DiplETE – CS (NEW SCHEME) - Code: DC70

Subject: NETWORK MANAGEMENT

Time: 3 Hours

JUNE 2011

Max. Marks: 10

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 **Choose the correct or the best alternative in the following:** (2×10)

a. The transmission mode which allow both communicating devices to transmit and receive data simultaneously is

(A) Simplex	**(B)** Full-duplex
(C) Half-duplex	**(D)** None of these

b. Which of the following is a voiceband channel?

(A) Telephone line	**(B)** Telegraph line
(C) Coaxial cable	**(D)** Microwave systems

c. Asynchronous transfer mode packet are of fixed size, each being _____ length.

(A) 43 bytes	**(B)** 93 bytes
(C) 63 bytes	**(D)** 53 bytes

d. CMIP and SNMP specify the management for

(A) communication and internet management protocol for OSI
(B) organization management for OSI
(C) both **(A)** and **(B)**
(D) none of the above

e. IEEE network management state

(A) management of layer 1 and 2 of the OSI reference model
(B) LAN, MAN and address standard on broadband
(C) physical and data link layer
(D) all of the above

f. In encapsulated SNMP management addition of an IP header to the transport PDU form

(A) Application PDU	**(B)** Transport PDU
(C) Network PUD	**(D)** None of the above

g. The entry states associated with RMON1 textual data type exist in

(A) valid and invalid state   **(B)** create request state
(C) under creation state   **(D)** any one of the above state

h. Packet filtering is implemented in

(A) session, data link, transport layer **(B)** data link, network, transport layer
(C) physical, data link, network layer **(D)** application, network, transport layer

i. Specification for implementing JMX manageable resources are written at _____

(A) manager level   **(B)** agent level
(C) instrumentation level   **(D)** additional manager API's

j. *ping* is a

(A) tool that use X Windows   **(B)** probes such as ICMP echo message
(C) extension to SNMP   **(D)** NMS queries

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. Explain the TCP/IP based internet and intranet network. **(5)**

     b. Define communication protocol and list the commonly used protocols in network management. **(5)**

     c. What is network management and its salient features? Write in short about the future of network management. **(6)**

Q.3 a. The following is the informal record structure of a home address: **(10)**
        Name   Ram Sharma
        Address   2467 Prithviraj Road
        City   New Delhi
        State   Delhi
        Zip Code   110009
        Write for your record:
        (i)   the informal record structure
        (ii)   an ASN.1 description of the record structure
        (iii) the record value for home address

     b. List the five network management standards and two salient features for each.

                                                          (6)

Q.4 a. Draw and explain the SNMP network management architecture. **(8)**

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b. Write short notes on the following:
   (i) SNMP manager and SNMP agent
   (ii) Information model of SNMP management   **(4 × 2)**

Q.5   Explain the following:
   (i)   Functional Model of SNMP management
   (ii) SNMP Access Policy
   (iii) SNMP Operations
   (iv) SNMP message   **(4 × 4)**

Q.6 a. What is Remote Monitoring? Explain EntryStatus for RMON1 textual convention.   **(8)**

   b. Describe the ATM Remote Monitoring?   **(8)**

Q.7 a. Describe the following monitoring tools:
   (i) nslookup   (ii) host
   (iii) ping   (iv) bing
   (v) snoop   (vi) iptrace
   (vii) netstat   (viii) tracert   **(1 × 8)**

   b. Write short notes on:
   (i) Methods to gather network statistics
   (ii) Components of network management system   **(2 × 4)**

Q.8 a. What are faults in a network management system? Give the step wise process for fault management.   **(6)**

   b. What is cryptographic communication? Give the difference between secret key and public key cryptography.   **(6)**

   c. What is the need for report management? List the different types of reports.**(4)**

Q.9 a. Write short notes on:
   (i) DMI
   (ii) WBEM
   (iii) JMX   **(3 × 4)**

   b. Justify the following statement "Java technology is being extended to manage distributed management storage network".   **(4)**