



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.													
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End - Term Examinations –May/June 2026

Date: 19-05-2026

Time: 09:30am – 12:30pm

School: SOCSE	Program: B.Tech. Computer Science and Engineering (Blockchain)	
Course Code: CBC2001	Course Name: Introduction to Blockchain Platforms	
Semester: IV	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04	C05
Marks	26	26	24	24	

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	What is transaction in Bitcoin? Mention any two types of transaction	2 Marks	L1	C01
2.	Define "Smart Contracts.	2 Marks	L1	C01
3.	What is a DApp?	2 Marks	L1	C01
4.	What is the difference between Proof of Work (PoW) and Proof of Stake (PoS)?	2 Marks	L2	C02
5.	What are the functions of membership services?	2 Marks	L2	C02
6.	What is peer-to-peer protocol	2 Marks	L2	C02
7.	What are the functions of Chaincode services?	2 Marks	L3	C03
8.	Which algorithm provides safe and random leader election process in Sawtooth Lake?	2 Marks	L3	C03
9.	What is Polygon and what problem does it solve?	2 Marks	L4	C04
10.	What is Binance Smart Chain (BSC) and what consensus mechanism does it use?	2 Marks	L4	C04

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain the working of Bitcoin with a neat diagram of Blockchain architecture.	4 Marks	L1	C01
	b.	Explain in detail locking and unlocking script with an example	6 Marks	L1	C01
	c.	Explain how a Bitcoin transaction is created, verified, and added to a block.	10 Marks	L1	C01

Or

12.	a.	What is UTXO? Explain the Bitcoin transaction model with an example.	4 Marks	L1	C01
	b.	Describe gas and gas fees in Ethereum transactions.	6 Marks	L1	C01
	c.	Compare Bitcoin's UTXO model with Ethereum account model.	10 Marks	L1	C01

13.	a.	Explain how ERC-721 ensures uniqueness of digital assets.	4 Marks	L1	C02
	b.	Explain the architecture and working of DApps with a neat diagram and example.	6 Marks	L2	C02
	c.	A startup is building a decentralized crowdfunding platform. Based on this scenario, explain the DApp architecture and its main components.	10 Marks	L2	C02

Or

14.	a.	Explain the Gas mechanism in Ethereum and discuss how it influences the execution of smart contracts.	4 Marks	L1	C02
	b.	Describe various Gas optimization techniques in Solidity with suitable examples.	6 Marks	L1	C02
	c.	Compare smart contract development in Ethereum with traditional client-server application development.	10 Marks	L3	C02

15.	a.	Explain in detail components of Chaincode services with simple diagram	4 Marks	L1	C03
	b.	Explain Crypto service provider and what is the service provided by this?	6 Marks	L2	C03
	c.	Explain the consensus mechanism in Hyperledger fabric	10 Marks	L2	C03

Or

16.	a.	Describe the transaction lifecycle in Hyperledger Fabric.	4 Marks	L1	C03
	b.	Explain the application model of Hyperledger Fabric.	6 Marks	L2	C03

	c.	Discuss the four essential functions to be implemented in Chaincode in Hyperledger Fabric.	10 Marks	L2	C03
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17.	a.	Explain the concept of blockchain interoperability and bridging. Analyze how platforms like Polygon and Binance Smart Chain enable cross-chain interactions.	4 Marks	L2	C04
	b.	Explain the key features of Polygon and how it improves scalability in blockchain networks.	6 Marks	L2	C04
	c.	Describe the architecture and consensus mechanism of Binance Smart Chain.	10 Marks	L3	C04

Or

18.	a.	Describe the architecture and consensus mechanism of Binance Smart Chain.	4 Marks	L2	C04
	b.	Describe how Polygon enables interoperability with Ethereum.	6 Marks	L2	C04
	c.	A gaming startup wants to develop an NFT-based marketplace with fast transactions and low fees. Considering this scenario, evaluate platforms like Flow, Polygon, and Binance Smart Chain for suitability.	10 Marks	L3	C04