

Con/2657-07.

Library

(REVISED COURSE)
(3 Hours)

ND-8237

[Total Marks : 100]

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

1. (a) Distinguish among vulnerability, threat and control. 5
- (b) Can a database contain two identical records without a negative effect on the integrity of the database? Why or why not. 5
- (c) Explain how a fence register is used for relocating a user's program. 5
- (d) Compare copyright, patent and trade secret protection. 5
2. (a) Answer the following : 10
 - (i) What is access control? How different is it from availability?
 - (ii) What is worm? What is the significant difference between worm and virus.
- (b) Compare the following : 10
 - (i) AES, SHA and RSA cryptography
 - (ii) Secret key and public key encryption.
3. (a) Consider a program to accept and tabulate votes in an elector. Who might want to attack the program? What types of harm might they want to cause? What kind of vulnerabilities might they exploit to cause harm? 10
- (b) Explain the use of temporal separation and physical separation for security in computing environment. 10
4. (a) What are multilevel databases? Discuss the designs of multilevel secure databases. 10
- (b) Explain in details the steps in risk analysis. 10
5. (a) Answer the following : 10
 - (i) What is the difference between a digital signature and digital certificate? Upon reception of a digital certificate, how one can decide whether to trust that or not?
 - (ii) Is a social engineering attack more likely to succeed in person, over the telephone or through e-mail?
- (b) List the characteristics of a good firewall implementation. What are the limitations of a firewall? Give the comparison between the several types of firewalls such as packet filtering, stateful inspection, application proxy, guard and personal firewall. 10
6. (a) Discuss the similarities and differences between signature based IDS and heuristic based IDS. What are the limitations of IDS? 10
- (b) What is the Denial of Service (DOS) attack? What is the meaning of the term 'service' in DOS? What can possibly prevent DOS attacks? 10
7. Write a details note on : (any **two**) 20
 - (a) Kerberos
 - (b) Virtual Private Networks
 - (c) E-mail Security.