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