**POWER BI ASSIGNMENT-1**

**1Ans:** Business intelligence (BI) helps organizations analyze historical and current data, so they can quickly uncover actionable insights for making strategic decisions. Business intelligence tools make this possible by processing large data sets across multiple sources and presenting findings in visual formats that are easy to understand and share.

**2Ans:** There are four keys steps that business intelligence follows to transform raw data into easy-to-digest insights for everyone in the organization to use. The first three—data collection, analysis, and visualization—set the stage for the final decision-making step. Before using BI, businesses had to do much of their analysis manually, but BI tools automate many of the processes and save companies time and effort.

**Step 1: Collect and transform data from multiple sources**

Business intelligence tools typically use the extract, transform, and load (ETL) method to aggregate structured and unstructured data from multiple sources. This data is then transformed and remodeled before being stored in a central location, so applications can easily analyze and query it as one comprehensive data set.

**Step 2: Uncover trends and inconsistencies**

Data mining, or data discovery, typically uses automation to quickly analyze data to find patterns and outliers which provide insight into the current state of business. BI tools often feature several types of datamodelling and analytics—including exploratory, descriptive, statistical, and predictive—that further explore data, predict trends, and make recommendations.

**Step 3: Use data visualization to present findings**

Business intelligence reporting uses data visualizations to make findings easier to understand and share. Reporting methods include interactive data dashboards, charts, graphs, and maps that help users see what’s going on in the business right now.

**Step 4: Take action on insights in real time**

Viewing current and historical data in context with business activities gives companies the ability to quickly move from insights to action. Business intelligence enables real time adjustments and long-term strategic changes that eliminate inefficiencies, adapt to market shifts, correct supply problems, and solve customer issues.

**3Ans:**  Descriptive Analysis is the type of analysis of data that helps describe, show or summarize data points in a constructive way such that patterns might emerge that fulfill every condition of the data. It gives you a conclusion of the distribution of your data, helps you detect typos and outliers, and enables you to identify similarities among variables, thus making you ready for conducting further statistical analyses.

The types of descriptive analysis are as follows

1)Measure of Frequency

2)Measure of centra tendency

3)Measure of dispersion

4)Measure of position

5)Contingency tables

6)Scatter Plots

**4Ans:** Predictive analytics utilizes a variety of statistical techniques, such as automated machine learning algorithms, deep learning, data mining, and AI, to create predictive models, which extract information from datasets, identify patterns, and provide a predictive score for an array of organizational outcomes. There are three types of predictive analytics techniques: predictive models, descriptive models, and decision models.

The predictive analytics method begins with defining business objectives and the datasets to be used, followed by the development of a statistical model that is trained to validate assumptions and run them against selected data to generate predictions. Predictive analytics techniques are not always linear -- once a predictive model is developed, deployed, and starts producing actionable results, teams of data scientists, data analysts, data engineers, statisticians, software developers, and business analysts may be involved in its management and maintenance. A myriad of industries and fields use predictive analytics is an important decision-making tool, evaluating patterns in data to identify opportunities and risks.

**6Ans:** The following are the major areas in which power bi is used

* Automate KPIs in Microsoft Power BI. ...
* Visualize Sales Versus Marketing Leads. ...
* Conduct a Marketing Health Check. ...
* Gain a Real-Time Look at Your Company's Financial Performance. ...
* Create Consistent Reporting Standards. ...
* Stay Ahead of Inventory Shortages.