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Question Paper Code: 92042

M.E. DEGREE EXAMINATION, MAY 2014.

Elective

Computer Science and Engineering (with Specialization in Networks)

01PNE507 - NETWORK MANAGEMENT

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Draw the Half-Bridge configuration.
2. What is Hybrid Fibre Coax technology?
3. What is a communication model?
4. Draw the three-tier network management organization model.
5. Define *ifEntry* module under *ifTable*
6. Encode IP address 10.20.30.40 in TLV format.
7. Define Management Information Base.
8. Define Virtual path.
9. List the performance management applications.
10. What is policy based management?

PART - B (5 x 14 = 70 Marks)

11. (a) Draw a network configuration and the protocol-layer interface architecture for a multiprotocol bridge that connects an Ethernet LAN and a token-ring LAN. (14)

Or

- (b) The minimum size of the frame is determined by the token size, which is 3 bytes long and should be contained in the ring under idle condition. Assume a 16-Mbps LAN and transmission of 200 meters per microsecond.

- (i) What should be the minimum length of the ring in meters?
(ii) Each station normally adds a bit delay in processing the data. What is the additional length gained by adding one station at a time? (14)

12. (a) (i) Give the comparison of SNA ,OSI and Internet protocol layer models. (7)
(ii) Discuss Information model and explain in detail about Management information trees. (7)

Or

- (b) (i) Explain Management Communication transfer protocols in detail. (7)
(ii) Give note on the structure of ASN.1 Macro and an object identity macro. (7)

13. (a) (i) Write the object DESCRIPTOR and syntax of the following SNMP managed entities:

- (1) IP address
(2) A row in the Interfaces table
(3) The MAC address of an interface card. (7)

- (ii) Discuss Protocol remote monitoring in detail. (7)

Or

- (b) (i) Explain how you would determine whether a device is acting as a host or as a router using an SNMP command. (7)
(ii) Write short notes on SNMP proxy server. (7)

14. (a) (i) Write notes on ATM technology. (7)
(ii) Write notes on integrated local management interface. (7)

Or

- (b) (i) Draw the architecture of ATM network reference model and explain in detail. (7)
 - (ii) Explain Virtual LAN technology in detail. (7)
15. (a) (i) Discuss the various event correlation techniques. (7)
- (ii) What are Service Level Agreements? Explain the need of SLAs. (7)

Or

- (b) (i) Explain the methods available to manage the fault occurrence in the network. (7)
- (ii) What are the techniques available to safeguard the network from both internal and external attacks. (7)

PART - C (1 x 10 = 10 Marks)

16. (a) Create a MIP module for your company. The objective is to find the inventory of any specific product while sitting in your office as president of the company. Draw a MIB subtree and write a MIB module. (10)

Or

- (b) What are the top challenges in managing the network? How would you manage the network without the Network Management System? Justify your answer. (10)
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