

DEPARTMENT OF ECONOMETRICS
S.V.U. COLLEGE OF ATRS
SRI VENKATESWARA UNIVERSITY: TIRUPATI



RESTRUCTURED CURRICULUM FOR
M.A. ECONOMETRICS(REGULAR) PROGRAMME
TO BE IMPLEMENTED WITH EFFECT FROM THE ACADEMIC
YEAR 2021-2022

SYLLABUS
Choice Based Credit System (CBCS)
December-2021

ECONOMETRICS DEPARTMENT:

VISION

The vision is to promote the publication of high-quality research works in the fields of Economic Theory, Econometrics, and Quantitative Economics more generally. Publications may range from more or less extensive accounts of the state of the art in a field to which the authors have made significant contributions, to shorter monographs representing important advances on more specific issues. In addition to the usual promotion by the Publisher in their advertising and displays at conferences, it also arranges for members of the Econometric Society to receive monographs at a special discount.

in the same way as for papers submitted to Econometrics. Our experience shows that this procedure generates quite valuable services to the authors. Referee reports are usually very professional, and contain detailed and specific suggestions on how to improve the manuscript. Such services, which are not normally offered by private publishing companies, are among the features that distinguish the Monograph Series of the Society from others.

MISSION

The department mission is to The Master of Arts programme in Econometrics has been designed with the objective to develop in-depth knowledge of students in frontier areas of economic theory and quantitative methods, so that they are able to use the knowledge to study real world economic problems.

The course has a strong focus on theoretical and quantitative skills and train students in the collection and analysis of the data using their software skills. The programme offers specialized optional courses, which allow student to pursue their studies in their area of interest. The students are required to submit report and present their findings of field-study. Besides, to hone the student's writing and analytical skills they are required to submit a term paper on current economic problem. Thus, the Masters in Econometrics programme seek to: Supportive environment for all students.

PROGRAM SPECIFIC OUTCOMES:

- The students will acquire additional specialisation through optional courses.
- They will be able to use common software for analysis of economic data.
- Besides, students will be able to execute in-depth analysis of economic issues based on their understanding of economic theory, which will not only widen their opportunities for employment, but also help them to pursue their doctoral studies.

CHOICE BASED CREDIT SYSTEM (CBCS):

The Choice Based Credit System (CBCS) provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it has been found necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions to begin with. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on students' performance in examinations, the UGC has formulated the guidelines to be followed.

Students of this course would be expected to :

1. To provide the basic knowledge of decision making, production of products, different market structure and pricing structure of the firms.
2. To analyze the concepts and measurement of National Income, factors determining national income and problems in Estimation of National Income.
3. To learn basic mathematical methods those are essential for learning and working with economic theories and models.
4. To promote the analytical skills of the practical knowledge of calculating descriptive statistics.
5. To learn Statistical Methods describing the dynamics of economic systems such as production function analysis and solve econometric analysis of underlying data use with knowledge advanced econometric tools and techniques can solve easily.

6. To aware the analytical skills that can be used to solve complex analytical tasks based on a non-trivial statistical analysis of the underlying data and to solve the tasks of formulating and estimating economic models using statistical methods.
7. The student will be enriched with several aspects pertaining to Human values and performing of Professional Ethics in day today life.
8. Gain the knowledge of Decision about the statistical significance of individual explanatory variable and also over all models. Impacts for the violation of one of the important assumptions for application of OLS regression.
9. To know the knowledge of Different types of data, and analyse relationship of economic variables using simple and multiple regression models which are covered in basic Econometrics.
10. To learn Mathematical calculation of static optimization, Application of Lagrange's method and also student can evaluate Differential Equations and with Economic Applications.
11. Gain knowledge on Web based Information Retrieval Systems
12. To aware the Insurance is one of the main and important fields of the economy. The main aim of the insurance is to protect people from risks and from dangers.
13. To gained and evaluate Econometric Methods such as OLS, LPM, Logistic regression analyses and conclude using SPSS Package and Students will be able to write programme for Simple statistical analyse and interpret through R-programming.
14. To aware and how to reduce global poverty and improve people's living conditions and standards; structure of financial system and economic development.
15. To aware the knowledge and practical implementation of relevant economic theory in understanding and addressing an environmental or natural resource issue.
16. To aware of Life Table and its Relation with Survival Function, Deterministic Survivorship group, Recursion formulas, Assumptions for traditional ages, Analytical Laws of Mortality and to explore Life Insurance models; Level benefit insurance,

Endowment insurance, deferred insurance and varying benefit insurance.

Department Objectives:

The Department is having the following objectives:

1. Exposure of students to practical and theory and to provide them systematic tools of qualitative and quantitative data analysis to acquire this knowledge and skill.
2. To update the syllabus essential for appearing in NET, SLET, RRB, Bank and other competitive exams of UPSC and APPSC.
3. To make aware the students to know the Econometric Techniques, to study by relative methods and research areas.
4. To develop trained and Practical knowledgeable for educational and Research Institutions and NGO's.
5. To develop self employable ability and to apply knowledge for several Companies like Data analyst, Business Managers and other Researchers; it will also provide employment to other dependents.

The basic objectives of our M.A Econometrics degree program. The department's research mission is to develop an environment conducive to promoting high-quality applied research. Applied research is work that informs policy at the global, national or local level, or that is useful in the conduct of business, or the administration of government or non-profit activities.

- to provide our students with appropriate analytical skills to lay the groundwork for lifelong learning;
- to enable our students to become policy-literate and thus be more informed as citizens;
- to encourage the use of experiential learning, including cooperative education, as a means to introduce students to the world of work, reinforce classroom teaching, and assist in the development and advancement of career goals;
- to prepare our students for successful careers as applied economists; and

- Prepare students to develop own thinking /opinion regarding current national or international policies and issues
- Create awareness to become a rational and an enlightened citizen so that they can take the responsibility to spread the governments' initiatives/schemes to the rural areas for the upliftment of the poor or vulnerable section of the society for inclusive growth
- Motivating the learners to conduct investigations of multifaceted problems by applying research-based knowledge and different types of research methods including conducting of user studies and case studies in libraries, analysis and interpretation of data and synthesis of the information to get right solutions to the problems
- Inspiring the learners to learn ICT skills, Retrieval of various Electronic Resources

PROGRAMME OUTCOMES:

1. The Master of Arts programme in Econometrics has been designed with the objective to develop in-depth knowledge of students in frontier areas of economic theory and quantitative methods, so that they are able to use the knowledge to study real world economic problems.
2. The students will acquire additional specialisation through optional courses.
3. They will be able to use common software for analysis of economic data.
4. Besides, students will be able to execute in-depth analysis of economic issues based on their understanding of economic theory, which will not only widen their opportunities for employment, but also help them to pursue their doctoral studies.
5. Understanding the basic assumptions in various econometric analysis, economic theories and enhance capabilities of developing ideas based on them Prepare and motivate students for research studies in Econometrics models especially by developing questionnaire, collecting primary data through field surveys.
6. Provide knowledge of a wide range of econometric techniques using excel or other statistical software.
7. To gained and evaluate Econometric Methods such as OLS, LPM, Logistic regression analyses and conclude using SPSS Package and Students will be

able to write programme for Simple statistical analyse and interpret through R-programming.

8. Motivate students to extract or utilize different websites for secondary data collection, generating concepts for various facets of econometrics studies and gather latest information provided by various Universities, UGC, ICSSR and other websites.
9. Motivate students in preparing for various competitive examinations, NET, SLET, Indian Economic Service etc., by developing or gaining value addition day by day by giving assignments, by following a routine or developing discipline / concentration etc.
10. The Department assesses the knowledge and competence levels of the students at the time of their entry into the post graduate programme so that the instruction could be geared to their needs and capabilities, and necessary remedial measures are adopted for the benefit of the slow learners.
11. The student should acquired the knowledge with facts and figures related to various aspects in day- to- day life.
12. When you graduate with a Master of Arts (Econometrics) you will have learned how to work at a high level of academic achievement.

Semester - I

S.No	Components of Study	Title of the Course	Status of Paper	Title of the Paper	Credit Hrs / Week	Number of Credits	IA Marks	Semester End Marks	Total
1	Core*	EMT-101	Mandatory	Microeconomic Theory- I	6	4	20	80	100
2		EMT-102	Mandatory	Macroeconomic Theory- I	6	4	20	80	100
3		EMT-103	Mandatory	Mathematical Methods	6	4	20	80	100
4		EMT-104	Mandatory	Practical-I	6	4	20	80	100
5	Compulsory Foundation	EMT-105(a)	Optional -1	Statistical Methods	6	4	20	80	100
		EMT- 105(b)		Introduction to Econometrics					
		EMT-105 (c)		Agricultural Economics					
6	Elective Foundation	EMT-106 (a)	Optional -1	Entrepreneurship and Skill Development	6	4	20	80	100
		EMT-106 (b)		Environmental Economics					
		EMT-107		Human Values and Professional Ethics-I					
Total					36	24	120	480	600
Audit Course-I					0	0	100	0	0

***All CORE Papers are Mandatory**

- **Compulsory Foundation - Choose one Paper**
- **Elective Foundation - Choose one Paper**
- **Audit Course – 100 Marks (Internal) – Zero Credits under self study**
- **Interested students may register for MOOC with the approval of the concerned DDC but it will be considered for the award of the grade as open elective only giving extra credits.**

Semester - II

S.No	Components of Study	Title of the Course	Status of Paper	Title of the Paper	Credit Hrs / Week	Number of Credits	IA Marks	Semester End Marks	Total
1	Core*	EMT- 201	Mandatory	Microeconomic Theory II	6	4	20	80	100
2		EMT- 202	Mandatory	Macroeconomic Theory II	6	4	20	80	100
3		EMT- 203	Mandatory	Basic Econometrics	6	4	20	80	100
4		EMT- 204	Mandatory	Practical II	6	4	20	80	100
5	Compulsory Foundation	EMT-205(a)	Optional -1	Mathematical Economics	6	4	20	80	100
		EMT-205 (b)		Actuarial Statistics					
		EMT-205 (c)		Women and Economic Development					
6	Elective Foundation	EMT-206 (a)	Optional -1	Public Finance	6	4	20	80	100
		EMT-206(b)		Industrial Economics					
		EMT- 207		Human Values and Professional Ethics II					
Total					36	24	120	480	600
Audit Course-II					0	0	100	0	0

***All CORE Papers are Mandatory**

- **Compulsory Foundation - Choose one Paper**
- **Elective Foundation - Choose one Paper**
- **Audit Course – 100 Marks (Internal) – Zero Credits under self study**
- **Interested students may register for MOOC with the approval of the concerned DDC but it will be considered for the award of the grade as open elective only giving extra credits.**

Semester - III

S.No	Components of Study	Title of the Course	Status of Paper	Title of the Paper	Credit Hrs / Week	Number of Credits	IA Marks	Semester End Marks	Total
1	Core*	EMT- 301	Mandatory	AdvancedEconometrics	6	4	20	80	100
2		EMT- 302	Mandatory	ComputerApplicationsand Data Analysis	6	4	20	80	100
3		EMT- 303(a)	Mandatory	Practical-III	6	4	20	80	100
4	Generic Elective Practical - I	EMT- 303(b)	Optional -1	Applied Econometrics	6	4	20	80	100
		EMT- 303(c)		EconomicsofDevelopment and Planning					
		EMT-303(d)		FinancialInstitutionsandMarkets					
5	Skill Oriented Course	EMT-304	Mandatory	Personality Development	6	4	20	80	100
6	Open Elective	EMT-305(a)	Optional -1	IndianEconomy	6	4	20	80	100
		EMT-305(b)		Economics ofInsurance					
Total					36	24	120	480	600

***All CORE Papers are Mandatory**

- **Generic Elective - Choose One**
- **Skill Oriented Course is Mandatory. Circle formation with other subjects/Dept. of Arts/Business and Management**
- **Open Electives are for the Students of other Departments. Minimum One paper should be opted. Extra credits may be earned by opting for more number of Open Electives depending on the interest of the student through self study.**
- **Interested students may register for MOOC with the approval of the concerned DDC.**

Semester - IV

S.No	Components of Study	Title of the Course	Status of Paper	Title of the Paper	Credit Hrs / Week	Number of Credits	IA Marks	Semester End Marks	Total
1	Core*	EMT- 401	Mandatory	TimeSeriesEconometrics	6	4	20	80	100
2		EMT- 402	Mandatory	OptimizationTechniquesin Economics	6	4	20	80	100
3	Generic Elective	EMT- 403(a)	Optional-2	Practical-IV	6	4	20	80	100
		EMT- 403(b)		InternationalTradeand Finance					
		EMT- 403(c)		IndianEconomy					
		EMT- 403(d)		Project					
4	Multi-Disciplinary Course	EMT-404	Mandatory (Theory)	Freedom Movement In India, 1857 – 1947	6	4	20	80	100
5	Open Elective	EMT-405(a)	Optional-1	OptimizationTechniquesin Economics	6	4	20	80	100
		EMT-405(b)		Data Base for the Indian Economy					
Total					36	24	120	480	600

***All CORE Papers are Mandatory**

- **Generic Elective - Choose Two**
- **Core papers and Generic Elective opted Paper held Practical-IV**
- **Multi-disciplinary course is Mandatory. Circle formation with other subjects/Dept. of Arts/History**
- **Open Electives are for the Students of other Departments. Minimum One paper should be opted. Extra credits may be earned by opting for more number of open electives depending on the interest of the student through self study.**
- **Interested students may register for MOOC with the approval of the concerned DDC.**

CORE EMT-101	MICROECONOMIC THEORY-I	4 Credits
Course Objectives: The objective of this course is to provide the basic knowledge of decision making, production of products, different market structure and pricing structure of the firms with the study of the subject in a Master's programme.		
Course Out comes: At the end of the course, the student will be able to		
CO1	The microeconomic theory is to analyze how individual decision-makers, both consumers and producers, behave in a variety of economic environments.	
CO2	The common goal in all of these issues is to identify the incentives of the various participating agents and the trade-offs that they face.	
CO3	Microeconomics is a branch of economics that studies the behavior of individuals and firms in making decisions regarding the allocation of scarce resources and the interactions among these individuals and firms.	
CO4	Microeconomics shows conditions under which free markets lead to desirable allocations.	
CO5	The fundamental concepts of supply and demand, rational choice, efficiency, opportunity costs, incentives, production, profits, competition, monopoly, externalities, and public goods will help you to understand the world around you.	

Unit 1: Theory of Individual Decision Making

Theory of Demand - Consumer equilibrium under Indifference Curve Analysis – Applications of Indifference Curves - Slutsky Theorem – Revealed Preference Hypothesis - Choice under Uncertainty- Recent Developments in the Theory of Market Demand.

Unit 2: Theory of Production and Cost

Concepts of Production Function – Homogeneous Production Function - Least Cost Combinations of Factors – Cobb-Douglas and CES Production Functions – Frontier Production Function - Properties - Laws of Returns to Scale - Theory of Cost – Traditional and Modern theories of Cost.

Unit 3: Traditional Market Structures

Perfect Competition - Equilibrium, Short Run and Long Run considerations, Efficiency and Welfare – Monopoly – Price and output determination - Price Discrimination - Welfare and Output.

Unit 4: Modern Theories of Market

Monopolistic competition – Collusive and Non- Collusive Oligopoly: Cournot, Bertrand Stackelberg models - Nash equilibrium - Kinked Demand curve and Price Leadership models.

Unit 5: Limit Pricing and Managerial Theories of Firm

Bain's Limit Pricing: Recent developments – Sylos-Labini and Franco Modigliani Models - Baumol's Sales Maximisation: Static single product model with and without advertisements – Marris' model of Managerial Enterprise.

TEXT AND REFERENCE BOOKS:

- 1) J.M. Henderson and R.E. Quandt (2003) Micro-economic Theory: A Mathematical Approach, Tata McGraw Hill publishing company Ltd.
- 2) Hal R. Varian (1995), Intermediate Micro-econometrics: A Modern Approach, East West Press.
- 3) A. Deaton and J. Muellbauer (1987) Economics and Consumer Behaviour, Cambridge University Press.
- 4) A. Koutsoyiannis, (1979), Modern Micro-economics, London: Macmillan.

