

Paper DSE 503 (a) : ADVANCED DATA VISUALIZATION**Hours Per Week:** (3T+4P)**Credits:** 5**Exam Hours:** 1 ½**Marks:** 50T+35P+15I

Objective: To make students to understand the Advanced data visualization.

UNIT I: CHART & GRAPH SELECTION:

Differentiate between the following graph and chart types and when to use them: Categorical – Continuous - Time series – Bivariate - Distribution

UNIT II: BUSINESS INTELLIGENCE:

Overview of Business Intelligence (BI): Identify business intelligence (BI) concepts and their common applications - Differentiate between the major enterprise BI platforms and when each is appropriate - Apply BI techniques (online analytical processing [OLAP], drill through, drill down, drill up) - Report Building and Online Analytical Processing (OLAP): Apply techniques for building reports and identify the best uses of the learned techniques - Distinguish the elements of OLAP (online analytical processing) - Business Intelligence in Action: Identify the steps and benefits of scorecard and strategy management and apply the steps in appropriate situations - Distinguish between effective dashboard techniques

UNIT III: MASHUPS:

Identify event streaming techniques and their uses - Differentiate between types of mashups in order to determine the best mashup for a dashboard presentation - Analyze trusted data in order to derive information

UNIT IV: DATA VISUALIZATION BEST PRACTICES:

Identify core data visualization rules in order to ensure quality report development - Identify the goals of data visualization and how data visualization can benefit an entity.

Differentiate between the needs of different report users and identify appropriate report styles for each.

UNIT V: REPORTING:

Reporting Options: Differentiate between alerts and trends and the appropriate uses for each - Distinguish the appropriateness of Self-Serve reports and their application in common scenarios - Differentiate between best uses for BI techniques in order to ensure effective reporting - What Makes a Good Report: Compare layout options and identify appropriate presentation choices for maximum effectiveness - Differentiate between good and bad report implementations and the potential impact of poor implementation - Constructing Reports: Distinguish between when to use reporting tools versus analysis tools - Use core tools to build report and dashboard layouts to achieve maximum effectiveness

SUGGESTED READINGS:

1. Data Visualization Certificate; AICPA
2. Introducing Microsoft Power BI; Alberto Ferrari, Marco Russo; Microsoft Press
3. Introduction to Microsoft Power BI: Bring Your Data to Life; M.O. Cuddley; Createspace Independent Pub
4. Business Analysis with Microsoft Excel and Power BI, 5th edition; Conrad G. Carlberg; Pearson
5. Microsoft Power BI Dashboards Step by Step, Errin O'Connor, Microsoft Press
6. Storytelling with Data: A Data Visualization Guide for Business Professionals; Cole Nussbaumer-Knaff; Wiley.