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| **SESSION** | **SEPTEMBER 2023** |
| **PROGRAM** | **MASTER OF BUSINESS ADMINISTRATION (MBA)** |
| **SEMESTER** | **III** |
| **COURSE CODE & NAME** | **DADS302 EXPLORATORY DATA ANALYSIS** |
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**Assignment Set – 1**

**1. Explain various measures of dispersion in detail using specific examples. 10**

**Ans 1.**

Exploratory data analysis (EDA) is a critical component in understanding and interpreting data. It involves a variety of techniques, including measures of dispersion, which provide insights into the spread or variability within a dataset. Understanding these measures is essential for any data analyst, as they reveal the consistency and predictability of data.

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**2. What is Data Science? Discuss the role of Data Science in various Domains. 2 Ans 2.**

Data science is an interdisciplinary field that focuses on extracting knowledge and insights from structured and unstructured data. It combines elements of statistics, mathematics, programming, and domain expertise to analyze and interpret complex data. Data science is often considered an evolution of traditional statistics with a broader scope, incorporating modern technology and data handling techniques.

**Understanding Data Science**

At its core, data science involves using algorithms, data analysis methods, and machine learning principles to

**3. Discuss various techniques used for Data Visualization.**

**Ans 3.**

Data Visualization is a crucial aspect of Exploratory Data Analysis (EDA) in the field of data science. It involves the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data. Let's discuss various techniques used for this purpose.

**1.**

**Assignment Set – 2**

**4. What isfeature selection? Discuss any two feature selection techniques used to get optimal feature combinations. 2+4+4**

**Ans 4.**

Feature selection, a critical step in the field of data science and machine learning, involves identifying the most relevant features (or variables) in a dataset that contribute significantly to the output of a predictive model. This process is pivotal for enhancing model performance, reducing complexity, and improving interpretability.

**Importance of**

**5. Discuss in detail the concept of Factor Analysis**

**Ans 5.**

**Introduction to Factor Analysis**

Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. Essentially, it helps in understanding the underlying structure of a data set. It is widely used in various fields like psychology, finance, and social sciences to identify latent constructs that aren't

**6. Differentiate between Principal Component Analysis and and Linear Discriminant Analysis**

**Ans 6.**

Principal Component Analysis (PCA) and Linear Discriminant Analysis (LDA) are both statistical techniques used for dimensionality reduction, which is the process of reducing the number of variables under consideration. However, they differ fundamentally in their approach and objectives. Here's an exploration of these differences:

**Principal Component**