EMT102	MACROECONOMIC THEORY-I		4Credits
<p>Course Objectives:</p> <p>The objective of this course is to provide the basic knowledge of the study of the aggregate economy. The primary goals of macroeconomics are to achieve stable economic growth and maximize the standard of living. The basic concepts in macroeconomics and the concepts of National Income, measurement of National Income and factors determining national income and problems in Estimation of National Income. The theory of Employment, consumption Function, investment Multiplier and Accelerator, IS-LM model with Government sector, Monetary and Fiscal Policies and effect of IS and LM curves; Kinds of investment and determinations of investment; the monetary policy and fiscal policy are tools used by the government to control economic performance and reach macroeconomic goals.</p>			
<p>Course Out comes: At the end of the course, the student will be able to</p>			
CO1	Define and explain the process of calculating national income, identify its components, demonstrate circular flow of income, analyse the various income identities with government and international trade, define the concept of green accounting.		
CO2	Understand Say's law of market, classical theory of employment and Keynes objection to the classical theory, demonstrate the principle of effective demand and income determination.		
CO3	Explain the meaning of consumption function, relationship between APC and MPC, consumption and income, concept of multiplier and analyse the theories of absolute and relative income hypotheses.		
CO4	Understand the relationship between investment and savings, demonstrate investment multiplier, and understand the meaning of MEC and MEI. CO5. Illustrate the meaning of interest, analyse the various theories of interest		
CO5	The goals are supported by objectives such as minimizing unemployment, increasing productivity, controlling inflation, and more. The macro economy of a country is affected by many forces, and as such, economic indicators are invaluable to assessing different aspects of performance.		

Unit 1: Macro-Economics

Micro and Macroeconomics - Basic Concepts in Macroeconomics – Stocks and Flows - Statics, Comparative statistics and Dynamics – Micro Foundations of Macroeconomics – Circular flow of National income.

Unit 2: National Income

Definition – Concepts of National Income – Measurement of National Income – Factors determining National income – National Income and Social Accounting - Methods of Estimation – Problems in Estimation of National Income – National Income and Economic Welfare.

Unit 3: Classical and Keynesian Economics

Classical Theory of Employment – Critique of Classical Theory – Basic Keynesian Model – Consumption Function – Investment Multiplier – Accelerator – Interaction between Multiplier and Accelerator - Integration of Monetary theory and Value theory – Don Patinkin theory – The Real Balance Effect – Pigou Effect.

Unit 4: Neo-Classical and Keynesian Synthesis

The IS-LM model – Extension of IS & LM model with government sector – Relative effectiveness of Monetary and Fiscal Policies –Shifts in IS and LM curves.

Unit 5: Savings & Investment

Kinds of investment – Determinations of investment - Investment demand and Output growth – Marginal Efficiency of Capital – Tobin’s ‘Q’ Theory – Lags in Investment demand.

TEXT AND REFERENCE BOOKS:

- 1) Edward Shapiro, Macroeconomic Analysis, Galgotia Publications, New Delhi.
- 2) Keynes, J.M. 1936, General theory of Employment, Interest and Money.
- 3) Gardener Ackley, 1978, Macro-economic Theory - Theory and policy, Macmillan, New Delhi.

EMT103	MATHEMATICAL METHODS		4Credits
Course Objectives: The course is designed to build the mathematical foundations of the students by equipping them with basic mathematical methods that are essential for learning and working with economic theories and models. This course also introduces the Mathematical tools such as Basic Algebra, Sets operations, functions which is more important in economic functional relations, differential equations and Matrices and Determinants.			
CO1	Formulate mathematical models describing the dynamics of economic systems. Demonstrate the role of quantitative techniques in the field of business/industry, illustrate different types of equations, solve equations and system of equations, understand the concept of sets, illustrate and apply basic set operations.		
CO2	Explain the rules for calculating derivatives, uses and application in calculating inter-relationship among total, marginal and average cost and revenue, calculate maxima,		

	minima, elasticity, decide the optimal level of production for a firm.
CO3	Demonstrate the rules for calculating integration, describe the importance and application of integration in consumers' and producers' surpluses, total revenue and cost.
CO4	Illustrate matrix operation, minors, cofactors, use cofactor method to find inverse of a matrix, use Cramer's rule to solve systems of equations.
CO5	Students will get to learn applications of mathematical tools to economy.

Unit 1: Basic Concepts and Set Theory

Exponents – Polynomials – Factorization of Equations — Sets - Meaning, Definition, Types of sets, set operations – Ordered Sets – Linear Point Sets - Cartesian product – Relation – Functions.

Unit 2: Functions and Limits

Functions - Type of Functions – Increasing and Decreasing – Implicit and Explicit – Constant, Linear, Quadratic, Logarithmic and Exponential functions – Graphical Representations of Functions – **Economic Applications of Functions** - **Limits:** Concepts of a Limit of a Function –Theorems on Limits of Functions – Evaluations of Limits in Simple Cases – Limits and Continuity of Functions.

Unit 3: Differential Calculus and Economic Applications (One Variable)

Differential Calculus: Meaning – Process of Differentiation – Rules of Differentiation – Differentiation of Logarithmic and Exponential Functions – Higher Order Derivatives – Maximum and Minimum Points – Points of Inflection - **Economic Applications:** Marginal concepts, Price and cross Elasticity of demand – Relationship among Total, Marginal, Average concepts – Optimizing Economic functions.

Unit 4: Integration and Economic Applications

Concept of an Indefinite Integral – Standard Integral Formula – Rules of Integration – Methods of integration – Concept of a Definite Integral – Area under a Curve – Fundamental theorem of Calculus – Properties of Definite Integral – Area between Curves; **Economic Applications:** Total Functions from Marginal Function – Consumer's and Producer's Surplus.

Unit 5: Matrices and Determinants

Matrices: Concept of a Matrix – Types of Matrices – Matrix Operations – **Determinants:** Properties of Determinants – Minors and Co-Factors – Evaluation of Determinants of Second and Third Order - Inverse of a Matrix – Solutions of Simultaneous Linear Equations involving two or three Variables by Matrix Inverse Method and Cramer's Rule – Characteristic roots and equations – Concept of a Quadratic form – Rank of a Matrix – Concept of g-inverse and c- inverse.

TEXT AND REFERENCE BOOKS:

- 1) Allen, RGD : Mathematical Analysis for Economists
- 2) Mehta, BC and Madanani GMK: Mathematics for Economists, Sultan Chand and Sons, Delhi
- 3) Taro Yamane: Mathematics for Economists (An Elementary Survey), Prentice Hall of India Private Ltd, New Delhi

- 4) Alpha C. Chang: Fundamental Methods for Mathematical Economics
- 5) Barry Bressler: A Unified introduction of Mathematical Economics.
- 6) Dowing, Edward T: Introduction to Mathematical Economics, (2/ed.), Schaum's Outlines, Mc. Graw Hill, 1980
- 7) Bose, D : An Introduction to Mathematical Economics, Himalaya Publishing Company, Delhi.

EMT104	PRACTICAL-I		4Credits
<p>Course Objectives: The main objective of this study programme is thus to promote the analytical skills of the practical knowledge of calculating descriptive statistics. These knowledge scan be used to solve complex analytical tasks based on statistical analysis of the underlying socio-economic data.To solve the tasks of formulating and estimating economic models using statistical methods such as Correlation and Regression.This course an underlying of practical knowledge of Probability, and Testing of Hypothesis.</p>			
CO1	Able to find Mean, Median, Mode, Range, Quartile Deviation and Standard Deviation and Coefficient of Variation.		
CO2	Able to apply Binomial, Poisson, Normal and Log-Normal Distribution Correlation and Regression Analysis		
CO3	Able to test small sample tests based on t, F and Chi-square distributions		
CO4	Able to find Inverse of a Matrix, System of Simultaneous Linear Equations and Cramer's Rule method.		
CO5	Student can identify the relationship between the economic variables and test their significance which is key factor for economic analysis and policy making or business decisions.		

Unit 1: Functions and Limits

Functions - Type of Functions – Increasing and Decreasing – Implicit and Explicit – Constant, Linear, Quadratic, Logarithmic and Exponential functions – Graphical Representations of Functions – **Economic Applications of Functions - Limits:** Concepts of a Limit of a Function –Theorems on Limits of Functions – Evaluations of Limits in Simple Cases – Limits and Continuity of Functions.

Unit 2: Differential Calculus and Economic Applications (One Variable)

Differential Calculus: Meaning – Process of Differentiation – Rules of Differentiation – Differentiation of Logarithmic and Exponential Functions – Higher Order Derivatives – Maximum and Minimum Points – Points of Inflection - **Economic Applications:** Marginal concepts, Price and cross

Elasticity of demand – Relationship among Total, Marginal, Average concepts – Optimizing Economic functions.

Unit 3: Estimation and Testing of Hypothesis:

Estimation: Introduction – Point and Interval Estimation - Estimators and their Properties: Consistency, Unbiasedness, Efficiency and Sufficiency - Method of estimation – Method of Least Squares and Method of Maximum Likelihood. **Tests of Hypothesis:** Statistical Hypothesis – Critical Region – Best Critical region – The Most Powerful Test - Types of errors - Large sample tests for means and proportions - Small sample tests based on t, F and Chi-square distributions.

Unit 4: Sampling Theory:

Need for sampling – Census Vs. Sampling - Types of sampling – Simple random sampling – Stratified random sampling – Systematic sampling – Two Stage sampling.

Unit 5: Correlation and Regression:

Simple Correlation – Computation – Properties - Rank Correlation - Regression Lines - Numerical problems – Concept of Partial and Multiple Correlations.

TEXT AND REFERENCE BOOKS:

- 1) Allen, RGD : Mathematical Analysis for Economists
- 2) Mehta, BC and Madanani GMK: Mathematics for Economists, Sultan Chand and Sons, Delhi
- 3) Taro Yamane: Mathematics for Economists (An Elementary Survey), Prentice Hall of India Private Ltd, New Delhi
- 4) Alexander M.Mood, Franklin A. Graybill and Duance C. Boes: Introduction to the Theory of Statistics. Third Edition. McGraw-hill Statistics Series, 1988.
- 5) S.P. Gupta: Introduction to Statistical Methods.
- 6) S.P. Gupta: Elements of Statistics.

EMT105(a)	STATISTICAL METHODS		4Credits
<p>Course Objectives: The main objective of this study programme is thus to cultivate the analytical skills that can be used to solve complex analytical tasks based on a non-trivial statistical analysis of the underlying data. To solve the tasks of formulating and estimating economic models using statistical methods. This course an underlying of descriptive statistics, Probability, Sampling methods, Correlation and Regression Analysis and Testing of Hypothesis.</p>			
CO1	Able to find Mean, Median, Mode, Range, Quartile Deviation and Standard Deviation and Coefficient of Variation.		
CO2	Able to apply Binomial, Poisson, Normal and Log-Normal Distribution Correlation and Regression Analysis.		

CO3	Able to test small sample tests based on t, F and Chi-square distributions
CO4	formulate Statistical Methods describing the dynamics of economic systems such as production function analysis and solve econometric analysis of underlying data use with knowledge advanced econometric tools and techniques can solve easily.
CO5	Student can identify the relationship between the economic variables and test their significance which is key factor for economic analysis and policy making or business decisions.

Unit 1: Basics:

Measures of Central Tendency – Measures of Dispersion – Coefficient of Variation, Skewness and Kurtosis – Numerical problems.

Unit 2: Probability and Distributions:

Probability: Concept of Probability – Axioms of Probability – Addition and Multiplication theorems – Bayes’s Theorem - **Distributions:** Random Variables – Distribution Function – Probability Density Function - Mathematical Expectation – Binomial, Poisson, Normal and Lognormal distributions – Mean and Variance - Chief characteristics of Normal Distribution.

Unit 3: Estimation and Testing of Hypothesis:

Estimation: Introduction – Point and Interval Estimation - Estimators and their Properties: Consistency, Unbiasedness, Efficiency and Sufficiency - Method of estimation – Method of Least Squares and Method of Maximum Likelihood. **Tests of Hypothesis:** Statistical Hypothesis – Critical Region – Best Critical region – The Most Powerful Test - Types of errors - Large sample tests for means and proportions - Small sample tests based on t, F and Chi-square distributions.

Unit 4: Sampling Theory:

Need for sampling – Census Vs. Sampling - Types of sampling – Simple random sampling – Stratified random sampling – Systematic sampling – Two Stage sampling.

Unit 5: Correlation and Regression:

Simple Correlation – Computation – Properties - Rank Correlation - Regression Lines - Numerical problems – Concept of Partial and Multiple Correlations.

REFERENCES

- 1) S.C. Gupta and V.K. Kapoor: Elements of Mathematical Statistics.
- 2) Wonnacott&Wonnacott: Introduction to Statistical Methods.
- 3) Alexander M.Mood, Franklin A. Graybill and Duance C. Boes: Introduction to the Theory of Statistics. Third Edition. McGraw-hill Statistics Series, 1988.
- 4) S.P. Gupta: Introduction to Statistical Methods.
- 5) S.P. Gupta: Elements of Statistics.

EMT 105(b)	INTRODUCTION TO ECONOMETRICS		4Credits
Course Objectives: The objective of the course is to provide knowledge on Econometric applications of Economic theory.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	students will have adequate competency in the frontier areas of economic theory and methods		
CO2	Use basic econometric estimation techniques such as Ordinary Least Squares to estimate bivariate and multivariate regression models.		
CO3	Decision about the statistical significance of individual explanatory variable and also over all model.		
CO4	Impacts for the violation of one of the important assumptions for application of OLS regression.		
CO5	Students will acquire additional specialization topics are estimation of system of equations, estimation of panel data models, generalized method of moments, discrete response models, censored regression models and estimation of average treatment effects.		

Unit 1: Nature of Econometrics and Economic Data

Definition of Econometrics – Steps in Empirical Economic Analysis - Econometric Model – The Role of Measurement in Economics – The Structure of Economic Data: Cross-Sectional data, Time Series data, Pooled Cross Section data, Panel Data.

Unit 2: Simple Regression Model

Two Variable Linear Regression Model: Assumptions, Estimation of Parameters, Tests of Significance and Properties of Estimators – Functional forms of Regression models – Log-linear models, Semi log- models and Reciprocal models – Choice of Functional Form.

Unit 3: The General Linear Model

Review of Assumptions, Estimation and Properties of Estimators: Un-biasness, BLUEs and Tests of significance of estimates – Analysis of Variance - **Dummy variables** - Nature of Dummy variables – Use of Dummy Variables – Errors in Variables and its consequences.

Unit 4: Auto-regressive and Distributed Lag Models

Introduction – Types of Lag schemes - Koyck's lag model, Almon's Lag scheme, Partial Adjustment and Expectations models - Causality in Economics – The Granger Causality Test.

Unit 5: Simultaneous Equation Models

Specification – Simultaneous Bias – Inconsistency of OLS Estimators - The concept of Identification, Rank and Order conditions for Identification – Indirect Least Squares - Two stage Least Squares (without proof), Problems.

TEXT AND REFERENCE BOOKS:

1. Johnston, J: Econometric Methods, McGraw-Hill Book Co., New York.
2. Maddala, G.S: Econometrics, McGraw-Hill Book Co., New York, 3rd Rd.
3. Gujarathi, D.N: Basic Econometrics, Fourth Edition, Tata McGraw-Hill, New Delhi.
4. Tintner, G: Econometrics, John Wiley & Sons, New York.
5. Wooldridge, Jeffery M: Econometrics, Cengage Learning India Pvt. Ltd, New Delhi.

EMT 105 (c)	AGRICULTURAL ECONOMICS		4Credits
Course Objectives: To impart knowledge on role of agriculture sector in Economic development and structural changes and contribution of Agriculture sector to the country economy. Understanding the need for improvement in Agricultural Productivity – various programmes adopted by the Government for the improvement of Agricultural productivity			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Understanding scope of Agriculture Economics – Role of Agriculture in Economic Development- changes and contribution of Agriculture sector and Role of Women in Agricultural Development		
CO2	Understanding the development of Agriculture Sector Post independence period – trends in area production and productivity and India’s position in World Agriculture.		
CO3	Agriculture Sector Post independence period – trends in area production and productivity and India’s position in World Agriculture.		
CO4	Understanding the disbursement of institutional finance to primary sector, credit management and risk management.		
CO5	Other agencies – reasons for indebtedness in Agricultural Households.		

