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**MSEI-023**

**MASTER OF SCIENCE (INFORMATION  
SECURITY)/**

**P. G. DIPLOMA IN INFORMATION  
SECURITY (MSCIS/PGDIS)**

**Term-End Examination**

**December, 2025**

**MSEI-023 : CYBER SECURITY**

*Time : 2 Hours*

*Maximum Marks : 50*

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**Note :** (i) *Question No. 1 is compulsory.*

(ii) *Attempt any **three** questions from  
Q. Nos. 2 to 5.*

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1. Write short notes on the following :  $4 \times 5 = 20$

- (i) Types of Malware (e.g. viruses, worms, trojans)

- (ii) Importance of VPNs in network security
  - (iii) Concept of Zero-Day Vulnerabilities with examples
  - (iv) Concept of Zero Trust in Information Security
2. Explain the principle of least privilege in access control systems. How does it enhance cyber security ? 10
3. Discuss the steps involved in conducting a Vulnerability Assessment and Penetration Testing (VAPT). Provide examples where VAPT is critical for organisations. 10
4. Describe the lifecycle of a ransomware attacks from initial infection to encryption and ransom demands. What measures can organisations take to prevent such attacks ? 10

[ 3 ]

5. What are social engineering attacks ?

Explain its different types with examples and discuss how individuals and organizations can mitigate such attacks effectively. 10

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