Syllabus : Data Analysis Assistant

S No.	NOS	Topics	Duration (Hours)		Learning Outcomes
			Theory	Lab	
1	**Perform basic calculation using spreadsheet**	Introduction to data analytics and data science, windows and spreadsheet	10	20	• Students will be able to Understand the features of Spreadsheet • Students will able to learn about Creating and saving worksheet and workbook. • Students will be able to understand the concepts of Layouts, text formats, alignment • Students will be able to understand the Basic functions and formulas, sorting. • Students will understand the graphs in excel.
2	**Manage structured data**	Database concepts	10	20	• Students will be Introduced to the concept of databases. • Students will be discussed about the advantages of DBMS • Students will be understand the Concept of keys: candidate key, primary key, alternate key, Foreign key • Students will be understand the Fundamental integrity rules: entity integrity, referential integrity. • Students will be able to understand the Entity-relationship model .ER-diagram • Students will be able to SQL • Students will have Knowledge Discovery in Databases, Data Mining, Data warehouse. • Students will be able to Migrating data from source to data warehouse, cleaning, aggregation operations.

3	**Analyse data using spreadsheet tool**	§ fundamental of statistics for data analyst, data analytics with spreadsheet Pivot Table What if Analysis for Analytics	30	30	• Students will learn about the concept of Data, table & formatting • Students will learn about Conditional formatting in Excel with excercises and examples . • Students will learn about how the concepts of charts and Advanced charting • Students will learn about Pivot Table and Data analysis using Pivot Table.. • Students will learn about Data validation in Excel • Students will learn about Filtering and Advanced filtering. • Students will learn about What if analysis, Role of Maths and Statistical techniques in Data Science,Probability and Statistics, Regression analysis, Descriptive statistics,Linear Regression
4	**Manage data in Open source tool**	§ Basic Linux (including calc) Installation of Ubuntu Understanding Linux Files/Directories Basic commands and Permissions	10	20	• Students will learn about the Introduction to Virtual Machine, creating and configuring Virtual Machine • Students will work on the Linux History, Benefits of Linux, Different Flavors of Linux, Introducing Ubuntu, Installing Ubuntu: Starting Up, Logging in, Exploring the Desktop, Ubuntu Basics, Browsing the File System, Understanding File System Concept, Managing Files, Real and Virtual Files, Mounting, File Searches, File Size, File Space • Students will explore about Viewing Text Files, Using a Command Line Text Editor, Creating Files, Searching through Files, Comparing Text Files, Copying, Moving, Managing Files. • Students will learn about Ubuntu Commands, Running Basic commands, Piping and Filtering Commands, Directory and File handling commands. Users, Groups and Permissions, Root and Other Users, Adding and Deleting Uses and Groups, Adding and Changing Passwords, Users and File Permissions
5	**Visualize data graphically**	Tableau	20	40	• Student will have an Introduction to Tableau • Student will learn about Connecting to Excel • Student will learn about Connecting to CSV Text Files • Student will learn about Connecting to Databases Analyzing • Student will learn about Formatting, Sorting and charts

6	**Implementation of use cases of Data Analytics**		10	20	• Student will be able to implement various use cases in data analytics
	Sub Total		**90**	**150**	
6	Employability Skills		30		Students will be able to get the additional skills apart from the technical skills, to be job ready
7	OJT/Project		30		Students will be able to learn the working in a job.
Total Duration			**300**		