.

Unity – IV: Export Procedure: Offer and Receipt of Order – Registration and Export – Procedure – Pre-shipment Procedure – Shipment Procedure Post-shipment Procedure – Export Incentives.

Unit – V: Export Documentation: Documents Related to Goods – Documents Related to Transport – Documents Related to Payment – Documents Related to Inspection - Documents Related to Excisable Goods - Documents Related to Exchange Control.
Reference

1. **Paras Ram –** Export What, Where and How, Anupan Publishers, Delhi.

2. **M.L. Mahajar –** A Guide to Export Policy Procedure and Documentation.

3. **T.A.S. Balagopal –** Export Management, Himalaya Publishing House, Mumbai.

4. **Jacob Cherian & B. Parab –** Export Marketing, Himalaya Publishing House, Mumbai.

Subject Title   : OPERATIONS RESEARCH

Course Number   : 10ECOC2EB

Subject Description:

This paper covers the basic operation research techniques and deals with the application of these techniques in business practices.

Goals:

This paper enable the students to familiarize with operation research techniques and its applications in managerial decision making.

Objectives:

- To introduce the students to the basic operation research techniques such as Linear Programming, Game theory, Input-output analysis, PERT and CPM and inventory control that are widely used in decision making.

- To enable the students to apply these technique in current business practices and

- To make them draw inference based on the numerical results obtained.

Contents:

UNIT – I

Operations Research – Meaning – Significance – Features – Types of Models – Scope and Applications.

UNIT – II

Linear programming – Structure – Assumptions – Advantages – Limitations – General Mathematical Model and problems. Graphical Solution Method LP Problems – Important Definitions – Linear programming Simplex Method – Feasible Solution.

UNIT – III

Transportation Problem – Structure – Methods for Finding an initial Solution – Degeneracy – Optimal solution – Assignment Problem – Algorithm – Variations.

UNIT – IV

Net Work Analysis – PERT – CPM – Critical Path – Time Estimates – Determination of Critical Path – Waiting Lines Models – Structure of Model – M / M / 1.

UNIT – V

Inventory – Functions – Steps – Deterministic Inventory Models – EOQ different Models – Inventory Control Approach – ABC Analysis. Simulation – Process – Monte Carlo Method – Inventory Simulation Model – Decision Tree Analysis – Pay-off Tables.

References:

1. J.K. Sharma "Operations Research: Theory and Applications," Mamillan.
2. C.V. Shenoy, U.K. Srivastava and S.C. Sharma "Operations Research," Wiley Eastern Ltd.
3. Ronald L. Rardin, "Optimization in Operation Research," Prentice Hall.

Subject Title 		**: ADVANCED ECONOMETRICS**

Course Number 		**: 10ECOC33A**

Subject Description:
	This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:
	To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:

- On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT-1
The theory of house hold – Single demand equations- aggregation- Industrial organization – Nature of econometric project.

UNIT-2
Model with two explanatory variables – partial correlation coefficients – extension of the linear regression model to non-linear relationships.

UNIT -3
Nature of the problem of auto correlation – consequences of auto correlation – Tests and solutions for the case of auto correlation – methods for estimating the auto correlation parameters.

UNIT -4
Assumption of non-Multicollinear Regressors – plausibility of the assumption – tests for detecting Multicollinearity – remedial measures. Practical consequences of Multicollinearity – Dummy variables – Identification and Multicollinearity.

UNIT -5
Time series analysis: Time series vs Cross section data, pooling micro data, approaches to economic forecasting – transforming non-stationary time series. Regression of a Unit root time series on another unit root time series – Estimation and forecasting with vector Autoregression (VAR).

References:

1. William H. Greene "Econometric Analysis," Pearson Education.
2. A.Koutsoyiannis, "Theory of Econometrics: An Introductory Exposition of Econometric Methods", Educational Low-Priced Books Scheme, McMillan Education Ltd.,(1992)..ls2.
3. Damodar Gujarathi "Basic Econometrics", Tata MCGraw Hill Ltd,1999.4th ed.
4. Dr. M. Upender, "Applied Econometrics," Vrinda Publications (P) Ltd.

Subject Title   : ECONOMICS OF HUMAN RESOURCES

Course Number   : 10ECOC33B

Subject Description :
        This course is aimed at providing Ideas on basic   concepts in Economics of Human Resources as well as applied skills to enable the students to gain knowledge on human resources.

