



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester:VII
Class:FINAL	Program:B.Tech
Branch Code:INT	Pattern:2022
Name of Course:Blockchain Technology	Course Code:INT224006A
Max. Marks:30	Duration:1.15 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains ____ page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Marks CO

Question No. 1

- 1 Analyze how encryption and decryption mechanisms operate within blockchain technology. (3) CO1

Question No. 2

- 2 Examine the structure of Bitcoin and analyze how its transactions are recorded, validated, and secured within the blockchain network. (3) CO2

Question No. 3

- 3.a) Compare Ethereum and Bitcoin by analyzing differences in their underlying purpose, architecture, and functional capabilities. (4) CO3

OR

- 3.b) Discuss challenges and implications associated with using Ethereum's decentralized architecture in financial applications. (4) CO3

- 3.c) Analyze the interaction among Smart Contracts, the EVM, Wallets, and Nodes within a decentralized application (DApp) ecosystem (4) CO3

OR

- 3.d) Discuss how miners in Ethereum 2.0 contribute to maintain the Ethereum blockchain. (4) CO3

Question No. 4

- 4.a) Analyze the core architectural components of Hyperledger Fabric and evaluate how each contributes to enterprise-grade blockchain solutions. (4) CO4

OR

- 4.b) Explain the core components of Hyperledger Fabric architecture. (4) CO4

- 4.c) Assess the suitability of Hyperledger Fabric for a banking consortium and analyze why it may be preferred over Ethereum in such an environment. (4) CO4

OR

- 4.d) Differentiate Ethereum and Hyperledger by examining their design goals, consensus mechanisms, and use-case suitability. (4) CO4

Question No. 5

- 5.a) Analyze the concept of tokenization in blockchain systems and evaluate how it differs from conventional methods of digitalizing assets. (4) CO5

OR

- 5.b) Describe how smart contracts can automate dividend distribution for tokenized shares. (4) CO5

- 5.c) Analyze the structure of crypto-collateralized stablecoins and interpret their functioning using a suitable example. (4) CO5

OR

- 5.d) Evaluate the advantages and limitations associated with trading tokenized stocks in digital markets. (4) CO5

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