Unit –I: Agriculture and Economic Development

Definition, Nature and Scope of Agricultural Economics – Role of Agriculture sector in Economic Development – Structural changes and Contribution of Agriculture Sector — Modernisation of Agricultural Production Systems – Global Hunger Index – Achieving Zero Hunger – Re-orientation of Agricultural Development- Sustainable Agriculture- Role of Women in Agricultural Development.

Unit –II: Agriculture Sector in India

Development of Agriculture sector during Post-Independence Period –Green Revolution - Trends in Growth of Gross Cropped Area and Gross Irrigated Area – Decreasing Size of Average Land Holdings – Area, Production and Yields of Principal Crops- Targets and Achievements during Five Year Plans – India’s Position in World Agriculture.

Unit –III. Investments in Agriculture Sector in India

Factors Determining Gross Capital Formation in Agriculture Sector – Trends during Five Year Plans – Share of Public and Private Sectors – Budgetary expenditure on Agriculture sector –

Inflow of FDI into Agriculture sector- Sources and Trends in flow of Credit to Agriculture – Kisan Credit Cards – Credit for Rain fed Areas – Indebtedness of Agricultural Households .

Unit – IV: Government Initiatives and Development of Agriculture

Need for Improvement in Agricultural Productivity- Government Initiatives – National Food Security Mission (NFSM)- National Mission for Sustainable Agriculture (NMSA) and Agricultural Extension and Technology – National Crop Insurance Programme – PradhanMantriFasalBimaYojana- RashtriyaKrishiVikasYojana – Rain fed Area Development Programme.

Unit- V: Agricultural Marketing and Trade in India

Determinants of Marketable and Marketed Surplus – Structure of Agricultural Markets – Primary and Secondary Wholesale Markets- Terminal Markets – Retail Markets – Fairs – Nature of Markets – Group Marketing- Cooperative Marketing – Direct Marketing – Warehousing in Rural areas – Physical and Financial Performance of GrameenBhandaranYojana – Role of AGMARK and AGMARKNET- Exports and Imports of Agricultural Commodities

REFERENCES:

1. Bilgrami, S.A.R. (1996) Agricultural Economics, Himalaya Publishing House, New Delhi
2. FAO (2002) World Agriculture Towards 2015/30: Summary Report, Rome
3. FAO (2015) The State of Agricultural Commodity Markets : Trade and Food Security, Rome.
4. FAO (2015) The State of Food Insecurity in the World., Rome
5. Global AgriSystem Private Limited: Evaluation and Impact Assessment for the Central Sector
6. Scheme of GrameenBhandaranYojna, Submitted by Global AgriSystemPrivate Limited to Directorate of Marketing and Inspection, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.
7. Government of India (2012) Twelfth Five Year Plan (2012–2017) Economic Sectors,Volume II Agriculture, Planning Commission, New Delhi, Published by Sage Publications.
8. Government of India (2015) Annual Report-2014, Ministry of Agriculture and Cooperation, New Delhi
9. Government of India (2015) Agricultural Statistics at a Glance 2014, Ministry of Agriculture
10. Department of Agriculture & Cooperation Directorate of Economics & Statistics, New Delhi, Oxford.
11. Government of India (2015) Pocket Book of Agricultural Statistics-2015.

EMT 106 (a)	ENTREPRENEURSHIP AND SKILL DEVELOPMENT		4Credits
Course Objectives: To make students develop and can systematically apply an entrepreneurial way of thinkingTo import knowledge on organisations for Skill Development.Development of communication skills and skill development.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Entrepreneurship and skill development	course outcome study of concepts,functions and types of entrepreneurship.	

CO2	To familiar the student with the basic concepts function and type of entrepreneurs.
CO3	Women entrepreneurship and economic development. Role of national and state level organizations in the development of entrepreneurship.
CO4	Provide orientation on identification and to assess the feasibility of the project.
CO5	To make students develop and can systematically apply an entrepreneurial way of thinking.

Unit I: Entrepreneurship

Concepts of Entrepreneurship - Functions and Types of Entrepreneurs - Motivation and Competency –Entrepreneurship - Women Entrepreneurship and Economic Development.

Unit ii: OrganizationsFor Entrepreneurship Development

Programmes for the Development of Entrepreneurship - National and State Level Organizations - Entrepreneurship Development Institute of India (EDII) - National Institute for Entrepreneurship and Small Business Development (NIESBUD) - National Science and Technology Entrepreneurship Development Board (NSTEDB) - National Institute of Small Industry Extension and Training (NISIET).

Unit Iii:Identification And Preparation Of Project Report

Identification of Project – Objectives of Project – Methods and Contents of Project Report – Formulation and Appraisal of Project Report.

Unit Iv: Development Of Skills

Need for the Development of Skills –Communication Skills – Verbal and Non-Verbal Communication – Barriers to Communication – Individual Interaction Skills – Basic Interaction Skills - Leadership Skills - Working Individually and as a Team - Personality Development – Intra and Inter-personal Communication Skills.

Unit V: Organizations For Skill Development

Skill Development Mission – PM’s National Council on Skill Development – National Skill Development Coordination Board – National Skill Development Corporation – SIKSHAM- National Skill Foundation of India(NSFI) – Skill Development Initiative (SDI) - KaushalVikasYojana (KVY) – AP State Skill Development Board.

REFERENCES:

1. Kent G. A, 1982, Encyclopedia of Entrepreneurship, Prentice Hall, USA
2. Markcassion, 2000, Enterprise and Leadership, Edward Elgar., UK
3. Michael and et al, 1998, Educating Entrepreneurs for Wealth creation, Aghgate Publisher, Hampshire, U.K.
4. Patel V.G., 1987, Entrepreneurial Development Programmes in India and its relevance to Developing Countries, World Bank.
5. Samuddin, 1990, Entrepreneurial Development in India, Mittal Publications, New Delhi.
6. Stenenson et al, 1986, Importance of Entrepreneurship and Eco-nomic Development.
7. Rajiv K Misra, Personality Development, Rupa& Co.
8. Govt. of India (2012) XI Plan Document.

9. Govt. of India (2014) Economic Summary.
10. M.GangadharRao. et al, 1993, Industrial Economy Part-I,Kanishka Publishing House, New Delhi.
11. Katar Singh, 1994, Rural Development Principles, Policies and Management, Sage Publication India, New Delhi.
12. Development Commissioner: Annual Reports, Small Scale Industries, New Delhi.
13. UDAI PAREEK and T. VenkateswaraRao, Developing Entre-preneurship - A Hand Book Learning Systems, New Delhi.
14. Deshpande, M.U., Entrepreneurship of Small Scale Industries, Deep and Deep Publications, New Delhi.
15. D.L. Narayana, 1972, Entrepreneurship and Economic Development, Madurai University Press, Madurai.

EMT 106(b)	ENVIRONMENTAL ECONOMICS		4Credits
<p>Course Objectives:The main objective of environmental economics is to maintain a balance between economic development and environmental quality. In order to achieve it, environmental economists have to explore the various socio-economic possibilities to reduce pollution and uplift the standard of living of the people.Environmental economics is a distinct branch of economics that acknowledges the value of both the environment and economic activity and makes choices based on those values. The goal is to balance the economic activity and the environmental impacts by taking into account all the costs and benefits.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Realize the importance and influence of environment on the economy including the quality of manpower. Arouse their feelings to make cleaner environment so as to achieve harmonious development.		
CO2	Understand that environmental problem is not the problem of a single country or region but a global problem/issue. Hence, policy formulation may be for all countries.		
CO3	Demonstrate the scientific management of waste materials; realize the role and importance of individuals to keep the environment clean.		
CO4	Understand the causes and victims of environmental pollution like poverty, population explosion, and over-use of resources, careless or unscientific dump/management of wastes.		
CO5	Suggest appropriate measures to correct environmental degradation, aware of those ingredients such as healthy climate, quality of human beings, domestic and other natural habitats and biodiversity levels, productivity and productions, sustainability, etcare all influenced by environment.		

Unit 1: Nature and Scope of Environmental Economics

Nature and Scope of Environmental Economics – Economic Growth and Environmental degradation – Environmental Kuznets Curve - Limits to Economic Growth - Sustainable Development – Environmental Quality and Economic Development.

Unit 2: Environmental Degradation and Resource Depletion

Natural Resources – Renewable and Non-renewable Resources – Approaches to the use of Natural Resources – Theories of Natural Resources - Depletion of Natural Resources – Tragedy of Commons – Causes of Environmental Degradation.

Unit 3: Sources and Effects of Pollution

Sources and Types of Pollution – Soil, Air, Water Pollution - Industrialization and Environmental Pollution – Urban Solid-waste and other sources of Pollution – Aqua Culture, Coastal and Marine Pollution - Economic Effects of Pollution.

Unit 4: Environmental Principles and Policies

Environmental Regulation and Control of Pollution – Polluter Pays Principle - Hedonic Pricing Principle – Pigovian Analysis of taxes and Subsidies - Pollution Permits – Environmental Institutions - Environmental Policy – Objectives – National Environmental Policy of 2006 - Pollution Control Policies in India.

Unit 5: Environmental Laws and Management Strategies

Environmental Laws and Regulations – The Air Act, The Water Act, The Environmental Protection Act, The Wildlife Protection Act in India - Environment Management Strategies – Development of Clean Production Technologies - Forest Conservation, Management and Conservation of Common Property Resources and Environmental Education – Social Forestry – Community Participation.

TEXT AND REFERENCE BOOKS:

- 1) Bhattacharya, R.N. (Ed), 2001, Environmental Economics; An Indian Perspective, Oxford University press, New Delhi.
- 2) Sankar,U. (Ed), 2001, Environmental Economics, Oxford University press, New Delhi.
- 3) Baumol, W.J. and W.E. Oates, 1998, the theory of Environmental policy, (2nd Edition), Cambridge University press, Cambridge.
- 4) Anil Kumar, 1990 Environmental Protection and Industrial Development, Ashish Publishing House, New Delhi;
- 5) Mussen, A.M. 1999, Principles of Environmental Economics, Rutledge, London
- 6) Kolstad, C.D., 1999, Environmental Economics, Oxford University press, Baltimore.
- 7) Sengupta, R.P.2001, Ecology and Economics: An approach to sustainable development, Oxford University press, New Delhi.

EMT 107: HUMAN VALUES AND PROFESSIONAL ETHICS – I

Human values are the virtues that guide us to take into account the human element when we interact with other human beings. It is with those human values that one becomes truly able to put into practice his/her ethical values, such as justice, integrity, and refusal of violence and ban to kill – even in a crisis situation. To create an awareness on Management Ethics and Human Values. To inspire Moral and Social Values and Loyalty. To appreciate the rights of others. The prime objective of the

Professional Ethics is to develop ability to deal effectively with moral complexity in students. To understand the moral values that ought to guide the Engineering profession, (b) To resolve the moral issues in the profession, and (c) To justify the moral judgment concerning the profession.

Course Objectives

This is a course on human values and professional ethics. The main objectives of the course is nature of ethics, relation to Religion, Politics, Business, Legal, Medical and Environment; Nature of Values- Good and Bad, analysis of basic moral concepts- right, ought, duty, obligation, justice, responsibility and freedom; the Ahimsa (Non- Violence), Satya (Truth), Brahmacharya (Celibacy), Asteya (Non-possession) and Aparigraha(Non- stealing). Purusharthas(Cardinal virtues)-Dharma (Righteousness), Artha(Wealth), Kama(Fulfillment Bodily Desires). Moksha(Liberation); the Four Noble Truths and Gandhian Ethics; and lastly crime and Theories of punishments are reformative, retributive and Deterrent.

Learning Outcomes

After successfully completing the course the graduate is able to:

Honesty, open disclosure and sincerity are all characteristics of ethical behavior. Many organizations include a commitment to ethical behavior in their code of conduct. The professionals can adopt a personal code of conduct and make the same commitment on an individual basis. Professional ethics are accepted standards of personal and business behavior, values and guiding principles. The codes of professional ethics are established by professional organizations to help to guide members in performing their job functions according to sound and consistent ethical principles. The principles are beneficence, non-maleficence, autonomy, justice; truth-telling and promise-keeping.

REFERENCES:

- 1) John S Mackenjie: A manual of ethics.
- 2) "The Ethics of Management" by Larue Tone Hosmer. Richard D. Irwin Inc.
- 3) "Management Ethics' integrity at work' by Joseph A. Petrick and John F. Quinn. Response Books: New Delhi.
- 4) "Ethics in Management" by S.A. Sherlekar, Himalaya Publishing House.
- 5) Harold H. Titus: Ethics for Today
- 6) Maitra, S.K: Hindu Ethics
- 7) William Lilly: Introduction to Ethics
- 8) Sinha: A Manual of Ethics
- 9) Manu: Manava Dharma Sastra or the Institute of Manu: Comprising the Indian System of

Duties: Religious and Civil (ed.) G.C.Halighton.

- 10) SusrptaSamhita: Tr.KavirajKunjanlal, KunjalalBrishagratha. Chowkarnba Sanskrit series. VolLII and III, Varnasi, Vol I 00,16'20,21-32 and 74-77 only.
- 11) CarakaSamhita :Tr.Dr. Ram Karan Sarma and VaidyaBhagavan Dash, Chowkambha Sanskrit Series office. Varanasi I, 11.111 VolIPP 183-191.
- 12) Ethics, Theory and Contemporary Issues. Barbara Mackinnon Wadsworth/Thomson Learning, 2001.
- 13) Analyzing Moral.Issues, Judith A. Boss. May Field Publishing Company - 1999.
- 14) An Introduction to Applied Ethics (Ed.) John H.Piet and Ayodhya Prasad. Cosmo Publications
- 15) Text Book for Intermediate First Year Ethics and Human Values. Board of Intermediate Education- Telugu ~ Akademi, Hyderabad.
- 16) I.C Sharma Ethical Philosophy of India. Nagin& co Julundhar

EMT201	MICRO ECONOMIC THERORY II		4Credits
<p>Course Objectives: The microeconomic theory is to analyze how individual decision-makers, both consumers and producers, behave in a variety of economic environments. The factor prices are land, labour, capital and organization, determination of factor prices, pricing of factors; Ricardian theory of Rent, wage determination under perfect competition, classical theory of interest, theories of Profit; static and dynamic equilibrium, Walrasian System of General Equilibrium, Existence and Stability of General Equilibrium, externalities and Allocative Efficiency; Adam Smith, Bentham, Pigou, Kaldor-Hicks Compensation Criteria.The Fundamental concepts of supply and demand, rational choice, efficiency, opportunity costs, incentives, production, profits, competition, monopoly, externalities, and public goods will help you to understand the world around you.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Demonstrate the meaning and function of money, high powered money, monetary and paper system, illustrate various version of quantity theory of money.		
CO2	Identify types of banks, explain the meaning and function of commercial banks, illustrate how banks create credit, and suggest the instruments to control credit.		
CO3	Analyze different phases of trade cycle, demonstrate various trade cycle theories, understand the impact of cyclical fluctuation on the growth of business, and lay policies to control trade cycle.		

CO4	Illustrate the meaning of inflation, deflation, stagflation and reflation, identify different kinds of inflation, causes and effects of inflation on different sectors of the economy, describe different measures to control inflation.
CO5	Criteria of Social Welfare – Adam Smith, Bentham, Pigou, and Cardinal school – Pareto Optimality in Consumption, Production and Distribution – Kaldor-Hicks Compensation Criteria- Bergson Social Welfare Function - Social Choice Theory, Coase and Sen.

Unit 1: Factor Markets

Factor Pricing: Marginal Productivity Theory of determination of Factor prices - Factor shares and the 'Adding up' problem - Euler's theorem - Pricing of factors under Imperfect Competition.

