



CBCS SCHEME

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18AI733

Seventh Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Block Chain Technology

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Define block chain. Explain generic elements of a block chain with necessary diagram. (10 Marks)
- b. Write an essay on the history of block chain. (10 Marks)

OR

- 2 a. Discuss various types of block chain. (10 Marks)
- b. State CAP theorem. What are the properties of this theorem. Explain in detail. (10 Marks)

Module-2

- 3 a. Using block chain, illustrate how decentralization is carried out. (10 Marks)
- b. What is asymmetric cryptography? Explain in detail encryption/decryption using public/private key and signature scheme. (10 Marks)

OR

- 4 a. List various decentralized Organizations. Explain each one of them. (10 Marks)
- b. What are public key and private key? Explain RSA algorithm steps in encryption and decryption. (10 Marks)

Module-3

- 5 a. What is bitcoin? How bitcoin network is identified? What are commonly used protocols and messages and explain bitcoin protocol use. Explain with a neat diagram. (10 Marks)
- b. Explain the limitation of Bitcoin. (10 Marks)

OR

- 6 a. What is bitcoin payments? Explain. (10 Marks)
- b. What is Name coin? What are services provided by it? (04 Marks)
- c. Write short notes on : i) Litecoin ii) Primecoin. (06 Marks)

Module-4

- 7 a. Define smart contracts. Explain in detail Ricardian contracts properties and the BowTie model with neat diagram. (12 Marks)
- b. Explain Ethereum state transition function. (08 Marks)

OR

- 8 a. Explain with a neat block diagram elements of the Ethereum block chain. (12 Marks)
- b. Explain with a neat block diagram EVM operation. (08 Marks)

Module-5

- 9 a. Explain in detail block chain –based IoT model. (10 Marks)
- b. Explain in detail border control using block chain. (10 Marks)

OR

- 10 a. Write short notes on the following applications of block chain outside of currencies :
b. i) Government ii) Health iii) Finance iv) Media. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.