**Q1) What is Power BI ? explain..**

Power BI is a Data Visualization and Business Intelligence tool that converts data from different data sources to interactive dashboards and BI reports. Power BI suite provides multiple software, connector, and services - Power BI desktop, Power BI service based on Saas, and mobile Power BI apps available for different platforms. These set of services are used by business users to consume data and build BI reports.

Power BI desktop app is used to create reports, while Power BI Services (Software as a Service - SaaS) is used to publish the reports, and Power BI mobile app is used to view the reports and dashboards.

**Q2) How power-bi helps in bi and how does it help analysts? explain..**

Power BI can help connect disparate data sets, transform and clean the data into a data model and create charts or graphs to provide visuals of the data.

Some of the most common uses which help analysts are Creating reports and dashboards that present data sets in multiple ways using visuals. Connecting various data sources, such as Excel sheets, onsite data warehouses, and cloud-based data storage, and then transforming them into business insights.

**Q3) what is Descriptive analytics ?**

Descriptive analytics is the analysis of historical data using two key methods – data aggregation and data mining - which are used to uncover trends and patterns. Descriptive analytics is not used to draw inferences or make predictions about the future from its findings; rather it is concerned with representing what has happened in the past.

Descriptive analytics are often displayed using visual data representations like line, bar and pie charts and, although they give useful insights on its own, often act as a foundation for future analysis. Because descriptive analytics uses fairly simple analysis techniques, any findings should be easy for the wider business audience to understand.

For this reason, descriptive analytics form the core of the everyday reporting in many businesses. Annual revenue reports are a classic example of descriptive analytics, along with other reporting such as inventory, warehousing and sales data, which can be aggregated easily and provide a clear snapshot of a company’s operations. Another widely used example is social media and Google Analytics tools, which summarise certain groupings based on simple counts of events like clicks and likes.

**Q4) what is Predictive analytics ?**

Predictive analytics is a more advanced method of data analysis that uses probabilities to make assessments of what could happen in the future. Like descriptive analytics, prescriptive analytics uses data mining – however it also uses statistical modelling and machine learning techniques to identify the likelihood of future outcomes based on historical data. To make predictions, machine learning algorithms take existing data and attempt to fill in the missing data with the best possible guesses. These predictions can then be used to solve problems and identify opportunities for growth. For example, organisations are using predictive analytics to prevent fraud by looking for patterns in criminal behaviour, optimising their marketing campaigns by spotting opportunities for

cross selling and reducing risk by using past behaviours to predict which customers are most likely to default on payments.

Another branch of predictive analytics is deep learning, which mimics human decision-making processes to make even more sophisticated predictions. For example, through using multiple levels of social and environmental analysis, deep learning is being used to more accurately predict credit scores and, in the medical field, it is being used to sort digital medical images such as MRI scans and X-rays to provide an automated prediction for doctors to use in diagnosing patients.

**Q5) what is Prescriptive analytics?**

The field of prescriptive analytics borrows heavily from mathematics and computer science, using a variety of statistical methods.

Although closely related to both descriptive and predictive analytics, prescriptive analytics emphasises actionable insights instead of data monitoring. This is achieved through gathering data from a range of descriptive and predictive sources and applying them to the decision-making process. Algorithms then create and re-create possible decision patterns that could affect an organisation in different ways.

What makes prescriptive analytics especially valuable is their ability to measure the repercussions of a decision based on different future scenarios and then recommend the best course of action to take to achieve a company’s goals.

The business benefit of using prescriptive analytics is huge. It enables teams to view the best course of action before making decisions, saving time and money whilst achieving optimal results.

Businesses that can harness the power of prescriptive analytics are using them in a variety of ways. For example, prescriptive analytics allow healthcare decision-makers to optimise business outcomes by recommending the best course of action for patients and providers. They also enable financial companies to know how much to reduce the cost of a product to attract new customers whilst keeping profits high.

**Q5) write five real life questions that POWER BI can solve?**

Business intelligence (BI) can solve numerous problems, and here are some of them:

**1. Business Intelligence solutions: Access to the data is limited**

Business intelligence reports are usually based on huge datasets. So imagine that you have no BI software implemented, only loads of data to analyse. Will you share it with, for instance, your business partners? We doubt so — they won’t waste their time on trying to understand an enormous dataset. But business intelligence can solve the problem of limited access to the data. By turning loads of information into a clear and short report, it allows easy and fast sharing. You can provide anyone with such a report: your business partners, managers, executives, members of the technical department, etc. Anyone can get access and check the report using their smartphone, at any time. So, you won’t have to worry that someone is not informed about something, and is not able to take part in the decision-making process.

**2.** **Performance management is far from perfection**

Use your imagination one more time — imagine that a year ago you released an innovative product. The product itself has prospects, and everything seems to be fine. But even after a year, you haven’t reached the desired result, and the sales are pretty low. Something is going wrong, and the reason may arise from poor performance management. With business intelligence software, you can gain a much deeper understanding of your company’s performance and potential opportunities. As a result, you will be able to identify all the bottlenecks and make proper decisions to solve the problems. In turn, efficient performance management will increase your company’s chances for success. Implementing business intelligence services has rather high ROI, so don’t be afraid of investing in the software.

**3. Business Intelligence solutions: Creating multiple systems takes too much time**

Making decisions usually involves analysing data from multiple resources. Without business intelligence solutions, you will have to get data from each of them, then combine everything together and, finally, move to the reporting stage. And only then you will be able to start the decision-making process. Creating multiple systems takes too much time and effort, but there is a way to save these precious resources, and spend them on something more important. Business intelligence solutions allow building a centralized data warehouse, while creating reports becomes extremely fast and easy. Therefore, you will be able to spend the time saved on making efficient decisions. This is a serious advantage of business intelligence solutions, especially in the case you have an enormous number of sources with loads of data in each of them.

**4. Only tech teams can develop custom reports**

A lot of traditional tools that allow analysing data and reporting are too complicated, so usually only tech teams are able to use them properly. And this is not the only problem in this case — every time you need a report, you will have to delegate this task to your tech department. This means another waste of time. Instead, business intelligence tools are much easier to use. Many of them are equipped with manuals, videos, and even live training to help your team members to understand how they work. We have already mentioned our article about tools, remember? You will definitely find there something suitable for you and your team. And things can get even easier in case you decide to create a personalized business intelligence solutions. It will perfectly fit your requirements, so it will be even more simple for your workers to work with it. You may also find it interesting – Business Intelligence best practices.

**5. Business Intelligence solutions: Day-to-day operations are not organized**

Dealing with numerous types of data in your everyday operations can easily turn into a chaotic disaster. Just imagine: sales and performance metrics are in different reports, financial data is in separate spreadsheets, and so on. If you have to deal with such a disorder every day, you can easily get lost and miss important pieces of data. Thanks to business intelligence solutions, you can develop a central location, where all the data will be organized. Therefore, every member of your team will experience no problems when monitoring key performance indicators, analysing the data, and sharing the reports. Understanding these reports will also be very easy — the format of business intelligence reports is very user-friendly.