Unit 2: Functional Distribution

Theories of Rent: Concept of Rent – Ricardian theory of Rent – Quasi Rent, Theories of Wages: Wage determination under Perfect competition, Monopsony and Collective bargaining (Bilateral Monopoly), Theories of Interest: Classical theory of interest – Loanable fund theory – Keynes liquidity preference theory of interest, Theories of Profit: Profit as dynamic surplus – innovations and profits – risk uncertainty and profits

Unit 3: Economics of Information

Basic Concepts of Economics of Information - Economic Value of information - Role of information in Economic theory – Information, a measure of risk - Bayes' Rule - Classical Paradoxes - Choice under Risk - Risk Allocation in Exchange Economies Model - Monopolist Insurer - Perfect Competition - Adverse Selection - Monopolistic Screening, Competition and Market Breakdown - Public Intervention - Brief introduction to Game theoretic approach to information use.

Unit 4: General Equilibrium

Meaning of Partial and General Equilibrium – Static and Dynamic Equilibrium – Stable and Unstable Equilibrium –Walrasian System of General Equilibrium - Existence and Stability of General Equilibrium - Externalities and Allocative Efficiency.

Unit 5: Welfare Economics

Welfare Economics – Criteria of Social Welfare – Adam Smith, Bentham, Pigou, and Cardinal school – Pareto Optimality in Consumption, Production and Distribution – Kaldor-Hicks Compensation Criteria- Bergson Social Welfare Function - Social Choice Theory, Coase and Sen.

TEXT AND REFERENCE BOOKS:

1. J.M. Henderson and R.E. Quandt (2003) Microeconomic Theory: A Mathematical Approach, Tata McGraw Hill publishing company Ltd.
2. Hal R. Varian (1995), Intermediate Microeconomics: A Modern Approach, East West Press.
3. A. Deaton and J. Muellbauer (1987) Economics and Consumer Behaviour, Cambridge University Press.

4. A. Koutsoyiannis, (1979), Modern Microeconomics, London: Macmillan.
5. Macho-Stadler, I and D. PerezCastrillo (1997): "An Introduction to the Economics of Information", Oxford University Press.
6. J. Hirshleifer and J. Riley (1992): "The Analytics of Uncertainty and Information", Cambridge University Press
7. J.-J. Laffont (1989): "The Economics of Uncertainty and Information", MIT Press
8. L. Phlips (1988): "The Economics of Imperfect Information", Cambridge University Press
9. T. Van Zandt (2006): "Introduction to the Economics of Uncertainty and Information"
10. K. Binmore (2011): "Rational Decisions", Princeton University Press
11. M. Osborne: "An Introduction to Game Theory", Oxford University Press.

EMT202	MACRO ECONOMIC THERORY II		4Credits
<p>Course Objectives: Macroeconomics refers to the study of the overall performance of the economy. While microeconomics studies how individual people make decisions, macroeconomics deals with the overall aggregate effect of microeconomics. Macroeconomics is crucial for the government to understand and predict the long-term consequences of their decisions. The overarching goals of macroeconomics are to maximize the standard of living and achieve stable economic growth. The goals are supported by objectives such as minimizing unemployment, increasing productivity, controlling inflation, and more. The objectives are Full employment. Price stability. A high, but sustainable, rate of economic growth. Keeping the balance of payments in equilibrium.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	The overarching goals of macroeconomics are to maximize the standard of living and achieve stable economic growth		
CO2	The goals are supported by objectives such as minimizing unemployment, increasing productivity, controlling inflation, and more.		
CO3	The macro economy of a country is affected by many forces, and as such, economic indicators are invaluable to assessing different aspects of performance.		
CO4	Meaning and Types of Inflation – Demand-Pull inflation – Cost-Push Inflation – The Phillips curve – The Inflation – Unemployment trade-off.		
CO5	Objectives of Macroeconomic policies – Objectives of Monetary policy. New-classical and Real Business cycles Theorem – Post-Keynesians - Implications for Stabilization Policies.		

Unit 1: Demand for and Supply of Money

The Classical View- Neo-classical view-Quantity Theory of Money – Keynes and the Demand for Money - Post Keynesian theories of demand for money - Baumol , James Tobin and Friedman – Concept of Money Supply – Components of Money Supply – RBI approach to Money supply – High Power Money and Money Multiplier – Determinants of Supply of Money.

Unit – 2: Macro Theories of Distribution

Functional Versus Personal Distribution of Income - MicroversusMacro-theories of Distribution - Marxian, Ricardian, Kelecki Theories of Distribution - Alternate theories of distribution – Kaldor.

Unit 3: Trade Cycles

Meaning and Types of Trade Cycles – Different theories of Trade Cycles – Samuelson`s Model of Trade Cycle – Hicks` Theory Cycle – Kaldor`s Model of Trade Cycle – Control of Business Cycle – Monetary and Fiscal Policies.

Unit 4: Theories of Inflation

Meaning and Types of Inflation – Demand-Pull inflation – Cost-Push Inflation – The Phillips curve – The Inflation – Unemployment trade-off - The Monetarists Accelerationists` Hypothesis – Rational Expectations Hypothesis – New-classical and Real Business cycles Theorem – Post-Keynesians - Implications for Stabilization Policies.

Unit 5: Macroeconomic policies

Objectives of Macroeconomic policies – Objectives of Monetary policy – The policy of Activists arguments – The policy of Non-activists arguments - Fiscal policy – objectives and tools - Automatic stabilizers – Problems of using of Fiscal policies – Effectiveness of Monetary and Fiscal policies –The concept of Open Economy macroeconomics.

TEXT AND REFERENCE BOOKS:

1. Ackley, G. Macroeconomic theory, Macmillan
2. Edward Shapiro, Macroeconomic Analysis, 5th edition, New-Delhi Galgotia publications.
3. Branson, W.B., Macro Economic Theory and Policy.
4. Gupta, S.B., 1983, Monetary Economics, Chand and Co.
5. Hicks, J.R., Mr. Keynes and the Classics; A suggested Interpretation, Econometrics,
6. Laidler, D.E.W., Demand for money.
7. Friedman, M. (ed), The quantity theory of money – A Restatement of studies in the quantity theory of money.
8. Patinkin, Don., Money, Interest and Prices.
9. Rosalind Levacic and Alexander Rebthann, 1982, Macroeconomics; The English Language Book Society and Macmillan.
10. Rongar L. Miller and Robert Pulsinelli, Macroeconomics.

EMT203	BASIC ECONOMETRICS		4Credits
<p>Course Objectives: This course is designed to define Econometrics, Steps in Empirical Economic Analysis, Different types of data involved in econometric Analysis. The courses involved Simple and Multiple Linear regression model and Functional forms of Non-Linear Regression models. Basic concept of Auto regressive distributed lag model (ARDL) developed which will be helpful for future research work with time series data.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Adequate competency in the frontier areas of economic theory and methods.		
CO2	Formulation and estimation of a multiple regression model.		
CO3	Decision about the statistical significance of individual explanatory variable and also over all models		
CO4	Impacts for the violation of one of the important assumptions for application of OLS regression.		
CO5	Estimation of system of equations, estimation of panel data models, generalized method of moments, discrete response models, censored regression models and estimation of average treatment effects.		

Unit 1: Nature of Econometrics and Economic Data

Definition of Econometrics – Steps in Empirical Economic Analysis - Econometric Model – The Role of Measurement in Economics – The Structure of Economic Data: Cross-Sectional data, Time Series data, Pooled Cross Section data, Panel Data.

Unit 2: Simple Regression Model

Two Variable Linear Regression Model: Assumptions, Estimation of Parameters, Tests of Significance and Properties of Estimators – Functional forms of Regression models – Log-linear models, Semi log-models and Reciprocal models – Choice of Functional Form.

Unit 3: The General Linear Model

Review of Assumptions, Estimation and Properties of Estimators: Un-biasness, BLUEs and Tests of significance of estimates – Analysis of Variance - **Dummy variables** - Nature of Dummy variables – Use of Dummy Variables – Errors in Variables and its consequences.

Unit 4: Auto-regressive and Distributed Lag Models

Introduction – Types of Lag schemes - Koyck's lag model, Almon's Lag scheme, Partial Adjustment and Expectations models - Causality in Economics – The Granger Causality Test.

Unit 5: Simultaneous Equation Models

Specification – Simultaneous Bias – Inconsistency of OLS Estimators - The concept of Identification, Rank and Order conditions for Identification – Indirect Least Squares - Two stage Least Squares (without proof), Problems.

TEXT AND REFERENCE BOOKS:

- 1) Johnston, J: Econometric Methods, McGraw-Hill Book Co., New York.
- 2) Maddala, G.S: Econometrics, McGraw-Hill Book Co., New York, 3rd Rd.
- 3) Gujarathi, D.N: Basic Econometrics, Fourth Edition, Tata McGraw-Hill, New Delhi.
- 4) Tintner, G: Econometrics, John Wiley & Sons, New York.
- 5) Wooldridge, Jeffery M: Econometrics, Cengage Learning India Pvt. Ltd, New Delhi.

EMT204	PRACTICAL-II		4Credits
Course Objectives: The course designed about Practical knowledge of mathematical concepts specially related to Input-output analysis and Linear Programming which are most important in economic decisions. This course covered Practical knowledge of OLS Method. The course involved practical approach of Multiple Linear Regression Model. Identify, Inconsistency of OLS Estimators. This course is extension of practical practices of Basic Econometrics and Mathematical Economics what we mentioned in the courses of EMT 203 and EMT 205.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Students can Identify Inter industrial relationships using Input-output analysis,		
CO2	analyse maximization of profits and minimization of costs can evaluate using Linear Programming,		
CO3	Analyse relationship of economic variables using simple and multiple regression models which are covered in basic Econometrics		
CO4	Able to estimate and interpret linear regression models and be able to distinguish between economic and statistical importance		
CO5	They should be able to critique reported regression results in applied academic papers and interpret the results for someone who is not trained as an economist.		

Unit 1: Input-Output Analysis

Assumptions - Technological Co-efficient Matrix – Closed and open Model – Solution of Open Model – Hawkins-Simon Conditions – Dynamic Input-Output Model – Production Function Approach to Input Output Model.

Unit 2: Linear Programming

Basic Concepts – Formulation of LPP – Basic and Feasible Solutions – Graphical Solution - Simplex Method – Duality in Linear Programming – Elements of Data envelop Analysis and its Applications.

Unit 3: The General Linear Model

Review of Assumptions, Estimation and Properties of Estimators: Un-biasness, BLUEs and Tests of significance of estimates – Analysis of Variance - **Dummy variables** - Nature of Dummy variables – Use of Dummy Variables – Errors in Variables and its consequences.

Unit 4: Auto-regressive and Distributed Lag Models

Introduction – Types of Lag schemes - Koyck's lag model, Almon's Lag scheme, Partial Adjustment and Expectations models - Causality in Economics – The Granger Causality Test.

Unit 5: Simultaneous Equation Models

Specification – Simultaneous Bias – Inconsistency of OLS Estimators - The concept of Identification, Rank and Order conditions for Identification – Indirect Least Squares - Two stage Least Squares (without proof), Problems.

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- 1) Johnston, J: Econometric Methods, McGraw-Hill Book Co., New York.
- 2) Maddala, G.S: Econometrics, McGraw-Hill Book Co., New York, 3rd Rd.
- 3) Gujarathi, D.N: Basic Econometrics, Fourth Edition, Tata McGraw-Hill, New Delhi.
- 4) Allen, RGD: Mathematical Analysis for Economists.
- 5) Mehta, BC and Madanani GMK: Mathematics for Economists, Sultan Chand and Sons, Delhi.
- 6) Taro Yamane: Mathematics for Economists (An Elementary Survey), Prentice Hall of India Private Ltd, New Delhi.

EMT205(a)	MATHEMATICAL ECONOMICS		4Credits
Course Objectives: This course also introduces the Mathematical tools such as Differential Calculus and Economic Applications (Two or More Variables), Differential Equations and Economic Applications. This course explores Input-output analysis and Linear programming which is most			

important in the area of Inter industrial dependency and maximization of the profits and minimization of the cost of the firms.	
Course Outcomes: At the end of the course, the student will be able to	
CO1	Students can deal Mathematical calculation of static optimization, Application of Lagrange's method and also student can evaluate Differential Equations and with Economic Applications.
CO2	Able to estimate and interpret Inter industrial relationships using Input-output analysis, also analyse maximization of profits and minimization of costs of the firms using Linear Programming method
CO3	Economic Applications of Differential Equations – Dynamic Multiplier – Harrod-Domar Model.
CO4	Homogeneous Linear Difference Equations with Constant Coefficients – Particular Solution of Non-homogeneous Linear Equations – Linear First Order and Second Order Difference Equations with constant coefficients – Cobweb Model –Market model with Stocks
CO5	Formulation of LPP – Basic and Feasible Solutions – Graphical Solution - Simplex Method – Duality in Linear Programming – Elements of Data envelop Analysis and its Applications.

Unit 1: Differential Calculus and Economic Applications (Two or More Variables)

Differential Calculus: Functions of two or more variables and Partial Derivatives – Rules of Partial Differentiation – Second-Order Partial Derivatives – Optimization of Multivariable Functions – Constrained Optimization with Lagrange Multipliers – Significance of Lagrange Multiplier – Differentials – Total and Partial Differentials – Homogeneous Functions – Euler's Theorem – Partial Elasticities; **Economic Applications:** Maximization of Utility – Minimization of Cost – Maximization of Cost, Profit – Elasticity of Substitution

Unit 2: Differential Equations and Economic Applications

Definitions and Concepts – Linear Differential Equations of the First and Second Order with constant coefficient – Non-linear Differential equations of First-Order and First Degree – Variable Separable Case, Differential Equations with homogeneous equations - Economic Applications of Differential Equations – Dynamic Multiplier – Harrod-Domar Model.

Unit 3: Difference Equations and Economic Applications

Definitions and Concepts – Homogeneous Linear Difference Equations with Constant Coefficients – Particular Solution of Non-homogeneous Linear Equations – Linear First Order and Second Order Difference Equations with constant coefficients – Cobweb Model –Market model with Stocks – Dynamic Multiplier – Multiplier Acceleration Model : HarrodDomar Model – Multiplier’s Accelerator Interaction Model of Samuelson.

Unit 4: Input-Output Analysis

Assumptions - Technological Co-efficient Matrix – Closed and open Model – Solution of Open Model – Hawkins-Simon Conditions – Dynamic Input-Output Model – Production Function Approach to Input Output Model.

Unit 5: Linear Programming

Basic Concepts – Formulation of LPP – Basic and Feasible Solutions – Graphical Solution - Simplex Method – Duality in Linear Programming – Elements of Data envelop Analysis and its Applications.

TEXT AND REFERENCE BOOKS

- 1) Allen, RGD: Mathematical Analysis for Economists.
- 2) Mehta, BC and Madanani GMK: Mathematics for Economists, Sultan Chand and Sons, Delhi.
- 3) Taro Yamane: Mathematics for Economists (An Elementary Survey), Prentice Hall of India Private Ltd, New Delhi.
- 4) Alpha C. Chang: Fundamental Methods for Mathematical Economics.
- 5) Barry Bressler: A Unified introduction of Mathematical Economics
- 6) Dowing, Edward T: Introduction to Mathematical Economics, (2/ed.), Schaum’s Outlines, McGraw Hill, 1980.
- 7) Bose, D: An Introduction to Mathematical Economics, Himalaya Publishing Company, Delhi.

EMT 205(b)	ACTUARIAL STATISTICS		4Credits
<p>Course Objectives:The objective of the course is to provide knowledge on Actuarial Statistics. Actuarial analysis is an essential task performed by insurance companies to analyze data and estimate the probability of an insurance claim being filed for a given event. This work allows insurance companies to predict with areas on able degree of accuracy the amount of claims they will pay out, which helps them determine what premiums they must charge to remain profitable.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	To learn and gain the knowledge about the impact of economic and social conditions in the financial sector.		
CO2	To create awareness about the financial terminology and calculations in the policy designing		
CO3	To skill development and honed by successful actuaries include an excellent business communications in sense with knowledge of finance, accounting, and economics.		

CO4	Actuaries often required keen analytical and problem solving skills using mathematics and statistics.
CO5	Actuaries can ability to work with reliability and relevance by using the analytical and scientific reports generated by the researchers

Unit -1 Theory of Interest rates, Rate of Interest, Nominal rate of interest. Accumulation factors. Force of interest, present values, Stoodley formula for the force of interest, Present value of cash flows, Valuing cash flows - Basic Annuities Certain, Present values and accumulation, Concepts of different annuities, Continuously payable annuities, Varying annuities.

