Q1) Write a note on web usage mining. Also state its any two application

Web Usage Mining

Web usage mining is a branch of data mining that focuses on analyzing user behavior and patterns from web data. It involves extracting meaningful insights from logs generated by users' interactions with a website. These logs typically include data such as page views, clicks, session details, and navigation paths. The goal is to improve website design, enhance user experience, and optimize decision-making processes.

The key phases of web usage mining include:

1.

   Data Collection: Gathering user activity data from web servers, application servers, or client-side sources like cookies.

2.

   Data Preprocessing: Cleaning and transforming raw data into a structured format by removing irrelevant information and identifying sessions and users.

3.

   Pattern Discovery: Applying data mining techniques such as clustering, classification,

association rule mining, or sequential pattern mining to extract insights.

4.

Pattern Analysis: Interpreting the discovered patterns to derive actionable insights.

Applications of Web Usage Mining

1.

Personalized Recommendations:
 Web usage mining is widely used in **e-commerce platforms** to provide personalized product

recommendations based on users' browsing and purchase history. For example, Amazon and Netflix use such techniques to suggest products or movies tailored to individual preferences.

2.

Website Optimization:
 By analyzing navigation patterns and user sessions, organizations can identify poorly performing pages,

optimize website structure, and enhance the overall user experience. For instance, identifying frequently abandoned pages helps improve conversion rates in online shopping platforms.