

(Time: 2½ Hours)

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculator is allowed.

1. **Attempt any two of the following:** 12
a. Explain different use cases of block chain.
b. Explain the different layers of Blockchain.
c. How does game theory influence blockchain?
d. What is Off-chain computation and sharding?
2. **Attempt any two of the following:** 12
a. Specify the Characteristics of Ethereum.
b. Why Gas is important?
c. What are Complementary currency and its different purpose?
d. What is testing and formatting of Solidity programming language?
3. **Attempt any two of the following:** 12
a. What is Hyperledger Fabric? Give its importance over simple blockchain.
b. What is the Hyperledger composer? Give its advantages.
c. Briefly describe the working of smart contracts.
d. Explain "Cryptocurrency Is A Measure of Time".
4. **Attempt any two of the following:** 12
a. Differentiate between Faster Blocks and Stale Blocks.
b. How Ethereum and Bitcoin use Trees?
c. Enlist applications based on crypto economics.
d. How speed of blocks play an important role in mining?
5. **Attempt any two of the following:** 12
a. What are decentralized applications?
b. Explain public and private Blockchain.
c. Does blockchain involves third party? If no, explain.
d. What are Dapp?