Unit- 2 Utility Theory, Insurance and Utility Theory, Models for individual claims and their sums, Approximations for the distribution of the sum - Application to Insurance - Survival function, time until death for a person age X, Accurate future Life time, Force of Mortality.

Unit-3 Life Table and its Relation with Survival Function – Examples - The Deterministic Survivorship group, Recursion formulas, Assumptions for traditional ages, Analytical Laws of Mortality, Select and Ultimate tables.

Unit – 4 Life Insurance: Insurance payable at the moment of death and at the end of the year of death – Level benefit insurance, Endowment insurance, Deferred insurance and Varying benefit insurance. Life Annuities. Single payment, Continuous Life annuities, Discrete life Annuities - life annuities with monthly payments, Complete annuities – Immediate and Apportionable annuities – due.

Unit 5: Multiple life functions, Joint life and Last Survivor status, Insurance and Annuity benefits through multiple life function, Evolution for Special Mortality laws - Multiple decrement models, associated single decrement tables, Central of multiple decrement, Central force assumptions for multiple decrements. Uniform distribution assumption for multiple decrements.

TEXT AND REFERENCE BOOKS:

- 1) Bowes, N.L., Gerber, H.U., Hickman, J.C, Jones, D.A., and nesbitt, C., J .(1986). Actuarial Mathematics. Society of Actuaries, Lthaca, Illins, U/S.A. 2nded(1997) C.H.1,2,3,4,5,9&10.
- 2) McCutcheon, J.J. and Scott, W.F., An introduction to Mathematics of finance.
- 3) Spurgeon, E.T .(1972). Life Contingencies. Cambridge University Press.
- 4) Nall, A (1977), Life Contingencies. Heinemann.

EMT 205(c)	WOMEN AND ECONOMIC DEVELOPMENT		4Credits
Course Objectives: To make the students to understand the role of Women in India's Economic Development To assess the status of women in India in terms of such key indicators as literacy rates, education, work participation rates, income, wealth and political power.			
Course Outcomes: At the end of the course, the student will be able to			

CO1	Understand and explain the key concepts like fertility rates, work participation rates and the role of women in economic development of the country.
CO2	Explain the vast gender gaps existing in India in literacy, life expectancy, health care and income levels between men and women.
CO3	Illustrate the flaw in the existing gender division of labor and the reasons for the low levels of work participation rates among women in India
CO4	Analyze the status of women in politics and administration and the role of various institutional agencies in the development of women
CO5	Critically evaluate impact of various poverty alleviation and development programmes implemented in ameliorating the conditions of women in India.

UNIT- I: Women and Economic Development in India

Women Population in India - Rural and Urban Women Population – Fertility Rates – Women Labour Force and Work Force Participation Rates – Role of Women in Economic Development.

UNIT – II: Women and Human Development

Human Development – Gender Gap – Gender Inequality Index - Gender Development Index – Gender Empowerment – Measures – Women and Literacy, Life Expectancy – Access to Health Care – Income Inequalities.

UNIT – III: Women and Labour Markets

Gender division of labour – Participation rates in rural and urban employment markets in India - Factors affecting women entry into labour markets in Agriculture, Industry and Service sectors - Women in Organized and Unorganized Sectors

UNIT – IV: Governance for Women Development

Role and functions of Ministry of Women and Child Development - Social Welfare Boards: National and State level Commissions of Women. Women’s Development Corporation. National Institute of Entrepreneurship and Small Business Development (NIESBUD) – NABARD -Small Industries Development Bank of India (SIDBI).

UNIT – V: Welfare Programmes and Women Development

Role of Non-Government Organizations in Women’s welfare - Kasturba Gandhi Balika Vidyalayas (KGBV) – National Programme for Adolescent Girls (NPAG) – National Mission for Empowerment of Women – STEP – Micro Credit Groups – SWADHAR – DHANALAKSHMI – Rashtriya Mahila Kosh (RMK) – Indira Gandhi Matrutva Sahayog Yojana – MGENREGA – Hostels for Working Women – Kishori Balika Pathakam – Indira Kranthi Patham – Janani Suraksha Yojana - Bangaru Talli Programme – Jana Dhan Yojana – Sukanya Samrudhi Yojana.

REFERENCE:

1. Boserup, E (1970), Women’s Role in Economic Development, George Allen and Unwin, London.
2. Desai, N and Raj, M.K. (Eds)(1970), Women and Society in India, Research Centre for Women Studies, SNDT University, Bombay.

3. Krishnaraj, M, Sudharshan, R.M. and Shariff, A (1999), Gender, Population and Development, Oxford University Press, New Delhi.
4. Seth, M (2000), Women and Development: The Indian Experience, Sage Publications, New Delhi.
5. Wazir, R (2000), The Gender Gap in Basic Education: NGOs as Change Agents, Sage Publications, New Delhi.
6. Ramachandrudu, G. (1991), Demographic Methods, AU Press, Visakhapatnam.
7. Various issues of Economic Survey, Government of India.
8. Annual Reports of Ministry of Women and Child Development, Government of India.
9. Annual Reports of Ministry of Rural Development, Government of India.
10. Survey on Employment and Unemployment 2012-13, Ministry of Labour, Government of India.

EMT 206(b)	INDUSTRIAL ECONOMICS		4Credits
Course Objectives: To make students understand the theory of firm and forms of Industrial organization. To familiarise students with industrial location importance and theories of industrial location To make students understand the native and investment decision. To help students to understand industrial management and role of Science and Technology in Industrial Development.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Understanding industrialization and economic development strategies of industrialization in developing countries.		
CO2	Study the theory of the firm – optimum firm – factors determine optimum firm		
CO3	Understanding factor influencing Industrial location and theories of Industrial location Study the nature and types of investment decisions.		
CO4	Profile for project, project evaluation and cost benefit analysis		
CO5	Understanding Industrial Management, role of Science and Technology in Industrial Development and Industrial Policies		

Unit 1: Industry and Economic Development

Industrialization and Economic Development-Factors Promoting Industrialization-Strategies of Industrialization in Developing Countries.

Unit 2: Firm and Forms of Industrial Organization

The Theory of the Firm – Objectives – Size-Growth of the Firm-Optimum Firm-Factors Determining Optimum Firm - Forms of Industrial Organization.

Unit 3: Theories of Industrial Location

Factor Influencing Industrial Location–Theories of Industrial Location: Alfred Weber,

Sargeant Florence, August Losch, Walter Isard–Melvin Greenhut.

Unit 4: Investment Decisions

Nature and Types of Investment Decisions–Time Preparation–Profile of Project–Project Evaluation/Appraisal–Cost-Benefit Analysis-Different Rates of Return Methods - Pay Back Method - Accounting Rate of Return Method - Net Present Value Method and Internal Rate of Return Method-Break-Even Analysis.

Unit 5: Industrial Management

Industrial Productivity–Rationalization–Automation–Industrial Efficiency–Role of Science and Technology in Industrial Development-Industrial Policies of 1956 and 1991.

REFERENCES:

1. Ahulwalia I.J., Industrial Growth in India-Stagnation Since the Mid Sixties, Oxford University, New Delhi, 1985.
2. Barthwal R.R., Industrial Economics, Wiley Eastern Ltd., New Delhi, 1985.
3. Cherunilam, F., Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai, 1994.
4. Dasgupt P.S., Marglin and A. Sen, Guideline for Project Evaluation , UNIDO Publications, New York, 1972.
5. Desai B., Industrial Economy in India (3rd Edition), Himalaya Publishing House, Mumbai, 1999.
6. Divine P.J. and R.M. Jones (et.al), An Introduction to Industrial Economics, George Allen and Unwine Ltd, London, 1976.3
7. Fog B., Industrial Pricing Policies, North Holland, Amsterdam, 1959.
8. GangadharaRao M., HeggadeOdeyar D. and Yadapadithya., Industrial Economy: Trends, Problems and prospects, Part-II, Kanishka Publishing House, New Delhi, 1993.
9. Hay D. and D.J. Morris., Industrial Economics: Theory and Evidence, Oxford University Press, New Delhi, 1993.
10. Jalan B., India's Economic Policy, Viking, New Delhi, 1996.
11. KuchhalS.C., Industrial Economy of India, Chaitanya Publishing House,Allahabad (Latest Edition).
12. Patel S.J., Technological Transformation in the Third World, AldershotAvebury, 1993.
13. Sivayya K.V. and Das V.B.S., Indian Industrial Economy, S.Chand& Company Ltd., Ram Nagar, New Delhi (Latest Edition).
14. Sandesara J.C., Industrial Policy and Planning 1947-1991: Tendencies, Interpretations and Issues, Sage Publication, New Delhi, 1999.
15. Smith D.M., Industrial Location: An Economic Geographic Analysis, John Wiley & Sons, New York, 197

EMT 207: HUMAN VALUES AND PROFESSIONAL ETHICS – II

Human values are the virtues that guide us to take into account the human element when we interact with other human beings. ... It is with those human values that one becomes truly able to put into practice his/her ethical values, such as justice, integrity, and refusal of violence and ban to kill – even in a crisis situation.To create awareness on Management Ethics and Human Values.To inspire Moral and Social Values and Loyalty.To appreciate the rights of others. The prime objective of the

Professional Ethics is to develop ability to deal effectively with moral complexity in students. To understand the moral values that ought to guide the Engineering profession, (b) To resolve the moral issues in the profession, and (c) To justify the moral judgment concerning the profession.

Course Objectives

This course explores of the Human values and professional ethics for economics. The main objectives of the course is the value Education, concept of human values, self-introspection, self-esteem, family values and responsibilities of family, threats of family life - status of women in family and society; The medical ethics, responsibility of medical practitioners. ethical issues; business ethics immoral and illegal practices, ethical abuses and work ethics; environmental ethics, ecological crisis; social ethics and ethics of media.

Learning Outcomes

After successfully completing the Human values and professional ethics the graduate is able to:

The value Education, concept of human values, self-introspection, self-esteem, family values and responsibilities of family, threats of family life - status of women in family and society; The medical ethics, responsibility of medical practitioners. ethical issues; business ethics immoral and illegal practices, ethical abuses and work ethics; environmental ethics, ecological crisis; and social ethics, ethics of media. Honesty, open disclosure and sincerity are all characteristics of ethical behaviour. Many organizations include a commitment to ethical behaviour in their code of conduct. Professionals can adopt a personal code of conduct and make the same commitment on an individual basis. Professional ethics are accepted standards of personal and business behaviour, values and guiding principles. Codes of professional ethics are established by professional organizations to help to guide members in performing their job functions according to sound and consistent ethical principles. The principles are beneficence, non-maleficence, autonomy, justice; truth-telling and promise-keeping.

Unit-I: Value Education- Definition - relevance to present day - Concept of Human Values - self introspection – Self-esteem - Family values-Components, structure and responsibilities of family- Neutralization of anger - Adjustability - Threats of family life - Status of women in family and society - Caring for needy and elderly - Time allotment for sharing ideas and concerns.

Unit-II: Medical ethics- Views of Charaka, Sushruta and Hippocrates on moral responsibility of medical practitioners. Code of ethics for medical and healthcare professionals. Euthanasia, Ethical obligation to animals, Ethical issues in relation to health care professionals and patients. Social justice

in health care, human cloning, problems of abortion. Ethical issues in genetic engineering and Ethical issues raised by new biological technology or knowledge.

Unit-III: Business ethics- Ethical standards of business-Immoral and illegal practices and their solutions.Characterics of ethical problems in management, ethical theories, causes of unethical behavior, ethical abuses and work ethics.

Unit-IV: Environmental ethics- Ethical theory, man and nature- Ecological crisis, Pest control, Pollutionand waste, CI imate change, Energy and population, Justice and env iron mental health.

Unit-V: Social ethics- Organ trade.Humantrafficking.Human rights violation and social disparities, Feminist ethics.Surrogacy/pregnancy. Ethics of media- Impact of Newspapers, Television, Movies and Internet.

REFERENCES:

1. John S Mackenjie: A manual of ethics.
2. "The Ethics of Management" by Larue Tone Hosmer. Richard D. Irwin Inc.
3. "Management Ethics' integrity at work' by Joseph A. Petrick and John F. Quinn. Response Books: New Delhi.
4. "Ethics in Management" by S.A. Sherlekar, Himalaya Publishing House.
5. Manu: Manava Dharma Sastra or the Institute of Manu: Comprising the Indian System of Duties: Religious and Civil (ed.) G.C.Halighton.
6. SusrptaSamhita: Tr.KavirajKunjanlal, KunjalalBrishagratha. Chowkarnba Sanskrit series. VolLII and III, Varnasi, Vol I 00,16'20,21-32 and 74-77 only.
7. CarakaSamhita :Tr.Dr. Ram Karan Sarma and VaidyaBhagavan Dash, Chowkambha Sanskrit Series office. Varanasi I, 11.111 VolIPP 183-191.
8. Ethics, Theory and Contemporary Issues. Barbara Mackinnon Wadsworth/Thomson Learning, 2001.
9. Analyzing Moral.Issues, Judith A. Boss. May Field Publishing Company - 1999.
10. An Introduction to Applied Ethics (Ed.) John H.Piet and Ayodhya Prasad. Cosmo Publications
11. Text Book for Intermediate First Year Ethics and Human Values. Board of Intermediate Education- Telugu ~ Akademi, Hyderabad.
12. I.C Sharma Ethical Philosophy of India. Nagin& co Julundhar

EMT 301	ADVANCED ECONOMETRICS		4Credits
Course Objectives: The objective of this course to provide students with a knowledge of the core techniques of econometric analysis which forms the basis for the understanding and critical assessment of published work in empirical econometrics. To develop the analytical skills required to demonstrate theoretical asymptotic properties of different econometric estimation and testing procedures under weakened modelling assumptions..			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Concepts of Heteroscedasticity &Multicollinearity□ Possible reasons behind the presence of Heteroscedasticity&Multicollinearity. Skill to judge the reliability of estimation in case of violation of basic assumptions for the application of ordinary linear regression method.		

CO2	Concepts of Autocorrelation reasons behind the presence of Heteroscedasticity&Multicollinearity. Describe the variance/covariance matrix for the regression errors under the assumption that the errors are correlated
CO3	Apply modern econometric methods covering time series analysis, financial econometrics, microeconometrics, macroeconometrics and structural econometric modelling;
CO4	Interpret and critically evaluate applied economics research literature; demonstrate programming skills and numerical methods; and
CO5	Apply methods learned to address policy and business decision questions.

Unit 1: Multicollinearity and Heteroscedasticity

Multicollinearity: Source and Consequences, Tests for Multicollinearity and solutions for Multicollinearity. Heteroscedasticity: Sources and Consequences, Tests for Heteroscedasticity, Generalized Least Squares Method of Estimation.

Unit 2: Autocorrelation

Sources of Autocorrelation - first order Autoregressive scheme - Consequences of Autocorrelation - Tests for Autocorrelation – Durbin-Watson test - Methods of estimation of Autocorrelation coefficient - Estimation from d- statistic and Cochran-Orcutt iterative method.

Unit 3: Qualitative and Limited Dependent Variables Models

Binary Choice Models: Linear Probability Model, Probit Model and Logit Models – Censored and Truncated regression models.

Unit 4: Simultaneous Equation Models: Estimation Methods

Two stage Least Squares, Limited Information Maximum Likelihood, K-class Estimators, Three Stage Least Squares and Full Information Maximum Likelihood Methods – Numerical Problems.

Unit 5: Panel Data Regression Models and Time Series Econometrics

Panel Data – Estimation of Panel Data Regression Models - Fixed and Random Effects – Estimation – Introduction to Time Series Econometrics - Stationary and Non-Stationary Stochastic Process – Integrated Stochastic Process – Unit roots – Co-integration – Test for co-integration, Co-integration and error correction mechanism.

TEXT AND REFERENCE BOOKS:

1. Maddala, G.S: Econometrics, McGraw-Hill Book Co., New York, 3rd Rd.
2. Johnston,J: Econometric Methods, McGraw-Hill Book Co., New York.
3. Gujarathi, D.N: Basic Econometrics, Fourth Edition, New Delhi.
4. Maddala, G.S: Limited-Dependent and Qualitative Variables in Econometrics, Cambridge University Press.

