Q. Code: 775433

Reg. No. | | | | | | | | | | | | | |

B.E./ B. TECH.DEGREE EXAMINATIONS, MAY 2024

Sixth Semester

IT18016 – BLOCKCHAIN FOR BUSINESS

(Information Technology)

(Regulation-2018/2018A)

TIME:3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Explore the components of blockchain.	**2**
CO 2	Simulate the working mechanism of Bitcoin.	**3**
CO 3	Develop business blockchain using ethereum.	**4**
CO 4	Relate blockchain to various real-time use cases.	**4**
CO 5	Build an ethereum DApp.	**4**

PART- A(10x2=20Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Design a hashtree with 8 leaf nodes.	**1**	**4**
2.	Draw a decentralized network with 6 nodes.	**1**	**3**
3.	List down the components of a genesis block in a blockchain.	**2**	**1**
4.	Compute the target value with coefficient as 2 and exponent as 8.	**2**	**3**
5.	Is it possible to provide a part of a blockchain for public access while securing the remaining part? Comment on the above.	**3**	**4**
6.	Distinguish among Merkle tree and Binary tree.	**3**	**4**
7.	What are the components of an Ethereum transaction?.	**4**	**1**
8.	Hash plays a vital role in data integrity. Justify the above statement.	**4**	**4**
9.	Compare distributed databases and blockchain.	**5**	**4**
10.	Develop a smart contract to multiply two numbers.	**5**	**4**

PART- B (5x 14=70Marks)

			Marks	CO	RBT LEVEL
11. (a)	**(i)**	The general counsel for election commission has asked you to develop a blockchain based voting mechanism for the upcoming election. Discuss in detail about various consensus mechanisms that can be used for this application.	**(10)**	**1**	**2**
	(ii)	Construct a hash tree with 4 levels of nodes.	**(4)**	**1**	**2**

(OR)

(b)	**(i)**	A major hotel and casino needed to preserve legacy client digital linear tape (DLT) tapes and recover, extract, and host the entire model	**(10)**	**1**	**2**

	in a blockchain based network. Outline the layers and components involved in this implementation.			
	(ii) Construct a Merkle Tree with 16 nodes as leaf.	**(4)**	**1**	**2**
12. (a)	Elucidate the steps of bitcoin's network propagation with suitable examples.	**(14)**	**2**	**4**
	(OR)			
(b)	Compare and contrast the data processing abilities of Full nodes and SPV's.	**(14)**	**2**	**4**
13. (a)	You work for a large corporation's IT security company. Your duties include conducting internal computing investigations on company computing systems. Analyze the steps involved in creating an Ethereum-based application emphasizing all required parts.	**(14)**	**3**	**4**
	(OR)			
(b)	Develop a smart contract for online movie ticket booking application system. Explicate the steps in the process in detail.	**(14)**	**3**	**4**
14. (a)	Distinguish the development lifecycle of hyperledger blockchain with Corda model and with the relevant advantages and disadvantages.	**(14)**	**4**	**4**
	(OR)			
(b)	After being sued for negligence, a bank was about to settle a multimillion dollar suit and rewrite their entire software package based on blockchain based model. Outline the types of blockchain that can be employed for this task.	**(14)**	**4**	**4**
15. (a)	A friend of yours is hiding somewhere in the forest, but as a digital forensic expert you are able to locate the person using the GPS data in the mobile. Illustrate the development process of Dapp for the above application with necessary code.	**(14)**	**5**	**3**
	(OR)			
(b)	Illustrate the development process of a smart contract for aadhar registration system with its necessary code.	**(14)**	**5**	**3**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	You work for a mid-size corporation known for its inventions that does a lot of copyright and patent work. Design a smart contract with necessary components for the above said application.	**(10)**	**5**	**5**

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