Goals:
        This paper intends to give the students a good understanding of the contents of human resources and applying it in business decisions.

Objectives:

- To familiarize in theories and concepts of human resources.

- To gain sound knowledge on human capital theories.

- To enable the students to know about the importance of   investment in health and education.

Contents:

UNIT-I:
        Importance of Human Resource- Human Resource and Economic Development-The Theory of Investment in Human Capital –Return to Investment in Human Capital –The Rate of Return Approach-The Economic Efficiency Approach.

UNIT-II
        Importance of Investment in Human Resource; Education and Economic Development – Investment in Education and Training -Rate of Return to Investment in Education – On the Job Training.

UNIT-III
        Investment in Health - Relevance of health Economics- Demand for Health Capital - Health Insurance- Benefits of Health and Costs of providing Health services.

UNIT-IV
        Demand for Labour- Demand for Human Resources- Short run and Long run changes in the demand for Labour- Wage Theories, Union and Wages.

UNIT-V
        Migration- Internal, External- Effects of Migration-Brain Drain, Empirical Evidence, and explanation offered.

Reference Books:

1. Becker. G.S   Human Capital
2.Blaug.M   An introduction to Economics of Education, Penguin Books.
                          Economics of Education-Vol -I & II, Penguin Books and ELBS.
3. Psacharapoulos.G   Returns to Education.
4. Psacharapoulos.G   Economics of Education-Research Studies Program Press
5. Schultz.T.W   Economic Value of Education.

Subject Title   **: GROWTH AND DEVELOPMENT**

Course Number   **:** 10ECOC33C

Subject Description:
        This course will enable the students to acquire advanced knowledge as to how policies facilitate the economic growth and development in advanced countries.

Goals:
        This paper enables the students to understand important growth models and helps them to familiarize with factors that contribute to economic growth.

Objectives:

- To familiarize economic theories and growth models.

- To provide a strong knowledge base on India's economy both during pre and post reform periods.
- To develop a critical study on recent development in the Indian Economy in the context of the world economic scenario.

Contents:

UNIT-I
Economic Growth and Economic Development- Economic Models- Early Growth Theories: Mercantilist Growth Theory, Physiocratic Growth Theory, Adam Smith's Theory of Economic Growth – Keynesian Theory of secular stagnation – Marxian Theory of Economic Growth.

UNIT – II
The Harrod-Domar Model – Solow's Model of Growth - Assumptions of the Model, possibility of steady state, existence and uniqueness of steady state equilibrium – Acutal Mechanism, solow Model with Endogenously Determinad Rate of Growth of Labour Surplus – Golden Rule of Accumulation – Swan's Growth Model.

UNIT III

Cambridge Models of Economic growth: Kaldor's Model, Pasinetti's Model-Two sector model of growth. Technical progress:Different types of technical progress –comparison of rates of technical progress-technical progress and steady state equilibrium.

UNIT 1V

Economic growth in an open economy-Economic growth in a labour surplus dual economy: Lewis Model and its formalization-Joan Robinsons Model.

UNIT – V

Definition and Types of Embodied Technical progress – Vintage Model with Fixed Labour requirements (Putty-Clay Model)- The Production Function Approach – The Cobb-Douglas Production Function – Impotence of Technological Change – Limits to Growth.

References:

1. Debraj Ray "Development Economics," Oxford University Press.
2. Jaydeb Sarkhel "Growth Economics," book Syndicate (P) Ltd.
3. Michacl P. Todaro and Stephen C. Smith "Economic Development," Pearson Addison Wesley.

Subject Title   **: FINANCIAL ECONOMETRICS**

Course Number   **:** 10ECOC33D

Subject Description:
        This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:
        To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:
*   On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT – I

Stochastic Process and their Properties: Martingales – Random Walks – Gaussian White noise processes – Wiener Processes – Stationarity and Ergodocity, Behaviour and Valuation of Security Prices: Generalised Wiener Processes – Geometric Wiener Process and Financial Variable Behaviour in the Short Term and Long Run.

UNIT - II

Time – Varying Volatility Models – GARCH and Stochastic Volatility – ARCH and GARCH and their variations – Multivariate GARCH – Stochastic Volatility – Univariate Persistence Measures – Multivariate persistence – Impulse response analysis and variance decomposition – Non-orthogonal cross – Effect impulse response Analysis.

