

KADI SARVA VISHWAVIDHYALAYA
B.E. Semester VII Examination – March – 2024
CT703D-N Blockchain Technology

DATE: 28/03/2024

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 permissioned and permissionless Blockchain model. 5
B What is genesis block. Explain a typical block structure and its components. 5
C Explain the concept of orphan block. 5

OR

- C Explain the features of bitcoin script. 5

- Q-2 A Write short note on Bitcoin. 5
B Explain Merkle tree with diagram. 5

OR

- A Explain avalanche effect with example. 5
B What is cryptographic hash function. 5

- Q-3 A Compare centralized, decentralized and distributed system. 5
B Write short note on mining. 5

OR

- A Explain the concept of mining pool. 5
B Write short note on digital signatures. 5

SECTION – II

- Q-4 A Explain the concept of distributed consensus in Blockchain. 5
B Write short note on smart contracts. 5
C Write short note on Paxos algorithm. 5

OR

- C Write short note on RAFT algorithm. 5

- Q-5 A Explain proof of work mechanism. 5
B Explain double spending with example. 5
OR
A Explain proof of stake mechanism. 5
B Explain sybil and DoS attack. 5
- Q-6A Write short note on proof of burn mechanism 5
B Explain PBFT model. 5
OR
A Explain crowd funding use case of Blockchain. 5
B Explain public key cryptography. 5