PARUL UNIVERSITY - Faculty of Engineering and Technology

Department of Computer Science & Engineering

SYLLABUS FOR 5th Sem BTech PROGRAMME

Data Visualization and Data Analytics

Type of Course: BTech

Prerequisite: Database management system, Linear algebra.

Rationale: Data Analytics helps small and large organizations maximize the value of their data, unearth insights, build plans and respond in real-time to customer demand.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/	Tut Hrs/	Lab Hrs/ Week		T	P	T	CE	P	
0	0	2	1	-	30	-	-	20	50

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical

List of Practical:

Sr. No.	Name of Experiments
1	Use MS-Excel to create pivot table & apply statistical measures to it.
2	Use the table created in above practical to generate different charts
3	Perform the Histogram Analysis of given dataset using Data Analysis Toolbox of Excel
4	Use python libraries to generate chart from data stored in Excel.
5	Perform Multiple Linear Regression on data.
6	Perform the Logistic Regression on a dataset and Interpret the regression table
7	Use a dataset & apply KNN to get insights from data.
8	Use a dataset & apply K means clustering to get insights from data.
9	Study about the tools like Orange, Tableau ,Weka etc. tool for data Visualization
10	Given a case study: Interactive Data Analytics with Power BI
Open Ended Experiments	
1	Perform Data Visualization with advanced python libraries like seaborn.

2	Perform Data Visualization with R

Course Outcome:

After Learning the course, the students shall be able to:

CO1: Analyze the dataset and perform Descriptive Statistics

CO2: Analyze the dataset and perform an Inferential Statistics

CO3: Apply linear regression on the given dataset

CO4: Apply the logistic regression on the given dataset

CO5: Create an interactive data visualization