- https://learndigital.withgoogle.com/digitalgarage
- https://www.udemy.com/course/learn-digital-marketing-course

List of Open Source Software:

- Canva
- Inkscape

FOR LAB SESSIONS: NA

- **List of Experiments: ------ NIL----**

Major Equipment Needed: ----------NIL --------

Year: II (Sem IV)

Subject Name: Data Analysis and Visualization with Excel **Subject Code:** BTCO18203
Type of course: TransDisciplinary
Prerequisite (if any): NIL

Offered by: Computer Engineering Department SCET.

Rationale: In Today's commercial world, automation helps the users with a sophisticated set of tools to organize, format, edit and manage documents or generate reports. Spreadsheet is one of powerful tool that can help to organize data, analyze and present data in meaningful terms. This is very helpful for big decision making using data analyzed through spreadsheet.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
2	0	0	0	0	0	50	0	0	50

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests CA2: Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course.

Content:

Sr. No.	Content	Total Hrs
1	Data Analysis Fundamentals Introduction to Data Science, Create and Modify Tables, Sort and Filter Data	4
2	Visualizing Data with Excel Visualize Data with Charts, Modify and Format Charts, Apply Best Practices in Chart Design	2
3	Analyzing Data with Formulas and Functions Analyze Data with Formulas and Named Ranges, Analyze Data with Functions Implement Data Validation, Forms, and Controls Create Conditional Visualizations with Lookup Functions.	4
4	Analyzing Data with PivotTables Create a PivotTable, Analyze PivotTable Data	2
5	Presenting Visual Insights with Dashboards in Excel Visualize Data with PivotCharts,Filter Data Using Slicers and Timelines,Create a Dashboard in Excel	4
6	Creating Geospatial Visualizations with Excel Create Map Charts in Excel,Customize Map Charts in Excel	3
7	Performing Statistical Analysis Visualize Trend lines and Spark lines with Excel, Analyze Data with the Data Analysis Tool Pak.	3
8	Getting and Transforming Data Connect to Data with Queries, Clean and Combine Data, Shape and Transform Data	2
9	Modeling and Analyzing Data with Power Pivot Install Power Pivot in Excel, Create Data Models with Power Pivot,Create Power Pivots ,Perform Advanced Data Analysis and Visualization	4
10	Presenting Insights with Reports ,Plan a Report, Create a Report	2

Suggested Specification table with Marks (Theory): (For B.Tech only)

Distribution of Theory Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
20	20	10	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Reference Books:

Sr No	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition

1	Microsoft Excel 2019 Data Analysis and Business Modeling	way watson	Microsoft Press	2019	
2	Excel Data Analysis For Dummies	Paul McFedries	John Willy and sons	2019	.4th Edition
3	Statistical Analysis with Excel For Dummies	Joseph Schmull	For Dummies ISBN-13	2019	4th Edition

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Understand Data analysis terms .	10%
CO-2	Apply knowledge of excel for data analysis of business activity.	40%
CO-3	Understanding Data Visualization importance in business activity.	10%
CO-4	Apply knowledge of excel for data visualization in business activity.	40%

List of Open learning website:

1. https://www.the-training-centre.com/
2. https://www.edx.org
3. https://www.Udemy.com

List of Open Source Software:

Google Spreadsheet

FOR LAB SESSIONS: NA

List of Experiments:

Sr. No	Experiment
1.	Create different charts for data visualization.
2.	Analyze data of a given dataset with formulas, functions, filters and ranges.
3.	Implement data validation to restrict entries for particular types of data (Ex: date range, numbers only, specific condition for data).

4.	Create conditional visualizations to analyze data.
5.	Perform Statistics Measures (Max, Min, Product, Count, Average, Standard deviation) in Pivot Table.
6.	Summarise data using sorting, grouping in pivot table.
7.	Draw trendlines and sparklines to show the trends of data.
8.	Create a Dashboard to display important information from multiple data sources for data visualization.
9.	Create Pivot charts to visualize data from pivot tables.
10.	Create histogram chart for dataset with frequency distributi

Major Equipment Needed: ----------NIL --------