EMT 302	COMPUTER APPLICATIONS AND DATA ANALYSIS		4Credits
Course Objectives: The objective of the course is to provide knowledge on Econometric tools and their applications on Economic theory and practice using statistical packages like STATA, SPSS, R, e-views etc.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Students will get basic knowledge of computers i.e., block diagram, evolution of computer, input/output devices, storing information in computer etc.		
CO2	At the end of this course student will gain Examine spreadsheet concepts and explore the Microsoft Office Excel environment. Import and export data.		
CO3	Work with pivot tables and charts. Create and edit charts. Learn to use functions and formulas. Perform analysis tasks using Data analysis pack		
CO4	Student gained and evaluate Econometric Methods such as OLS, LPM, Logistic regression analyses and conclude using SPSS Package		
CO5	Finally, student will be able to write programme for Simple statistical analyse and interpret through R-programming.		

Unit 1: Computer Fundamentals

Definition - Components of a computer-block diagram – Evolution of computer – Generations – input/output devices – storing information in computer – types of computers – Hardware and Software – Compilers and Assemblers – Low level and high-level languages – Operating systems and the graphic user interface – Microsoft Windows operating system.

Unit 2: MS-WORD

Creating, opening and saving files - editing and formatting text - spell and grammar check – auto correct- hyphenation – creating of tables and columns - mail merge - equation editor – concept of a macro - print preview.

Unit 3: MS-EXCEL

Work sheet – entering data – creation of worksheets and workbooks – opening and saving workbooks - editing and formatting - sorting, filtering and pivot tables - Creating graphs and charts - mathematical and statistical functions -Data analysis pack in Excel - Descriptive statistics, tests of hypothesis, ANOVA, Correlation and Regression, Random Number Generation.

Unit 4:Data Handling Using SPSS

Opening Excel files in SPSS - Variables, labels and values, Analysis tools - Descriptive statistics - Selection of variables in multiple linear regression - Stepwise, forward and backward procedures - Factor analysis and Discriminant analysis (Stress on procedures and syntax only).

Unit 5: Data Analysis using R

R environment – Workspace, Getting help, Packages and Built-in data - Assigning values, performing vectorized arithmetic - Creating objects, vectors, lists, matrices, arrays and data frames - Conditional selection, sorting and indexing data frames, implicit looping - Importing data - Branching and looping statements - plotting data – Bar plots, Pie charts, Histogram, Box plots - Summary statistics -

Generating samples from discrete and continuous distributions - Simple correlation and regression - Testing hypothesis of mean and variance, Analysis of variance.

TEXT AND REFERENCE BOOKS:

1. Shelly and Hunt, Computers and Common Sense, Prentice Hall of India, New Delhi.
2. Rajaraman V, Fundamentals of Computers, Prentice Hall of India, New Delhi.
3. Peter Dalgaard (2008): Introductory Statistics with R, 2nd Edition, Springer, New York. (Chapters 1, 2, 3,4,5,6 and 7).
4. Peter Norton’s Introduction to computers, Tata McGraw Hill Publishing Co., New York.
5. Foster,J.J.(2001), Data Analyzing using SPSS For Windows 8.0 – 10.0, A Beginner’s Guide.
6. M. Crawley, Basic Statistics: An Introduction using R.
7. B.S. Everitt& T. Hothorn, A Handbook of Statistical Analyses Using R (2nd Ed.).
8. J. Maindonald& J. Braun, Data Analysis and Graphics Using R: An Example-based Approach.
9. P. Murrell, R Graphics (2nd Ed.).

EMT 303(a):	ADVANCED ECONOMETRICS, AND COMPUTER APPLICATIONS AND DATA ANALYSIS		4Credits
<p>Course Objectives:The objective of this course is to provide knowledge of data analysis through the domains of MS-Excel, SPSS and R-programming. In today's business world, data analysis plays a role in making decisions more scientific and helping businesses operate more effectively.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Student will gain Examine spreadsheet. Work with pivot tables and charts. Create and edit charts. Learn to use functions and formulas.		
CO2	Perform analysis tasks using Data analysis pack using MS-Excel.		
CO3	Student gained and evaluate Econometric Methods such as OLS, LPM, Logistic regression analyse and conclude using SPSS Package		
CO4	Student will able to test of Multicollinearity, Heteroscedasticity and Autocorrelation.		
CO5	Student will be able to write programme for Simple statistical analyse and interpret through R-programming.		

Concepts are covered in this Practical Approach follows;

- **MS-Excel;**Pivot tables, Charts-Histogram, Bar, Pie, Scatter diagrams, Data Analysis Pack- Descriptive Statistics, Correlation Matrix, Simple and Multiple Regression analysis and Testing of Hypothesis.
- **SPSS;**Descriptive Statistics, Correlation Matrix, Simple and Multiple Regression analysis and Testing of Hypothesis.
Using SPSS Testing of Multicollinearity, Heteroscedasticity and Autocorrelation, LPM and Logistic regression models
- R-programme;**Descriptive Statistics, Correlation Matrix, Simple and Multiple Regression analysis and Testing of Hypothesis, LPM and Logistic Regression Models.

EMT 303(b)	APPLIED ECONOMETRICS		4Credits
<p>Course Objectives:The objective of this course is to provide the basic knowledge of an advanced theoretical understanding of consumer behaviour and decision-making. To develop a theoretical understanding of strategic behaviour of economic agents.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Student will be able to develop a sound understanding of the core microeconomic concepts that economists use to understand the process of decision-making by an economic agent(s).		
CO2	The student should be able to apply mathematical tools and techniques to study behaviour of economic agents.		
CO3	Students will be able to identify strategic behaviour of economic agents and formulate them in a game theoretic framework.		
CO4	Student can explore Macro econometric models; Klein-Goldberger Model for USA, Agarwal, K. Krishna Murthy and N.V. A. Narasimhan Models.		
CO5	To gain knowledge in Applications of Single and Simultaneous Equation Models for macroeconomic variables.		

Unit 1: Demand Analysis

Demand functions – Restrictions to be satisfied by Demand functions - Single Equation models, Engel Functions and Curves, Specification of Functional forms and Estimation – Linear Expenditure System - Review of Empirical Studies.

Unit 2: Consumption Function

Theories of Consumption Function – Alternative specifications – Absolute Income Hypothesis, Relative Income Hypothesis, Life Cycle Hypothesis, Permanent Income Hypothesis – Problems of Estimating the Consumption Function – Review of some empirical studies.

Unit 3: Production Functions

Single Equation Estimation of production functions - Cobb-Douglas, CES, Translog – Specifications and Estimation issues – Review of Empirical studies – Functional forms and Estimation of Cost Functions - Estimation of Factor demand Equations - Empirical Studies.

Unit 4: Macro Econometric Models

Nature of Simultaneous Macro Econometric Models – Klein-Goldberger Model for USA - Brookings Model – Macro Econometric models for India – Agarwal, K. Krishna Murthy and N.V. A. Narasimhan Models.

Unit 5: Other Applications of Single and Simultaneous Equation Models

Models of Money Demand and Supply – Estimation of Demand for Money Function – Application in Industrial Organization, Labour Economics and Health Systems – Review of Empirical Studies.

TEXT AND REFERENCE BOOKS:

1. Intriligator, M. D. (1978) Econometric Models, Techniques and Applications, North-Holland.
2. ICSSR Survey of Economics – Vol.7 (Econometrics) Allied Publishers
3. Deaton A. and John Muellbauer, Economics and Consumer Behaviour –Cambridge University Press, 1987
4. Killingsworth Mark R.- Labour Supply, Cambridge University Press 1985
5. MeghnadJ.Desai 1973 – Macro-economic models for India: A Survey – Sankhyaseries-B 85 – PP 169-205

EMT 303(c)	ECONOMICS OF DEVELOPMENT AND PLANNING		4Credits
Course Objectives: The paper provides fundamental foundation of basic growth and development issues, approaches and models. The paper attempts to discuss the structure and change in variables. It helps understand the overall static and dynamic perspectives of the economy in a purely theoretical perspective.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	The economic development plan provides a comprehensive overview of the economy, sets policy direction for economic growth, and identifies strategies, programs, and projects to improve the economy.		
CO2	The aim of economic development is to improve the material standards of living by raising the absolute level of per capita incomes. Raising per capita incomes is also a stated objective of policy of the governments of all developing countries.		
CO3	One of the most important functions of economic planning is to achieve consistency among different economic objectives. Some desirable goals are likely to conflict with others.		
CO4	One of the most important functions of economic planning is to achieve consistency among different economic objectives.		

CO5	Five basic stages are traditional society, preconditions for take-off, take-off, drive to maturity, and age of high mass consumption), there exists no clear definition for the stages of economic development.
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Unit 1: Concepts and Measurement of Economic Growth and Development

Economics of Development and Growth - Problems and Causes of Underdevelopment and Development - Factors of Economic Growth - Obstacles to Economic Development - Vicious Circle of Poverty - Characteristics of Modern Economic Growth - Measures of Economic Growth and Economic Development, HDI and PQLI.

Unit 2: Theories of Growth and Development

Classical, Karl Marx and Schumpeter - Joan Robinson Golden Age model, Harrod-Domar model, Rostow Stages of Growth - Lewis theory of Surplus Labour - Rodan's Big Push theory - Nurkse Balanced Growth theory - Hirschman's Unbalanced theory - Ranis - Fei Model - Dependency Theory of Development.

Unit 3: Domestic Factors in Economic Development

Capital Formation and Economic Development- Role of Agriculture and Industry in Economic Development - Population Growth and Economic Development - Human Capital Formation and Man Power Planning - Entrepreneurship in Economic Development - Role of Technology in Economic Development.

Unit 4: Trade and Development

Role of Foreign Trade in Economic Development - Trade as an Engine of Economic Growth - Two Gap Model - Objectives and Role of Monetary and Fiscal Policies in Economic Development - Commercial Policy and Economic Development - Price Policy and Economic Development.

Unit 5: Planning Techniques and Planning in India

Capital-Output Ratio - The Choice of Techniques and Appropriate Technology - Investment Criteria - Elements of Cost-Benefit Analysis - Poverty, Unemployment and Economic Inequalities in India - Role of Public Sector in India - Role of Foreign Aid and Foreign Capital in India.

TEXT AND REFERENCE BOOKS:

1. Kindleberger.C.P, Economic Development, McGraw Hill Company, New York, 1988.
2. Lewis.W.A, The Theory of Economic Growth, George Allen and Unwin, London, 1998.
3. Michel.P.Toderò& Stephen C.Smith, Economic Development, Pearson Education (Singapore) Limited, New Delhi, 1998.
4. S.K.Misra and V.K. Puri, Economics of Development and Planning, Himalaya Publishing House, New Delhi, 2006.
5. Solow.R.M, Growth Theory: An Exposition, Oxford University Press, New York, 2000.

EMT 303(d)	FINANCIAL INSTITUTIONS AND MARKETS		4Credits
<p>Course Objectives: To introduce students to the world of financial services to enrich student's understanding of the fundamental concepts and working of financial service institutions. Further, to equip students with the knowledge and skills necessary to become employable in the financial service industry.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	<p>Explain the broad features of Indian financial institutions with its apex banks' objectives and purview. Also understand the instruments to control credit in the country.</p>		
CO2	<p>Effectively narrate the kinds and components of money with its regulatory system, be aware of the functions, objectives and limitations of commercial banks.</p>		
CO3	<p>Identify the existence and development of non-banking financial institutions, know the important role of Mutual funds, LIC, investment companies etc., utilize and effectively participate in the development process.</p>		
CO4	<p>Understand the conditions of financial markets and its impact in the economy</p>		
CO5	<p>Demonstrate the role and significance of foreign exchange rate and its markets with its impact on various sectors in the economy.</p>		

Unit 1: Financial System

Evolution of Financial System – Structure of Financial System – Functions of Financial System – Financial System and Economic Development.

Unit 2: Money Market

Features of Money Market – Instruments of Money Market: Call Money Market – Treasury Bills Market – Commercial Bills – Market for Commercial Papers – Certificate of Deposits – Discount and Finance House of India (DFHI) – Securities Trading Corporation of India (STCI) – Deficiencies and Recent Developments in Indian Money Market.

Unit 3: Capital Market

Industrial Securities Market: Primary and Secondary Markets – Government Securities Market and Long Market – Objectives, Functions and performance of Securities and Exchange Board of India (SEBI) – Over the Counter Exchange of India (OCTCEI) – Functions of Stock Exchanges – Bombay Stock Exchange (BSE) – National Stock Exchange (NSE) – Reforms in Capital Market.

Unit 4: Banking and Financial Institutions

Banking: Central Banking: Objectives and Functions - Commercial Banks, Functions and Growth - Process of Credit Creation – Growth and Control of Non-banking Financial Institutions - Functions and Performance of

Industrial Finance Corporation of India (IFCI) – Industrial Development Bank of India (IDBI) – Industrial Credit and Investment Corporation of India (ICICI) – Small Industrial Development Bank of India (SIDBI) – State Financial Corporations (SFCs) – Mutual Funds.

Unit 5: Investment Institutions and Foreign Capital

Functions and Performance of Life Insurance Corporation (LIC) – General Insurance Corporation (GIC) and Unit Trust of India (UTI) – Forms of Foreign Capital – International Financial Instruments – Trends in Foreign Capital Inflows to India – Advantages and Disadvantages of Foreign Capital.

TEXT AND REFERENCE BOOKS:

1. M.Y. Khan, Indian Financial System, Tata McGraw Hill, New Delhi.
2. L.M.Bhole, Financial Institutions and Markets, Tata McGraw Hill, New Delhi.
3. V.A.Avadhani, Indian Capital Market, Himalaya Publishing House, Bombay.
4. H.R.Machiraju, International Financial Markets and India, Wheeler Publishing Company, New Delhi.
5. Vasant Desai, Indian Financial System, Himalaya Publications, Bombay.
6. Peter.S. Rose, Money and Capital Market: Financial Institutions and Instruments, Tata McGraw Hill, London.
7. S.C.Kucchal, Corporation Finance, Chaitanya Publishing, Allahabad.
8. S.L.N.Sinha, Capital Market in India, Vora & Co, Bombay.
9. Hendrik.S. Houthakker, The Economics of Financial Markets, Oxford University Press, New Delhi.

EMT 304	PERSONALITY DEVELOPMENT AND SOFT SKILLS		4Credits
Course Objectives: Develop effective presentation skills. Conduct effective business correspondence and prepare business reports which produce results. Become self-confident individuals by mastering inter-personal skills, team management skills, and leadership skills.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Soft skills provide students with a strong conceptual and practical framework to buildDevelop and manage teams.		
CO2	They play an important role in the development of the Students' overall personality, thereby enhancing their career prospects		
CO3	This paper provides strong practical orientation to the students and helps them in building andimproving their skills in communication, the effective use of English, businesscorrespondence, presentations, team building, leadership, time management, groupdiscussions, interviews, and inter-personal skills.		
CO4	This paper also helps students in careervisioning and planning, effective resume writing and dealing with placement consultantsand headhunters and also to create interesting, and interactive manner,		
CO5	Which gives ample scope for the students to interact with each other and face a wide variety of issues, topics,and situations that they are likely to come across as entry-level.		

- Unit – I Foundations of personality development: Concept of Personality – Dynamics - Trait theory of personality: Personality Determinants: Physical, social, educational, family, intellectual and emotional determinants; Causes for sick personality and healthy Personality. (Theory only)
- Unit-II Self-awareness skills: self-awareness and management- Communicating: Sending inter personal messages – Listening and reading non-verbal messages - Providing feedback. (Theory only)
- Unit- III Motivating: Goal setting – Coaching, Counseling and Mentoring – Empowering people through delegation - Leading: Politicking – Persuading - Applying leadership styles – Managing Change. (Theory only)
- Unit- IV Teaming: Working with teams – Running meetings – Valuing diversity: Problem solving: Ethical decision making - Creative problem solving – Resolving conflicts – Negotiation. (Theory only)
- Unit- V Self-esteem: Characteristics – Causes of low self-esteem – Steps to build Positive self-esteem; Attitude: Steps in building positive attitude; Interpersonal skills; Steps in developing a positive Personality. (Theory only)

REFERENCE BOOKS:

1. Elizabeth B.Hurlock, Personality Development, Tata McGraw Hill, New Delhi-2009.
2. Stephen P.Robbins and Philip L Hunsaker, Training in interpersonal skills, person Education, New Delhi.
3. Shiv Khera, You can wing, Macmillan Publications, New Delhi.
4. Robert M. Sherfield. Rhonda J.Montgomery, PatricaG.Moody, Developing soft Skills, Person education, New Delhi, 2009
5. Biswajit Das IpseetaSatpathy, Business Communication & Personality Development, Excel Publication, New Delhi.

