(2¹/₂ Hours)

N. B.: (1) <u>All</u> questions are <u>compulsory</u>.

- (2) Make suitable assumptions wherever necessary and state the assumptions made.
- (3) Answers to the <u>same question</u> must be <u>written together</u>.
- (4) Numbers to the <u>**right**</u> indicate <u>**marks**</u>.
- (5) Draw <u>neat labeled diagrams</u> wherever <u>necessary</u>.
- (6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt *any three* of the following:

- 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:

- 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:

- 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:

- 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:

- 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.

Page 1 of 1

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[Total Marks: 75]

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