Reg. No.												

Question Paper Code	13874

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2025

Seventh Semester

Computer and Science Engineering (Cyber Security)

20SCPC703 - BLOCK CHAIN TECHNOLOGY

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)
Answer ALL Questions

		Marks	K–Level	CO
1.	Which technology is blockchain most commonly associated with? (a) Artificial Intelligence (b) Cloud Computing (c) Cryptocurrency (d) Virtual Reality	1	K1	CO1
2.	Public keys in block chain are used to (a) Decrypt messages (b) Generate blocks (c) Create new tokens (d) Receive transactions	1	K1	CO1
3.	A consortium blockchain is best suited for (a) Single-user applications (b) Open-source development (c) Multiple organizations collaborating (d) Personal use	1	K1	CO2
4.	Digital signatures are used in block chain to (a) Print documents (b) Identify and authenticate the sender (c) Compress files (d) Encrypt passwords only	1	K1	CO2
5.	Which company successfully used blockchain for food supply tracking? (a) Walmart (b) Netflix (c) Amazon Prime (d) Uber	1	K1	CO3
6.	What is the main issue blockchain solves in counterfeit goods tracking? (a) Transparency (b) Scalability (c) Privacy (d) Cost inflation	1	K1	CO3
7.	IBM Food Trust is a block chain solution designed for (a) Banking (b)Food supply chain (c) Healthcare (d) Real estate	1	K1	CO4
8.	Smart contracts in supply chain management automate (a) Manual verification (b) Payment upon delivery (c) Blockchain mining (d) Government approvals	1	K1	CO4
9.	AI integrated with block chain can (a) Automate smart contracts with decision-making (b) Replace IoT devices (c) Eliminate consensus mechanism (d) Store images directly	1	K1	CO5
10.	Blockchain and IoT integration is mostly applied in (a) Smart homes and logistics (b) Film production (c) Blogging platforms (d) Social media apps	1	K1	CO6

PART - B (12 × 2 = 24 Marks)
Answer ALL Questions

		Marks	K–Level	CO
11.	Define Block chain.	2	K1	CO1
12.	What is mining in the Bitcoin network?	2	K1	CO1
13.	Inferthe limitations of smart contracts.	2	K2	CO2
14.	Interpret about Dapps.	2	K2	CO2
15.	Differentiate between public and private blockchains.	2	K2	CO3
16.	Illustrate about cross-border remittance.	2	K2	CO3
17.	Outline about the two applications of blockchain in healthcare.	2	K2	CO4
18.	Interpret "distributed ledger technology" briefly.	2	K2	CO4
19.	Interpret the role of AI in predictive blockchain analytics.	2	K2	CO5

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **13874**

20.	Illustrate how machine learning enhances fraud detection in blockchain.	*2*	*K2*	*CO5*
21.	Classify about how blockchain supports data integrity in education.	*2*	*K2*	*CO6*
22.	Illustrate how blockchain enables transparency in voting systems.	*2*	*K2*	*CO6*

PART - C (6 × 11 = 66 Marks)
Answer ALL Questions

| 23. | a) (i) | Explain about History of blockchain. | *6* | *K2* | *CO1* |
| | (ii) | Summarize the advantages, limitations and applications of the block chain. | *5* | *K2* | *CO1* |

OR

| | b) (i) | Demonstrate theconsensus Mechanism and state its purpose. | *6* | *K2* | *CO1* |
| | (ii) | Explain in detail about phases of Evolution in Block Chain. | *5* | *K2* | *CO1* |

| 24. | a) | Illustrate the Structure of Ethereum in detail with neat diagram. | *11* | *K2* | *CO2* |

OR

| | b) | Interpret the role of public and private keys in securing blockchain communication. | *11* | *K2* | *CO2* |

| 25. | a) | Demonstrate blockchain's role in enhancing cross-border payments compared to traditional banking systems. | *11* | *K2* | *CO3* |

OR

| | b) | Illustrate about Decentralized Finance (DeFi) and Challenges to Traditional Financial System. | *11* | *K2* | *CO3* |

| 26. | a) | Interpret in detail block chain layer 2 solutions with advantages and disadvantages. | *11* | *K2* | *CO4* |

OR

| | b) | Summarize in detail about legal and regulatory framework in block chain. | *11* | *K2* | *CO4* |

| 27. | a) | Classify about blockchain testing methodologies and explain their relevance. | *11* | *K2* | *CO5* |

OR

| | b) | Demonstrate in detail about various tools used in blockchain Testing. | *11* | *K2* | *CO5* |

| 28. | a) | Interpret the role of blockchain in transforming education sector credential verification. | *11* | *K2* | *CO6* |

OR

| | b) | Summarize the emerging trends of blockchain in healthcare industry. | *11* | *K2* | *CO6* |