Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Department of Computer Science

Course Type: SEC - I

Course Title: Data Analysis & Computer Applications

Course Code: 101COS1601

Credits: 2	Marks: 50	Lectures: 30 Hrs.

Learning Objectives:

LO 1. To learn Data Analysis Tools such as MS-Excel and Tableau.
LO 2. To find insights within organizational data.
LO 3. To explore Tableau creator functionality required for new Tableau users.
LO 4. To Build Interactive dashboards and share them with others.
LO 5. To Create simple visualizations and moves to an in-depth look at the different chart and graph functions, calculations, mapping and other functionality.

Course Outcomes:

After completion of course the student will be able to-

   CO 1. Explain the fundamentals of analysis of data in Excel and Tableau.
   CO 2. Work with different Data Collection Structures.
   CO 3. Handle various sources of data using MS Excel, Tableau.
   CO 4. Formulate the organizational data, create charts or graphs to provide visuals of the data.
   CO 5. Predict the business scope using visualizing and analyzing techniques of MS Excel and Tableau.

Unit No.	Title of Unit & Contents	Hrs.
I	**Data Analysis Using Ms-Excel**	15
	What Data Analysis? Introduction to Excel Excel Formatting Excel Table with sort & filter Excel Chart & Graphs Bar & Column Charts, Line charts, Area Charts, Pie Charts Scatter plot Excel functions Create Dashboard in Excel	
	Unit Outcomes: UO 1: Define and apply the functions for data analysis. UO 2: Show the data in the forms of graphs and charts	

Unit No.	Title of Unit & Contents	Hrs.
II	**Working on Tableau Desktop**	**15**
	Introduction Tableau Creating Basic Visualizations Creating Groups and Hierarchies Create Bin & Parameter, Bar chart, Geographic map, Crosstab report, Scatter plot, Line chart Tableau Desktop UI, Visual cues, Connecting to Data Live connection, Extract data, combine data sources, Join tables, Blend data sources, Cross-database join, Filtering and Sorting data Function in Tableau: Date functions, String function etc., Create Dashboard in Tableau	
	Unit Outcome: UO 1: Use Tableau for data analysis and visualization. UO 2: Practice Various functions in tableau to visualize data. UO 3: Create dashboards.	
	Note: Perform Practical Assignments on above Contents	

Learning Resources:

1. Fundamentals of Data Visualization: A Primer on Making Informative and Compelling, Claus O. Wilke, Shroff/O'Reilly
2. Microsoft Excel 2019 Step by Step, Curtis Frye, Microsoft Press
3. Learning Tableau 10, Joshua N. Milligan, Packt Publishing
4. Practical Tableau, Ryan Sleeper, O'Reilly
5. https://edu.gcfglobal.org/en/topics/excel/
6. https://help.tableau.com/current/online/en-us/tableau-online-home.htm
7. https://www.tableau.com/support/online
8. https://support.microsoft.com/en-us/excel
9. https://www.w3schools.com/EXCEL/index.php
10. https://help.tableau.com/current/offline/en-us/tableau_blueprint.pdf