UNIVERSITI SAINS MALAYSIA

Second Semester Examination
Academic Session 1998/99

February 1999

CSI533 - Design, Installation and Management of Networks

Duration : [3 hours]

INSTRUCTION TO CANDIDATE:

* Please ensure that this examination paper contains TEN questions in THREE printed pages before you start the examination.

* Answer ALL questions.

* You can choose to answer either in Bahasa Malaysia or English.

ENGLISH VERSION OF THE QUESTION PAPER

1. Suppose your were assigned to recruit a LAN manager.

   What experience would you require of qualified candidates?

   (10 marks)

2. Describe two situations in which it would be beneficial to have a LAN utility that allows the network manager to view what is displayed on a workstation' monitor.

   As a workstation user, would you have any concerns regarding the use of such a tool? If so, what are your concerns?

   (10 marks)

3. As computer crime can result from a lack of security, all operating systems have the facility of a secure login with passwords. However, a user should follow some requirements in order to prevent discovery of the password by another person.

   List the measures which the user has to perform, and explain why.

   (10 marks)

4. With respect to networking name services:

   (a) Give one example of a flat and hierarchical naming structure.

   (b) State the implication of using each structure in relation to the management of names.

   (10 marks)

5. Give an example of name hierarchy in relation to the TCP/IP domain system.

   Identify selected domain names in the hierarchy and explain the philosophy behind their assignment in relation to the overall management of the world naming directory.

   (10 marks)

6. Identify the protocols associated with the domain name system.

   Produce a figure of typical arrangement of these protocols in relation to a client system, a server, and a domain name server. Outline the sequence of messages that are exchanged between these hosts in order to obtain the TCP/IP address of the server for the client.

   (10 marks)

7. With the aid of an outline domain name hierarchy, give examples of how a name is resolved when the required server is:

(a) local with the name server,

(b) at a higher layer in the hierarchy.

Explain your examples.

(10 marks)

8. Produce a figure of a typical - however simplified - management information tree (MIT) for a campus network connecting a number of LANs interconnected by routers.

List the five user service primitives associated with the SNMP protocol and explain their use in relation to your MIT.

(10 marks)

9. List methods, using which data can be changed to ensure security while they are passing across:

(a) private LAN,

(b) public WAN.

Discuss the methods.

(10 marks)

10. List and explain the following:

(a) What is a user's measure of network reliability and security?

(b) What factors affect network reliability and security?

(c) How can an entire computer network be made reliable and secure?

(10 marks)

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