Nirma University
Institute of Technology
Class Test, September 2021
B. Tech in CSE, Semester: VII (Department Elective)
2CSDE93: Blockchain Technology

Roll/ Exam No		Supervisor's initial with date	

Time: 1 Hour and15 Minutes   Max Marks: 35

Instructions:
  i)   **Attempt all questions.**
  ii)   **Figures to the right indicate full marks.**
  iii) **Draw neat sketches wherever necessary.**
  iv)   **Assume necessary data wherever required.**

Q.1	**Do as directed.**	**[15]**
A CO3,BL3	How the privacy and security are maintained in the blockchain network if all the transactions can be viewed by everyone?	(05)
B CO1,BL5	How does solving the challenge response results in a consensus that says all the nodes have the same data at that point of time? Solving it makes a node to dictate what can be done with sets of data. Isn't it? Where is the point that makes all the nodes agree that they have the same data at that point in time?	(05)
C CO1,BL2	Differentiate between distributed and decentralized systems and whether the blockchain is one of them or not. Include two examples for each while differentiating them.	(05)
Q.2	**Do as directed.**	**[20]**
A CO1,BL1	Define orphaned blocks and how to remove them?	(05)
B CO1,BL1	What do you mean by message integrity and how hash functions are used for checking the integrity? Discuss all possible criteria.	(05)
C CO2,BL3	Suppose you have ten data points from 0 to 9. Find the in order traversal of the Merkle Tree (here 0 means hash of 0, 01 means the combined hash of 0 and 1, and so on)	(05)
D CO1,BL2	Describe the need of On-chain and off-chain-based scaling methods in blockchain network to develop any decentralized applications.	(05)