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CS116503

B.Tech. (Fifth Semester) Examination,

Nov-Dec 2022

[Computer Science Engineering (IoTCS) Branch]

INTRODUCTION TO BLOCKCHAIN TECHNOLOGY

Time Allowed: 3 hours

Maximum Marks: 100

Minimum Marks: 35

Note: *All five units are compulsory. Part (a) is compulsory carry 4 marks. Attempts any two parts from (b),(c) & (d) carry 8 marks each.*

CO1:- Understand the basic technology used in Blockchain
CO1: -Understand the working principle of Blockchain systems (mainly Bit coin and Ethereum).
CO1: -Able to understand and design any application specific consensus algorithm
CO1: -Design, build and deploy Smart Contracts and distributed applications,
CO1: -Integrating the Blockchain technology into their own applications/ projects.

Q. No		Questions	Marks	CO	BL	PI
Q.1	a)	What are different types of Blockchain?	4	CO1	1	1.3.1
	b)	What is the advantage of Distributed Record Keeping?	8	CO1	2	2.1.2
	c)	Discuss and Differentiate PoW and PoS.	8	CO1	2	2.1.2
	d)	Draw Blockchain architecture and explain.	8	CO1	2	2.1.2
Q.2	a)	Define Modeling Faults.	4	CO2	1	1.3.1
	b)	What are various Blockchain consensus Algorithm challenges and its solutions?	8	CO2	2	2.1.2
	c)	Discuss Byzantine Model.	8	CO2	2	2.1.2
	d)	Write short note on Zero Knowledge Proofs.	8	CO2	2	2.1.2
Q.3	a)	What do you mean by Crypto currency?	4	CO3	1	1.3.1
	b)	Discuss various Hashing techniques in brief.	8	CO3	2	2.1.2
	c)	Write short notes on Digital Signature.	8	CO3	2	2.1.2
	d)	Explain Elliptic Curve Cryptography with example.	8	CO3	3	3.1.6
Q.4	a)	What is Ethereum?	4	CO4	1	1.3.1
	b)	Explain Ethereum virtual machine with bock diagram.	8	CO4	2	2.1.2

	c)	How Hyperledger implementation is done on ethereum?	8	CO4	2	2.1.2
	d)	What do you mean by Smart Contract?	8	CO4	2	2.1.2
Q.5	a)	What is AltCoins?	4	CO5	1	1.3.1
	b)	Define Merkley Tree with an Example.	8	CO5	2	2.2.3
	c)	Write down Properties of Bitcoin.	8	CO5	2	2.1.2
	d)	What do mean by Double spending? What are the methods to prevent it?	8	CO5	2	2.1.2

CO- Course Outcomes, BL- Bloom's TaxonomyLevels, PI- Performance Indicator

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