Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET-A

SCHOOL OF MANAGEMENT
END TERM EXAMINATION – MAY/JUNE 2024

Semester : Semester VI - 2021
Course Code : BBB3020
Course Name : Block Chain Analytics
Program : BBA

Date : May 29, 2024
Time : 9:30 AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART - A

ANSWER ANY 5 QUESTIONS **5 X 2 = 10**

1. What do you understand by AI?
(CO4,CO3) [Knowledge]

2. Which type of analytics helps businesses understand the root causes of events?
(CO4,CO3) [Knowledge]

3. How does big data improve inventory management in supply chain operations?
(CO3,CO4) [Knowledge]

4. Which cryptocurrency is most closely associated with the UTXO model?
(CO4,CO3) [Knowledge]

5. What is the primary purpose of the Account/Balance model in blockchain systems?
(CO5,CO4) [Knowledge]

6. What does a hybrid crypto exchange combine?
(CO4,CO5) [Knowledge]

7. What is the primary purpose of a blockchain explorer?
(CO5,CO4) [Knowledge]

PART - B

ANSWER ANY 5 QUESTIONS **5 X 10 = 50**

8. Analyze the role of UTXO in cryptocurrency transactions and explain how it impacts the efficiency and security of these transactions.
(CO4,CO3) [Comprehension]

9. Analyze the challenges associated with processing large volumes of data on blockchain platforms. What are the key factors that contribute to these difficulties, and how do they impact overall system performance and scalability?

(CO4,CO5) [Comprehension]

10. Analyze the potential of blockchain technology to transform Big Data practices across various industries. Provide examples from at least two different sectors, discussing how blockchain has been or could be used to improve data analytics and decision-making processes within those sectors.

(CO4,CO5) [Comprehension]

11. Conduct a detailed analysis of the strengths and limitations of using a hybrid model that combines LSTM and GRU neural networks for predicting cryptocurrency prices. What specific aspects of each model contribute to the overall performance?

(CO5,CO4,CO3) [Comprehension]

12. Evaluate the suitability of the account/balance model versus the UTXO model for a blockchain project with goals focused on scalability, privacy, and ease of use. Discuss the advantages and disadvantages of each model in relation to these goals.

(CO5,CO4) [Comprehension]

13. Develop a recommendation for selecting either a command-line tool or a Web3 Data API for analyzing historical transaction data on the Ethereum network. Justify your choice by designing a framework that prioritizes data retrieval speed, ease of setup, and reliability, and explains how this approach will meet your research needs effectively.

(CO4,CO5) [Comprehension]

14. Develop a strategic plan for selecting between repeated analysis and one-off analysis in a blockchain environment for a specific industrial application. Justify your choice by detailing how the selected approach addresses computational overhead, data freshness, and practical applicability, and propose methods to optimize performance and efficiency.

(CO5,CO4) [Comprehension]

PART - C

ANSWER ANY 2 QUESTIONS **2 X 20 = 40**

15. Analyze the potential implications of GDPR and the “Right to Be Forgotten” on blockchain applications that integrate personal data. What are the specific challenges these regulations pose to the immutable nature of blockchain?

(CO4,CO5) [Application]

16. You are a data scientist working on a customer segmentation project. You have six customer data points represented by their spending scores on two different metrics: (1, 1), (2, 1), (4, 3), (5, 4), (3, 2), and (6, 5). Initially, you select (1, 1) and (5, 4) as your centroids for two clusters.
Perform one iteration of the K-Means algorithm. Assign each customer to the nearest centroid and calculate the new centroids.

(CO5,CO4) [Application]

17. Examine the role of AI in enhancing the functionality and security of blockchain technologies. Detail the application of AI in fraud detection and in optimizing blockchain operations. Provide examples of each application and critically assess how AI’s integration enhances the reliability and efficiency of blockchain systems.

(CO5,CO4,CO3) [Application]