

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Public Blockchain- Ethereum
Program: BT-CSE-Spz-Blockchain
Course Code: CSBL 3005

Semester : VI
Time : 03 hrs.
Max. Marks: 100

Instructions: (i) Start answer to a new question on a fresh page, (ii) Scattered part answers will not be evaluated, (iii) Use and exchange of mobile phone, calculator or any other item is not allowed and (iv) Exam is close book.

SECTION A
(5Qx4M=20Marks)

S. No.	Question	Marks	CO
Q 1	Discuss the role of Merkle trees in blockchain? How important are Merkle trees in Blockchains?	5	CO1
Q 2	Compare and Contrast the following consensus algorithms: a) Proof of Authority (PoA) b) Proof of Stake (PoS)	5	CO2
Q 3	How ledger is important for a blockchain network? Is Blockchain an incorruptible ledger?	5	CO3
Q 4	Name the common type of ledgers that can be considered by users in Blockchain?	5	CO4
Q 5	Wei is commonly used in transactions? How Does It Differ from Ether?	5	CO5

SECTION B
(4Qx10M= 40 Marks)

Q 6	(a) List the type of records can be kept in a Blockchain? Is there any restriction on same? Discuss in detail. (b) Compare and Contrast Bitcoin and Ethereum Blockchain?	10	CO4
Q 7	List and explain the Main Steps of Smart Contract Development from A Business Perspective? How Does “Spending” Work in Smart Contracts? Write a solidity program to explain this.	10	CO5
Q 8	A distributed digital ledger is used for recording transaction in Blockchain. What does the system rely on?	10	CO1, CO2
Q 9	How is DApps important and developed? Name some popular platforms for developing blockchain applications. How Double Spending occurs in blockchain? Is it possible to double spend in a Blockchain system?	10	CO3, CO4
OR			
	Explain Gas? What Happens When the Gas Runs Out Without the Transaction Being Complete? Discuss the benefits of Gas in Blockchain		

	that you know?		
SECTION-C (2Qx20M=40 Marks)			
Q 10	Ethereum is a popular blockchain network? List various factors that makes Ethereum so promising? Explain the significance of blind signature and how it is useful in Ethereum Network?	20	CO5, CO2
Q 11	<p>a. Discuss the important categories of the different types of wallets that can be found on Blockchain networks.</p> <p>b. Discuss executive accounting with an example? Does Blockchain support the same?</p> <p style="text-align: center;">OR</p> <p>a. Is encryption/decryption mandatory in blockchain networks? Discuss its role in Blockchain? List the threats to the information you are familiar with?</p> <p>b. How are blocks constructed in blockchain technology? How does a block is recognized in the Blockchain approach? Is it possible to modify the data once it is written in a block?</p>	20	CO1, CO3, CO4