Sr. No. 7111

Exam. Code: 217902
Subject Code : 6445

M.Sc. Information & Network Security - 2nd Sem.

(2517)

Paper - I: N/W Planning, Analysis & Performance

Time allowed: 3 hrs. **Max. Marks: 100**

Note: There are eight questions in the question paper. The candidates are required to attempt any five of them. Each question carries 20 marks.

1. What is traditional traffic engineering? Discuss queued data and packet switched network modeling along with the designing considerations for peaks, delay or latency.
2. Discuss the access network design, access layer design, access network capacity as well as network topology and hardware for access layer.
3. Discuss the objectives of modeling the network performance? Discuss the comprehensive procedure for creating a network performance model.
4. Briefly discuss the various chronological steps involved in constructing a new network design.
5. What are the components of design projects? Discuss the types of network design projects and different characteristics of design tools.
6. Write short notes on the following
   (i). Circuit, Message, Packet and Cell switching
   (ii). Comparison of High-speed LAN protocols
7. List the various threats to network security. Discuss the threat-free design for network security and various network security techniques.
8. Write short notes on the following
   (i) Time & delay consideration in a communication network
   (ii) Public vs. private networking

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Sr. No. 7112

Exam. Code: 217902
Subject Code : 6446

M.Sc. Information & Network Security - 2nd Sem.

(2517)

Paper - II: N/W Security Practices

Time allowed: 3 hrs. **Max. Marks: 100**

Attempt any five questions. All question carry equal marks.

1. What do you mean by security attack? Explain the various types of it with its possible solution to avoid or minimize these attacks.

2. What is use of DES algorithm? How DES is implemented? What is the strength of it? Explain how it is different from 3DES.

3. (a) Explain the merits and demerits of stenography with one example.
   (b) Explain the difference between blowfish and CAST-128 with an example of each.

4. Explain any two public key encryption methods with an example of each.

5. What is the difference between Electronic mail security Vs Web security? Explain the architecture of IP security.

6. (a) Explain the use of Hash functions in context of authentication.
   (b) Explain the basics and standards of digital signature and also write its use for authenticity.

7. (a) Explain the conventional encryption model.
   (b) Explain the use of random number generation and key distribution in traffic confidentiality.

8. Write a short note on following
   (a) Elliptic Curve Vs Diffie-Hellman key exchange
   (b) Necessity of Network Security
   (c) Non-repudiation and integrity services

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Sr. No. 7113

Exam. Code: 217902
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M.Sc. Information & Network Security - 2nd Sem.

(2517)

Paper - III: Computer Forensic Fundamentals

Time allowed: 3 hrs. **Max. Marks: 100**

Note: Attempt any five questions. All questions carry equal marks.

1. Discuss the use of Computer Forensics in: 20

   a) Detection of hidden data b) Law Enforcement

2. How cyber-crime can be detected with Computer Forensic technology? Discuss the techniques for improvement of forensic process. 20

3. What is the benefit of following professional forensic methodology for identifying problems with law enforcement? Explain the steps. 20

4. Describe the following: 20

   a) Bio-metric Security System

   b) Role of backup in data recovery

5. What is the need of evidential authentication? How it is being carried out? Discuss the tools used for this. 20

6. Discuss the procedure for system testing and tools needed for response to intrusion. 20

7. What are the major types of business computer forensic technology? Discuss the specialised forensic techniques. 20

8. Write short notes on the following: 20

   a) Rules of evidence

   b) Encryption methods

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Sr. No. 7114

Exam. Code: 217902
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(2517)

Paper - IV: Secure Code Development

Time allowed: 3 hrs. **Max. Marks: 100**

Note: Attempt any 5 questions. All the questions carry equal marks.

Q1) How is a process model important in software development? Explain the waterfall model and discuss its pros and cons.

Q2) What is agile software development? Explain the key activities of agile software development approach?

Q3) What is requirement elicitation? Discuss the methods that can be used in requirement elicitation. How significant is requirement specification for a good quality software?

Q4) Discuss the methods available for data, function modelling of a system in the process of system automation?

Q5) What is software documentation? How is it important in secure software development?

Q6) Why security of a system should not be compromised? Explain the proactive security development process that can help in building a secure system?

Q7) Explain the following security issues:

a. Buffer overrun
b. Least privilege
c. Access control

Q8) Write a short note on:

a. SD3
b. Rapid prototyping

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