Name: **Enrolment No:**	

UPES

End Semester Examination, May 2024

Course: Crypto Currency **Semester: VI**

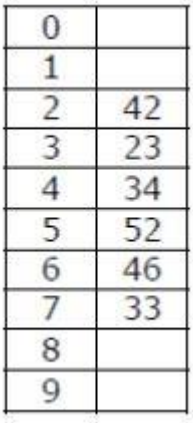
Program: B.Tech-CSE (All) **Time : 03 hrs.**

Course Code: CSBL3013P **Max. Marks: 100**

Instructions: All Questions are compulsory. Please attempt the questions in a serial order.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	How can information be secured in a blockchain?	**4**	**CO1**
Q2	Write about Bitcoin, Ethereum.	**4**	**CO2**
Q3	Blockchain networks are vulnerable to 51% attacks. Which network ((Bitcoin/Fabric/Ripple)) would incentivize hackers most to break the network? Give one reason.	**4**	**CO2**
Q4	Discuss, how does asset Tokenization Work?	**4**	**CO3**
Q5	Define, which blockchain interoperability approach allows the creation of sidechains connected to a main blockchain?	**4**	**CO4**
SECTION B **(4Qx10M= 40 Marks)**			
Q6	An attacker tries to corrupt the transaction history of a blockchain to be able to spend a token or a cryptocurrency twice. What is the most likely thing this attacker did? (Give proper clarity)	**10**	**CO2**
Q7	How do we measure POS success? What should we monitor for the POS. (Explain with example)	**10**	**CO3**
Q8	Blockchain enables self-sovereign identity. How does blockchain do this? (Explain with example)	**10**	**CO4**
Q9	Discuss, what role can smart contracts play in sustainable finance on the blockchain? **OR** The keys 12, 18, 13, 2, 3, 23, 5 and 15 are inserted into an initially empty hash table of length 10 using open addressing with hash function h(k) = k mod 10 and linear probing. Find the resultant hash table? (Mention all steps)	**10**	**CO2**
SECTION-C **(2Qx20M=40 Marks)**			

Q10	A hash table of length 10 uses open addressing with hash function h(k)=k mod 10, and linear probing. After inserting 6 values into an empty hash table, the table is as shown below.  a). Find the choices and gives a possible order in which the key values could have been inserted in the table? b). How many different insertion sequences of the key values using the same hash function and linear probing will result in the hash table.	**10+10=20**	**CO2**
Q11	A competitive consensus algorithm that was developed because blockchains had difficulty meeting the transaction speed demands. What type of algorithm is the least energy efficient? (Justify answer with suitable diagram and example) OR An organization wants to develop smart contracts, based on blockchain technology. The organization does not wish to burden employees with maintaining the security of the blockchain. Explain, which blockchain technology fits the organization best? (Justify answer with suitable diagram and example)	**20**	**CO4**