

(2½ hours)

[Total Marks: 75]

N.B.

1. All questions are compulsory.
2. Make suitable assumptions wherever necessary and state the assumptions made.
3. Answer to the same question must be written together.
4. Numbers to the right indicate marks.
5. Draw neat, labeled diagram whenever necessary.
6. Use of Non-Programmable calculator is allowed.

1. Attempt any three of the following:

15

- a. What are the components needed to build a security program?
- b. Describe the three D's of security.
- c. Write a short note on Advanced Persistent Threats (APTs).
- d. Explain the two types of defense models.
- e. What are Viruses? Explain its types.
- f. Explain the following Application Layer attacks.
 - i. ARP poisoning
 - ii. DNS Spoofing

2 Attempt any three of the following:

15

- a. Explain Certificate-Based Authentication in detail.
- b. What is Authorization? Explain Role-Based Authorization.
- c. Demonstrate Symmetric-Key Cryptography Model.
- d. Describe Public Key Infrastructure in detail.
- e. List and explain types of availability risk.
- f. Write a short note on Database security.

3. Attempt any three of the following:

15

- a. Describe Cisco Hierarchical Internetworking model.
- b. Write a short note on Network Address Translation (NAT).
- c. Explain network device security w.r.t Hubs and Switches.
- d. State the strength and Weaknesses of a Firewall.
- e. Explain Radio Frequency Security.
- f. Write in brief about Wireless Phishing.

4. Attempt any three of the following:

15

- a. Explain Host based IDS.
- b. What is Private Branch Exchange (PBX)? State its functionality.
- c. Elaborate various Classic Security Models.
- d. State the features of IDS.
- e. What are the different components of VoIP?
- f. Describe firewall with its types.

5. Attempt any three of the following:

15

- a. How to protect the Hypervisor and Guest OS in Virtual Machines?
- b. What is cloud computing? Explain the types of cloud services.
- c. Explain Security Considerations in the Cloud Computing Environment.
- d. Write a short note on secure development lifecycle (SDL).
- e. Explain securing physical assets: Lock and Entry control.
- f. List and explain security considerations for choosing a secure site location.
