

Reg.No.:



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 50020

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2024

Fifth Semester

Computer Science and Engineering

U19CSV22– CYBER SECURITY

(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

| | | | |
|------------------|--------------------|----------------|-----------------|
| Knowledge Levels | K1 – Remembering | K3 – Applying | K5 - Evaluating |
| (KL) | K2 – Understanding | K4 – Analyzing | K6 - Creating |

PART – A

(10 x 2 = 20 Marks)

| Q.No. | Questions | Marks | KL | CO |
|-------|--|-------|----|-----|
| 1. | Cyber security is the defense against cyber-attacks of hardware, software, and data on Internet-connected devices. Justify the statement. | 2 | K2 | CO1 |
| 2. | Mention the standard measures to establish confidentiality in creating a web based banking application. | 2 | K2 | CO1 |
| 3. | Differentiate active and passive attack. | 2 | K2 | CO2 |
| 4. | Recall methods used in Denial of Service. | 2 | K2 | CO2 |
| 5. | Write about cyber security National Policy. | 2 | K1 | CO3 |
| 6. | List the audit goals required for auditing cyber security procedures. | 2 | K2 | CO3 |
| 7. | Messages are encrypted on the sender's device and only decrypted on the receiver's end. Even if a malicious actor or even the service provider itself intercepts the messages during transit, they cannot decipher the content. Provide examples for the above encryption. | 2 | K3 | CO4 |
| 8. | How internal threats can be prevented? | 2 | K2 | CO4 |
| 9. | Differentiate white hat hackers and black hat hackers. | 2 | K2 | CO5 |
| 10. | What are the steps identified to find the infected hosts? | 2 | K2 | CO5 |

PART – B

(5 x 13 = 65 Marks)

| Q.No. | Questions | Marks | KL | CO |
|--------|--|-------|----|-----|
| 11. a) | Provide a concise explanation on the attacks, threats, and vulnerabilities. What kind of connection do they have? | 13 | K1 | CO1 |
| | (OR) | | | |
| b) | Briefly explain the role of cyber security architects and discuss the key components of cyber security network architecture with example. | 13 | K1 | CO1 |
| 12. a) | Explain with an example cyber-attack by which a hacker guesses passwords and usernames in order to gain access to a private system. Identify the type of attack and explain. | 13 | K3 | CO2 |
| | (OR) | | | |
| b) | What is the purpose of information security management? Discuss about Security Governance and Management roles, models and functions. | 13 | K2 | CO2 |
| 13. a) | Elaborate about Organizational security Policies, security expectations, roles and responsibilities in the organization. | 13 | K2 | CO3 |
| | (OR) | | | |
| b) | Write about social computing and the associated challenges for organizations in detail. | 13 | K1 | CO3 |
| 14. a) | Identify the network components used to harden and prevent cyber-attacks. Explain briefly. | 13 | K2 | CO4 |
| | (OR) | | | |
| b) | Discuss about the organization's exposure to internal threats in detail. Analyze the risk assessment for the below mentioned activity in an organization: As with unauthorized devices, employees may choose to use 3rd party software for legitimate business purposes. The threat arises from illegitimate or pirated software that can include malware and backdoors allowing access to attackers. The attackers have stolen all necessary information from the organization. Map the risk assessment for the security threat. | 13 | K4 | CO4 |
| 15. a) | Discuss in brief about the working and classification of intrusion detection system. | 13 | K2 | CO5 |
| | (OR) | | | |
| b) | Why digital forensics is important? How online fraud actions can be detected? Also, suggest some possible solutions. | 13 | K3 | CO5 |

PART – C

(1 x 15 = 15 Marks)

| Q.No. | Questions | Marks | KL | CO |
|--------|---|-------|----|-----|
| 16. a) | The victim receives an email from PayPal informing them that their account has been hijacked and that will be cancelled unless they verify the data of their credit card. The victim visits a phony PayPal website by clicking on the link in the email, and the credit card details is obtained and it is used to perpetrate additional crimes. Provide solutions for the above attack. Identify the security measures that can be incorporated to solve the attack. | 15 | K4 | CO5 |

(OR)

| | | | | |
|----|--|----|----|-----|
| b) | Cybercriminals are a persistent menace to banks in today's digital environment. Since more and more individuals handle financial concerns online, hackers find it easier to attack institutions and their clientele. Cyberattacks result in more than simply financial loss; they also harm the bank's brand client confidence, and violate regulations. Banks find it challenging to stay up to date with hackers' constantly evolving assault strategies. Identify possible cyber-attacks and suggest security policies such that customers can be prevented from cyber attacks. | 15 | K4 | CO5 |
|----|--|----|----|-----|