

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 5 – EXAMINATION – SUMMER 2026

Subject Code: 3154207

Date: 10/06/2026

Subject Name: Cyber Security

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Simple and non-programmable scientific calculators are allowed.**

- Q.1**
- (a)** What is Vulnerability? Explain any two types of vulnerabilities. **03**
 - (b)** Explain passive attacks and active attacks with respect to cyber criminals. **04**
 - (c)** Describe the key components of OpenVAS and their roles. **07**

- Q.2**
- (a)** What is steganography? Explain types of steganography. **03**
 - (b)** Compare Tcpdump and Windump. **04**
 - (c)** What is IDS? Describe Snort. Explain how Snort detects and analyzes network traffic for security threats. **07**

OR

- Q.2**
- (c)** Explain Virus and Worms, Trojan Horses and Backdoors in detail. **07**
- Q.3**
- (a)** What is ZAP (Zed Attack Proxy)? Explain it. **03**
 - (b)** List four functions a backdoor can do to help the attacker. **04**
 - (c)** Explain SQL injection tools in brief. **07**

OR

- Q.3**
- (a)** What is Webgoat? Explain it. **03**
 - (b)** What is OpenSSL? Explain its uses in securing communications. **04**
 - (c)** What is SQL Injection? Describe How it works and describe techniques used to prevent SQL Injection attacks. **07**

- Q.4**
- (a)** What is hacking? List types of hacking and explain it. **03**
 - (b)** Differentiate between Stateless and Stateful Firewalls. **04**
 - (c)** What is Network Address Translation (NAT)? Explain its types with suitable diagram. **07**

OR

- Q.4**
- (a)** What is Cybercrime? Explain the different categories of cybercrime in details. **03**
 - (b)** What is a Firewall? Explain its types and how it helps in securing a network. **04**
 - (c)** Explain Metasploit and Nmap. **07**

- Q.5**
- (a)** Discuss the traditional problems associated with Computer Crime. **03**
 - (b)** Explain DOS and DDOS Attack in detail **04**

(c) What is DVWA? Explain its purpose in web security training. Describe any three vulnerabilities featured in DVWA. **07**

OR

- Q.5**
- (a) Define contemporary cybercrimes. Explain their impact on society and legal systems. **03**
 - (b) Justify the attack vector. List out different types of attack vector. **04**
 - (c) What is Digital Forensics? Explain the need of Digital Forensics. **07**
