



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

II SEMESTER M.TECH. (CSIS) MAKEUP EXAMINATIONS – JUNE / JULY 2023

SUBJECT: SYSTEM AND NETWORK SECURITY [CSE 5013]

Date of Exam: (06-07-2023)

Time of Exam: 9.30 AM – 12.30 PM

MAX.MARKS: 50

INSTRUCTIONS TO CANDIDATES:-

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

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| 1A. | What are different Master Boot Record infection techniques? Explain. | 4M |
| 1B. | Differentiate between Virus, Worms, Logic Bombs, and Trojan horse in the domain of Computer Viruses. | 4M |
| 1C. | Illustrate the techniques of file infection using overwriting viruses with the help of relevant diagrams. | 2M |
| 2A. | What is a threat vector? List at-least four sources and corresponding threats and target in computer network environment. | 2M |
| 2B. | Demonstrate working of Address Resolution Protocol poisoning attack. | 4M |
| 2C. | List different Network-Layer attack types. Explain any TWO in detail. | 4M |
| 3A. | List and explain the responsibilities of Incident Response Team in Intrusion Detection Systems. | 2M |
| 3B. | Distinguish between anomaly detection and misuse detection techniques in Intrusion Detection Systems. | 4M |
| 3C. | Demonstrate Host-based Intrusion Detection systems (HIDS). Explain its advantages and disadvantages. | 4M |
| 4A. | Design and explain a simple Small Office or Home(SOHO) firewall and significance of its component placements. | 2M |
| 4B. | Compare and Contrast Discretionary and Mandatory Access control in Operating System Security. | 4M |
| 4C. | Analyze the main problems of TCP/IP protocols in terms of security in detail. | 4M |
| 5A. | In Kerberos V4, explain the terms Tickets and Ticket-Granting Tickets (TGT). Illustrate how user Alice obtains a Session Key and TGT from Key Distribution Center(KDC) with relevant diagrams. | 4M |
| 5B. | Differentiate between Authentication Header (AH) and Encapsulating Security Payload (ESP) protocols of IPsec with relevant diagrams. | 2M |
| 5C. | Illustrate the two types of Phase-1 IKE exchanges with relevant diagrams. | 4M |