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Paper ID: BSD404**Course Code:** BSDB32404T

Examination (January - 2024)

Bachelor of Science (B.Sc. – Data Science)

Semester - IV

Introduction to Analytics and AI

Time Allowed: 3 Hours **Max. Marks: 70**

Instructions for the Students

- Attempt any 2 questions out of 4 from Section – A (Each question carries 10 marks)
- Attempt any 2 questions out of 4 from Section – B (Each question carries 10 marks)
- Attempt any 10 questions out of 15 from Section – C (Each question carries 03 marks)

Section - A2*10=20

Q1. Discuss Hadoop, its architecture and eco system. Also describe the terms shuffling, sorting, and grouping.

Q2. What do you mean by Big Data Analytics? Discuss in detail its importance, characteristics and evolution.

Q3. Discuss in detail Big Data Applications. What do you mean by Perception and Quantification of Value?

Q4. What is High-Performance Architecture? Also discuss Map-Reduce and YARN – Map Reduce Programming Model.

Section - B2*10=20

Q5. What is AI? Discuss Applications of AI using Big Data.

Q6. Describe Problem-solving through Search. What do mean by forward and backward, state-space and evolutionary search algorithms?

Q7. What is the significance of Machine Learning and Knowledge Acquisition? Describe learning from memorization, examples, explanation, and exploration.

Q8. Describe about analytics and AI Strategy-for Business. What is Transfer Re-engineering, Robust Data Monetization Strategy?

Section - C10*3=30

Q9. Short Answer Questions (Attempt any 10 questions)

a. What is heuristic search algorithm?
b. Describe basic concepts of AI.
c. What is the role of Big data in Industry?
d. Describe Map Reduce Framework?
e. What is HDFS?
f. Describe the process of moving Data in and out of hadoop.
g. Discuss understanding inputs and outputs of Map Reduce.
h. What is Data Serialization?
i. Discuss Knowledge Acquisition.
j. What are naive Bayes, and decision tree classifiers?
k. Describe Data Monetization Strategy.
l. Define Business Transfer Re-engineering.
m. What is Big Data Storage?
n. Define YARN.
o. What do you mean by perception and Quantification of Value?