(3 Hours)   **Total Marks : 80**

INSTRUCTIONS
(1) Question No. 1 is compulsory.
(2) Attempt any (3) from remaining (5) questions.
(3) Assume suitable data if required.
(4) Figures to the right indicate full marks.

Q1 Attempt any four **(4)** questions.

   a) Explain different types of Blockchain. Give example of each.   [5]

   b) What is Smart Contract? Explain different types of Smart Contracts.   [5]

   c) Explain the concept of Ethereum Virtual Machine with suitable diagram?   [5]

   d) With suitable diagram explain how transaction flow occurs in Hyperledger fabric?   [5]

   e) What are different types of test-networks used in Ethereum?   [5]

Q2 a) Explain the phases of development in ETH 2.0 with suitable diagram.   [10]

   b) What are different steps involved in the implementation of Blockchain?   [10]

Q3 a) Explain Bitcoin UTXO with suitable example.   [10]

   b) Explain the RAFT consensus mechanism with suitable diagram.   [10]

Q4 a) Explain Ethereum Accounts in detail.   [10]

   b) How does Blockchain Supports Crowd Funding?   [10]

Q5 a) What is Hyperledger Fabric? What are different components of Hyperledger Fabric?   [10]
   b) What is Quorum Blockchain? Explain the structure of Quorum Node with suitable

      diagram.   [10]

Q6 Write a short note on :   [20]
   a) MetaMask
   b) Mist Wallet
   c) Ripple Blockchain.
   d) Byzantine Fault Tolerant

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