MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VII SEMESTER B.TECH. (CSE)
END SEMESTER EXAMINATION-NOV 2019
SUBJECT: INFORMATION SECURITY [CSE 4014]
REVISED CREDIT SYSTEM
(26/11/2019)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:

❖ Answer **ALL** the questions.
❖ Missing data may be suitably assumed.

1A.	Explain any three software flaws that lead to security vulnerabilities.	3
1B.	What are the benefits of integrating security into the system development life cycle? Explain.	3
1C.	Explain the following:	4

i.   Attack Replication Vectors   ii. Pharming
iii. Security Posture   iv. Components of information security

2A.	Explain the different approaches to intrusion detection. Which approaches are effective against misfeasors?	4
2B.	Draw a neat diagram and explain a digital immune system.	3
2C.	What is a circuit level Gateway? It is required to design a stateful inspection firewall for a government organization. Write the firewall rule set for the following firewall policy. i. All incoming DHCP response messages from the DHCP server to the insiders is allowed only if a query has been sent. ii. Outgoing messages from all ports of the machine with IP address 192.164.23.11 are allowed for the only the well known ports of outside machines irrespective of their IP addresses.	3
3A.	List the factors that make data sensitive. Explain the various techniques used to counter inference attacks.	5
3B.	What is a multilevel database? Explain the design of multilevel secure databases.	5

4A. What are web traffic security approaches? Draw a neat timeline diagram   5
    and explain SSL handshake protocol.

4B. Draw a neat diagram and explain PGP trust model. Explain S/MIME   5
    functionality.

5A. Explain the following: 4

    i. Basic combinations of security associations in IPSec
    ii. Features of IKE key determination

5B. Explain the following: 3
    a. Hacktivist   b. Ping of Death   c. Land.c attack

5C. Explain how to deal with the rising tide of cybercrimes.   3

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