

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

April – May 2023

(B.Tech) Program: **Information Technology** _Scheme : **_II_**

Examination: **LY** Semester: **VIII**

Course Code: **ITC801** _and_ Course Name: **Blockchain and DLT**

Date of Exam: **13/05/2023**

Duration: 2.5 Hours

Max. Marks: **60**

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

		Max. Marks	CO	BT level
Q.1	Solve any six questions out of eight:	12		
i)	What is DLT?	2	CO1	Understand
ii)	Discuss Bitcoin Network	2	CO2	Understand
iii)	What is smart contract?	2	CO3	Understand
iv)	Discuss NFT in blockchain.	2	CO5	Understand
v)	Discuss Various Application of blockchain.	2	CO6	Understand
vi)	Discuss the types of Ethereum account.	2	CO3	Understand
vii)	What is Testnet in blockchain ?	2	CO2	Understand
viii)	What is Permissioned Blockchain ?	2	CO4	Understand
Q.2	Solve any four questions out of six.	16		
i)	Discuss Clustering of Addresses in blockchain	4	CO2	Apply
ii)	Discuss Elements of a Blockchain	4	CO1	Understand
iii)	Compare ERC20 and ERC721 Tokens.	4	CO5	Analyze
iv)	Discuss various frameworks for Permissioned blockchain.	4	CO4	Understand
v)	Compare Ethereum 1.0 and 2.0.	4	CO3	Analyze
vi)	Discuss blockchain in IoT.	4	CO6	Apply

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Q.3	Solve any two questions out of three.	16		
i)	Joe sent 0.15BTC to Ann through blockchain, with neat diagram show the step by step working blockchain technology.	8	CO1	Apply
ii)	Write smart contract for mathematical operation in solidity. Discuss structure of transaction after deployment of smart contract.	8	CO3	Understand
iii)	Write a code for ERC721 token also discuss the components in ERC721 token.	8	CO5	Understar
Q.4	Solve any two questions out of three.	16		
i)	Draw the Extended bitcoin network showing various node types, gateways, and protocols for Fundraising NGO and Discuss various components in it.	8	CO2	Apply
ii)	Draw and explain Orderers and the transaction flow for an organizations Hyperledger Fabric	8	CO4	Apply
iii)	The CEO of financial company want to use blockchain technology, draw the architecture and discuss the various with the CEO.	8	CO6	Apply
