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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

October 2024 Supplementary Examinations

Programme: B.E.

Branch: Computer Science and Engineering

Course Code: 22CS6PCBLC

Course: Blockchain

Semester: VI

Duration: 3 hrs.

Max Marks: 100

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I			CO	PO	Marks
1	a)	What are the benefits of block chain technology? Explain in detail	<i>CO 1</i>	<i>PO 1</i>	10
	b)	What are the limitations of blockchain?	<i>CO 1</i>	<i>PO 1</i>	5
	c)	List and explain advantages of decentralized systems.	<i>CO 1</i>	<i>PO 1</i>	5
OR					
2	a)	Write and explain elliptic curve digital signature algorithm.	<i>CO 1</i>	<i>PO 1</i>	10
	b)	Differentiate between multi signature and threshold signature	<i>CO 2</i>	<i>PO 2</i>	5
	c)	What is zero knowledge proof? Explain with an example.	<i>CO 1</i>	<i>PO 1</i>	5
UNIT - II					
3	a)	With a neat diagram explain working of PAXOS consensus algorithm.	<i>CO 1</i>	<i>PO 1</i>	10
	b)	Compare voting-based consensus with Nakamoto consensus.	<i>CO 2</i>	<i>PO 2</i>	5
	c)	Explain working of RAFT protocol.	<i>CO 1</i>	<i>PO 1</i>	5
OR					
4	a)	With a neat diagram explain working of PBFT protocol.	<i>CO 1</i>	<i>PO 1</i>	10
	b)	How Hotstuff achieves reduced communication? Explain with neat diagram.	<i>CO 2</i>	<i>PO 2</i>	5
	c)	What are the parameters that need to be considered while choosing a consensus algorithm?	<i>CO 2</i>	<i>PO 2</i>	5
UNIT - III					
5	a)	With neat diagram explain Ethereum ecosystem architecture.	<i>CO 1</i>	<i>PO 1</i>	10
	b)	Compare pure function with view function in solidity.	<i>CO 2</i>	<i>PO 2</i>	5
	c)	What is a smart contract? Explain with an example.	<i>CO 1</i>	<i>PO 1</i>	5

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

UNIT - IV					
6	a)	List and explain different types of wallets used in Bitcoins.	<i>CO 1</i>	<i>PO 1</i>	10
	b)	What is Sybil attack? How PoW prevents it?	<i>CO 3</i>	<i>PO 3</i>	5
	c)	Altcoins can create a new blockchain and allocate coins to initial miners, but this approach is now unpopular due to many scam schemes. Identify the other ways of generating Altcoins and show how they are useful.	<i>CO 1</i>	<i>PO 1</i>	5
UNIT - V					
7	a)	With a neat diagram explain Hyperledger reference architecture.	<i>CO 1</i>	<i>PO 1</i>	10
	b)	Describe various design principles of Hyperledger.	<i>CO 3</i>	<i>PO 3</i>	10
