



MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

COURSE CONTENT

DATA VISUALIZATION - POWER BI								
III Semester: CSD / CSE / CSM								
IV Semester : ECE / EEE								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
24X0574	Core	L	T	P	C	CIA	SEE	Total
		0	0	2	1	40	60	100
Contact Classes: Nil	Tutorial Classes: Nil	Practical Classes: 30			Total Classes:30			
Prerequisites: There are no prerequisites to take this course.								

Course Overview:

This course deals with report design and formatting in Power BI, which offers extraordinary visuals for building reports and dashboards. Additionally, gives acquaintance how to use report navigation to tell a compelling, data-driven story in Power BI.

Course Objectives:

1. Importing of data from various sources.
2. PowerBI Concepts
3. Mapping of Visual Layouts and Graphical Properties.
4. How to create Dashboard using PowerBI
5. Developing of charts using PowerBI.

Course Outcomes: After Completion of the Course, Students should be able to

- Understand the fundamentals of data and data visualization, identify reliable data sources
- create basic visualizations using appropriate visualization principles
- Apply data aggregation and calculation techniques including SUM, AVERAGE for customizing calculated fields to enhance analytical insights in visualizations.
- Manipulate and structure data using sorting, filtering, pivoting, formatting tools, axes editing
- Design interactive dashboards, create advanced and custom visualizations, and publish, share, export, and manage reports using Power BI Online.

List of Experiments:

1. Understanding Data, What is data, where to find data, Foundations for building Data Visualizations, Creating Your First visualization?
2. Getting started with Power BI Software using Data file formats, connecting your Data to Power BI , creating basic charts(line, bar charts, Tree maps),Using the Show me panel.
3. Power BI Calculations, Overview of SUM, AVR, and Aggregate features, Creating custom calculations and fields.
4. Applying new data calculations to your visualizations, Formatting Visualizations, Formatting Tools and Menus, Formatting specific parts of the view.
5. Editing and Formatting Axes, Manipulating Data in Power BI data, Pivoting Power BI data.
6. Structuring your data, Sorting and filtering Power BI data, Pivoting Power BI data.
7. Advanced Visualization Tools: Using Filters, Using the Detail panel, using the Size panels, customizing filters, Using and Customizing tooltips, Formatting your data

8. Creating Dashboards, adding interactivity to your Dashboard, Distributing & Publishing your Visualization.
9. Power BI file types, publishing to Power BI Online, Sharing your visualizations, printing, and Exporting.
10. Creating custom charts, cyclical data and circular area charts, Dual Axis charts.

REFERENCE BOOKS:

1. Microsoft Power BI cookbook, Brett Powell, 2nd edition.
2. R Programming for Data Science by Roger D. Peng (References)
3. The Art of R Programming by Norman Matloff Cengage Learning India.

ELECTRONIC RESOURCES:

1. <https://powerbi.microsoft.com/blog>
2. <https://www.youtube.com/@MicrosoftPowerBI>
3. <https://learn.microsoft.com/power-bi/guided-learning>
4. <https://www.geeksforgeeks.org/power-bi-tutorial/>

MATERIALS ONLINE:

1. Course template
2. Data Visualization Lab Manual