**(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. What are the importance of information protection? Explain with example.
b. Explain various components used to build a security program.
c. What are the three recognized variants of malicious mobile code? Explain.
d. Write a short note on Network-Layer Attack.
e. Explain the two most common approaches of security.
f. Explain the best practices for network defence.

**2.** **Attempt *any three* of the following:** 15
a. Define authentication. Explain two parts of authentication.
b. Explain the authorization systems.
c. Explain public key Cryptography.
d. What are the three primary categories of storage infrastructure in modern storage security? Discuss.
e. Write a short note on integrity risks.
f. Explain Database-Level Security.

**3.** **Attempt *any three* of the following:** 15
a. Explain the Cisco Hierarchical Internetworking model.
b. Explain network availability and security.
c. Write a short note on hubs and switches.
d. Explain the features of firewall.
e. Explain the five different types of wireless attacks.
f. What are the countermeasures against the possible abuse of wireless LAN?

**4.** **Attempt *any three* of the following:** 15
a Explain intrusion Defense System types and detection models.
b Write a short note on Security Information and Event Management.
c What are components of Voice Over IP? Explain.
d Write a short note on Private Bank Exchange.
e Explain different classic security models.
f Write a short note on trustworthy computing.

**5.** **Attempt *any three* of the following:** 15
a. Define virtual machine. How is hypervisor responsible for managing all guest OS installations on a VM server?
b. What is cloud computing? Explain the types of cloud services.
c. Explain the application security practices and decisions that appear in most secure development lifecycle.
d. Explain the reasons for remote administration security. What are advantages of web remote administration?
e. Explain the security considerations for choosing a secure site location.
f. Explain the different factors for securing the assets with physical security devices.

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