DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Winter Examination – 2022

Course: B. Tech.   **Branch : Computer Science and Engineering**   **Semester : VII**

Subject Code & Name: BTCOE704(A) Blockchain Technology

Max Marks: 60   **Date: 07/02/2023**   **Duration: 3 Hr.**

Instructions to the Students:
1. *All the questions are compulsory.*
2. *Use of non-programmable scientific calculators is allowed.*
3. *Assume suitable data wherever necessary and mention it clearly.*

		Marks
Q. 1	**Solve Any Two of the following.**	**12**
A)	What is Blockchain? Explain key elements of it.	**6**
B)	Difference between public vs. private Blockchain.	**6**
C)	Explain Merkel Tree and Merkel Tree Structure.	**6**
Q.2	**Solve Any Two of the following.**	**12**
A)	What is Bitcoin Mining and How Does Bitcoin Mining Work?	**6**
B)	Why Proof of Burn required and how does algorithm work?	**6**
C)	How do P2P networks work? Explain its type.	**6**
Q. 3	**Solve Any Two of the following.**	**12**
A)	Explain design issues for permissioned Blockchain with any 2 issues.	**6**
B)	Explain Paxos algorithm in detail.	**6**
C)	What is Byzantine general problem and How Bitcoin Solves the Byzantine General's Problem?	**6**
Q.4	**Solve Any Two of the following.**	**12**
A)	How KYC on Blockchain can help?	**6**
B)	How Blockchain benefits food security in future?	**6**
C)	How does Digital Identity work today using Blockchain?	**6**
Q. 5	**Solve Any Two of the following.**	**12**
A)	Explain Hyperledger Fabric and how does it work?	**6**
B)	What are the benefits of Hyperledger Fabric?	**6**
C)	Explain writing smart contract using Ethereum ?	**6**

*** End ***

Course: B. Tech. **Branch: Computer Engineering/CSE** **Semester: VII**

Subject Code & Name: **Blockchain Technology (BTCOE704C)**

Max Marks: 60 **Date: 09/01/2024** **Duration: 3 Hr.**

Instructions to the Students:
1. *All the questions are compulsory.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		(Level/CO)	Marks
Q. 1	**Solve Any Two of the following.**		**12**
A)	**Draw and explain layered architecture of Blockchain system.**	**(Understand)**	**6**
B)	**What is Hash function? Explain its characteristics.**	**(Understand)**	**6**
C)	**What Are the 4 Different Types of Blockchain Technology? Explain with advantages and disadvantages of each type.**	**(Apply)**	**6**
Q.2	**Solve Any Two of the following.**		**12**
A)	**What is Bitcoin? What are the advantages and disadvantages of Bitcoin as Currency?**	**(Apply)**	**6**
B)	**What is Double spending explain with suitable example.**	**(Remember)**	**6**
C)	**Write a difference between PoW and PoS.**	**(Understand)**	**6**
Q. 3	**Solve Any Two of the following.**		**12**
A)	**What the various steps of executing Smart Contract explain with suitable example?**	**(Understand)**	**6**
B)	**Write a difference between permission and permissionless Blockchain.**	**(Understand)**	**6**
C)	**Explain RAFT consensus algorithm.**	**(Apply)**	**6**
Q.4	**Solve Any Two of the following.**		**12**
A)	**What is KYC? Explain the Shared KYC model based on Blockchain?**	**(Understand)**	**6**
B)	**What is the blockchain mortgage process? Explain it with a suitable example. The advantages of blockchain in mortgages.**	**(Understand)**	**6**
C)	**What is Supply Chain Financing? Give an example with justification.**	**(Apply)**	**6**
Q. 5	**Solve Any Two of the following.**		**12**
A)	**Draw and explain the architecture of Hyperledger Fabric.**	**(Understand)**	**6**
B)	**Explain the procedures needed in creating a smart contract based on Ethereum.**	**(Apply)**	**6**
C)	**Explain the Ripple Protocol Consensus Algorithm (RPCA)**	**(Understand)**	

*** End ***