PM8 - APPLIED ANALYTICS WITH POWER BUSINESS INTELLIGENCE (BI) & PYTHON   PCTP - LEVEL-2

OBJECTIVES:

Power BI is a powerful business intelligence and data visualization tool developed by Microsoft. It is designed to help individuals and organizations analyze data, make data-driven decisions, and create interactive reports and dashboards. By learning Microsoft Power BI, you can accelerate your career and become a data professional. Python typically covers the fundamentals of the Python programming language, its syntax, and its applications. Python is a popular and versatile programming language used for a wide range of tasks, from web development to data analysis, machine learning, and automation.

LEARNING OUTCOMES:

After completion of this training, trainees will be able to:
- transform and visualize the data;
- do modeling and perform optimization;
- perform powerful visual storytelling;
- execute advanced analytics and AI integration;
- learn Python for analytics;
- execute Python data processing and analysis with Pandas;
- make data-driven decisions.

INDICATIVE GRID

PART	SYLLABUS CONTENT AREA	WEIGHTAGE
A	**Power BI** 1: Power BI Data Transformation and Visualization 2: Advanced Power BI Data Modeling and Performance Optimization 3: Case Studies/ Projects/ Assignments 4: Powerful Visual Storytelling with Power BI 5: Advanced Analytics and AI Integration in Power BI 6: Case Studies/ Projects/ Assignments	 10% 10% 10% 10% 10% 10%
B	**Python** 7: Python for Analytics 8: Python Data Processing and Analysis with Pandas. 9: Case Studies/ Projects/ Assignments	 10% 15% 15%
	100%	**100%**

Note: The weightage shown against each section indicates, study time required for the topics in that section.

PART A: POWER BI

1. Power BI Data Transformation and Visualization
- Clean Data in Power BI
- Transform Data in Power BI
- Model and Combine Data in Power BI
- Create a Dashboard in Power BI

2. Advanced Power BI Data Modeling and Performance Optimization
- Design a Data Model in Power BI
- Creating Measures Using Data Analysis Expressions DAX
- Optimize a Model for Performance in Power BI

3. Case Studies/ Projects/ Assignments
- Related to above mention topics

4. Powerful Visual Storytelling with Power BI
- Create Power BI Visuals
- Create a Data-driven Story with Power BI Reports
- Create Dashboards in Power BI

5. Advanced Analytics and AI Integration in Power BI
- Perform Analytics in Power BI
- Work with AI visuals in Power BI

6. Case Studies/ Projects/ Assignments
- Related to above mention topics

PART B: PYTHON
7. Python for Analytics
- Python Programming
- Programming Python Variables

- Python Data Types: Integers, Floats, Strings
- Python Lists
- Python For Loops
- Python If, Else, Elif Statements
- Python If, Else, Elif Statements: Multiple Conditions
- Python Dictionaries
- Python Dictionaries and Frequency Tables
- Python Functions: Using Built-in Functions and Creating Functions
- Python Functions: Arguments, Parameters, and Debugging
- Python Functions: Built-in Functions and Multiple Return Statements
- Python Functions: Returning Multiple Variables and Function Scopes

8. Python Data Processing and Analysis with Pandas.
- Cleaning and Preparing Data in Python
- Python Data Analysis
- Working with Dates and Times in Python
- Introduction to pandas
- Exploring Data with Pandas Fundamentals
- Exploring Data with Pandas: Intermediate Data Cleaning

9. Case Studies/ Projects/ Assignments
- Related to above mention topics