

BTS (C) – VIII – (S) – 06 – 039 (B)

***B. Tech Degree VIII Semester (Supplementary)  
Examination, September 2006***

**CS 801 SECURITY IN COMPUTING  
(2002 Admissions)**

Time : 3 Hours

Maximum Marks : 100

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|-------|-----|--|------|
| I.    | (a) | Draw a block diagram representing model of conventional cryptosystem.<br>Explain all components.       | (12) |
|       | (b) | Briefly define the Caesar Cipher.  | (8)  |
|       |     | <b>OR</b>  |      |
| II.   | (a) | What is one-time pad? Explain using an example.  | (8)  |
|       | (b) | Explain the DES encryption algorithm.  | (12) |
| III.  |     | Explain different types of software threats.   | (20) |
|       |     | <b>OR</b>  |      |
| IV.   |     | What are viruses? Explain various types of viruses.  | (20) |
| V.    | (a) | Explain memory and address protection schemes.   | (10) |
|       | (b) | What are trusted operating systems? Explain.   | (10) |
|       |     | <b>OR</b>  |      |
| VI.   | (a) | Explain different types of file protection mechanisms.   | (10) |
|       | (b) | What is authentication? Explain user authentications schemes.  | (10) |
| VII.  | (a) | Describe security in multilevel databases.   | (12) |
|       | (b) | What is 2 – phase update technique? What problem does it solve?  | (8)  |
|       |     | <b>OR</b>  |      |
| VIII. | (a) | Outline different design techniques for multilevel secure databases.                                   | (12) |
|       | (b) | Explain :  |      |
|       |     | (i) Sensitive data                      (ii) Reliability   |      |
|       |     | (iii) Inference                          (iv) Integrity.   | (8)  |
| IX.   | (a) | What is a firewall? List techniques used by firewalls to control access and enforce a security policy. | (10) |
|       | (b) | What is an IDS system? Explain.  | (10) |
|       |     | <b>OR</b>  |      |
| X.    | (a) | Describe various threats in networks.  | (10) |
|       | (b) | What is a gateway? Explain application – level and circuit – level gateways.                           | (10) |

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