

Reg. No.:

Name :



VIT

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

Continuous Assessment Test II – March 2025

Programme	: B.Tech. Computer Science and Engg	Semester	: WINTER SEM 2024-25
Course	: Design of Smart Cities	Code	: BCSE316L
Faculty	: Dr.S.Sandosh	Class Nbr	: CH2024250502240
Time	: 90 Minutes	Slot	: G2+TG2
		Max. Marks	: 50

General Instructions:

- Write only your registration number on the question paper in the box provided and do not write other information.
- Use statistical tables supplied from the exam cell as necessary
- Use graph sheets supplied from the exam cell as necessary
- Only non-programmable calculator without storage is permitted

Answer **ALL** the questions

Q.No.	Sub. Sec.	Questions	Marks
		You are part of your university environmental club, and management is considering the installation solar panels on campus. Before making a decision, they ask you to explain the following,	
1.	a	Significance of energy in daily life and the differences between renewable and non-renewable energy sources. (5 marks)	10
	b	Components involved in making decision related to solar panels installation for energy conservation. (5 marks)	
2.		Your city is implementing a Smart Water Management System to ensure efficient distribution, reduce wastage, and support sustainable urban growth. As a student researching smart city infrastructure, you have been asked to analyse and discuss how the “energy acts as a catalyst” in powering and optimizing smart water management systems and the role of “cohesion and efficiency” in ensuring seamless operation and integration of the system with other smart city infrastructures.	10
3.		You are a college student attending an interview for a cybersecurity analyst role. The interviewer presents you with the following real-world situations and asks you to identify the type of attack and explain how it works, a. An attacker intercept your data on public Wi-Fi. (2) b. Your antivirus fails to detect a hidden malware controlling and gaining access of your device. (2) c. You try to close a pop-up but unknowingly approve a transaction. (2) d. A CEO receives an urgent email from the CFO requesting a large fund transfer. (2) e. An employee’s account gets locked after multiple failed login attempts. (2)	10

- a Imagine you receive an email from an unknown sender with an attachment. When you download and open the attachment, your computer starts behaving strangely and slows down significantly. You also notice that the files are replicated. Identify and define the type of attack which damaged your computer. (5 marks)

10

4.

- b Assume you are a webserver administrator for an e-commerce platform that experiences a sudden surge in traffic. As a result, your webserver becomes unresponsive, and customers are unable to access your services. However, upon investigating you discover that the traffic is distributed and originating from multiple sources simultaneously. Identify and define the attack. (5 marks)

You were born and raised in your native town, which the government is now working to develop into a Smart City. As a college student familiar with both the local challenges and smart city concepts, you have been asked to assist the government by suggesting key dimensions and indicators that should be prioritized for sustainable urban development.

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Name your native town and explain the smart city dimensions (such as Smart Infrastructure, Smart Governance, Smart Mobility, Smart Environment, etc.) and the key indicators that would best support the transformation of your native town into a Smart City?

10

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