

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MASTER OF BUSINESS ADMINISTRATION (Part-Time)

Year II (Semester: –IV) (W.E.F. Academic Year 2018-19)

Subject Name: Basics of Econometrics (BE)

Subject Code: 3549981

Subject Credits: 3

Total Marks: 150

### 1. Learning Outcomes:

- Learning basic econometric techniques and their applications to business, economics and finance.
- Understanding how to postulate and test hypotheses related to economic issues or problems.
- Building experience in estimating economic models with econometric modeling software
- Developing critical thinking and the application of both logical and quantitative skills.

2. **Course Duration:** The course duration is of 36 sessions of 75 minutes each.

### 3. Course Contents:

Module No.	Modules / Sub-Modules	No. of Sessions	Marks
I	Introduction to Econometrics and its application in business and economics, Methodology of Econometrics. Structure of Economic Data – Cross-sectional, Time series and Panel data. Introduction to Time series Econometrics - Stationary and non-stationary data, tests of stationarity, transformation of non-stationary data to stationary data. Data handling using Eviews – Raw data and log values and data differencing.	10	18
II	Classical Linear Regression Model (CLRM) - assumptions and estimations. OLS estimators, testing of hypothesis, $R^2$ and adjusted $R^2$ and model selection. Regression versus causation and Regression versus Correlation. Critical evaluation of CLRM – Regression Diagnostic using Multicollinearity, Heteroscedasticity & Autocorrelation	8	17
III	Multiple Regression Analysis – OLS estimators & properties, variances and standard errors and maximum likelihood estimators, hypothesis testing and selection of model. Examples of CLRM and multiple regression using Eviews	8	17
IV	Economic Forecasting – Mean modeling using ARIMA, Volatility modeling using ARCH / GARCH and Co-integration models- VAR and Causality. Application of models in Eviews	10	18

V	<b>Practical:</b> Assignments and Small projects on studying the relationship between various economic indicators and variables of stock markets, Mean and Variance modeling of selected time series, Co-integration and causality between various selected variables. Econometric modeling of sales and profitability of any selected company.	---	(30 Marks CEC)
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**NOTE: Calculative sums shall not be asked in exams as it is difficult to solve without the help of any software and hence the practical questions can be asked in terms of steps or process**

#### 4. Teaching Methods:

The course will use the following pedagogical tools:

- Lectures
- Power Point Presentations& usage of soft wares like Ms Excel and Eviews (latest version)
- Understanding of models and their inferences by the students from various studies done in past.

#### 5. Evaluation:

The evaluation of participants will be on continuous basis comprising of the following elements:

<b>A</b>	Continuous Evaluation Component comprising of Project/ Assignments/ Quiz / Class participation etc	(Internal Assessment- 50 Marks)
<b>B</b>	Mid-Semester examination	(Internal Assessment-30 Marks)
<b>C</b>	End –Semester Examination	(External Assessment-70 Marks)

#### 6. Text Books:

Sr. No.	Author	Name of the Book	Publisher	Year of Publication
1	Damodar N. Gujarati and Sangeetha	Basic Econometrics	McGraw Hill	Latest Edition
2	Dimitrios Asteriou and Stephen G. Hall	Applied Econometrics	Palgrave Macmillan	Latest Edition
3	Damodar Gujarati	Econometrics by Example	Palgrave Macmillan	Latest Edition
4	G. S. Maddala & Kajari Lahiri	Introduction to Econometrics	Wiley	Latest Edition
5	Shankar Kumar Bhaumik	Principles of Econometrics: A Modern approach using Eviews	Oxford	Latest Edition

6	Jeffrey M. Wooldridge	Introductory Econometrics : A Modern Approach	Cengage Learning	Latest Edition
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Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

**7. List of Journals / Periodicals / Magazines / Newspapers, etc.**

1. Journal of Applied Econometrics
2. Journal of Computational Economics and Econometrics
3. Journal of Econometrics
4. Econometrica
5. Journal of Economics and Finance
6. International Journal of Economics and Finance
7. Indian journal of Finance, Finance India, Economic Times, etc.