



Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

MCA
(SEM IV) THEORY EXAMINATION 2021-22
BLOCKCHAIN ARCHITECTURE

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If you require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief.****2x10 = 20**

Qno	Questions	CO
(a)	What are the components of block in blockchain?	1
(b)	How much time elapsed in creation of block?	1
(c)	What is state machine replication in permissioned blockchain?	2
(d)	What are common use cases of distributed consensus?	2
(e)	List Different configuration options for ordering service.	3
(f)	List out different types of peer nodes used in Hyperledger framework.	3
(g)	What do you mean by Invoice discounting?	4
(h)	Explain the limitations of Capital market.	4
(i)	Describe Decentralized entity.	5
(j)	How blockchain is helpful in Social welfare Systems.	5

SECTION B**2. Attempt any three of the following:****10x3 = 30**

Qno	Questions	CO
(a)	What is blockchain? Explain the different types of Blockchain.	1
(b)	Why consensus is necessary in blockchain? Discuss the Proof of Work Algorithm.	2
(c)	Explain the Network Setup in Hyperledger Fabric.	3
(d)	What are the benefits to use blockchain in Insurance Industry? Explain use cases of insurance industry.	4
(e)	Examine Process of Public Distribution System.	5

SECTION C**3. Attempt any one part of the following:****10x1 = 10**

Qno	Questions	CO
(a)	What is hash in blockchain? How is it calculated? What is the relationship between hashing and blockchain?	1
(b)	Explain Bitcoin – Blockchain Technology.	1

4. Attempt any one part of the following:**10x1 = 10**

(a)	What are the requirements of Consensus protocols?	2
(b)	What are different factors of Scalability aspects for Blockchain Consensus? Discuss the solutions to achieve the scalability.	2

5. Attempt any one part of the following:**10x1 = 10**

(a)	What are the different components of Hyperledger Fabric? Identify the process of Identity assignment to various entity in the Hyperledger Fabric.	3
(b)	What are the features of Hyperledger Fabric? Explain the transaction flow in Hyperledger fabric.	3

6. Attempt any one part of the following:**10x1 = 10**

(a)	What is process of KYC in different organizations? Explain the different steps of KYC in Blockchain.	4
(b)	Analyze various use cases of Capital markets.	4

7. Attempt any one part of the following:**10x1 = 10**

(a)	What is the current scenario to manage land record? What are the drawbacks of land records? Illustrate Land record management through blockchain.	5
(b)	Illustrate Blockchain Cryptography. What are the security requirements for hash function?	5