

PRN No.	
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PAPER CODE	U315-234E (ESE)
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(AY:2025-26) December 2025 (ENDSEM) EXAM

TY (SEMESTER - I)

COURSE NAME: Professional
Elective-I - Blockchain Technology

Branch: COMPUTER
ENGINEERING

COURSE CODE:
CSUA31234E

TY PATTERN 2023

Time: [1Hr 30 Min]

[Max. Marks: 40]

(*) Instructions to candidate::

- 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) Compare Permissioned (Private) and Permissionless (Public) Blockchain.	[4]	1	Understand
	b) What are FOUR pillars of Blockchain Technology?	[4]	1	Understand
	c) Explain Federated Identity and Self-sovereign Identity.	[4]	1	Understand
Q.2	a) "Bitcoin as an asset". True or False. Justify your answer.	[4]	2	Understand
	b) What are hardware requirements for Bitcoin Mining?	[4]	2	Understand
	c) Explain transaction flow in Bitcoin.	[4]	2	Understand
Q.3	a) What are some of the potential security risks associated with smart contracts? OR	[2]	3	Understand
	b) What is the role of Gas in Ethereum transaction?	[2]	3	Understand
	c) Justify that the Merkle Patricia Trie plays an important role in Ethereum platform.	[4]	3	Apply
Q.4	a) Elaborate characteristics of Hyperledger. OR	[2]	4	Understand
	b) What are the potential benefits of implementing a Hyperledger blockchain solution for supply chain management?	[2]	4	Understand
	c) Transaction flow in Hyperledger Fabric and Ethereum is different. Justify your answer.	[4]	4	Apply

Q.5	a) Apply your knowledge to decide the best consensus mechanism in supply chain management. Consider different scenarios.	[2]	5	Apply
	OR			
	b) Elaborate the advantage of Web3 with respect to the current internet scenario.	[2]	5	Apply
	c) What makes Brave browser special? Justify your answer with reference to Web 3.0.	[4]	5	Apply
Q.6	a) Identify the role of Cloud Computing in Blockchain Technology.	[2]	6	Apply
	OR			
	b) How Blockchain is Revolutionizing the Traditional Business Network? Explain with example?	[2]	6	Apply
	c) Justify R3 Corda as the 3 rd Generation Blockchain.	[4]	6	Apply