M.E. Second Semester (Computer Engineering) (Full Time) (C.G.S.)
13133 : Elective - II : System Security : 2 KMEF 4

P. Pages : 2

Time : Three Hours

09390

AU - 3240

Max. Marks : 80

Notes : 1. All question carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Diagrams and chemical equations should be given wherever necessary.
5. Illustrate your answer necessary with the help of neat sketches.

SECTION - A

1. a) What do you mean by vulnerability ? Describe all types of Vulnerabilities and also state how the three goals of security are applied to data. — 8

   b) What are the characteristics of a good cipher ? Explain. — 6

OR

2. a) Explain in brief the types of Vulnerabilities. — 7

   b) Explain RSA algorithm in detail with suitable example. — 7

3. a) What is malicious code ? What are the different types of malicious code ? Explain each. — 6

   b) What is backdoors ? What are the sources of backdoors ? Explain in brief the causes of backdoors ? — 7

OR

4. a) Explain the following related to targeted malicious code : — 7
   i) Computer worms   ii) Trapdoors
   iii) Man-in-the middle attacks.

   b) Explain in brief, how viruses gains control. — 6

5. a) List two disadvantages of using physical separation in a computing system. List two disadvantages of using temporal separation in a computing system. — 6

   b) Explain why asynchronous I/O activity is a problem with many memory protection schemes, including base/bound and paging. Suggest solution to the problem. — 7

OR

6. a) What are the mechanisms to protect an object ? Explain in brief access control list mechanism to protect an object. — 7

   b) Explain in brief password selection criteria and also explain one time password functions with suitable examples. — 6

SECTION - B

7. a) What are the important design principles to security while building solid trusted operating systems ? Explain them in brief.   7

    b) What is multilevel security ? Explain lattice model of access security.   7

OR

8. a) Explain in brief Chinese Wall Security Policy.   7

    b) Explain what is virtualization ? Explain the concept of multiple virtual memory space.   7

9. a) Explain Inference with the help of suitable example. How will you control statistical inference attacks ?   7

    b) Explain the following :   6
        i)   Indirect Attack.
        ii) Integrity Lock

OR

10. a) What is the purpose of encryption in multilevel secure database management system ?   7

    b) Explain the concept of reliability and integrity in database security.   6

11. a) What is firewall ? What are its types ? Explain application proxy ?   5

    b) Explain the following :   8
        i)   Eavesdropping and Wiretapping
        ii)   SSL security at transport layer
        iii) Denial of service attack
        iv)   Session Hijacking

OR

12. a) What is IDS ? What are the functions performed by IDS ? Explain in brief strength and weakness of IDS.   7

    b) What are the steps to be analyze the security risks in a computing system. Explain in brief. 6

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