DEPARTMENT OF INFORMATION TECHNOLOGY

SUB: U20IT514 BLOCK CHAIN TECHNIQUES

YEAR/SEM:III/V

PART -B

UNIT-1 QUESTIONS

1. Describe five core components of blockchain technology.
2. Define the three major characteristics of money that bitcoin possesses
3. Discuss how problems with scaling and interoperability affect wider blockchain utilization.
4. Describe how blockchain is helpful for e-commerce.
5. Provide an example of how blockchain can benefit consumers.
6. Explain what constitutes a blockchain network, including a main property of that network.
7. List several differences between a public and a private blockchain.
8. Explain the concept of humans, technology, and organizations in the context of smart cities.
9. Describe the concept of a block and its components.
10. Explain the meaning of a distributed ledger.

UNIT - 2 QUESTIONS

1. Explain how public blockchains ensure the adherence of transaction and block-writing rules.
2. Discuss the need for predefined mechanisms and rules to modify a public blockchain's protocols.
3. List three advantages of a private/permissioned blockchain relative to a public/permissionless blockchain for enterprise usage.
4. Discuss whether a public blockchain requires issuing its own native cryptocurrency to provide incentives to its validator network.
5. Describe the process of PoW.
6. Differentiate between a public/permissionless and a private/permissioned blockchain.
7. Discuss how CBDCs differ from other stablecoins.
8. Explain how consumer privacy is relevant to CBDCs.
9. Discuss how Global Bling could adjust the amount of bitcoin that Vantage Mines paid for the diamond in Transaction #2 and whether it would belong to the same chain.
10. Explain whether the electrical energy and equipment costs required by PoW are justified.

UNIT - 3 QUESTIONS

1. Identify the techniques that serve as the foundation for the current mainstream AI applications.
2. Discuss whether the SHA-256 hash is appropriate for most blockchains.
3. Explain the difference between fungible and nonfungible tokens and identify the appropriate Ethereum token standards for each.
4. Explain why mechanism design is a critical component of cryptoeconomic systems.
5. Discuss how system dynamics modeling is useful to token engineering.

6. Explain smart contracts and their use in blockchain.
7. Discuss how blockchain may change the current view of accounting data.
8. Explain how a lack of blockchain standards impede wider adoption of blockchain technology and platforms.
9. Discuss the importance of decentralization for achieving interoperability.
10. Identify the two branches of AI research and the branch more relevant to blockchain.

UNIT - 4 QUESTIONS

1.Identify the steps needed for blockchain to be effective.
2.Describe a public blockchain and mention three current applications.
3.Specify three data analytical methods and how they relate to each other.
4.Discuss how blockchain can be integrated with AI applications
5.Explain what is likely to happen to the PoW mining industry after the most recent halving of bitcoin.
6.Discuss whether business owners are likely to be comfortable with a Proof-of-Stake (PoS) blockchain.
7. Describe Byzantine fault tolerant system.
8. Write short notes on Pease BFT Algorithm.
9. Illustrate RAFT Consensus & Byzantine general problem.
10. Explain briefly Practical Byzantine Fault Tolerance.