UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, December 2020

Course:	**Cryptocurrency**	**Semester:**	**IV**
Program:	**B. Tech CSE+ Blockchain**	**Time**	**03 hrs.**
Course Code:	**CSBL 2002**	**Max. Marks:**	**100**

SECTION A

1. **Each Question will carry 5 Marks**
2. **Instruction: Complete the statement / Select the correct answer(s)**

S. No.	Question	CO
1	A blockchain is a type of? A. Object B. Database C. Table D. View	CO1
2	Which of the following statement is true about blockchain? A. A blockchain is a decentralized, distributed, and oftentimes public, digital ledger consisting of records called blocks B. A blockchain database is managed autonomously using a peer-to-peer network and a distributed timestamping server C. A blockchain has been described as a value-exchange protocol. D. All of the above	CO2
3	An orphan block is only created when 51% attack is successful True or False?	CO3
4	Which of the following is important for Blockchain A. Database Security B. Auditing C. Planning	CO5
5	List various types of Wallets in Blockchain Networks.	CO4
6	Discuss various types of wallets and applications in Blockchain network with examples.	CO1

SECTION B

1. **Each Question will carry 10 marks**
2. **Instruction: Write short/brief notes**

7	Write a short note on following consensus algorithms:
	   a. Proof of Work (PoW)
	   b. Proof of Authority (PoA)
	   c. Proof of Authentication (PoAu)
	   d. Proof of Stake (PoS)
	   e. Proof of Concept (PoC)
		CO3, CO4

8	Considered the following Drug Supply Chain Management Network:	CO2, CO5
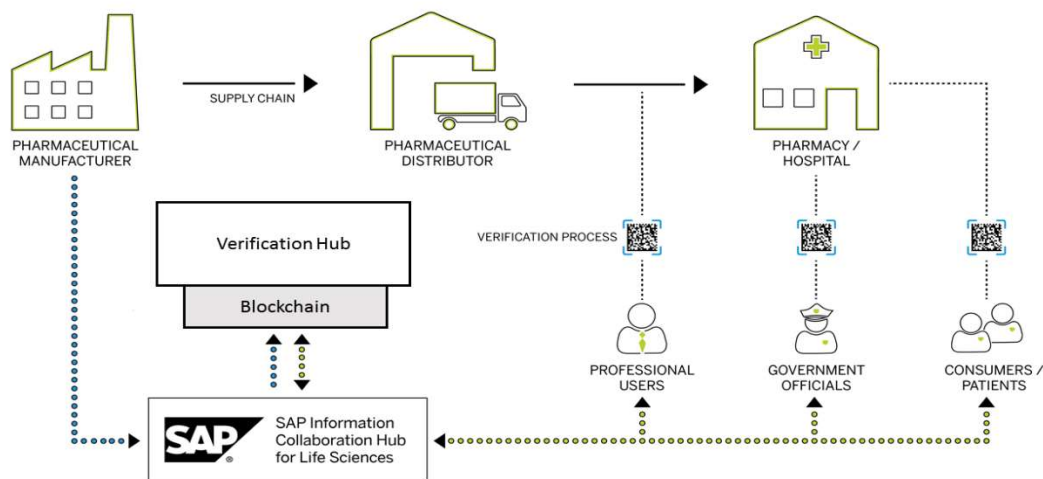
Figure: Blockchain in Drug Industry

	a. Discuss the possibilities of Blockchain integration with scenario shown in figure 1. b. List various advantages of integrating Blockchain with any stakeholder of scenario shown in figure 1. c. Draw a neat and clean Blockchain Network where blocks, transactions, users and consensus algorithms are integrated with scenario shown in figure 1. d. What are the minimum number of blocks, transactions, users and consensus algorithms required to make the above scenario secure, transparent and trustworthy.	
9	Write a Smart contract to calculate greater of two numbers using a public sum() function, How will you migrate it to Ethereum network and return the calculated sum.	CO4
10	Is asymmetric cryptography secure for Blockchain? Justify your answer with an example.	CO5
11	Write a python program to develop a simple Blockchain Network. **OR** With the help of a neat and clean diagram, discuss the use of Node.js and Web3.js in developing a Blockchain Application. Give example also.	CO1

SECTION C

1. **Each Question carries 20 Marks.**
2. **Instruction: Write long answer.**

12	a. Why Blockchain in any application is considered as a trusted approach? Differentiate between blocks and transactional records in Blockchain Network. b. In a Blockchain Network, Can a transaction be cancelled? If No, how transactions with human error are handled? c. How smart contracts are helpful in automating the Blockchain network applications. Give examples. **OR** a. What is Ethereum? What Is the Difference Between Ethereum And Bitcoin Blockchain? b. What Are the Components of a Blockchain Ecosystem? Explain. c. Is the Blockchain Totally Different from Traditional Banking Ledger?	CO2, CO3