Semester	ONE	
Paper Number	Major (Paper 1)	
Paper Code	C1DS250112T/C1DS250112P	
Paper Title	Introduction to Data Science	
No. of Credits	4	
Theory/Composite	Composite	
No. of periods	Th: 3	
Assigned	Pr : 2 (using spreadsheet)	
Module	Single	
Syllabus	Unit 1- Basics of Data[10L]Concept of population and sample. Classification of data, scales of measurement, structured and unstructured data, data sources. Data wrangling and data abstraction, storytelling through data, converting a real-world problem to a data science problem. Notion of big data.Unit 2 – Summary Statistics[20L]Moments and quantiles. Concept and measures of Central Tendency, Dispersion, Skewness and Kurtosis. Scatter plot. Simple correlation and Regression and their importance with respect to real world problems. Contingency tables and measures of association for nominal and ordinal data. Idea of missing values and outliers.Unit 3 - Exploratory data analysis (EDA)[9L]Philosophy of EDA, basic tools for EDA, Summary tables and Graphs. Case otudies	
Learning outcomes	studies. Identifying the different types of data and data sources	
	 Analyzing the features of data Applying different descriptive measures for data summarization Evaluating the use of correlation and regression in solving real world problems Creating and interpreting contingency tables Applying EDA techniques to explore data sets 	
Reading Reference List	 Jeffrey M. Stanton (2013). In Hogg, R.V. and Tanis, E.A. Statistics. Pearson Education. Peng, R.D. and Matsui, E., (2 <i>anyone who works with Data</i>. Moore, D.S., McCabe, G.P. a <i>Practice of Statistics</i>. Macmil 	troduction to Data Science (2009): A Brief Course in Mathematical 015): <i>The Art of Data Science: A guide for</i> Skybrude Consulting, LLC. nd Craig, B.A., (2014): <i>Introduction to the</i> lan Higher Education.
Evaluation	Theory	Practical
	CIA: 15	CA: 40
	Sem Exam: 45	Sem Exam: NA
Paper Structure for	Short questions (5 marks each)	Long questions (15 marks each)
theory Sem Exam	3 out of 5	2 out of 3