

**B. TECH**  
**(SEM VI) THEORY EXAMINATION 2022-23**  
**DATA ANALYTICS**

**Time: 3 Hours****Total Marks: 100****Note:** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

**1. Attempt all questions in brief.****2 x 10 = 20**

- (a) What are the main characteristics of Big Data?
- (b) Generalize the role of analytical tools in Big data?
- (c) What are the purposes of regression analysis?
- (d) What do you mean by fuzzy qualitative model?
- (e) Define association rule.
- (f) State the benefits of analytic sandbox.
- (g) What do you mean by data stream management system?
- (h) What do you mean by response modeling?
- (i) What are the benefits of visual data exploration?
- (j) Mention some main goals of Hadoop.

**SECTION B**

**2. Attempt any three of the following:****10x3=30**

- (a) Compare and contrast analysis and reporting in data analytics with suitable example.
- (b) What is a neural network? How can it be used in analytics?
- (c) Explain Apriori association rule mining algorithm.
- (d) List the advantages and disadvantages of K-Means clustering.
- (e) What is HDFS? How does it handle Big Data?

**SECTION C**

**3. Attempt any one part of the following:****10x1=10**

- (a) What are the various stages in big data analytics life cycle? Illustrate with a figure, explaining each of them.
- (b) What is the difference between regression modelling and Bayesian modeling? Explain in brief.

**4. Attempt any one part of the following:****10x1=10**

- (a) Explain the role of principal component analysis in neural networks.
- (b) What are the parameters used to characterize any fuzzy membership function?

**5. Attempt any *one* part of the following: 10x1=10**

- (a) Discriminate the concept of sampling data in a stream.
- (b) Illustrate various Real Time Analytics Platforms (RTAPs) with examples.

**6. Attempt any *one* part of the following: 10x1=10**

- (a) Explain the working of CLIQUE algorithm in brief.
- (b) Identify the major issues in data stream query processing.

**7. Attempt any *one* part of the following: 10x1=10**

- (a) Illustrate and explain the concept of Map Reduce framework in brief.
- (b) Write R function to check whether the given number is prime or not?

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