

M.E. Second Semester (Computer Science & Engineering) (F.T.) (CGS)  
**13152 : Elective : Network Security : 2 RMEF 4 / 4 RME 2**

P. Pages : 2

Time : Three Hours



**AW - 3681**

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. Retain the construction lines.
  5. Illustrate your answer necessary with the help of neat sketches.
  6. Use of pen Blue/Black ink/refill only for writing the answer book.

**SECTION - A**

1. a) Explain AES algorithm in detail with suitable block diagram. 8  
b) Explain in brief the types of Vulnerabilities. 6

**OR**

2. a) Explain RSA algorithm in detail with suitable example. 7  
b) Distinguish among Vulnerability, threat and Control with example. 7
3. a) Describe the following related to computer program: 7  
i) Malicious code ii) Computer worms  
iii) Trojan Horses  
b) Explain non-malicious program error with suitable example. 6

**OR**

4. a) Explain in brief, how viruses gains control. 6  
b) Describe the various types of viruses with their characteristic and effects of their attacks. Explain in brief the truth and misconceptions about virus. 7
5. a) In file protection mechanism what are the difficulties that arise in group protection and why in All-or-none protection unacceptable? 6  
b) List two disadvantages of using physical separation in a computing system. List two disadvantages of using temporal separation in a computing system. 7

**OR**

6. a) 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  
b) Explain in detail the tagged architecture and explain how fence register is used for relocating a user's program. 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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