DEPARTMENT OF HUMANITIES &SOCIAL SCIENCES
Programme: B. Tech (Minor in Economics)
Course Title: Basic Econometrics

Course Category: Minor	**Internal: 50 Marks**
Course Code: HSME 402	**Theory: 50 Marks**
Credits: 3 (L-3)	**Total: 100 Marks**
Semester: 7th	**Time: 3hrs**

Course Objectives

This course aims to familiarize the students about economic modeling and estimation of real time data for decision making. This course also aims to acquaint the students regarding the use of economic models in research problems.

Instructions for Examiner

The number of questions to be set will be five, at least one from each unit. The examinees will be required to attempt all five questions. All questions shall carry equal marks.

Unit I

Introduction: What is Econometrics? Why is Econometrics a separate discipline of science? Several types of relationship patterns in real time data, Correlation Analysis: understanding and testing. Econometric Modeling Methodology: specification, estimation, and verification of the model. Data Types: Time Series, Cross Section and Panel Data.

Unit II

Simple Linear Regression Model: The concept of PRF -Significance of stochastic error term, Method of ordinary least squares, Assumptions underlying the method of least squares, Coefficient of determination.

Unit III

Multiple Regression Analysis: The three variable model-OLS estimation of partial regression coefficients, multiple coefficient of determination, Hypothesis testing, t and F tests. Regression Model with Qualitative Free Variable (Dummy), Interaction Model between dummy variables and other free variables.

Unit IV

Relaxing the Assumptions: Introduction to multicollinearity, heteroscedasticity, autocorrelation and specification errors. The nature of the problem, its detection and corrective measures.

Course Outcomes

The course would develop the students' capabilities about economic modeling and estimation of real time data for decision making. It will also facilitate the students in pursuing the research work for the projects and higher studies into diverse disciplines.

Suggested Readings

1. Christopher Dougherty, Introductory Econometrics 3rd Edition Oxford University Press (2007)
2. Wooldridge JM. Introductory econometrics: A modern approach. Cengage learning; 2015 Sep 30.
3. Gujarati, Damodar: Basic Econometrics, 3rd edition McGraw Hill, New Delhi (1995)
4. Ramanathan, Ramu : Introductory Econometrics With Applications. Thomson South Western (2002).