

(2½ hours)

Total Marks: 75

- N. B.: (1) **All** questions are **compulsory**.
 (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
 (3) Answers to the **same question** must be **written together**.
 (4) Numbers to the **right** indicate **marks**.
 (5) Draw **neat labeled diagrams** wherever **necessary**.
 (6) Use of **Non-programmable** calculators is **allowed**.

- 1 Attempt any three of the following: 15**
 a Write a short note on importance of Information Protection.
 b Describe various components used to build a security program.
 c Explain ARP Spoofing and MAC flooding attacks.
 d Elaborate steps involved in Risk analysis process.
 e Write a short note on the Onion Model.
 f Elaborate steps required to create a Security Defense Plan.
- 2 Attempt any three of the following: 15**
 a Describe authentication? Explain different types of authentication.
 b Write a short note on Kerberos.
 c Write a short note on symmetric key cryptography.
 d Discuss any two confidentiality risks.
 e Write a short note on different types of database backups.
 f Write a short note on object-level security.
- 3 Attempt any three of the following: 15**
 a Write a short note on outbound filtering.
 b Describe the role of hubs and switches in network.
 c Write a short note on Network Address Translation (NAT).
 d Elaborate on strengths and weaknesses of a firewall.
 e Explain the importance of antenna choice and positioning.
 f Describe any two types of wireless attacks.
- 4 Attempt any three of the following: 15**
 a Elaborate on network-based intrusion detection system in detail.
 b Write a short note on SIEM –Security information and event management.
 c Write a short note on H.323 protocol that includes:
 i) Governing Standard
 ii) Purpose
 iii) Function
 iv) Known Compromises and Vulnerabilities
 v) Recommendations
 d Describe Private Branch Exchange (PBX). How will you secure PBX?
 e Write a short note on Access Control List (ACL).
 f Write a short note on reference monitor concept and windows security reference monitor.

- 5 **Attempt any three of the following:**
- a Explain how to protect the Guest OS, Virtual Storage and Virtual Networks in Virtual machines.
 - b State and explain types of cloud services.
 - c Write a short note on various Application Security Practices.
 - d Elaborate on HTTP authentication methods.
 - e Explain the classification of Corporate physical Assets.
 - f Explain Locks and Entry Controls that should be considered while securing assets with physical security devices.

15