PRESIDENCY UNIVERSITY
BENGALURU

SET-B

SCHOOL OF MANAGEMENT
END TERM EXAMINATION – MAY/JUNE 2024

Semester : Semester VI - 2021
Course Code : BBB3027
Course Name : Block chain Analytics
Program : BBA

Date : June 3, 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 = 10M**

1. Write occurs from a user's perspective when they spend Bitcoin.

(CO4,CO5) [Knowledge]

2. What does the acronym UTXO stand for in blockchain technology?

(CO4,CO5,CO3) [Knowledge]

3. What data can developers access using the Wallet API?

(CO3,CO4) [Knowledge]

4. How do Web3 APIs enhance decentralized applications (dApps)?

(CO3,CO4) [Knowledge]

5. What is the primary purpose of a Web3 Data API?

(CO4,CO3) [Knowledge]

6. Which popular blockchain explorer is commonly used for tracking Bitcoin transactions?

(CO5,CO4) [Knowledge]

7. How can a blockchain explorer assist users in understanding transaction details?

(CO4,CO5) [Knowledge]

PART - B

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

8. Evaluate the effectiveness of the UTXO model compared to other transaction models used in cryptocurrencies. Discuss the advantages and disadvantages.

(CO4,CO5) [Comprehension]

9. 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.

(CO3,CO4) [Comprehension]

10. Analyze how blockchain technology can improve the reliability and accuracy of predictive analytics. Provide examples of how blockchain's inherent characteristics (such as immutability and transparency) contribute to enhanced data analysis capabilities.

(CO5,CO4) [Comprehension]

11. Evaluate the benefits and drawbacks of repeated analysis versus one-off analysis in blockchain environments. Discuss how these approaches impact computational resources, data accuracy, and their suitability for various industrial use cases.

(CO3,CO4) [Comprehension]

12. Evaluate the effectiveness of combining real-time parsing with two-step analysis in a blockchain-based supply chain tracking system. Discuss the benefits and potential drawbacks of this dual approach in terms of efficiency, accuracy, and scalability.

(CO5,CO4) [Comprehension]

13. Evaluate the advantages and disadvantages of using a Web3 Data API versus a command-line tool for data extraction in the context of developing a decentralized application. Consider factors such as scalability, real-time data access, and security in your evaluation.

(CO5,CO4) [Comprehension]

14. Evaluate the effectiveness of a hybrid LSTM-GRU model in improving the accuracy of cryptocurrency price predictions compared to using LSTM or GRU alone. Consider factors such as computational efficiency, training time, and predictive accuracy.

(CO5,CO4) [Comprehension]

PART - C

ANSWER ANY 2 QUESTIONS   2 X 20 = 40M

15. You are a geographer studying the locations of six different weather stations. The coordinates of the stations are: (1, 1), (2, 1), (3, 2), (6, 6), (8, 8), and (9, 9). Initially, you select (1, 1) and (9, 9) as your centroids.
    Perform one iteration of the K-Means algorithm. Assign each data point to the nearest centroid and calculate the new centroids.

(CO5,CO4) [Application]

16. You are a marketing analyst working on segmenting customers based on their engagement with two different products. The data points are: (3, 3), (5, 4), (7, 8), (6, 7), (2, 2), and (1, 1). Initially, you select (3, 3) and (7, 8) as your centroids.
    Perform one iteration of the K-Means algorithm. Assign each data point to the nearest centroid and calculate the new centroids.

(CO3,CO5,CO4) [Application]

17. Evaluate the synergistic effects of integrating blockchain and AI. Describe at least two specific innovations that this convergence has facilitated, providing examples of how these innovations improve upon traditional systems. Assess the impact of these innovations on industry standards and practices.

(CO5,CO4) [Application]