Semester	V
Course	Major
Paper Code	C3EC230521T
Paper Title	INTRODUCTORY ECONOMETRICS
No. of Credits	4
Theory/Practical/Composite	Theory
No. of periods assigned	4
Minimum No. of preparatory hours per week a student has to devote	4
Learning outcomes/Course description/objective	1. To provide a comprehensive introduction to fundamental concepts of probability distributions 2. To explain statistical concepts of estimation and hypothesis testing 3. To introduce basic econometric concepts and techniques. 4. To examine the properties of OLS and maximum likelihood estimates. 5. Diagnostic testing of simple and multiple regression models 6. To examine the consequences and remedies of multicollinearity
Syllabus	**Module 1 (35 marks)** **1. Statistical Concepts** Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses: defining statistical hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples. **Number of Classes per week: 2** **Module 2 (35 marks)** **1. Nature and Scope of Econometrics** **2. Simple Linear Regression Model: Two Variable Case** Assumptions, Derivation of the regression coefficient, regression models without an intercept, interpretation of a regression equation, important results relating to OLS regression, goodness of fit – R^2, alternative interpretation of R^2, properties of regression coefficients and hypothesis testing, the F-test of goodness of fit, BLUE properties, Maximum Likelihood method of estimation . **3. Multiple Linear Regression Model** Assumptions of the CLRM, Derivation and interpretation of the multiple regression coefficients; properties of the multiple regression coefficients; Multicollinearity, goodness of fit – R^2, F-test, analysis of variance and adjusted R^2, Gauss-Markov Theorem, Prediction **Number of Classes per week: 2**

<table>
<tr><td>Readings</td><td>1. Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.
2. John E. Freund, Mathematical Statistics, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, An Introduction to Mathematical Statistics and its Applications, Prentice Hall, 2011.
4. Maddala, Introduction to Econometrics, Wiley.
5. Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, 2nd ed. 2008.
6. Jack Johnston and John Dinardo, Econometric Methods, McGraw Hill Higher Education; 4th edition (July 16, 1997)</td></tr>
<tr><td>Evaluation</td><td>Continuous Internal Assessment: 30 marks
End- Semester Theory Examination: 70 marks</td></tr>
<tr><td>Paper Structure for End Sem Theory</td><td>
<table>
<tr><th>Module</th><th>No. of Questions to be Answered</th><th>No. of Alternatives</th><th>Marks</th></tr>
<tr><td rowspan="2">Module 1</td><td>3</td><td>4</td><td>5 x 3 = 15</td></tr>
<tr><td>2</td><td>3</td><td>10 x 2 = 20</td></tr>
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<tr><td colspan="3">Total Marks</td><td>70</td></tr>
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