

Paper Id:

110726

Roll No:

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B. TECH.
(SEM VII) THEORY EXAMINATION 2019-20
BLOCKCHAIN ARCHITECTURE DESIGN

Time: 3 Hours**Total Marks: 70****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

- 1. Attempt all questions in brief.** **2 x 7 = 14**
- a. What do you mean by blocks in the blockchain technology?
 - b. What are the properties of Blockchain?
 - c. Why is Blockchain a trusted approach?
 - d. Name the two types of records that are present in the blockchain database.
 - e. Is there any disadvantage to using a blockchain?
 - f. Define hash chain.
 - g. Define digital money.

SECTION B

- 2. Attempt any three of the following:** **7 x 3 = 21**
- a. What do you know about Blockchain? What is the difference between Bitcoin blockchain and Ethereum blockchain?
 - b. Blockchain is a distributed database. How does it differ from traditional databases?
 - c. Discuss Blockchain in Financial Software and Systems with respect to KYC and capital market.
 - d. How are transactions and blocks encrypted in the Bitcoin implementation? What are the benefits of blockchain technology?
 - e. Explain why a blockchain needs tokens to operate.

SECTION C

- 3. Attempt any one part of the following:** **7 x 1 = 7**
- (a) What is a blockchain database? How does a block chain work?
 - (b) Explain Blockchain Architecture. Differentiate Digital Money and Distributed Ledgers.
- 4. Attempt any one part of the following:** **7 x 1 = 7**
- (a) Discuss Consensus. Explain Requirements for the consensus protocols.
 - (b) What is Permissioned Blockchain? Explain Design goals, Consensus protocols for Permissioned Blockchain.
- 5. Attempt any one part of the following:** **7 x 1 = 7**
- (a) Explain Scalability aspects of Blockchain consensus protocols.
 - (b) Discuss Hyperledger Fabric. How do we decompose the consensus process?
- 6. Attempt any one part of the following:** **7 x 1 = 7**
- (a) Discuss Blockchain in trade/supply chain with respect to trade/supply chain finance, and invoice management.
 - (b) What is a ledger? Is Blockchain an incorruptible ledger? Explain the common type of ledgers that can be considered by users in Blockchain.
- 7. Attempt any one part of the following:** **7 x 1 = 7**
- (a) Discuss Blockchain for Government with respect to Digital identity, land records and other kinds of record keeping between government entities. Is it safe? Justify your answer.
 - (b) Discuss Hyperledger composer tool. What are its components?