JAI HIND COLLEGE
BASANTSING INSTITUTE OF SCIENCE
&
J.T.LALVANI COLLEGE OF COMMERCE
(AUTONOMOUS)

"A" Road, Churchgate, Mumbai - 400 020, India.

Affiliated to
University of Mumbai

Program: TYBA

Proposed Course:Introduction to Econometrics-I

Credit Based Semester and Grading System (CBCS) with effect from the academic year 2019-20

T.Y.B.A. Economics Syllabus

Academic year 2019-2020

Semester VI			
Course Code	**Course Title**	**Credits**	**Lectures /Week**
AECO604	Introduction to Econometrics-I	5	4

Semester VI – Theory

Course: AECO604	**Introduction to Econometrics-I (Credits : 5 Lectures/Week: 04)**	
	Objectives: • **To initiate the learning of advanced quantitative skills** • **To develop capability to analyze data for empirical research** **Outcomes:** The objective of this course is to impart a basic understanding of econometrics. The student will be able to appreciate the theoretical basis of the subject. At the same time, it will enhance the student's ability to apply the theoretical techniques to the problems of the real world.	
Unit I	**Idea of a Random Variable** 1. Concept of a random variable: Discrete and continuous 2. Expected values of a random variable 3. Variance of a random variable 4. Discrete random variables: Bernoulli, Binomial, Poisson 5. Continuous random variables: The normal distribution	**16L**
Unit II	**Statistical Inference** 1. Point and interval estimation 2. The Z distribution 3. The Null and Alternate hypotheses and significance testing for mean using Z distribution when population variance is known 4. The chi-square distribution and testing for sample variance with known population variance 5. The F distribution and comparing sample variances 6. The t distribution and hypothesis tests when population variance in unknown	**16L**
Unit III	**Forecasting** 1. Forecasting with a)moving averages b) linear trend c) exponential trend- CAGR 2. Forecasting with linear regression 3. Classical time series decomposition 4. Measures of forecast performance: Mean Square Error and Root Mean Square Error 5. Limitations of econometric forecasts	**16L**
Unit IV	**Linear Programming** 1. Linear programming 2. Dual of a linear programming problem 3. Simplex method **4.** Transportation	**12L**

References:

1. Gujarati Damodar (2009), BasicEconometrics, Fifth Edition, McGraw Hill Education India Private
2. Hatekar Neeraj (2009), Econometrics: The First Principles A Friendly Introduction.
3. Kapoor V. K. (2011), Operations Research Problems & Solutions, Sultan Chand & sons.
4. Lipschutz (Schaum Series), Theory and Problems of Statistics.

Evaluation Scheme

I. Semester End Examination (SEE)- 100 Marks