23ANMDP102: POWER BI

Course Code: 23ANMDP102   **Offered to: All UG Programs**

Semester: II   **30Hours**   **Credits:2**

Course Type: Practical – MDC

Prerequisite:

Course Objectives:
>To import, transform and cleanse data using Power Query Editor, build a data model for self-service reporting, manipulate the model with DAX, publish and share visualizations.

Course Outcomes: At the end of this course, students should be able:

>**CO1**: To explain the concept Power Pivot and interface with excel analytic way **(PO5, PO6)**
>
>**CO2:** To choose the algorithms for combine data quickly from a variety of sources into your model **(PO5, PO6)**
>
>**CO3:** To organize the data various sources, clean, merge, filter data and calculated methods **(PO4, PO5, PO6)**
>
>**CO4:** To construct the model, relationships between in the models, user friendly models **(PO5, PO6)**
>
>**CO5:** To decide BI environment, data clean, shaping, table relationships and analysis techniques **(PO4, PO5, PO6)**

Mapping of Course Outcomes (COs) with Programme Outcomes (POs) & PSOs

CO	BTL	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	L2					H	H			
CO2	L3					H	M			
CO3	L3				L	H	H			
CO4	L3					H	M			
CO5	L5				L	H	H			

Syllabus		
Unit	**Learning Units**	**Lecture Hours**
I	**Introduction Power Pivot** Introduction of Pivot - Use Power Pivot – x Velocity in-memory analytics engine - Exploring the Data Model Management interface - Analyzing data using a pivot table	6
II	**Power BI Data Import and Data Cleaning** Working with Data - Import data from relational databases - Import data from text files - Import data from a data feed - Import data from other sources, Discover and import data from various sources -	6
III	**Data Cleaning Techniques** Data Munging - Getting, cleaning, and shaping data, Cleanse data - Merge, shape, and filter data - Group and aggregate data - Insert calculated columns.	6

IV	**Power BI Data Model** Creating data Model - Explain what a data model is - Create relationships between tables in the model - Create and use a star schema - Understand when and how to deformalize the data - Create and use linked tables	6
V	**Power BI Visuals and DAX** Adding calculations and measures - Incorporating time-basedanalysis	6

List of Experiments

1. Write the Procedure for preparing a Pivot in Excel and prepare a Dashboard using samplemarketing data.
   a) Offline data and online data b) Online to Online using Google forms

2. Installation of Power BI and its procedure

3. Explain the procedure in importing various format files in Power BI, write its observations
4. Power BI Data Models (Schemas in Power BI)
5. How to edit data in power BI when data is Exported use few data cleaning techniques(Munging)
6. Advance Data Cleaning techniques, Data Munging and Data collection and collaborationtechniques.
7. Write the procedure in building an association (Power Query) identify various schemas inPower BI
8. Data Visualization (charts for a sample data) constructions and analysis
9. Step in preparing a dashboard for the organization
10. Constructing Quick Measures and Dax formulas

Text Books
1. Roger F Silva, **"Power BI Create and learn"**, Version – January 2024, ISBN: 9781726793216.
2. Brett Powell, **"Mastering Microsoft Power BI"**, Packt publishing, Birmingham, UK,
   ISBN: 978-1-78829-723-3.

Reference Book
1. Dan Clark, **"Beginning Power BI: A practical Guide to Self – Service Data Analytics with Excel 2016 and Power BI Desktop Second Edition."** ISBN: 978-1-4842-2576-9, A Press Publications.
2. Jeff Hutchinson, **"Microsoft Power BI Desktop – Creating Visual Reports"** – July - 2019, ISBN: 9781081588908, Independently Published.

Question Paper Pattern for Practical Course
SEE (LAB) Model Question Paper
23ANMDP102: POWER BI
Offered to: ALL UG Programs

Max. Marks: 50 **Max. Time: 3Hrs** **Pass. Min: 20**

(A) **Evaluation Procedure** 35

Marks

I	Experiments (Exam & Execution)	**30**	**Marks**
II	Viva	**3**	**Marks**
III	Record	**2**	**Marks**

(B) CONTINUOUS ASSESMENT(Internal)   **15 MARKS**

15 marks for the continuous assessment (Day to day work in the laboratory shall be evaluated for 15 marks by the concerned laboratory teacher based on the regularity/ record/viva). Laboratory teachers are mandated to ensure that every student completes 80%-90% of the lab assessments.

TOTAL: (A)+(B) =   50 MARKS

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