

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY
FACULTY OF TECHNOLOGY AND ENGINEERING
Department of Information Technology

Subject Name: Data Science
Subject Code: IT441

Semester: B.Tech VII
Academic Year: 2019-20

Note: The laboratory will emphasize Data acquisition, Data preprocessing, Data Storage and Retrieval, Statistical tools for Data Science and its applications.

Instructions:

1. All Practical must be performed individually and all experimental results must be uploaded on your respective EDMODO account.
2. All Practical must be evaluated regularly in the laboratory by concern Lab Teacher.
3. Each practical answer would be evaluated as learning outcome.

Practical List

Sr. No.	Aim of the Practical	Hrs	COs	POs	PEOs
Pre Req.	Introduction to Data Science and tools. How python/R used in Data Science? Discuss on real life applications and usage of Data Science.	-	4,5	1,3,6	1,2,4
1.	Data Scrapping using python https://www.datacamp.com/community/tutorials/web-scrapping-using-python	2	4,5	1,3,6	1,2,4
2.	Data Preprocessing Data types, Missing Values, Encodings, Scaling, Imbalance dataset handling techniques	4	4,5	1,3,6	1,2,4
3.	Data Preprocessing Missing Values, Variance Filter, Correlation Filter, Random forest, PCA, ICA https://www.analyticsvidhya.com/blog/2018/08/dimensionality-reduction-techniques-python/	4	4,5	1,3,6	1,2,4
4.	Data Exploration Variable Identification, Univariate Analysis, Bi-variate Analysis, Missing values treatment, Outlier treatment, Variable transformation, Variable creation https://www.analyticsvidhya.com/blog/2016/01/guide-data-exploration/	2	4,5	1,3,6	1,2,4
5.	Data Visualization Anatomy of Matplotlib chart image, Histogram, Pichart, Line Plot, Scatter Plot https://towardsdatascience.com/data-visualization-using-matplotlib-16f1aae5ce70	4	4,5	1,3,6	1,2,4
6.	Overview of SQL Server 2012 Databases and Analysis Services. Create a Sample Database Schema using SQL Server Management Studio.	2	1,2,5	1,2,3,6	1,2,4
7.	Process cube and Browse Cube data by replacing a dimension in the grid, filtering and drilldown using cube browser. Execute at least 5 meaningful queries using generated cube.	2	1,2,5	1,2,3,6	1,2,4
8.	Model Tuning Decision Tree Titanic Data set https://medium.com/@mohtedibf/indepth-parameter-tuning-for-decision-tree-6753118a03c3	1	3,6	1,5,7	1,2
9.	Model Tuning Random Forest Titanic Data set https://medium.com/all-things-ai/in-depth-parameter-tuning-for-random-forest-d67bb7e920d	1			

10.	Story Telling using data: Demonstrative by student using any tools https://towardsdatascience.com/storytelling-with-data-a-data-visualization-guide-for-business-professionals-97d50512b407	2			
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