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**Presidency University**

**Bengaluru**

**School Of Information Science**

**SUMMER TERM END TERM EXAMINATION -AUGUST 2024**

**Date**: 05/08/2024

**Time**: 9:30 AM - 12:30 PM

**Max Marks**: 100

**Weightage**: 50%

**Odd Semester**: 2023 - 24

**Course Code**: CSA3006

**Course Name**: BLOCKCHAIN TECHNOLOGY

**Department:** BCA

**Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

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| **Q.no** | **Questions** | **Marks** | **CO** | **RBT** |
| 1 | 1. Define Blockchain Mining? which are the different categories of mining. | 4 | CO1 | L1 |
| 1. Which are different types of Blockchain categories? | 6 | CO1 | L2 |
| 1. List the different types of nodes in a blockchain network. | 10 | CO1 | L3 |
| OR | | | | |
| 2 | 1. Define Distributed Ledger Technology (DLT) and explain two advantages it offers. | 4 | CO1 | L1 |
| 1. What is a distributed DBMS? List the disadvantages of using a distributed DBMS | 6 | CO1 | L2 |
| 1. What are the generic elements of a blockchain? explain each of them. | 10 | CO1 | L3 |

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| 3 | 1. Name and explain the different types of blockchain. | 4 | CO2 | L1 |
| 1. What is a Peer-to-Peer (P2P) network, explain with a diagram | 6 | CO2 | L2 |
| 1. List and explain the different features of Blockchain. | 10 | CO2 | L3 |

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| 4 | 1. What is a Consensus mechanism? | 4 | CO2 | L1 |
| 1. Can you recall and describe the operation of the Proof of Work mechanism? | 6 | CO2 | L2 |
| 1. Which are the different types of wallets in blockchain? explain each wallet in detail. | 10 | CO2 | L3 |

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| 5 | 1. List and explain different types of storage in blockchain. | 4 | CO3 | L1 |
| 1. What are the different challenges faced in blockchain technology. | 6 | CO3 | L2 |
| 1. Can you remember and define what a Merkle tree is within the context of blockchain with a diagram. | 10 | CO3 | L3 |

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| 6 | 1. Can you list and explain the differences between a custodian wallet and a non-custodian wallet? | 4 | CO3 | L1 |
| 1. List and describe the structural elements that constitute a block in a blockchain system. | 6 | CO3 | L2 |
| 1. Can you recall and list the various alternatives to blockchain consensus | 10 | CO3 | L3 |

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| 7 | 1. How would you describe Distributed Ledger Technology (DLT) to a business executive? | 4 | CO4 | L1 |
| 1. Can you remember and list four differences between Ethereum's smart contracts and Bitcoin's script language? | 6 | CO4 | L2 |
| 1. Define Turing Completeness in smart contract languages and list some associated verification challenges. | 10 | CO4 | L3 |

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| 8 | 1. Can you recall the meaning of pseudo-anonymity, particularly in the context of blockchain and cryptocurrency? | 4 | CO4 | L1 |
| 1. Recall what Ethereum is, and describe the process of creating a smart contract. | 6 | CO4 | L2 |
| 1. What is a Blockchain Network? Explain the different architectures in a network with a neat diagram What is a Blockchain Network? Explain the different architectures in a network with a neat diagram | 10 | CO4 | L3 |

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| 9 | 1. Recall and explain the concept of anonymity, particularly within the context of blockchain and cryptocurrency technology. | 4 | CO1 | L1 |
| 1. What is Bitcoin Script? Describe the fundamentals of Bitcoin Script. | 6 | CO1 | L2 |
| 1. Recall and enumerate the different types of attacks that may occur on a blockchain. | 10 | CO1 | L3 |

OR

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| 10 | 1. Explain the major difference between hot and cold storage | 4 | CO2 | L1 |
| 1. List and describe the structural elements that constitute a block in a blockchain system. | 6 | CO2 | L2 |
| 1. What are the different challenges faced in blockchain technology? | 10 | CO2 | L3 |