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MCA  
PEE 5001

Fifth Semester Examination – 2008

COMPUTER SECURITY

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory  
and any **five** from the rest.

The figures in the right-hand margin  
indicate marks.

1. Answer the following questions : 2×10
- (a) What is the principle of least privilege ?
  - (b) Name one advantage of using a white list (in stead of black list) for your spam filter.
  - (c) Suppose, I generate RSA Public Key and Private Key pair and I publish the public

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key. Is that all I need to send you a security encrypted message ?

- (d) What is Cryptanalysis ?
- (e) What is transpositions ?
- (f) During message transmission from 'A' to 'B', if 'C' can read the message, which security principle is violated.
- (g) Which unit of a DBMS responsible for the structural integrity of a database ?
- (h) Access control matrices can represent anything that is represented by access control lists. Justify.
- (i) If some one known an efficient algorithm for computing the GCD (Great Common Divisor) of two extremely large numbers, will this make it possible to break RSA ?
- (j) Who issues digital certificates ?

- 2. (a) Differentiate between threat and vulnerability. What are the different types of threats ? 5
- (b) Discuss the different method of defence against possible attack. 5
- 3. (a) Briefly discuss the different security requirements of database. 5
- (b) Discuss the different approaches to multi-level security for databases. 5
- 4. (a) Describe two fundamentally different conceptual approaches that can be used for authentication. 5
- (b) What is distributed denial of service ? Why it is carried out and how it works ? 5
- 5. (a) What are the different types of control against program threats ? 5
- (b) What is a Malacious code ? What are the different types of malacious codes ? Are all malacious codes harmful ? 5

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6. What is risk ? Why it is essential to analyse a risk ? Briefly discuss the steps of risk analysis.

10

7. Why it is difficult to detect and prosecute computer crime ? Discuss about the different laws for prosecution of such criminals.

10

8. What is Firewall ? Briefly discuss the different types of firewalls. What a firewall can do and what it can't do ?

10

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