


Name:			
Enrolment No:			
UPES End Semester Examination, December 2023			
Course: Industry Use Cases using Blockchain Program: B.Tech (CSE-H+NH)-BT Course Code: CSBL3002		Semester : V Time : 03 hrs. Max. Marks: 100	
Instructions: Attempt all question.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q1	i. Explain the major disadvantages of multi-signatures scripts. ii. Describe how that is resolved using pay to script hash?	2+2	CO1
Q2	i. Explain permissioned and permissionless blockchain. ii. Describe how permissioned blockchain solutions helps in business.	2+2	CO2
Q3	Describe a diamond life cycle using blockchain.	4	CO3
Q4	Explain three major problems in current KYC system and how that is resolved using blockchain?	4	CO3
Q5	Pointout the major differences between Blockchain 1.0, 2.0, and 3.0?	4	CO2
SECTION B (4Qx10M= 40 Marks)			
Q6	Describe with an example how the following functionalities of a centralized banking system is achieved in Bitcoin. i. Simple fund transfer between two individual. ii. A minor bank account which requires the signature of the minor and any one of its parent to withdraw money. iii. A trust with N managers that requires consent of majority of the managers to spend a fund. iv. A post dated check. Also mention all the risk associated with the process and how it is overcome in Bitcoin.	1+2+2+5	CO1
Q7	i. Mention the difficulties in traditional mortgage process. ii. Mention the benefits using blockchain in mortgage system.	2+8	CO3
Q8	i. Write the available methods for cross border payments and its major problems. ii. With a clear diagram describe the advantages of using blockchain in cross border payments. iii. Write the a note on two popular cross border payment methods	2+4+4	CO3

	Ripple and Stellar		
Q9	<p>i. Explain the major challenges in Digital Identity Management in traditional system.</p> <p>ii. Describe Self-Sovereign Identity and Distributed Trust Model in Digital Identity Management.</p> <p>iii. Explain Single-Sign-On can be achieved in digital identity management using blockchain.</p> <p style="text-align: center;">OR</p> <p>i. Describe is Byzantine Generals' Problem.</p> <p>ii. Explain blockchain solves problem of decentralized finance.</p> <p>iii. Evaluate permissioned blockchain infrastructure in Govt Audit system.</p>	<p>2+3+5 OR 1+3+6</p>	CO4
<p>SECTION-C (2Qx20M=40 Marks)</p>			
Q10	<p>i. Describe the major components of Hyperledger Indy.</p> <p>ii. Explain are the roles of trust anchor in Hyperledger Indy.</p> <p>iii. Describe how consensus is reached in Hyperledger Indy?</p> <p>iv. Describe with example an industry use case of Hyperledger Indy.</p> <p>v. Explain is the conceptual differences between channels in Hyperledger Fabric and pairwise relationship in Hyperledger Indy?</p>	2+2+8+6+2	CO4
Q11	<p>i. Explain the issues with PoW and BFT consensus protocol to be used in large scale industry?</p> <p>ii. Describe how bitcoin-NG solves this?</p> <p>iii. Point-out the issues in Bitcoin-NG as well.</p> <p>iv. Describe how to solve those issues?</p> <p style="text-align: center;">OR</p> <p>i. Describe are different aspects of privacy in blockchain.</p> <p>ii. Describe how it can be achieved using a permissioned blockchain solution like Hyperledger Fabric?</p> <p>iii. Write a short note in Zerocash.</p> <p>iv. Explain ways to achieve UTXO model with privacy.</p>	<p>5+10+2.5*2 OR 3+10+3+4</p>	CO5