RV Educational Institutions
RV College of Engineering

Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi

Approved by AICTE, New Delhi

Academic year 2023-2024 (Odd Sem)

DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

Date		Maximum Marks	50
Course Code	CS114AT	Duration	90 Min
Sem	I Semester		
ELEMENTS OF BLOCKCHAIN TECHNOLOGY QUESTION PAPER			

Answer All Questions

PART- B

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Sl. No.	Questions	M	BT	CO
1. a)	Define block chain? Discuss the benefits of using block chain in financial applications.	5	1	1
1. b)	Describe five core components of blockchain technology.	5	1	1
2 a)	Describe the following databases with respect to blockchain system architecture. I. Distributed System II. Centralized System III. Decentralized System	7	2	2
2 b)	List the Drawbacks of Block chain.	3	1	1
3 a)	Blockchain technology is intimately connected to the field of economics. Justify this statement on ideas about value transfer between individuals and organizations.	6	3	4
3 b)	How can you monetize the core layer of blockchain stack?	4	1	2
4 a)	Give a brief introduction about Blockchain Wallet.	6	2	2
4 b)	Are there any ethical or privacy-related issues that concern you about blockchain? Explain.	4	3	3
5 a)	What are the differences between public/private and permissioned/permissionless blockchains? Give an example of each.	5	2	2
5 b)	Define Blockchain Stack. Compare the internet and blockchain technology stack.	5	3	4

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60

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ELEMENTS OF BLOCKCHAIN TECHNOLOGY CIE-2: QUESTION PAPER			

Answer All Questions

PART- B

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Sl. No.	Questions	M	BT	CO
1	Describe about the major use cases within the IT world for blockchain.	10	1	4
2	Illustrate about Consensus mechanism in a bitcoin network. Give the details about a block header and Genesis block.	10	3	5
3	What is meant by Blockchain as a Service (BaaS)? Why might this approach appeal to some companies when developing a blockchain application?	10	3	4
4 a)	Distinguish between a hard and a soft fork? How might a hard fork affect the value of a digital token?	6	2	5
4 b)	Write a brief description over IPFS .	4	1	3
5	Write short notes on a) Crypto Commodity b) Network Token c) Utility Token d) Security Token	10	2	5

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	CO5	L1	L2	L3	L4	L5
	Test	Max Marks	-	-	4	20	26	14	16	20	-	-

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22/12/23

CS114ATE / 22EM105 / 22EM205

USN | 1 | R | V | 2 | 3 | E | 1 | 0 | 3 | 0 |

RV COLLEGE OF ENGINEERING®

(An Autonomous Institution affiliated to VTU)

I / II Semester B. E. Regular / Supplementary Examinations Feb-2024

Common to all programs

ELEMENTS OF BLOCKCHAIN TECHNOLOGY (ELECTIVE)

Time: 03 Hours *Maximum Marks: 100*

Instructions to candidates:

1. Answer all questions from Part A. Part A questions should be answered in first three pages of the answer book only.
2. Answer FIVE full questions from Part B. Question number 2 is compulsory. Choose any one full question from 3 or 4, 5 or 6, 7 or 8 and 9 or 10.

PART-A

1	1.1	Where do you store cryptocurrency?	02
	1.2	Where is the *LEAST SAFE* place to keep your cryptocurrency?	02
	1.3	What is a miner?	02
	1.4	What are the different types of tokens?	02
	1.5	List any four benefits of using Blockchain financial applications.	02
	1.6	List five core components of Blockchain.	02
	1.7	What is nonce in block? How is it achieved?	02
	1.8	What is 51% attack in Blockchain network?	02
	1.9	Differentiate between crypto currency and crypto tokens.	02
	1.10	Define *IPFS*. How does it work?	02

PART-B

2	a	Describe the following databases with respect to Blockchain system architecture: i) Distributed system ii) Centralized system iii) Decentralized system.	08
	b	What are Blocks? Illustrate the block with its structure.	08
3	a	What is Proof of Work (PoW)? What is role of miner in creating consensus algorithm with PoW and steps to validating block?	08
	b	Classify and explain the decentralized organizations, societies and applications.	08
		OR	
4	a	Given the example, a money transfer system is selected which is required to be decentralized. Show the steps of decentralized execution.	08
	b	In detail, explain the storage in Blockchain ecosystem.	08
5	a	Explain about different types of crypto-assets.	08
	b	Give a brief description about bitcoin.	08

		OR	
6	a	Define and differentiate between hard fork and soft fork with proper diagram.	06
	b	Describe about most stable cryptocurrency exchanges available in market.	10
7	a	Are Smart Contracts legally binding? Explain. Are there standards for Smart Contracts? Justify your answer.	08
	b	Explain Ethereum Virtual Machine (*EVM*).	08
		OR	
8	a	Define Smart Contract. Explain how a Smart Contract works with example.	08
	b	Define and describe the attributes of Smart Contract.	08
9	a	Cross functional blockchain use cases are ones that cut across virtually all areas of business and society. Justify this statement by describing different use cases in different categories.	10
	b	Comment on the different cross industry asset tracking use cases. How can blockchain be used to accomplish it?	06
		OR	
10	a	What is tokenization? Describe another type of asset besides real estate that could be tokenized on a Blockchain.	08
	b	How can blockchain be used to digitally notarize transactions?	08