

Faculty of Science & Technology
Eighth Semester B.Tech. (Computer Science and Engineering/CT) (CBCS) Examination
BLOCKCHAIN AND ITS APPLICATIONS
PROG ELE–VII

Time : Three Hours]

[Maximum Marks : 70

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
 - (2) Solve Question **1 OR** Question No. **2**.
 - (3) Solve Question **3 OR** Question No. **4**.
 - (4) Solve Question **5 OR** Question No. **6**.
 - (5) Solve Question **7 OR** Question No. **8**.
 - (6) Solve Question **9 OR** Question No. **10**.
 - (7) Due credit will be given to neatness and adequate dimensions.
 - (8) Assume suitable data wherever necessary.
 - (9) Illustrate your answers wherever necessary with the help of neat sketches.
1. (a) What is Decentralization ? Explain with the help of Supply Chain Management examples. 7
(b) Discuss SHA256 Algorithm with processing. 7
- OR**
2. (a) What is Digital Signature ? Explain. 7
(b) Explain Cryptocurrencies and its evolution. 7
 3. (a) What are Bitcoin scripts ? Explain with example. 7
(b) What are the steps for joining a bitcoin network ? Explain. 7
- OR**
4. (a) What is the application of merkle trees ? Write use of merkle trees in blockchain. 7
(b) What is the concept of Double Spending ? 4
(c) Discuss DAPP. 3
 5. (a) Mention the differences between Proof of Work (PoW) and Proof of Stake (PoS) in blockchain. 7
(b) Explain Byzantine Faults and Byzantine Agreement Protocols. 7

OR

6. (a) Differentiate Permissioned and Permission less Blockchain. 7
(b) What is Nonce ? How is it used to solve puzzles in blockchain ? 7
7. (a) What are the function modifiers in solidity ? How is blockchain distributed ledger different from the traditional ledger ? 7
(b) Explain and list the part of EVM Memory in blockchain. 7

OR

8. (a) Draw and explain fabric architecture. 7
(b) Explain the blockchain performance triangle. 7
9. (a) What is Identity ? Explain Centralized Digital Identity. 7
(b) Explain decentralized identifiers. 7

OR

10. (a) Discuss inter-operability in blockchain with an example. 7
(b) What are the Benefits of Blockchain in Finance ? What are the Blockchain Use Cases in Financial Services ? 7