Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 05-12-2025 **Time:** 01:00pm – 04:00pm

School: SOCSE	**Program:** B.Tech. CSE -BLOCK CHAIN	
Course Code: CBC3405	**Course Name:** Blockchain Security & Ethical Hacking	
Semester: VII	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	CO1	CO2	CO3	CO4
Marks	26	24	26	24

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	Point out the consequences of a 51% attack in a blockchain network.	**2 Marks**	**L1**	**CO1**
2.	Outline why decentralization is vital for blockchain security.	**2 Marks**	**L2**	**CO1**
3.	State the objectives of reconnaissance in ethical hacking.	**2 Marks**	**L1**	**CO2**
4.	Mention any three threats faced by cryptocurrency wallets.	**2 Marks**	**L2**	**CO2**
5.	Identify the main activities involved in network sniffing on blockchain networks.	**2 Marks**	**L1**	**CO3**
6.	List two strategies to optimize gas consumption in Solidity smart contracts.	**2 Marks**	**L2**	**CO3**
7.	Provide the names of two blockchain security tools and briefly describe their functions.	**2 Marks**	**L1**	**CO4**
8.	Briefly outline the DAO hack and its consequences for Ethereum.	**2 Marks**	**L2**	**CO4**
9.	Highlight how rate limiting can prevent DDoS attacks in smart contracts.	**2 Marks**	**L3**	**CO1**

10.	State two ways Wireshark can be employed to monitor blockchain network traffic.	**2 Marks**	**L2**	**CO3**

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	Discuss typical attack surfaces in blockchain systems and justify which one poses the greatest risk.	**8M**	**L2**	**CO1**
	b.	A company engages ethical hackers. Outline the legal and ethical considerations for hacking decentralized systems.	**6M**	**L2**	**CO1**
	c.	In a Peer-to-Peer blockchain, fake nodes are suspected. Suggest mitigation approaches against Sybil attacks and explain why they work.	**6M**	**L3**	**CO1**
		Or			
12.	**a.**	A DeFi platform suffers wallet breaches. Identify wallet security threats and recommend measures to mitigate them.	**10M**	**L2**	**CO1**
	b.	Outline common vulnerabilities in smart contracts with examples.	**6M**	**L2**	**CO1**
	c.	Using an example, illustrate how a 51% attack could alter network consensus.	**4M**	**L3**	**CO1**

13.	**a.**	A blockchain security auditor is testing a network. List and explain the phases of penetration testing for blockchain	**8M**	**L2**	**CO2**
	b.	Discuss compliance requirements for companies hiring ethical hackers for blockchain systems.	**6M**	**L2**	**CO2**
	c.	Demonstrate exploit development for a vulnerable smart contract scenario.	**6M**	**L3**	**CO2**
		Or			
14.	**a.**	During a security assessment, blockchain enumeration is done. Describe techniques used and their significance.	**10M**	**L2**	**CO2**
	b.	Explain how sniffing blockchain network traffic can expose vulnerabilities.	**6M**	**L2**	**CO2**
	c.	Illustrate how scope is defined in a blockchain bug bounty program.	**4M**	**L3**	**CO2**

15.	**a.**	List secure coding standards in Solidity and explain their importance with an example.	**8M**	**L2**	**CO3**
	b.	Discuss the smart contract auditing process and highlight key steps.	**6M**	**L2**	**CO3**
	c.	A Solidity contract has fallback vulnerabilities. Explain measures to secure it conceptually.	**6M**	**L3**	**CO3**
Or					
16.	**a.**	Explain how DevSecOps integration ensures security during blockchain development.	**10M**	**L2**	**CO3**
	b.	Discuss rate limiting and throttling in smart contracts and their role in attack prevention.	**6M**	**L2**	**CO3**
	c.	Using an example, show how a reentrancy guard can secure a Solidity function.	**4M**	**L3**	**CO3**

17.	**a.**	Describe how Mythril and Slither detect smart contract vulnerabilities and their benefits.	**8M**	**L2**	**CO4**
	b.	Analyze the Poly Network breach and lessons for future DeFi platforms.	**6M**	**L2**	**CO4**
	c.	Outline how Truffle Security framework can be applied to audit a DApp conceptually.	**6M**	**L3**	**CO4**
Or					
18.	**a.**	Explain wallet-draining scams with examples and discuss preventive measures.	**10M**	**L2**	**CO4**
	b.	Describe Hardhat's role in secure DApp development and its key functions.	**6M**	**L2**	**CO4**
	c.	Illustrate how to design a basic secure DApp with auditing hooks conceptually.	**4M**	**L3**	**CO4**