UNIT – III

Modeling regime shifts – Markov Chains – Estimation – Smoothing – Rime-varying Transition probabilities – Examples cases. State Space Model and the Kalman Filter – State Space Expression – Kalman Filter Algorithm – Time-varying coefficient Models – AR(p) process – ARMA(p,q) process – Stochastic Volatility – Time-varying co-efficient.

UNIT – IV

The basic present value model and its time series characteristics – the VAR representation – The present Value Model on Logarithms with time – Varying discount rates – The VAR representation for the present value model in the log linear farm – Variance Decomposition.

UNIT – V

Financial Economics and econometrics literature on the internet – Econometric Package for Financial and Economic Time series – Learned Societies and Professional Associations – Organizations and Institutions – International Financial institutions and other organizations – Major Stock Exchangers, Options and Futures, Exchanges and Regulators – Central Banks.

References:

1. Peijewang "Financial Econometrics: Methods and Models" Routledge – Taylor & Francis Gorup – Vikas Publishing House, Pvt Ltd.

Subject Title   : **INDIA'S INTERNATIONAL TRADE**

Course Number   : **10ECOC33E**

Subject Description:
        This course deals with India's legal frame works for foreign trade trends and composition of export hade and recent changes in foreign trade policy

 Goals:
        The purpose of the course in to give the students an understanding about the india's foreign trade interims of truer, composition and discussion

 Objectives:

*   To understand Export – Import Policy of India

*   To be familiar with export promotion measures proceed in the country.

UNIT I

Development of Foreign Trade Policy- Indians Foreign Trade since 1951- EXIM policy 1992-1997- Objectives –Features; 1997-2002 policy- Salient features; EXIM policy 2002-2007 - Features; Foreign Trade Policy 2004-2009 - Salient features.

UNIT II

Legal frame work of India's foreign trade –Foreign trade (Development and regulation) Act, 1992 – Foreign Trade Regulation Rules, 1993- Foreign Trade (Exemption from application of rules in certain cases) Order 1993 – Exchange control regulation in India.

UNIT III

India's export trade – Historical prospective - Trends – Composition of export trade – Direction of exports of principal products – Export of services – Export promotion – Objectives – Promotion measures – EOUs, EPZs and SEZs
.

UNIT IV

Imports- Technology import contract- Technology policy and environment – selection and transfer issues – Law of protection of intellectual Property rights, Patents and Trade marks

UNIT V

Global trade and developing countries – Highlights of Indian's trade performances - Determinants of Export and Import – Major problems of India's export sector – Impact of recent changes in foreign trade policy.

Note : The Question Paper shall cover 100% Theory.

Books for Reference:
1. International Trade and Export Management - Francis cherunilam.
2. Export Management - T.A.S Balagopal
3. International Trade - M.L. Varma

Subject Title   : INDUSTRIAL ECONOMICS

Course Number   : 10ECOC3EC

Subject Description:

   This paper ewers the basic concepts of productivity, various productivity measurements, Theory of Production Functions and numerical measurement of elasticities.

Goals:

   This course aims at providing an indepth knowledge on the need, significance, measurement and use of various industrial productivity concepts. The scope also intends to develop skills to monitor and mange enterprises at optimal levels of industrial productivity.

Objectives:

   To introduce to the students the various concepts of Productivity.

   To enable the students to measure productivity numerically using mathematical and

econometric techniques.

   To make students to draw inferences based on the numerical measurements.

Contents:

UNIT-I
Meaning of the Firm and Industry-Industrial Efficiency: Meaning of the concept- The determinants of Economic Efficiency- Measurement of the Efficiency Levels- Types of Organisational Form- Business Motives

UNIT-II
The Theory of Cost and Production- The concept of Production Function and Optimal Input Mix- The Efficiency and Size of the Firm- Market Concentration- Measurement of Market Concentration.

UNIT-III
Concept of Total Factor Productivity Index – Methods of Estimation: Kendrick – Solow – Divisia – Malmquist – Economic significance of inter – regional and inter – industry variations in TFPG – estimates.

UNIT-IV
Financial Ratio Analysis- Classification of Financial Ratios- Methods of Project Evaluation: NPV, Payback Method, IRR, ARR, Cost-Benefit Analysis- Inventory Investment Approach.

UNIT-V
Role of Advertising- Pricing Procedures- Pricing in Public Enterprises- The General Determinants of Industrial Location- Approaches to Industrial Locational Analysis- Weber's Theory of Industrial Location.

