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**Presidency University**

**Bengaluru**

 **School of Computer Science and Engineering**

 **Make Up EXAMINATION JULY-2024**

**Semester:** 8

**Course Code**: CSE2019

**Course Name**: Foundations of Blockchain Technology

**Program & Sem**: B.Tech

**Date**: 09-July-2024

**Time**:9.30AM – 12.30pm

**Max Marks**: 100

**Weightage**: 50 %

 **Instructions**

1. *Read all questions carefully and answer accordingly.*
2. *The question paper consists of 3 parts.*
3. *Do not write any matter on the question paper other than roll number.*

**Part A**

 **Answer any 4 Questions. (4Q x 5M= 20M)**

1. Explain different types of Blockchains and why blockchain a trusted approach? [Knowledge] [CO1]
2. Define a block and explain the structure of a block in detail. [Understanding] [C02]
3. Describe the key features of blockchain and how blockchain maintain its immutability. [Knowledge] [CO1]
4. Summarize the Merkle tree with a neat diagram and its functionality in the blockchain.

[Knowledge] [CO2]

1. What are Bitcoins? How a blockchain is used in representing Bitcoins? [Knowledge] [CO2]
2. Discuss the role of hash pointers in blockchain. [Remembering] [CO1]

**Part B**

**Answer any 4 Questions. (4Qx10M=40M)**

1. Explain the security measures of POW. [Understanding] [C03]
2. Explain Hyperledger and Its types of Frameworks with an example. [Comprehension] [CO1]
3. Explain in detail about any five types of Consensus mechanisms with an example.

[Comprehension] [CO2]

1. Discuss and compare between Ethereum and Bitcoin [Understanding] [C04]
2. Explain in detail about Bitcoin Transactions with a neat sketch. [Understanding] [C03]
3. Jose is interested in developing dApp applications using Ethereum. Can you provide her with components of the Ethereum Ecosystem with a suitable diagram?

[Comprehension] [C04]

**Part C**

 **Answer any 2 Questions. (2Q x 20M=40M)**

1. Explain the Working of the Ethereum Virtual Machine with a neat sketch. [ Remembering] [CO3]
2. Write a note on i) Accounts ii) Transactions iii) Gas iv) Message Calls v) Delegate call with respect to Ethereum Virtual Machine. [Understanding] [C03]
3. Write a note on i) distributed ledger ii) consensus iii) reward (incentive) iv) miner

[Comprehension] [C04]

1. Explain in detail the Hot and Cold storage. Bring out the differences and challenges while using and transacting through these storage mediums. [Understanding] [C03]

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