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Mid Term Examinations - October 2026

Date: 05/10/2026 **Time:** 09:30 AM - 11:00 AM

Course Code: CBC3406 **Course Name:** Introduction to Artificial Intelligence in Block Chain

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	44	46

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	Define Artificial Intelligence and state any two of its applications.	2	CO1	BT1
2	Define the concept of a consensus mechanism in blockchain technology.	2	CO1	BT1
3	Explain how a smart contract automates decision-making using predefined rules and conditions.	2	CO2	BT2
4	State any two challenges associated with running AI models on blockchain-based systems.	2	CO2	BT2
5	Explain the concept of an AI-driven DApp and describe how AI is integrated into its functionality	2	CO2	BT2

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Explain the fundamentals of Artificial Intelligence (AI), including Machine Learning (ML), Deep Learning (DL), and Natural Language Processing (NLP). Illustrate each concept with suitable examples and applications.	10	CO1	BT2
7	Analyze the complementary roles of Artificial Intelligence and blockchain. Explain how AI provides intelligence while blockchain provides trust, transparency, and decentralization.	10	CO1	BT4

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Explain the architecture of a blockchain system by describing the role of blocks, transactions, cryptographic linking, distributed ledgers, and consensus mechanisms. Illustrate how these components work together to maintain a secure and reliable blockchain network.	10	CO1	BT2
9	A healthcare organization uses an AI model to assist doctors in diagnosing diseases. The organization wants to maintain a reliable record of the data used, model updates, and AI-generated decisions so that they can be reviewed when required.In this scenario, explain how blockchain can be used to maintain an audit trail for the AI system. Describe how immutability, transparency, and traceability can help in monitoring AI activities and supporting effective AI model governance.	10	CO1	BT2

PART D: Answer Any 1 Following Questions. 10 M

PTO (Please Turn Over)

Q.N.	Questions	M	CO	BT
10	Explain how decision-making can be embedded into smart contracts. Discuss the architecture and execution flow of an intelligent smart contract with a suitable example.	10	CO2	BT2
11	Analyze the role of AI models in decentralized applications. Explain how AI-driven DApps can combine intelligent decision-making with blockchain-based trust and transparency.	10	CO2	BT2

PART E: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
12	Explain Edge AI and examine its role in decentralized AI systems. Discuss how computation at the edge can support intelligent and distributed applications.	10	CO2	BT2
13	Design a conceptual architecture for an AI-powered blockchain application in which an AI model makes decisions through a smart contract. Explain the interaction among the AI model, oracle, blockchain, and DApp components.	10	CO2	BT3