

Duration: 3hrs

[Max Marks:80]

- N.B. :** (1) Question No 1 is Compulsory.  
(2) Attempt any three questions out of the remaining five.  
(3) All questions carry equal marks.  
(4) Assume suitable data, if required and state it clearly.

		Marks
<b>Q1.</b>	Attempt any four	
	a. Discuss Certificate Authority in Hyperledger Fabric.	5
	b. Explain blockchain CAP theorem.	5
	c. Explain and differentiate Blockchain Forks.	5
	d. Explain scalability issue of permissioned blockchain.	5
	e. Explain ECC algorithm in detail.	5
<b>Q2.</b>	a. What is Distributed Ledger Technologies (DLTs)? Differentiate DLT and Block chain Technology.	10
	b. Discuss block validates in the Bitcoin with POW consensus algorithm.	10
<b>Q3.</b>	a. List the key differences between an ICO and STO.	10
	b. Describe terms: Structure of Transaction, Transaction Nonce, Transaction GAS, Recipient, Values and data.	10
<b>Q4</b>	a. Explain Fungible tokens. Describe the steps to create ERC20 tokens.	10
	b. Discuss Bitcoin Mining steps to validate the block. What is difficulty level and how does it calculate in terms of bitcoin	10
<b>Q5</b>	a. Enlist and discuss the key challenges addressed by blockchain technology in the domains AI and Cyber Security	10
	b. What are the essential tools and frameworks for setting up a development environment for Solidity programming? Discuss the role of tools like Remix and Truffle in the development process.	10
<b>Q6</b>	Write short note on (any 4)	20
	a. Wallet Technologies in Bitcoin	
	b. ERC721	
	c. Chaincode	
	d. Metamask	
	e. Transaction Pools	

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