EMT 305(a)	INDIAN ECONOMY		4Credits
Course Objectives: The objective of this course is to provide the basic knowledge of Indian economyStructure of the Indian Economy, Agricultural Sector, Industrial Sector, Tertiary and Foreign Sectors and Planning and Development of the Indian economy that is with the study of the subject in a Master’s programme.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Students will develop ideas of the basic characteristics of Indian economy, its potential on natural resources.Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.		
CO2	Understand agriculture as the foundation of economic growth and development, analyse the progress and changing nature of agricultural sector and its contribution to the economy as a whole. Students will obtain information regarding various agricultural issues in India		

	and remedies for it
CO3	Students will aware about recent economic affairs such as demonetization, universal basic income, cashless economy, skill and training development schemes, make in India etc
CO4	Students will get benefit about various economic issues at local, national and global level.
CO5	Grasp the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government.

Unit 1: Structure of the Indian Economy

Indian Economy on the Eve of Independence- Basic Characteristics of the Indian Economy as Developing Economy- Major issues of Development in Indian Economy- Growth and Structural Changes in the Indian Economy- Population-Poverty –Measurement of Poverty, Anti Poverty Programmes - Inequality- Natural Resources-Infrastructure- Human Development in India- Prices, Price Policy and Economic Growth- Balanced Regional Development-Unemployment in India.

Unit 2: Agricultural Sector

Role Agriculture in Indian Economy- Share of Agriculture - Interrelationship between Agriculture and Industry –Land Tenure System - Farm Size and Productivity -Institutional and Technological Aspects-New Agricultural Policy-Food Security in India-Rural Credit- Agricultural Marketing- Regional Disparities in Indian Agriculture- Irrigation and other Agricultural Inputs.

Unit 3: Industrial Sector

Industrial Structure and Economic Growth- Large and MSMEs - Industrial Labour Problems and Labour Policy -Industrial Sickness Causes and Remedial Measures- Economic Reforms and Industrial Growth-Pattern of Industrialization-Public and Private Industrial Finance in India- Unorganized Sector and Informalisation of the Indian Economy.

Unit 4: Tertiary and Foreign Sectors

Service Sector - Role, Growth and Structure of Service Sector in India –Growth, Composition and Direction of India’s Foreign Trade – Trade Policy and its Reforms in India – India’s Balance of Payments - WTO and Indian Economy.

Unit 5: Planning and Development

Objectives and Strategy of Planning- Public Sector and Indian Planning- Re-Organization of Planning Commission (NITI Aayog) - Privatization and Globalization and its impact on India-Government Subsidies in India - Problems of Capital Formation- Foreign Capital, Foreign aid and Economic Development in India.

TEXT AND REFERENCE BOOKS:

1. Ghosh. Alak, Indian Economy –Its Nature and Problems, A New Look Indian Economics, Calcutta, The World Press Private Limited, 1989.
2. Jalan.B, The Indian Economy Problems and Prospects, Viking Publications, New Delhi, 2006.

3. RuddarDatt and Sundaram. K.P.M, S.Chand and Company, New Delhi, 2008.
4. S.K.Misra and V.K. Puri, Indian Economy, Himalaya Publishing House, New Delhi, 2006.
5. Sen R.K and B.Chatterjee, Indian Economy-Agenda for 21st Century, Deep and Deep Publications, New Delhi, 2001.
6. Uma Kapila, Indian Economy Since Independence, Agricola Publications Academy, New Delhi, 1998.

EMT 305(b)	ECONOMICS OF INSURANCE			4Credits
<p>Course Objectives:The objective of this course is to provide the basic knowledge of Economics of Insurance, Element of Risk and Risk Management, Life and Health Insurance, Risk and Insurance, General and Other Types of Insurance and Regulation of Insurance are explained.</p>				
<p>Course Outcomes: At the end of the course, the student will be able to</p>				
CO1	Demonstrate knowledge of insurance contracts and provisions, and the features of property-liability insurance, life and health insurance, and employee benefit plans.			
CO2	Demonstrate knowledge of the operation and management of insurance entities, and the economic implications of organizational design and structure.			
CO3	Develop skills to facilitate insurance product cost and pricing, marketing, and distribution.			
CO4	Develop practical skills through professional development seminars, internships, and/or a practicums in insurance and risk management.			
CO5	Examine the role of public policy including social insurance in personal financial planning and risk management.			

Unit 1: Element of Risk and Risk Management

Fundamental of Risk and Uncertainty – Classification of Risk – Risk Pooling and Risk Transfer - Concept of Risk Management – Essentials and Elements of Risk Management – Risk Assessment and Risk Control.

Unit 2: Risk and Insurance

Definition of Insurance – Role and Functions of Insurance – General and Specific Principles of Insurance Contract – Insurance and Economic Development – Insurance as Financial Intermediaries and Investment Institutions – Classification of Insurance - The Concept of Re-insurance.

Unit 3: Life and Health Insurance

Fundamental Principles of Life and Health Insurances – Functions of Life and Health Insurances – Plans of Life and Health Insurance – The Process of Underwriting Life and Health Insurance- Group Insurance

Unit 4: General and Other Types of Insurance

Definition of General Insurance – Marine, Motor Vehicular, Fire and other types of Insurances – Physical and Moral Hazards in General Insurance – The General Insurance Corporation (GIC Re) and General Insurance Companies, NOUN – Growth of General Insurance business in India.

Unit 5: Regulation of Insurance

Organization and Growth of LIC - Monopoly of LIC - Need for Insurance Regulation in India - Functions and Duties of Insurance Regulation and Development Authority (IRDA) of India — Entry of Private and Foreign Insurance Companies – Implications – Prospects of Insurance Companies.

TEXT AND REFERENCE BOOKS:

1. Misra, M. N. and V. K. Puri, (2008), Insurance Principles and Practice, New Delhi: S. Chand.
2. Periasamy, P. (2007), Principles and Practice of Insurance, Mumbai: Himalaya Publishing House.
3. Palande, P. S., Shah, R. S. and Lunawal, M. L. (1983), Insurance in India, Changing Policies and Emerging Opportunities, New Delhi: Response Books, A Division of Sage Publications.
4. Bhole, L. M. (1990), The Indian Financial System, New Delhi: Tata McGraw Hill.
5. Black, K. Jr. and H. D. (2000), Life and Health Insurance, New Jersey: Prentice Hall.
6. Bailey, R. (1999), Underwriting and Life and Insurance, Atlanta: LOMA.
7. Bickelhaupt, D. L. (1992), General Insurance, Burr Bridge: Irwin Inc.
8. Hedad, G. L. AND Horn I.I. (1991), Essentials of Risk Management, Vol. I Insurance Institute of America.

EMT 401	TIME SERIES ECONOMETRICS		4Credits
Course Objectives: The objective of the course is to provide knowledge on Econometric applications of Economic theory, especially time series econometrics.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Students will acquire additional specialization through the Time series Econometrics Analysis.		
CO2	Skill to judge the reliability of estimation in case of Stationarity and Non-Stationarity test, Co-integration test.		
CO3	Forecasting with a single-equation linear regression model, and Forecasting with a multi-equation econometric model		
CO4	Student can evaluate Univariate Time Series Models like MA, AR, ARMA and ARIMA models.		
CO5	Student will be able to calculate VAR model which most important in macro-economic models.		

Unit 1: Basic concepts

Introduction – Stationary Stochastic Process – Non-stationary Stochastic Process; Unit root Stochastic Process, Integrated Stochastic Process, tests of Stationarity.

Unit 2: Co-integration

Integrated Variables, Unit root tests - Dickey-Fuller tests; Co-integration and error correction mechanism – Engle–Granger, Johansen and Juselius Co-integration tests – ARDL Co-integration Tests.

Unit 3: Forecasting

Nature and uses of Forecasts – Forecasting with a single-equation linear regression model -Forecasting with a multi-equation econometric model - Evaluation of the forecasting power of a model – Conditional and Unconditional Forecasting – Single and Double exponential smoothing – Box-Jenkins Model.

Unit 4: Linear Time Series Models

Univariate Time Series Models - Moving Average Models - Auto Regressive Models - Mixed Auto Regressive Moving Average Models – ARIMA models.

Unit 5: Vector Auto-regressions and Models for Volatility

Estimation and Forecasting with VAR, VAR and Causality, Some problems with VAR Modeling, Measuring Volatility - The ARCH (p) models – ARCH tests – GARCH (p, q) model – Asymmetric GARCH models.

TEXT AND REFERENCE BOOKS:

1. Gujarathi, D.N, Basic Econometrics, Fourth Edition, Tata McGraw Hill, New Delhi, 2004.
2. Koutsoyiannis, A, Theory of Econometrics, The Macmillan Press Ltd., Hong Kong, Second Edition, 1983.
3. Robert S.Pindyck and Daniel L. Rubinfeld, Econometric Models and Economic Forecasts, McGraw Hill Book Company, 1988
4. Francis Diebold, Elements of Forecasting, South Western College Publishing, 1998.
5. Newbold and Bos, Introductory Business and Economic forecasting (second edition), South Western College Publishing, 1994.
6. William H. Green, Econometric Analysis, Pearson’s Education, fifth Edition, 2003.
7. Hamilton, J.D, Time Series Analysis, Princeton, N.J., Princeton University Press, 1994.

EMT 402	OPTIMIZATION IN ECONOMICS		4Credits
Course Objectives: The objective of the course is to provide knowledge on Optimization in Economic. Optimization techniques are very crucial activities in managerial decision-making process. Expressing relationships through equations is very useful in economics as it allows the usage of powerful differential technique, in order to determine the optimal solution of the problem.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Knowledge of several models will enhance the applicability of the knowledge to actual data solving and getting appropriate conclusions.		
CO2	Be able to understand the characteristics of different types of decision-making environments and the appropriate decision making approaches and tools to be used in each type.		

CO3	This course will sharpen the quantitative skills of a student and help them understand applications of Operations research in varied fields like manufacturing, Finance, purchasing and procurement, assigning and allocation of resources for optimum result.
CO4	Be able to design new simple models, like: CPM, PERT to improve decision –making and develop critical thinking and objective analysis of decision problems.
CO5	Students will be able to identify and develop operational research models from verbal description of real system.

Unit 1: Transportation Problem

Nature and Matrix form of TP – Transportation Table – Types of Transportation Problem – Balanced Transportation Problem, Unbalanced Transportation Problem – Methods to solve Transportation Problem - The Initial Basic Feasible solution: North-West Corner Rule and Vogel’s Approximation method – Moving towards optimality, the Transportation Algorithm.

Unit 2: Assignment Problem: Assignment problem, Transportation problem and Linear Programming – Types of Assignment problem – Properties of Optimal Solution – Solving the Assignment Problem by Hungarian Algorithm – The Auction Algorithm for Assignment Problem – Branch and Bond Techniques for Assignment Problem.

Unit 3 : Game Theory: Basic concepts -Two–person Zero Sum Games - The Maximum Minimax Principle – Games without Saddle Points – Mixed Strategies – Graphical solution of 2 x n and m x 2 Games – Dominance property – The Modified Dominance Property – Reducing the Game Problem as a Linear Programming Problem.

Unit 4 : Inventory Management

Introduction - Inventory control - Techniques of Inventory control with known demand - Economic Lot Size Problems –The fundamental Problem of Economic Order Quantity (EOQ), The Problem of EOQ with Uniform Demand, and The Problem of EOQ with Finite Rate of Replenishment - Problem of EOQ with Shortage.

Unit 5: Simulation

Introduction – Elements of a Simulation Model – Event – Types of Simulation – Generation of Random Phenomena – Monte Carlo Technique – Generation of Uniform (0,1) Random Observations – Simulation languages.

TEXT AND REFERENCE BOOKS:

1. KantiSwarup, P.K.Gupta and Man Mohan: Operations Research, Sultan Chand and sons, New Delhi.
2. Panneerselvam, R: Operations Research, Eastern Economy Edition, Prentice Hall of India, New Delhi, 2007.
3. Srinivasan, G., Operations Research _Principles and Applications, Second Edition, Prentice Hall of India, New Delhi, 2012.
4. Richard, Brown and Govindaswamy, N., Schaum’s Outlines Series Operations Research, Second Edition, 2012.

5. Gupta, P.M. and D.S.Hira: Operations Research, Sultan Chand and Sons, New Delhi.
- 6 Harven, Wagner: Operations Research.
- 7 Starr and Miller: Inventory Control.

EMT 403(a):	TIME SERIES ECONOMETRICS AND OPTIMIZATION IN ECONOMICS		4Credits
PRACTICAL-IV			
<p>Course Objectives:The course has a strong focus on Practical skills and train students in the collection and analysis of the data using their software skills Especially, EViews for Time series analysis.The entire Practical course divided into two parts first part can made Time series analysis through EViews software and second part will be covered Optimization technique in Economics.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Able to get application knowledge of tatistical packages like SPSS, E-Views to apply economic data.		
CO2	At the end of this course student will gain practical knowledge of Time Series Analysis by using EViews.		
CO3	Student gained and evaluate Stationarity test by using ADF Test.		
CO4	fter complete this course student will able to test of Spurious Regression, Co-integration test and Granger Causality test.		
CO5	Finally, student will be able to made feasible solution in optimization.		

Concepts are covered in this Practical Approach follows;

- Unit root test [ADF-Augmented Dicky-Fuller test].
- Spurious Regression.
- Co-integration Test.
- Vector Error Correction Mechanism [VECM].
- Granger Causality test.
- VAR Model.
- ARMA and ARIMA Model.
- Optimization-Transportation problem; Balanced Transportation Problem, Unbalanced Transportation Problem North-West Corner Rule.
- Assignment problem; Hungarian Algorithm Branch and Bond Techniques for Assignment Problem.

EMT 403(b)	INTERNATIONAL TRADE AND FINANCE		4Credits
Course Objectives: The course has a strong focus on International trade and the accompanying financial transactions are generally conducted for the purpose of providing a nation with commodities it lacks in exchange for those that it produces in abundance; such transactions, functioning with other economic policies, tend to improve a nation's standard of living.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Identify the basic difference between inter-regional and international trade, understand how international trade has helped countries to acquire goods at cheaper cost and explain it through the various international trade theories.		
CO2	Show the benefits of international trade in a way how nations with strong international trade have become prosperous and have the power to control world economy and how global trade can be one of the major contributors of reducing poverty.		
CO3	Explain how restrictions to international trade would limit a nation in the services and goods produced within its territories and at the same time explain that a rise in international trade is essential for the growth of globalization.		
CO4	Show the importance of maintaining equilibrium in the balance of payments and suggests suitable measures to correct disequilibrium as well.		
CO5	Be aware of the changes in the composition as well as direction of foreign trade after international trade and know the causes and effects of deficits in the balance of payments, measures adopted to correct the deficits and identify the need for having trade reforms.		

Unit 1: Old and New Theories of International Trade

Comparative advantage in Ricardian, Haberler and Heckscher–Ohlin Theories – Factor Price Equalization Theorem - Intra Industry Trade – Neo-Chamberlin and Neo-Heckscher-Ohlin Theorems - Product Cycle and Technology Gap and Strategic Trade theories.

Unit 2: Free Trade and Protection

Free Trade vs. Protection – Theory of Tariffs –The Political Economy of Non-tariff Barriers - Terms of Trade – Secular Deterioration (Singer-Prebisch) Thesis -Immiserizing Growth- The Concept of Customs Union - Regional Trade Agreements - EU and SAARC.

Unit -3: Balance of Payments and adjustment Mechanism

Balance of Payments Accounts –Adjustment of Deficit in Balance of Payments – Traditional Elasticity and Absorption Approaches - Theories of policy mix - BOP adjustments with capital mobility – Foreign Trade Multiplier.

