PAPER ID-420205

Subject Code: KCA041

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

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