

# END TERM EXAMINATION

THIRD SEMESTER [MCA] JANUARY-FEBRUARY 2023

Paper Code: MCA253

Subject: Cyber Security & Cyber Laws

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No.1 which is compulsory.

- Q1 Attempt the following in brief: (10x2.5=25)
- a) What is digital media forensics?
  - b) Differentiate among Worms, Viruses, and Trojan Horses.
  - c) Is there a difference between "cybercrime" and "cyberfraud"? Explain.
  - d) Differentiate between passive and active attacks with examples.
  - e) What is a Blind SQL injection attack?
  - f) Define digital media forensics?
  - g) What do you understand by the salient features of the Indian IT Act?
  - h) What is a virus hoax?
  - i) Describe the main principles of information security?
  - j) What is the work of WIPO?
- Q2
- a) What is the cyber threat? How it is different from cybercrime? How do we classify cybercrimes? Explain each one briefly. (6.5)
  - b) Explain the working of email spoofing. Discuss the preventive measures to protect from email spoofing. (6)
- Q3
- a) Discuss the various type of deliberate software attacks designed to damage, destroy or deny service to target systems? (6.5)
  - b) What are the various essential challenges in mobile security? (6)
- Q4
- a) What are Cyber Security Vulnerabilities and what are the common types of Cyber Security Vulnerabilities? (6.5)
  - b) How to Prevent an SQL Injection and How is an SQL Injection attack performed? (6)
- Q5
- a) Suppose that you have a message consisting of 1024 bits. Design a method that will extend a key that is 64 bits long into a string of 1024 bits, so that the resulting 1024 bits can be XORed with the message, just like a one-time pad. Is the resulting cipher as secure as a one-time pad? Is it possible for any such cipher to be as secure as a one-time pad? (6)
  - b) What is cryptography and also explain Symmetric-key cryptography and Asymmetric cryptography? (6.5)
- Q6
- a) Explain in detail Digital Signatures and the Indian IT ACT. (6.5)
  - b) What are some essential parts of the Information Technology ACT that are used to record cyber-crimes? (6)

P.T.O

MCA-253  
P<sub>1/2</sub>

- Q7 a) What are the steps of the forensic life cycle? (6.5)  
b) What are the challenges in Computer Forensics? (6)

Q8. Compare and contrast between IDS(Intrusion Detection System) and IPS(Intrusion Prevention System). What are the various intrusion detection methodologies? Also, explain any three types of threats. (12.5)

\*\*\*\*\*

MCA-253  
P2/2