

- N.B. :** (1) Question No. 1 is **compulsory**.  
 (2) Attempt any **four** questions from the remaining **six** questions.  
 (3) **Figures** to the **right** indicate **full** marks.  
 (4) Assume any **suitable** data wherever **required** but justify the same.

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|----|-----|--|----|
| 1. | (a) | Distinguish between vulnerability, threat and control.                               | 5  |
|    | (b) | Compare secret key and public key encryption.  | 4  |
|    | (c) | What are Covert Channels ? How potential Covert Channels can be identified ?         | 4  |
|    | (d) | Explain how capabilities are used to control the access to general objects.          | 4  |
|    | (e) | 'Smurf' is an "availability" attack. Justify.  | 3  |
| 2. | (a) | Compare AES and DES. Comment on Double and Triple DES.                               | 10 |
|    | (b) | Compare stream encryption and block encryption algorithms.                           | 10 |
| 3. | (a) | What are malicious codes ? Explain the various types.                                | 10 |
|    | (b) | Discuss the probable homes for virus.  | 10 |
| 4. | (a) | What are multi-level databases ? Discuss the design of multi-level secure databases. | 10 |
|    | (b) | Explain and compare Digital signatures and Digital certificates.                     | 10 |
| 5. | (a) | Discuss the various threats in a network.  | 10 |
|    | (b) | Compare signature based and Heuristic based IDS. What are the limitations of IDS ?   | 10 |
| 6. | (a) | Explain in detail, the steps in Risk Analysis.                                       | 10 |
|    | (b) | Discuss the legal issues in Computer Security.                                       | 10 |
| 7. |     | Write short notes on any <b>two</b> :  | 20 |
|    | (a) | Kerberos   |    |
|    | (b) | File Protection Mechanism  |    |
|    | (c) | Firewalls.   |    |