

**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

(Autonomous, Accredited by NAAC with 'A+' Grade)

TKRCEET

**B.Tech VIII Semester Regular/Supplementary Examinations, May 2025****BLOCKCHAIN TECHNOLOGY**

(CSE (AI&amp;ML))

Maximum Marks: 70

Date: 27.05.2025

Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.  
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.  
 3. Part B consists of 3 Units. Answer any one full question from each unit which carries 10M.  
 4. Each section carries 50 marks and has three a, b, c, d as sub sections.

**Part-A**

All the following questions are equal marks		10X2M=20 Marks	Marks	CO	Block Tx
1	What is blockchain		2M	1	1
2	What do we mean by "seeing the big picture" in blockchain systems?		2M	1	1
3	State the information typically stored in a transaction block?		2M	2	2
4	Write short note on "documenting ownership" in a blockchain		2M	2	2
5	Define decentralized led. net?		2M	3	1
6	How is transaction history maintained in blockchain?		2M	3	3
7	Mention some use cases of blockchain beyond currencies?		2M	4	4
8	Discuss the term "intermittent blockchain" coin?		2M	4	3
9	Define tokenization in the context of blockchain.		2M	5	1
10	Mention one technical and one business model challenge in blockchain adoption.		2M	5	2

**Part-B**

Answer All the following questions.		(5X10M=50Marks)	Marks	CO	Block Tx
11	a) List the key components required for a blockchain system.		5M	1	1
	b) Differentiate between centralized and decentralized ownership models using blockchain as an example.		5M		
OR					
12	a) List Advantages of Distributed Systems		3M	1	1
	b) Explain why blockchain technology is considered a solution to the double-spend problem.		7M		
13	a) Describe how user accounts are protected in a blockchain system.		5M	2	1
	b) Demonstrate how transaction data is authorized and stored on a blockchain.		5M		
OR					
14	Analyze the role of hashing in ensuring blockchain security with real-world example.		10M	2	4
15	Examine the importance of transaction history and the role it plays in consensus mechanisms.		10M	3	3
OR					
16	Evaluate methods used to protect and share blockchain data among peers.		10M	3	4

17	a) Discuss the current limitations of blockchain technology. b) Discuss how reinventing blockchain addresses specific technical shortcomings	5M 5M	4	1 2
	OR			
18	Propose an improved blockchain model to overcome existing limitations.	10M	4	6
19	a) Explain the concept of demurrage currencies and their role in blockchain economies. b) Distinguish between monetary and non-monetary currencies in blockchain applications	5M 5M	5	1 2
	OR			
20	Design a business model that leverages blockchain while overcoming public perception and regulatory challenges.	10M	5	3