

Enrollment No./Seat No.:

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Bachelor of Engineering - SEMESTER - VI EXAMINATION - SUMMER 2025**

**Subject Code: 116AH02**

**Date: 11-06-2025**

**Subject Name: Security Assessment and Risk Analysis**

**Time: 10:30 AM TO 01:00 PM**

**Total Marks: 70**

**Instructions**

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

	<b>Marks</b>
<b>Q.1 (a)</b> What is meant by Information Security (INFOSEC)?	<b>03</b>
<b>(b)</b> what is differentiate between confidentiality and integrity?	<b>04</b>
<b>(c)</b> Discuss the critical characteristics of availability, confidentiality and integrity in relation with information in security.	<b>07</b>
<b>Q.2 (a)</b> Define the term threat in the context of information systems.	<b>03</b>
<b>(b)</b> Describe any two security countermeasures related to education, training , awareness.	<b>04</b>
<b>(c)</b> Describe how information security can be maintained in all states of information.	<b>07</b>
<b>OR</b>	
<b>(c)</b> Discuss the concept of risk management with reference to threats and vulnerabilities in information systems.	<b>07</b>
<b>Q.3 (a)</b> What is risk assessment?	<b>03</b>
<b>(b)</b> What is meant by a vulnerability in a computer system?	<b>04</b>
<b>(c)</b> Briefly explain fraud and HOIS (Hostile Intelligence Services) in context to threats in cybersecurity.	<b>07</b>
<b>OR</b>	
<b>(a)</b> What is fraud?	<b>03</b>
<b>(b)</b> What is the main purpose of Operations Security (OPSEC)?	<b>04</b>
<b>(c)</b> Explain the term INFOSEC and discuss its major components including cryptography and audits.	<b>07</b>
<b>Q.4 (a)</b> Define contingency planning.	<b>03</b>
<b>(b)</b> What is the purpose of security planning in an organization?	<b>04</b>
<b>(c)</b> What important points should be considered while deciding backup needs in an organization?	<b>07</b>
<b>OR</b>	
<b>(a)</b> What is meant by continuity of operations?	<b>03</b>

- (b) What is cryptography? 04
- (c) Explain the process of contingency planning and its importance in ensuring organizational continuity. 07
- Q.5** (a) What is the purpose of access authorization in personnel security? 03
- (b) Explain the role of security training and awareness in minimizing internal threats. 04
- (c) Compare and contrast software and network vulnerabilities with example. 07

**OR**

- (a) Mention any two roles of systems maintenance personnel in security. 03
- (b) Describe the process and benefits of conducting regular security reviews and audits. 04
- (c) Explain how threat and vulnerability assessments help organizations improve their cyber security. 07

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