

USN

--	--	--	--	--	--	--	--	--	--

21CST7041

B. E. Degree (Autonomous) Seventh Semester End Examination (SEE), December 2024**Block Chain Technology****(Model Question Paper - I)****Time: 3 Hours****Maximum Marks: 100****Instructions to students****Answer FIVE FULL Questions.**

- | | | | | | |
|----|----|--|----------|-----|----|
| 1. | a) | Explain the benefits and limitations of blockchain technology. | 10 Marks | CO1 | L2 |
| | b) | Explain about a CAP theorem and illustrate the types of blockchain. | 10 Marks | CO1 | L2 |
| OR | | | | | |
| 2. | a) | Give the various types of consensus mechanism for permissioned blockchain networks? | 10 Marks | CO1 | L2 |
| | b) | Define Byzantine general problem | 05 Marks | CO1 | L2 |
| | c) | Illustrate Paxos Algorithm | 05 Marks | CO2 | L2 |
| 3. | a) | Discuss the various methods of Decentralization and explain its benefits and challenges. | 10 Marks | CO2 | L2 |
| | b) | Write an algorithm for working of SHA-256 | 10 Marks | CO2 | L2 |
| OR | | | | | |
| 4. | a) | Explain the steps involved in RSA key pair generation | 10 Marks | CO2 | L2 |
| | b) | Illustrate with a diagram Point addition in Elliptic Curve Cryptography. | 10 Marks | CO2 | L2 |
| 5. | a) | Discuss the transaction life cycle applied over the bitcoin on a blockchain technology. | 10 Marks | CO3 | L2 |
| | b) | Write short notes on Deterministic and Non-deterministic wallets | 10 Marks | CO3 | L2 |
| OR | | | | | |
| 6. | a) | Illustrate Bitcoin Script and describe the commonly used OP_CODE or Operation Code | 10 Marks | CO3 | L2 |
| | b) | Explain Block Mining including the different types of mining. | 10 Marks | CO3 | L2 |
| 7. | a) | Discuss the Ethereum virtual machine that works on a stack-based architecture. | 10 Marks | CO4 | L2 |
| | b) | Explain the Ethereum transactions on blockchain to disrupt business models or invent new ones. | 10 Marks | CO4 | L2 |
| OR | | | | | |
| 8. | a) | What is Ethereum blockchain? Illustrate the Elements | 10 Marks | CO4 | L2 |

- of Ethereum blockchain?
- | | | | | |
|-----------|---|----------|-----|----|
| | b) Explain how Ricardian Contracts are different from Smart Contracts. Also discuss about DAO in detail. | 10 Marks | CO4 | L2 |
| 9. | a) Explain Block chain based IOT Model. | 10 Marks | CO5 | L2 |
| | b) Explain automated border control application using block chain. | 10 Marks | CO5 | L2 |
| | OR | | | |
| 10 | a) Explain the blockchain based on Finance | 10 Marks | CO5 | L2 |
| | b) Explain the blockchain based on media | 10 Marks | CO5 | L2 |
