



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal-500043, Hyderabad

B.Tech IV SEMESTER END EXAMINATIONS (REGULAR / SUPPLEMENTARY) - AUGUST 2023

Regulation: UG-20

FOUNDATIONS OF CYBER SECURITY

Time: 3 Hours

CSE (CYBER SECURITY)

Max Marks: 70

Answer ALL questions in Module I and II

Answer ONE out of two questions in Modules III, IV and V

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

MODULE – I

1. (a) State the key principles and challenges of cyber security in the modern digital landscape.
[BL: Understand| CO: 1|Marks: 7]
- (b) Apply your solution for the problem statement on “Increasing prevalence of cybercrime poses a significant threat to individuals, businesses, and society as a whole, necessitating urgent action to develop and implement effective strategies for prevention, detection, and prosecution”.
[BL: Apply| CO: 1|Marks: 7]

MODULE – II

2. (a) Summarize about national security policy. Outline the life cycle of digital forensics.
[BL: Understand| CO: 2|Marks: 7]
- (b) A company’s financial department suspects that an employee may be engaging in unauthorized activities involving company funds. They believe the employee may be altering financial records and diverting funds for personal gain. As a computer forensics expert, you are called upon to investigate the matter. Describe how you would approach this real-time scenario.
[BL: Apply| CO: 2|Marks: 7]

MODULE – III

3. (a) List the common types of cybercrime related to mobile and wireless devices and suggest the steps to protect the devices from cyber attacks.
[BL: Understand| CO: 3|Marks: 7]
- (b) Sarah frequently uses her credit card for online purchases through a mobile app. One day, she notices unauthorized transactions on her credit card statement. She suspects that her credit card information may have been compromised through the mobile app. As a cybersecurity expert, you are tasked with investigating the incident. Describe how you would approach this scenario and advise Sarah on the necessary steps to mitigate the credit card fraud.
[BL: Apply| CO: 3|Marks: 7]
4. (a) Express the security challenges posed by mobile devices. Write down authentication service security and its types.
[BL: Understand| CO: 4|Marks: 7]

- (b) XYZ corporation, a large multinational company, uses an authentication service to secure access to its internal systems and sensitive data. The authentication service is critical for ensuring that only authorized employees can access company resources. However, the company has recently encountered a security breach that compromised the authentication service. As a cybersecurity expert, you are tasked with investigating the incident and proposing measures to enhance the security of the authentication service. [BL: Apply| CO: 4|Marks: 7]

MODULE – IV

5. (a) Demonstrate how IPR helps in the field of cyber world to reduce the crimes? Summarize about social computing. [BL: Understand| CO: 5|Marks: 7]
- (b) ABC corporation, a large organization, relies heavily on its online presence for business operations, including its website, online customer portals, and e-commerce platform. The company recently experienced a series of web threats that have disrupted its services and compromised the security of its online systems. As a cybersecurity expert, you are tasked with addressing these web threats and advising the organization on necessary measures to protect its online assets. [BL: Apply| CO: 5|Marks: 7]
6. (a) Illustrate social media marketing tools and its security risks for organizations. [BL: Understand| CO: 5|Marks: 7]
- (b) A multinational company that operates in various industries, including finance, technology, and healthcare. They recently implemented a new web-based customer portal that allows clients to access their accounts, make transactions, and view sensitive financial and personal information. List out what are the security and privacy implications may affect the company and its growth ? [BL: Apply| CO: 5|Marks: 7]

MODULE – V

7. (a) Analyze how cybercrime involved in Indian parliament attack? Explain in detail. [BL: Understand| CO: 6|Marks: 7]
- (b) ABC bank is a prominent financial institution that offers various banking services, including online banking, to its customers. The bank has a robust cyber security infrastructure to protect customer data and prevent cyber threats. However, it recently fell victim to a sophisticated cybercrime attack that threatened the security and trust of its customers. As a company security expert what are immediate actions to be taken? [BL: Apply| CO: 6|Marks: 7]
8. (a) Describe in detail on financial frauds in cyber domain. How Indian banks lose millions of rupees through cybercrime? Write a brief note on this case study. [BL: Understand| CO: 6|Marks: 7]
- (b) You are an employee at a large multinational company, and one day, you receive an email that appears to be from your company's CEO, asking you to urgently transfer a significant amount of money to a specified bank account. The email seems legitimate, with the CEO's name and email address accurately displayed. However, something feels off about the request. What steps would you take to verify the authenticity of the email and protect yourself and the company from potential email spoofing instances? [BL: Apply| CO: 6|Marks: 7]

