Code: DC70/DC123   **Subject: NETWORK MANAGEMENT**

DipIETE – CS (Current & New Scheme)

Time: 3 Hours   **JUNE 2017**   Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

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.**
- **Q2 TO Q7 CAN BE ATTEMPTED BY BOTH CURRENT AND NEW SCHEME STUDENTS.**
- **Q8 AND Q9 HAVE BEEN GIVEN INTERNAL OPTIONS FOR CURRENT SCHEME (DC70) AND NEW SCHEME (DC123) STUDENTS.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q1.   **Choose the correct or best alternative in the following:**   **(2×10)**

a.   The OSI Reference Model has _____ numbers of layers.
(A) 6   **(B)** 7
(C) 8   **(D)** 9

b.   _____ is a standard and notation that describes rules and structures for representing, encoding, transmitting, and decoding data in telecommunication and computer network.
(A) ASN.1   **(B)** ATM
(C) RMON1   **(D)** RMON2

c.   SNMP management began in _____.
(A) 1960s   **(B)** 1970s
(C) 1980s   **(D)** 1990s

d.   The peer processes, which implement the SNMP, and thus support the SNMP application entities, are called _____.
(A) Protocol suit   **(B)** Protocol analyzer
(C) Protocol entities   **(D)** Protocols

e.   Which RMON1 MIB group's function is to generate events when the data sample gathered crosses pre-established thresholds?
(A) Statistics   **(B)** History
(C) Alarm   **(D)** Host

f.   Network provisioning is also called _____.
(A) Trunk provisioning   **(B)** Message provisioning
(C) Virtual provisioning   **(D)** Circuit provisioning

g. _____ keeps upper-level management apprised of the status of network and system operation.
   (**A**) System reports   (**B**) Planning & Management reports
   (**C**) User reports   (**D**) None of these

h. Which network management tool obtains and configures networking interface parameters and status on UNIX/LINUX operating systems?
   (**A**) IPCONFIG   (**B**) Ping
   (**C**) ifconfig   (**D**) nslookup

i. ISDN stands for
   (**A**) Indian Services Digital Network
   (**B**) Indian Services Data Network
   (**C**) Integrated Services Digital Network
   (**D**) Integrated Services Data Network

j. TCP/IP stands for
   (**A**) Transmission Central Protocol/Internet Protocol
   (**B**) Transmission Control Protocol/Internet Protocol
   (**C**) Transfer Control Protocol/Internet Protocol
   (**D**) Technique Control Protocol/Internet Protocol

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

Q.2 a. Explain the concept of OSI reference model in detail. List the functions performed by each layer in OSI reference model.   **(4+4)**

   b. Define the term "Network Management". Explain any two network management functional groupings in detail.   **(2+6)**

Q.3 a. What do you understand by network management standards? Explain features of any four network management standards.   **(2+6)**

   b. Explain the OSI network management model in detail.   **(8)**

Q.4 a. What are the major events in the history of the development of SNMP?   **(8)**

   b. Explain the SNMP organizational model in detail.   **(8)**

Q.5 a. Explain the SNMP architecture in detail.   **(8)**

   b. What do you understand by Management Information Base (MIB)? Write down the MIB groups for RMON1 and RMON2.   **(2+6)**

Q.6 a. Explain "Fault Detection", "Fault Location and Isolation Techniques" with respect to Fault Management.   **(4+4)**

b. What do you understand by security management? Explain the concepts of "Policies and procedures" and "Firewalls" with respect to security management. **(2+3+3)**

Q.7 a. Explain "Planning & management reports", "System Reports", and "User Reports" with respect to "Report Management". **(3+3+2)**

b. Explain policy management architecture in detail. **(8)**

Q.8 **(For Current Scheme Students i.e. DC70)**
a. What are the tools that help to manage a network? Explain. **(8)**

b. What is a Network Management System (NMS)? Explain layer wise, the functional components of a commercial network management system in detail. **(2+6)**

Q.8 **(For New Scheme Students i.e. DC123)**
a. Classify and briefly explain the various basic tools for network management. **(2+6)**

b. What is a Network Management System (NMS)? Explain layer wise functional components of the commercial network management system. **(2+6)**

Q.9 **(For Current Scheme Students i.e. DC70)**
a. Explain how an SNMP NMS can be implemented using a web interface? **(8)**

b. Describe the "Jiro platform" used for storage area network. **(8)**

Q.9 **(For New Scheme Students i.e. DC123)**
a. What do you mean by Broadband Network? What services does it provide? **(2+6)**

b. Explain the "Virtual path - Virtual Circuit" and "ATM Packet Size" with respect to ATM technology, in detail. **(8)**