K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov / Dec 2024-2025
(B. Tech.) Program: Computer Engineering Scheme: II
Regular: LY Semester: VII
Course Code: CEDLC7033 and Course Name: Ethical Hacking and Security
Date of Exam: 21-11-24 Duration: 02.5 Hours Max. Marks: 60

Instructions:
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any **two** questions out of three: (05 marks each)	10		
a)	Identify and explain the phases of a cyber-attack.		CO1	U
b)	Explain how password cracking techniques like brute force, dictionary attacks, and rainbow tables work. What specific weaknesses in password security do these methods target		CO2	U
c)	A user has reported that their account was accessed by an unauthorized individual while they were still logged into a web application. Based on this scenario, explain what session hijacking is and outline three practical measures that can be implemented to prevent such attacks.		CO3	Ap
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	You are an IT security consultant, and a company has approached you for advice on preventing Denial-of-Service (DoS) attacks. Recommend three countermeasures they can implement to protect their systems.		CO4	Ap
b)	A company's wireless network is frequently targeted by Man-in-the-Middle (MitM) attacks. As a network security consultant, what practical steps would you recommend to prevent these attacks?		CO5	Ap
c)	Attackers are attempting to gain unauthorized access to a company's Wi-Fi network, describe two techniques they might use and suggest corresponding countermeasures to prevent these attacks.		CO6	Ap
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	Explain the steps you would take to detect hacker attacks on a compromised Windows server. Describe at least three specific techniques that could be used for this purpose.		CO1	U

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b)	Explain how social engineering hacking can be used to trick users into revealing sensitive information. Provide an example of a common social engineering tactic.		CO2	U
c)	A company's Intrusion Detection System (IDS) has been evaded by an attacker using advanced techniques. Identify attackers strategy to bypass IDS .		CO3	Ap
Q.4	Solve any **two** questions out of three. (10 marks each)	20		
a)	Distinguish between Distributed Denial-of-Service (DDoS) attacks and traditional DoS attacks, and demonstrate how you would tackle the unique challenges in detecting and mitigating DDoS attacks		CO4	Ap
b)	A company is concerned about buffer overflow attacks on its web servers. As a cybersecurity expert, recommend three preventive measures that can be implemented to protect against such attacks.		CO5	Ap
c)	You have been hired as a security consultant for a company concerned about wireless network hacking. Recommend three security measures to protect their network from unauthorized access.		CO6	Ap

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