**1.What do you mean by BI? Explain.**

BI stands for Business Intelligence, which refers to the technologies, processes, and strategies used by organizations to analyse and transform raw data into actionable insights for making informed business decisions. BI encompasses a wide range of activities, including data mining, reporting, analytics, data visualization, and performance monitoring. The primary goal of BI is to help organizations gain a deeper understanding of their business operations, identify trends and patterns, and optimize performance across various departments and functions.

**2.How Power-BI helps in BI, and how does it help Analysts? Explain**.

BI is a powerful business intelligence (BI) tool developed by Microsoft that empowers organizations to analyse and visualize their data in a meaningful way. Here's how Power BI helps in BI and benefits analysts:

**Data Connectivity:** Power BI allows analysts to connect to a wide variety of data sources, including databases, cloud services, spreadsheets, and web APIs. This enables them to access and combine data from multiple sources, providing a comprehensive view of the organization's data landscape.

**Data Preparation:** With Power BI's data preparation capabilities, analysts can clean, transform, and shape data to make it suitable for analysis. This includes tasks such as removing duplicates, renaming columns, creating calculated columns, and applying data transformations.

**Advanced Analytics:** Power BI offers a range of advanced analytics features, including predictive analytics, machine learning, and statistical analysis. Analysts can leverage these capabilities to uncover insights, identify trends, forecast future outcomes, and make data-driven decisions.

**Interactive Visualizations:** One of the key strengths of Power BI is its ability to create interactive and visually appealing dashboards and reports. Analysts can use a variety of visualization types, such as charts, graphs, maps, and tables, to present data in a way that is easy to understand and explore.

Real-Time Data Monitoring: Power BI supports real-time data streaming, allowing analysts to monitor key metrics and KPIs in real-time. This enables them to quickly identify changes and trends as they happen, facilitating proactive decision-making and response.

**Collaboration and Sharing:** Power BI provides robust collaboration and sharing features, allowing analysts to collaborate with team members, share insights, and distribute reports and dashboards securely across the organization. This fosters collaboration and alignment, ensuring that everyone has access to the same insights and information.

**3.Explain Descriptive analytics?**

Descriptive analytics is a branch of data analysis that focuses on summarizing and interpreting historical data to understand what has happened in the past. It involves organizing, summarizing, and visualizing data to gain insights into patterns, trends, and relationships. The primary goal of descriptive analytics is to describe and understand the current state of affairs based on historical data.

**4.Explain Predictive analytics?**

Predictive analytics is a branch of data analysis that focuses on predicting future outcomes based on historical data and statistical algorithms. It involves using various techniques and models to identify patterns, trends, and relationships in data and make predictions about future events or behaviours. The primary goal of predictive analytics is to forecast future outcomes with a certain level of confidence and accuracy.

**5.Explain perspective analytics?**

Prescriptive analytics uses advanced algorithms and techniques to analyse data and provide insights into the best course of action to achieve specific business objectives or optimize outcomes. It goes beyond descriptive and predictive analytics by not only forecasting what is likely to happen but also recommending actions to improve or change those outcomes.

**6.Write five real-life questions that Power Bi can solve.**

**Sales Performance Analysis:** What are the top-selling products by region, and how does sales performance compare year-over-year? Which sales channels are most effective in driving revenue, and what factors influence customer purchasing behaviour?

**Customer Segmentation:** How can we segment our customer base based on demographic information, purchase history, and online behaviour What are the characteristics of high-value customers, and how can we tailor marketing strategies to target different customer segments more effectively?

Supply Chain Optimization: How can we optimize inventory levels and streamline the supply chain to reduce costs and improve efficiency? Are there any patterns or trends in supplier performance that could impact production timelines or quality control?

**Financial Forecasting:** What are the key financial metrics, such as revenue, expenses, and profitability, for our organization? How do these metrics vary over time, and what factors contribute to fluctuations in financial performance? Can we use predictive modelling to forecast future financial outcomes and identify potential risks or opportunities?

**Employee Performance Monitoring:** How can we track employee productivity, performance, and engagement levels across different departments or teams? Are there any patterns or correlations between employee performance metrics and factors such as training, workload, or job satisfaction? How can we use this information to improve workforce management and retention strategies?