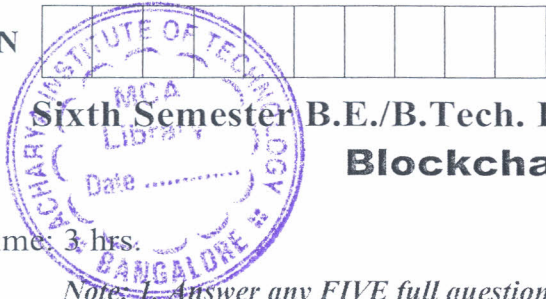**Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025**
Blockchain Technology

Time: 3 hrs.   Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define Blockchain and explain centralized, decentralized and distributed systems with a suitable diagram.	05	L2	CO1
	b.	Explain the generic structure of a block with a diagram.	05	L2	CO1
	c.	Discuss the growth of the blockchain with an Architecture / network view of blockchain with a neat diagram.	10	L2	CO1
		OR			
Q.2	a.	Illustrate the Byzantine General Problem with a suitable example.	05	L2	CO1
	b.	Describe about CAP theorem in block chain.	05	L2	CO1
	c.	Why are Consensus Algorithm needed in Blockshain? Explain in detail.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the methods of decentralization in detail.	10	L2	CO2
	b.	Write an algorithm for working of SHA- 256	10	L3	CO2
		OR			
Q.4	a.	Write the steps involved in RSA key pair generation with an example.	10	L3	CO2
	b.	Illustrate with a diagram point addition in Elliptic Curve Cryptography.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain transaction life cycle in a Bit coin system.	10	L2	CO3
	b.	Discuss the different types of transaction in Bit Coin.	10	L3	CO3
		OR			
Q.6	a.	What is the wallet in bit coin? Explain in detail about the different types of wallet with example.	10	L2	CO3
	b.	Write a short note on : Privacy and Anonymity.	10	L2	CO3
		Module – 4			
Q.7	a.	What are the two types of accounts that exists in Ethereum. Explain.	10	L2	CO4
	b.	With a neat bowtie model diagram explain Ricardian contracts.	10	L2	CO4
		OR			
Q.8	a.	Explain any five standard fields in Ethereum transaction.	10	L2	CO4
	b.	Write a short note on Ethereum virtual machine.	10	L2	CO4
		Module – 5			
Q.9	a.	Explain the architecture and key components of Hyperledger Fabric.	10	L2	CO5
	b.	Compare and contrast Hyperledger Fabric and Hyperledger sawtooth in terms of architecture consensus and user.	10	L3	CO5
		OR			
Q.10	a.	What is Hyperledger? Discuss its objectives, structure as a protocol suite and list key projects under the hyperledger umbrella with a brief description of each.	10	L2	CO5
	b.	Discuss the architecture of corda. What makes it suitable for financial institutions and how does it handle consensus and privacy?	10	L3	CO5

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