

Program: T.Y.B.Sc IT **Semester:** VI **Program Code:** 1S00256
Course: Information Security **Course Code:** USIT602
Duration: 2 ½ Hours **Examination Pattern:** REV23-Autonomous-External **Max. Marks:** 75

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.

Examination:
REGULAR

Q. 1 **Attempt ANY THREE from the following:** [15]

- (a) Describe 3D's (Defense, Detection and Deterrence) of security.
- (b) What are the components needed to build a security program?
- (c) Write a short note on CIA triad model with reference to Information Security.
- (d) Explain the types of viruses.
- (e) Write a short note on Threat Vector.
- (f) Explain the two types of defense model.

Q. 2 **Attempt ANY THREE from the following:** [15]

- (a) Explain Certificate-Based Authentication in detail.
- (b) Explain risk remediation for confidentiality risk.
- (c) Describe the symmetric and asymmetric key encryption.
- (d) Explain Database backup and recovery.
- (e) What is Authorization? Explain Role-Based Authorization.
- (f) What are the different types of availability risk?

Q. 3 **Attempt ANY THREE from the following:** [15]

- (a) Write a short note on Network Address Translation (NAT).
- (b) Write in brief about wireless phishing.
- (c) Write a short note on Hubs and Switches.
- (d) What are the different forms of wireless attacks? Explain.
- (e) Describe a firewall with its types.
- (f) Explain Secure Socket Layer (SSL) authentication in detail.

Q. 4 Attempt ANY THREE from the following: **[15]**

- (a) Explain the Bell-La Padula and Biba model of security.
- (b) Write a short note on Access Control List.
- (c) What are the types of classic security models? Explain.
- (d) Write a short note on Voice Over IP (VOIP).
- (e) Explain Host and Network based IDS.
- (f) What is Private Branch Exchange (PBX)? State its functionality.

Q. 5 Attempt ANY THREE from the following: **[15]**

- (a) What is cloud computing? Explain the types of cloud services.
- (b) What are Virtual Machines (VM)? What are the security requirements for a VM?
- (c) Explain the concept of Hypervisor and Guest OS in Virtual Machines.
- (d) Write a short note on secure development lifecycle (SDL).
- (e) What are the general types of attacks in web applications? Explain.
- (f) Describe Securing Assets: Locks and Entry Controls.

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