VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

REG.NO.:

SLOT:C1+TC1

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS ASSESSMENT TEST - I
FALL SEMESTER 2025-2026

Programme Name & Branch : B.Tech & CSE
Course Code and Course Name : Cyber Security-BCSE410L
Faculty Name(s) : ALL
Class Number(s) : ALL
Date of Examination : 19-08-2025
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction(s): Answer All Questions

- Course Outcomes:
  CO1: Understand the emerging cyber security attacks and their adversarial risk.
  CO2: Identify the emerging vulnerabilities and attacks, and countermeasures in cyber-physical systems.

Q. No	Question	M	CO	BL
1.	Identify the following attacks and suggest appropriate preventive measures for each. a) A type of attack makes a service unusable by overloading the server or network with excessive traffic. Discuss the different categories of this attack using a suitable diagram. (7 Marks) b) A type of attack can be controlled by reducing the application's access privileges to the database. (3 Marks)	10	1	2
2.	Even though firewalls allow traffic only to legitimate hosts and services, attacks like Code Red on IIS can still occur. Explain how this problem can be solved, and describe the types of systems used to monitor and detect such attacks based on their operation.	10	1	4
3.	Your organization is worried about cyber-attacks on its online banking system. As a cyber - security consultant, use an attack tree model to analyze how attackers might compromise customer accounts. a) Identify and briefly describe three main attack paths to reach the root goal. (5 Marks) b) Explain how an attack tree helps in finding vulnerabilities and planning mitigations. (5 Marks)	10	2	4
4.	a) Which type of social engineering attack is best described by the phrase "Like lions hidden in the savannah grass, they then lay and lurk," and how does this reflect the attacker's behavior? Explain with an example.	5	2	2
	b) Which phishing tactic involves using names of popular companies like Google or PayPal? Explain why attackers use this method and how the attack works.	5		
5.	Explain the different phases of the Penetration Testing Execution Standard (PTES) and describe the role each phase plays in conducting a structured penetration test.	10	2	2