

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA INTEGRATED– SEMESTER VII- EXAMINATION –SUMMER-2024

Subject Code: 2678605

Date: 16/05/2024

Subject Name: Block Chain Technology

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- Q.1 (a) Define following Terms. 07**
- 1 Blockchain.
 - 2 Hyperledger.
 - 3 Permissioned block chain.
 - 4 Previous and Current Hash
 - 5 Proof of Work (PoW).
 - 6 Digital Signature.
 - 7 Markle Trees.
- (b) What is block chain? Explain Architecture of Block chain. 07**
- Q.2 (a) What is consensus mechanism? Why we need it? How does consensus algorithm works? 07**
- (b) What is cryptography? Describe symmetric cryptography. 07**
- OR**
- (b) What is DLT? Explain DLT decentralize applications and databases? 07**
- Q.3 (a) What is supply chain management? Explain in detail? 07**
- (b) Explain Ethereum block chain concept. 07**
- OR**
- Q.3 (a) Define Smart Contracts. List out applications of smart contracts. Discuss advantages of Smart contracts. 07**
- (b) Define Bit coin. Explain bit coin block structure along with its attributes. 07**
- Q.4 (a) Explain how block chain can be useful in maintaining land records at government offices. 07**
- (b) Explain Byzantine agreement Methods. 07**
- OR**
- Q.4 (a) What is Assess Management? Explain Financial Institutional Assets in detail. 07**
- (b) Explain the properties of distributed ledger technology. 07**
- Q.5 (a) Explain consensus protocol to prevent Block chain Attacks. 07**
- (b) Explain major security issues on Block chain. 07**
- OR**
- Q.5 (a) Discuss block chain impact on cloud computing, Artificial intelligence, IOT. 07**
- (b) Write a short on Message Authentication Code. 07**
