

CBGS SCHEME

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21CS734

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2025

Blockchain Technology

Time: 3 hrs.

Max. Marks: 100

Note : Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. List the comparison between centralized and decentralized systems. (10 Marks)
- b. Explain with a neat diagram, the generic structure of a block and describe Byzantine general's problem. (10 Marks)

OR

- 2 a. Explain the types of Block chain. (10 Marks)
- b. Describe in detail about Block chain Technology. (10 Marks)

Module-2

- 3 a. Explain Cryptography Hash functions and their properties. (10 Marks)
- b. Explain briefly about Hash pointer and how it is used in Merkle tree. (10 Marks)

OR

- 4 a. What is ECDSA? Explain the digital algorithms with example. (10 Marks)
- b. What is Double Spending in Block chain? Explain how Double spending happens with an example. (10 Marks)

Module-3

- 5 a. What is Bitcoin? Explain the working mechanism of Bitcoin with transactions. (10 Marks)
- b. Describe Bitcoin Script. What are the common script instructions and their functions? (10 Marks)

OR

- 6 a. What is Wallet in Bitcoin? Explain different types of Wallet with example. (10 Marks)
- b. Explain payment process involving a user, merchant and payment service with neat diagram. (10 Marks)

Module-4

- 7 a. List and explain the six steps that the Bitcoin miner will perform when connected to a Bitcoin network. (10 Marks)
- b. What are the strategic considerations that every Bitcoin miner has to make before they pick blocks to work on? (10 Marks)

OR

- 8 a. Explain CoinJoin transactions. (10 Marks)
- b. Write a short notes on ZERO COIN and ZERO CASH. (10 Marks)

Module-5

- 9 a. Explain Ricardian Contracts with diagram. (10 Marks)
b. What is Ethereum Block chain? Illustrate the elements of Ethereum Block chain. (10 Marks)

OR

- 10 a. Write a short notes on :
i) Ethereum Network types. (10 Marks)
ii) Smart contracts. (10 Marks)
b. List and explain eight precompiled contracts in Ethereum. (10 Marks)

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