Unit 4: Theories of Exchange rate determination

Exchange rate under free market – Spot and Forward Rates -Exchange rate adjustments under capital mobility - Floating Rates and their implications for developing countries - Currency Boards - Import and Exchange Controls and Multiple Exchange Rates.

Unit 5: Global Institutions

The Bretton Woods System - IMF and World Bank – Collapse of Bretton Woods System – New International Monetary Order – WTO – Issues at the recent WTO ministerial Conferences- Multinational Corporations - Implications for Developing countries.

TEXT AND REFERENCE BOOKS:

- 1) Paul Krugman & Maurice Obstfeld (6thed.) International Economics, (Chapters 2-11) Addison Wesley, 2003.
- 2) Caves, R. and Jones, R. World trade and payments (chapters 4, 6, and 7). Boston: Little, Brown and Company, 1977.
- 3) Sodersten, B. and Reed, G. International economics (chapters 1-11, 13-16, 19, 20, 22-24, 26 & 27). Macmillan Company, 1994.
- 4) Pilbeam, K. International finance (chapters 4-15). Macmillan, 1994.
- 5) Turnovsky, S. J. Macroeconomic analysis and stabilization policy (chapters 9-12). Cambridge University Press, 1977.
- 6) Dixit, A. and Norman, V. The theory of international trade. Cambridge University Press, 1980.
- 7) Grossman, G. M. and Rogoff, K., eds. Handbook of international economics. Vol III. Elsevier, 1995.
- 8) Kierzkowski, H., ed. Protection and competition in international trade. New York: Blackwell, 1987.
- 9) Bhagwati, J, Arvind Panagariya, & T.N. Srinivasan: Lectures on International Trade, 2nd ed. MIT Press 2001.
- 10) Grossman, G. M. and Rogoff, K., eds. Handbook of international economics. Vol III. Elsevier, 1995.

EMT 403(c)	INDIAN ECONOMY		4Credits
Course Objectives: The objective of this course is to provide the basic knowledge of Indian economy Structure of the Indian Economy, Agricultural Sector, Industrial Sector, Tertiary and Foreign Sectors and Planning and Development of the Indian economy that is with the study of the subject in a Master’s programme.			
Course Outcomes: At the end of the course, the student will be able to			
CO1	Students will develop ideas of the basic characteristics of Indian economy, its potential on natural resources. Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.		
CO2	Understand agriculture as the foundation of economic growth and development, analyse the progress and changing nature of agricultural sector and its contribution to the economy as a whole. Students will obtain information regarding various agricultural issues in India and remedies for it		
CO3	Students will aware about recent economic affairs such as demonetization, universal basic income, cashless economy, skill and training development schemes, make in India etc		

CO4	Students will get benefit about various economic issues at local, national and global level.
CO5	Grasp the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government.

Unit 1: Structure of the Indian Economy

Indian Economy on the Eve of Independence- Basic Characteristics of the Indian Economy as Developing Economy- Major issues of Development in Indian Economy- Growth and Structural Changes in the Indian Economy- Population-Poverty –Measurement of Poverty, Anti Poverty Programmes - Inequality- Natural Resources-Infrastructure- Human Development in India- Prices, Price Policy and Economic Growth- Balanced Regional Development-Unemployment in India.

Unit 2: Agricultural Sector

Role Agriculture in Indian Economy- Share of Agriculture - Interrelationship between Agriculture and Industry –Land Tenure System - Farm Size and Productivity -Institutional and Technological Aspects-New Agricultural Policy-Food Security in India-Rural Credit- Agricultural Marketing- Regional Disparities in Indian Agriculture- Irrigation and other Agricultural Inputs.

Unit 3: Industrial Sector

Industrial Structure and Economic Growth- Large and MSMEs - Industrial Labour Problems and Labour Policy -Industrial Sickness Causes and Remedial Measures- Economic Reforms and Industrial Growth-Pattern of Industrialization-Public and Private Industrial Finance in India- Unorganized Sector and Informalisation of the Indian Economy.

Unit 4: Tertiary and Foreign Sectors

Service Sector - Role, Growth and Structure of Service Sector in India –Growth, Composition and Direction of India’s Foreign Trade – Trade Policy and its Reforms in India – India’s Balance of Payments - WTO and Indian Economy.

Unit 5: Planning and Development

Objectives and Strategy of Planning- Public Sector and Indian Planning- Re-Organization of Planning Commission (NITI Aayog) - Privatization and Globalization and its impact on India-Government Subsidies in India - Problems of Capital Formation- Foreign Capital, Foreign aid and Economic Development in India.

TEXT AND REFERENCE BOOKS:

7. Ghosh. Alak, Indian Economy –Its Nature and Problems, A New Look Indian Economics, Calcutta, The World Press Private Limited, 1989.
8. Jalan.B, The Indian Economy Problems and Prospects, Viking Publications, New Delhi, 2006.
9. RuddarDatt and Sundaram. K.P.M, S.Chand and Company, New Delhi, 2008.
10. S.K.Misra and V.K. Puri, Indian Economy, Himalaya Publishing House, New Delhi, 2006.
11. Sen R.K and B.Chatterjee, Indian Economy-Agenda for 21st Century, Deep and Deep Publications, New Delhi, 2001.
12. Uma Kapila, Indian Economy Since Independence, Agricola Publications Academy, New Delhi, 1998.

EMT 403(d):PROJECT

A project objective describes the desired results of a project, which often includes a tangible item. An objective is specific and measurable, and must meet time, budget, and quality constraints. ... A project may have one objective, many parallel objectives, or several objectives that must be achieved sequentially.

Project objectives are what you plan to achieve by the end of your project. This might include deliverables and assets, or more intangible objectives like increasing productivity or motivation. Your project objectives should be attainable, time-bound, specific goals you can measure at the end of your project.

Goals and objectives are statements that describe what the project will accomplish, or the business value the project will achieve. Goals are high level statements that provide overall context for what the project is trying to achieve, and should align to business goals. In brief, project management objectives are the successful development of the project's procedures of initiation, planning, execution, regulation and closure as well as the guidance of the project team's operations towards achieving all the agreed upon goals within the set scope, time, quality and budget standards.

Learning Outcomes

The use effectively oral, written and visual communication. identify, analyze, and solve problems creatively through sustained critical investigation. integrate information from multiple sources. Demonstrate an awareness and application of appropriate personal, societal, and professional ethical standards. The value of any project cannot be measured without defining success. It requires focus on outcomes. Outcomes are the events, occurrences, or changes in conditions, behavior, or attitudes that indicate progress toward a project's goals. Outcomes are specific, measurable, and meaningful. Good outcome statements are specific, measurable, and realistic.” Think carefully about what you can realistically accomplish given the groups you want to reach and the scope of your resources. Develop outcomes as follows: Outcomes should describe what you want to happen after your activity is completed.

EMT 404	FREEDOM MOVEMENT IN INDIA, 1857-1947		4Credits
Course Objectives: The Indian national movement was undoubtedly one of the biggest mass movements modern Society has ever seen, It was a movement which galvanized millions of People of all classes and ideologies into political action and brought to its knees a mighty colonial empire. Consequently, along with the British, French, Russian, Chine, Cuban and Vietnam revolutions, it is of great relevance to those wishing to alter the existing political and social structure			
Course Outcomes: At the end of the course, the student will be able to			
CO1	This paper helped to strengthen Indian nationalism , as it led to a sense of patriotism among people across India..		
CO2	Supporters of the Indian Independence Movement began to argue that India's role in World War.		
CO3	The revolt of 1857 was an unprecedented event in the history of British rule in India.		

CO4	It united, though in a limited way, many sections of Indian society for a common cause
CO5	Though the revolt failed to achieve the desired goal, it sowed the seeds of Indian nationalism.

- Unit I Nationalism : Its meaning and different interpretations – Factors leading to growth of Nationalism- Emergence of Indian National Congress- Moderates and Militant Nationalists-Swadeshi and Home Rule Movements
- Unit II Emergence of Gandhiji : Non- Violence and Satyagraha- Rowlat and Khilafat issues- Non- cooperation Movement- Swarajists - Civil disobedience Movement- Ministries at Provincial level and Second World War
- Unit III Revolutionary Nationalists: Bhagath Singh- Growth of Capitalist class and its role – Growth of left Ideology and peasant and Working class movement.KisanMahasabha
- Unit IV Growth of Communal Ideology and politics: Factors leading to Communalism- Formation of Muslim League and Hindu Mahasabha- National issues, Role of Congress and Muslim League, Cripps proposals and Quit India Movement, Cabinet Mission, the Partition and attainment of Independence
- Unit V Freedom Struggle in Princely states: Socio, Political and Administrative conditions- Origin of Nationalism- Impact of Freedom Struggle of British India over Native States, Haripura Resolution, 1938- Growth of Popular Movements- Lapse of Paramountacy- Join India Movement- Vallabhai Patel and Integration.

Suggested Readings

1. Anil Seal, Emergence of Indian Nationalism
2. Bipan Chandra, Communalism in Modern India, Vikas, Delhi, 1987
3. Bipan Chandra, Nationalism in Modern India, Orient Longman, Delhi, 1981
4. Bipan Chandra, (ed), India's Struggle for Independence, 1857-1947
5. Brass, Paul, Politics in India since Independence, Delhi, 1994
6. Brown, Judith, Gandhi's rise to Power in Indian Politics, 1915-22, OUP, 1972
7. Desai, A.R., Peasant Struggle in India, OUP, Delhi, 1979
8. Desai, A.R., Social Background of Indian Nationalism, Mumbai, 1986
9. Guha, Ranajit, Elementary Aspects of Peasant Insurgency in Colonial India, OUP, Delhi, 1983
10. Jones, K., Social and Religious Reform Movement in Modern India, New Cambridge History, 1989
11. Low, D.A.(ed), Congress and the Raj : Facts of the Indian Struggle 1917-1947, Delhi, 1977
12. Ravinder Kumar, Social History of Modern India, OUP, Delhi, 1985
13. Sarkar, Sumit., Modern India, 1885-1947, Macmillan, 1985
14. Stokes, Eric, Peasant and Raj : Studies in Agrarian Society and Peasant Rebellion in Colonial India, Delhi, Vikas, 1978
15. Ganshyam Shah, Social movements in India, A review of Literature, Sage, Delhi, 2004

EMT 405(a)	OPTIMIZATION IN ECONOMICS		4Credits
<p>Course Objectives:The objective of the course is to provide knowledge on Optimization in Economic. Optimization techniques are very crucial activities in managerial decision-making process. Expressing relationships through equations is very useful in economics as it allows the usage of powerful differential technique, in order to determine the optimal solution of the problem.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Knowledge of several models will enhance the applicability of the knowledge to actual data solving and getting appropriate conclusions.		
CO2	Be able to understand the characteristics of different types of decision-making environments and the appropriate decision making approaches and tools to be used in each type.		
CO3	This course will sharpen the quantitative skills of a student and help them understand applications of Operations research in varied fields like manufacturing, Finance, purchasing and procurement, assigning and allocation of resources for optimum result.		
CO4	Be able to design new simple models, like: CPM, PERT to improve decision –making and develop critical thinking and objective analysis of decision problems.		
CO5	Students will be able to identify and develop operational research models from verbal description of real system.		

Unit 1: Transportation Problem

Nature and Matrix form of TP – Transportation Table – Types of Transportation Problem – Balanced Transportation Problem, Unbalanced Transportation Problem – Methods to solve Transportation Problem - The Initial Basic Feasible solution: North-West Corner Rule and Vogel’s Approximation method – Moving towards optimality, the Transportation Algorithm.

Unit 2: Assignment Problem: Assignment problem, Transportation problem and Linear Programming – Types of Assignment problem – Properties of Optimal Solution – Solving the Assignment Problem by Hungarian Algorithm – The Auction Algorithm for Assignment Problem – Branch and Bond Techniques for Assignment Problem.

Unit 3 : Game Theory: Basic concepts -Two–person Zero Sum Games - The Maximum Minimax Principle – Games without Saddle Points – Mixed Strategies – Graphical solution of $2 \times n$ and $m \times 2$ Games – Dominance property – The Modified Dominance Property – Reducing the Game Problem as a Linear Programming Problem.

Unit 4 : Inventory Management

Introduction - Inventory control - Techniques of Inventory control with known demand - Economic Lot Size Problems –The fundamental Problem of Economic Order Quantity (EOQ), The Problem of EOQ with Uniform Demand, and The Problem of EOQ with Finite Rate of Replenishment - Problem of EOQ with Shortage.

Unit 5: Simulation

Introduction – Elements of a Simulation Model – Event – Types of Simulation – Generation of Random Phenomena – Monte Carlo Technique – Generation of Uniform (0,1) Random Observations – Simulation languages.

TEXT AND REFERENCE BOOKS:

1. KantiSwarup, P.K.Gupta and Man Mohan: Operations Research, Sultan Chand and sons, New Delhi.
2. Panneerselvam, R: Operations Research, Eastern Economy Edition, Prentice Hall of India, New Delhi, 2007.
3. Srinivasan, G., Operations Research _Principles and Applications, Second Edition, Prentice Hall of India, New Delhi, 2012.
4. Richard, Brown and Govindaswamy, N., Schaum’s Outlines Series Operations Research, Second Edition, 2012.
5. Gupta, P.M. and D.S.Hira: Operations Research, Sultan Chand and Sons, New Delhi.
6. Harven, Wagner: Operations Research.
7. Starr and Miller: Inventory Control.

EMT 405(b)	DATA BASE FOR THE INDIAN ECONOMY		4Credits
<p>Course Objectives:The main objective of this course is data warehouse of the Department of Statistics and Information Management (DSIM), under the Reserve Bank of India. The entire statistics have been presented in seven subject areas - Real Sector, Corporate Sector, Financial Sector, Financial Market, External Sector, Public Finance, Socio-Economic Indicators.</p>			
<p>Course Outcomes: At the end of the course, the student will be able to</p>			
CO1	Develop ideas of the basic characteristics of Indian economy, its potential on natural resources		
CO2	Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.		
CO3	Students can able to describe the knowledge or skills students should acquire by the end of a particular assignment, class, course, or program, and help students understand why that knowledge and those skills will be useful to them		
CO4	Creating new knowledge (Cognitive) Developing feelings and emotions (Affective) Enhancing physical and manual skills (Psychomotor).		
CO5	Students can also be scaffolded so that they continue to push student learning to new levels in any of these three categories.		

Unit 1: Census – Demographic Indicators – Definitions – schedules – Dissemination – Database – Tpes – Other data sets from Census – Economic census – Education census – Agricultural census – Major Results of Recent Census Data in India.

Unit 2: National Income Accounting – Base year – Methods of Estimation – Types of Reporting – Balance of Payments (BOP) and National Income (NI) – State Domestic Product – District Domestic Product - District Census Handbooks.

Unit 3: NSSO – Large and Small samples – NSSO Rounds on Consumption Expenditure, Employment and Unemployment Status in India – Major Findings of Recent NSS reports on Poverty, Inequality and Unemployment – Annual Survey of Industries (ASI) – Coverage – Definition of Terms – price and wage statistics Major Findings of Recent reports – Socio-economic statistics – National Family Health Survey (NFHS) – Health and Morbidity Data.

Unit 4: RBI – Balance sheet approach – Financial and Banking statistics – Money supply Indicators and Statistics on Money Supply in India – Foreign Exchange Reserves – Exchange rate – Stock Market Statistics – Non-banking Financial Institutions data.

Unit 5: Govt. and International data – Ministry of Commerce Data on Exports and Imports – Data in Annual Economic Surveys from the Ministry of Finance - Data from World bank, IMF, ILO, WTO, UNCTAD, UN and other international agencies – Specific data bases such as World Value Surveys – Penn World Tables - Gallop Poll.

Books for Reference:

1. Websites and reports of respective ministries and organizations, like Directorate of Census Operations, CSO, NSSO, GOI, SEBI, RBI.
2. Reports of Statistics Departments in State Governments.
3. Reports of UN Organisations.
4. Annual Economic Surveys, Ministry of Finance, Government of India.
5. <http://www.commerce.nic.in/eidb/iecintopn.asp>