Total No. of Printed Pages: 2

PRN No.	

PAPER CODE	U325-214C(ESE)

(AY:2024-25) May 2025 (ENDSEM) EXAM

TY (SEMESTER - II)

COURSE NAME: Fundamentals of Blockchain Technology Branch: AI&DS COURSE CODE: ADUA32204(C)

(PATTERN 2020 R1)

Time: [1Hr 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks. Use of scientific calculator is allowed**
2) **Use suitable data wherever required**
3) **All questions are compulsory. Solve any two sub question each from Questions 1 and 2**
4) **Solve any one sub question (2 marks) from Questions 3 ,4 ,5 and 6 and sub question of 4 marks is compulsory from questions 3,4,5,and 6**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Classify the types of blockchain based on authority and access.	[4]	CO1	3
	b) Analyze the differences between Blockchain 1.0, 2.0, and 3.0 based on their applications.	[4]	CO1	4
	c) Evaluate how blockchain provides transparency and security to decentralized applications.	[4]	CO1	5
Q2	a) Describe the different types of blockchain nodes in detail.	[4]	CO2	2
	b) Describe transaction life cycle of Bitcoin blockchain.	[4]	CO2	2
	c) Compare and contrast different consensus mechanism used in blockchain.	[4]	CO2	4
Q3	a) Describe the obstacles in uses of blockchain (any four).	[2]	CO3	2
	OR			
	b) Define fungible and non-fungible token.	[2]	CO3	2
	c) Describe blockchain solution reference architecture with suitable example.	[4]	CO3	2
Q4	a) What is smart contract describe with example.	[2]	CO4	2
	OR			
	b) Describe the types of accounts in ethereum ecosystem.	[2]	CO4	2
	c) Describe Ethereum Virtual Machine (EVM) and types of storage with suitable architecture diagram.	[4]	CO4	2

Q.5	a) What is Hyperledger Fabric? OR	[2]	CO5	2
	b) Define chaincode in the context of Hyperledger.	[2]	CO5	2
	c) Describe the transaction flow in hyperledger fabric.	[4]	CO5	2
Q.6	a) Explain the term "traceability" in blockchain with an example.	[2]	CO6	2
	OR b) Describe any two limitations of blockchain technology.	[2]	CO6	2
	c) Demonstrate how blockchain helps ensure traceability in the food supply chain.	[4]	CO6	3

NOTE: 1.REMEMBER 2.UNDERSTAND 3.APPLY 4.ANALYZE