References:

1. Sanhey S. C. "Productivity Management: Concepts and Techniques," Tata McGraw Hill, New Delhi.
2. Heathfield F.D. "An Introduction to Cost and Production Functions." Macmillon Education & Soren Wibe London.

Subject Title   **: APPLIED ECONOMETRICS**

Course Number   **:** 10ECOC43A

Subject Description:
        This course presents the basic econometrics techniques emphasizing numerical estimation of economic relationships as applied to practical economic and managerial problems.

Goals:
        To enable the students to learn the basic econometric techniques relating to the estimation of parameters.

Objectives:
        On successful completion of the course the students should have understood the estimation techniques, learned the difficulties involved in the estimation process, evaluation of parameters and enable understanding scientific decision making process.

Contents:

UNIT-I
Nature of Heteroscedasticity- OLS estimation in the presence of Heteroscedasticity- Method of Generalised Least Squares (GLS) - Consequences of using OLS in the presence of Heteroscedasticity- Direction of Heteroscedasticity- Remedial measures- Method of weighted of weighted least squares.

UNIT-II
Model selection criteria- Types and consequences of model specification errors- Errors of measurement- Intrinsically linear and intrinsically non-linear regression models- Estimation of linear and non-linear regression models.

UNIT-III
The nature of qualitative response models- The linear probability model- The Logit model- Estimation of panel data regression model.

UNIT-IV

The role of "time" or" lag" in economics- The reasons for lags- Estimation of distributed-lag models- the Koyck approach to distributed-lag model- The Almon or Polynomial distributed-lag- The Granger Causality Test.

UNIT-V

Tests of Stationarity: Graphical Analysis, Autocorrelation Function (ACF) and Correlogram, Statistical significance of autocorrelation coefficients- The Unit Root Test: The Augmented Dickey-Fuller (ADF) Test, The Phillips-Perron (PP) Unit Root Tests.

References:

1. William H. Greene "Econometric Analysis," Pearson Education.
2. A.Koutsoyiannis, "Theory of Econometrics: An Introductory Exposition of Econometric Methods", Educational Low-Priced Books Scheme, McMillan Education Ltd.,(1992)..ls2.
3. Damodar Gujarathi "Basic Econometrics", Tata MCGraw Hill Ltd,1999.4th ed.

Dr. M. Upender, "Applied Econometrics," Vrinda Publications (P) Ltd.

Subject Title   **: PUBLIC ECONOMICS**

Course Number   **:** 10ECOC43B

Subject Description:

This subject is primarily aimed at introducing principles of public finance, role of different governments, public expenditure, taxation, budget and fiscal policy in India.

Goals:

To give exposure to the student, the role and the function of the government in a modern economy. The government plays different roles and performs varied functions which are different from earlier societies. In this context the public financial functions of the government need to be understood by a student, by studying the relevant theory and empirical analysis.

Objectives:

To gain sound knowledge on the principles of public finance.

To understand roles of different governments.

To provide a strong knowledge base on Indian public finance.

Contents:

UNIT – 1

Role of government in managing Economy under different economic systems – Social Welfare Function – Theory of Public Goods - Market failure – Externalities – Problems in allocation of Resources – Theoretical developments in Demand revelation for social goods – Public Choice.

UNIT – 2

Public Expenditure: Theories of Public Expenditure – Structure and Growth of Public Expenditure – Criteria for Public Investment – Income Redistribution – Expenditure Programmes for the Poor.

UNIT – 3

Budget – Concept of PPB – Zero-based Budgeting – Deficit Budgeting – types of Deficits – Public Dept: Trends and composition of Indian Public Dept – Dept Management

UNIT – 4

Taxation : Theory of Taxation – Benefit and Ability-to-pay approaches – Indian Direct and Indirect Taxes – Tax reforms since 1975 – Chelliah Committee Report – Evaluation of Tax Reforms – Taxation Incidence and alternative concepts of incidence.

UNIT – 5

Fiscal Policy – Role of Fiscal policy in India – Principles of fiscal Federalism in India – Vertical and Horizontal Imbalance – Finance commissions and Planning commission – Issues in Revenue devolutions and grants-in-aid – Local Finance.

References:
1. Dr. B.P. Tyagi "Public Finance," Jai Prakash Natu & (O).
2. S.K. Singh "Public Finance in Theory and Practices," Sultan Chand & Co.
D.K. Srivastava, "Issues in Indian Public Finance," New Century Publications.