

KADI SARVA VISHWAVIDHYALAYA
B.E. Semester VII Examination October-2023
CT703D-N Blockchain Technology

DATE: 30/10/2023

TIME: 12:00 pm to 03:00 pm

TOTAL MARKS: 70

Instructions:

- 1 Answer each section in separate answer sheet.
- 2 Use of scientific calculator is permitted.
- 3 All questions are **Compulsory**.
- 4 Indicate **clearly**, the options you attempt along with its respective question number.
- 5 Use the last page of main supplementary for **rough work**.

SECTION – I

- Q-1 A Compare Centralized, Decentralized and Distributed networks 5
B Explain the types of Blockchain. 5
C What is Genesis block. List and explain the components of a single block in Blockchain. 5

OR

- C What is an orphan block? 5

- Q-2 A Explain the terms Merkle root and Merkle tree. 5
B What are the characteristics of cryptographic hash function. 5

OR

- A Write short note on digital signature. 5
B Explain Public Key Cryptography. 5

- Q-3 A Explain Block propagation. 5
B What are the features of Bitcoin script. 5

OR

- A Write short note on Bitcoin. 5
B Explain distributed ledger in brief. 5

SECTION – II

- Q-4 A Write short note on mining. 5
B Explain the concept of distributed consensus in Blockchain. 5
C What is double spending? 5

OR

- C What is a mining pool? 5

- Q-5 A Explain proof of Work mechanism. 5
B Explain sybil and DDOS attack. 5
OR
A Write short note on Practical Byzantine Fault Tolerant Model. 5
B Write short note on proof of stake mechanism. 5
- Q-6A Explain the role of Blockchain in Medical health care. 5
B Write short note on smart contract. 5
OR
A Explain the role of Blockchain in compliance to KYC. 5
B What is the significance of Remix Platform in Blockchain? Also explain the term 'Gas' in smart contract execution. 5