REG.NO.:

# VIT

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

## SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS

**CONTINUOUS ASSESSMENT TEST - II**
**FALL SEMESTER 2024-2025**

**SLOT: A1 + TA1**

| | | |
|---|---|---|
| **Programme Name & Branch** | : | **B.Tech Information Technology - General (Semester)** |
| **Course Code and Course Name** | : | **BITE413L & Cyber Security** |
| **Faculty Name(s)** | : | **Dr. Gitanjali J & Dr.A Anbarasa Kumar** |
| **Class Number(s)** | : | **(VL2024250103546) & (VL2024250103550)** |
| **Date of Examination** | : | **13.10.2024** |
| **Exam Duration** | : | **90 minutes** **Maximum Marks: 50** |

**General instruction(s):**

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcomes (Type the CO statements covered in this question paper. Use the CO number as per the syllabus copy)
- CO3 – Infer the Tools and Methods Used for Cybercrime
- CO4 – Summarize the importance of Computer Forensics and Legal Perspectives of Cybercrime and Cybersecurity

| Q. No | Question | M | CO | BL |
|---|---|---|---|---|
| 1. | In May 2021, Air India experienced a significant data breach due to a cyberattack on its data service provider, Societe Internationale de Télécommunications Aéronautiques (SITA). The personal data of 4.5 million passengers, including names, passport information, and credit card details, was leaked. This breach highlighted the risks associated with third-party service providers and the importance of robust cybersecurity measures. Explain what are the immediate steps would you take to mitigate the damage and protect affected individuals. | 10 | CO3 | BL2 |
| 2. | **a)** Imagine you are a cybersecurity expert at a large e-commerce company in India. One morning, you notice a significant slowdown in your website's performance. Upon investigation, you discover that your servers are being overwhelmed by a massive flood of traffic. Inspect and justify the attack carried out for the given scenario. Also, list out the possible tools could be used to launch the attack. **(8 marks)**<br>**b)** Nowadays, cybercrimes and cyber-attacks are increasing in all fields. Do you agree with this statement? If so, analyze and provide reasons for the same. **(2 marks)** | 10 | CO3 | BL5 |

VIT

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

REG.NO.:

SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS

CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2024-2025

SLOT: A1 + TA1

| | | | | |
|---|---|---|---|---|
| 3. | Imagine you are a security analyst for a software development company. During a routine security assessment, you discover that one of your company's applications is vulnerable to a buffer overflow attack. The application processes user input without proper bounds checking, allowing an attacker to potentially overwrite memory and execute arbitrary code. Illustrate what steps you would take to mitigate the buffer overflow vulnerability. Consider both immediate actions to secure the application and long-term strategies to prevent similar vulnerabilities in the future. | 10 | CO3 | BL2 |
| 4. | Imagine a scenario where someone sends offensive messages to another person online, another person receives a stolen computer device, someone else uses another person's password without permission, and another individual cheats someone using a computer resource. Additionally, consider a situation where a person publishes private images of someone without their consent, another person commits an act of cyberterrorism, and finally, someone publishes obscene material online. Illustrate and identify the sections with the cybercrime, punishment, and penalty. | 10 | CO4 | BL2 |
| 5. | What in your opinion is required on the legal front to seek world harmony and convergence to bring about global measures to fight the cybercrime challenges? Explain what you think are the areas that need country cooperation across the globe. | 10 | CO4 | BL2 |

**********