A-0859

Total Pages : 4 **Roll No. ----------**

MIT (CS)-104/CEGCS-04

Information System

(MCA/MSCCS/CEGCS)

3rd /1st Semester Examination 2024(Dec.)

Time: 2:00 hrs Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into Two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

P.T.O.

Section-A (Long-Answer-Type Questions)

Note : Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

[2x19=38]

Q.1. Discuss the differences between TCP/IP and OSI Model Protocols. Highlight the role of TCP/IP Architecture in Modern Networking.

Q.2. Explain the working of Domain Name System (DNS) and Its role in mapping domain names to IP addresses. Include the significance of FQDNs and Hierarchical Namespaces.

Q.3. Compare and contrast Symmetric and Asymmetric Cryptographic Algorithms. Provide examples of each and Explain their applications in Real-World Scenarios.

Q.4. Analyze the impact of SQL Injection Attacks and Describe countermeasures to protect web applications against such vulnerabilities.

Q.5. Explain the Secure Sockets Layer (SSL)/Transport Layer Security (TLS) Protocols. How do they secure data during transmission over the Internet? Provide an example of their application.

Section-B (Short-Answer-Type Questions)

Note : Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4x8=32]

Q.1. What is Subnetting and why it is important in networking?

Q.2. What is a Three-way Handshake in TCP? Describe its role in establishing a Reliable Connection.

Q.3. Define Cryptographic Hash Algorithms and Discuss the significance of MD5 and SHA in Data Integrity.

P.T.O.

Q.4. Briefly describe common Password-Cracking Techniques and How they can be mitigated.

Q.5. Describe the differences between Active and Passive Information-Gathering Techniques in Penetration Testing.

Q.6. What is a Man-in-the-Middle (MitM) Attack? Describe how it works and possible countermeasures.

Q.7. Explain the purpose of Pretty Good Privacy (PGP) in Securing Email Communication.

Q.8. Discuss the importance of maintaining access in Post-Exploitation Activities during Penetration Testing.

****