O.P.Code: 23CS1011	R23	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year II Semester Regular Examinations April-2026
BLOCK CHAIN TECHNOLOGY
CSE (Internet of Things and Cyber security Including Block Chain Technology)

Time: 3 Hours **Max. Marks: 70**

PART-A

(Answer all the Questions **10 x 2 = 20** Marks)

1	a	Describe a CyptoCurrency.	CO1	L1	2M
	b	Explain Consensus in Blockchain.	CO1	L2	2M
	c	Define UTXO model.	CO2	L1	2M
	d	What is a Smart Contract?	CO2	L2	2M
	e	What is a Private Blockchain?	CO3	L2	2M
	f	Write four enterprise blockchain platforms.	CO4	L3	2M
	g	What is Double Spending?	CO5	L2	2M
	h	Describe about KYC.	CO5	L2	2M
	i	Write details about Chaincode.	CO6	L3	2M
	j	Describe about DApp.	CO6	L1	2M

PART-B

(Answer all Five Units **5 x 10 = 50** Marks)

UNIT-I

2	a	Explain the concept of blockchain as a distributed, immutable ledger.	CO1	L2	5M
	b	Compare the Block chain and a traditional centralized database in terms of trust, control, and failure modes.	CO1	L4	5M

OR

3		Define decentralization and distribution in blockchain systems and analyze how they affect security, transparency, and performance.	CO1	L1	10M

UNIT-II

4	a	Define a public blockchain with their key properties.	CO2	L1	5M
	b	Why Bitcoin and Ethereum are considered public permission less networks?	CO2	L4	5M

OR

5		Classify smart contracts based on their application domains and describe one detailed example from any one domain.	CO2	L4	10M

UNIT-III

6		Describe the concept of a replicated state machine in the context of permissioned blockchains and explain how transactions drive state transitions.	CO3	L2	

OR

7	a	Describe an Initial Coin Offering (ICO).	CO4	L2	
	b	Explain how ICO differs from traditional fundraising mechanisms like IPOs or venture capital.	CO4	L2	

UNIT-IV

8	a	Analyze the performance and scalability limitations of blockchains.	CO5	L4	
	b	Briefly discuss about techniques proposed to improve throughput and latency.	CO5	L4	

OR

9		Discuss how regulatory compliance affects the design and deployment of blockchain solutions.	CO5	L2	1

UNIT-V

10		Discuss a blockchain-based application in the energy and utilities sector (such as peer-to-peer energy trading or carbon credit markets) and outline its advantages and constraints.	CO6	L2	1

OR

11		Discuss the purpose of the Fabric Java SDK in building blockchain applications and outline the basic steps a Java client follows to submit a transaction.	CO6	L2	1

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