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

DipIETE – CS (Current & New Scheme)

Time: 3 Hours　　　　　　**December 2016**　　　　　　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 (CODE DC70) AND NEW SCHEME (CODE DC123) STUDENTS.**
- **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 network traffic monitoring tool *ping* is used to
　　　(A) Measure point-to-point bandwidth of a link
　　　(B) Measure round –trip packet loss
　　　(C) Measure performance of gateways
　　　(D) Dump traffic on network

　　b. The term RMON when expanded is
　　　(A) Remote Network Monitoring
　　　(B) Remote Network Office Monitoring
　　　(C) Remote Network Official Monitoring
　　　(D) Reference Network Monitoring

　　c. Token ring group _____ is associated with the function of generating historical utilization and error statistics of promiscuous data.
　　　(A) Statistics　　　　　　**(B)** Promiscuous Statistics
　　　(C) Graph　　　　　　　　**(D)** None of these

　　d. Which amongst the following is a valid symbol in ASN.1?
　　　(A) " "　　　　　　　　**(B)** ::=
　　　(C) ||　　　　　　　　　**(D)** :+

　　e. ASN.1 stands for
　　　(A) Abstract Syntax Notation 1
　　　(B) Absolute Semantic Notation 1
　　　(C) Abstract Semantic Notation 1
　　　(D) None of these

f. _____ is a non-negative integer and measures time in units of hundredths of a second.
   (A) Counter   **(B)** Gauge
   (C) Time Ticks   **(D)** Opaque

g. BERT stands for
   (A) Bit Error Rate Transfer   **(B)** Byte Error Rate Tester
   (C) Bit Error Rate Tester   **(D)** Byte Error Rate Transfer

h. Finite state machine model is a
   (A) Passive system   **(B)** Active system
   (C) General system   **(D)** None of these

i. _____ is information-modeling framework intended to accommodate all protocols and frameworks.
   (A) MIF   **(B)** DMI
   (C) CIM   **(D)** DMFT

j. RFC stands for
   (A) Radio Frequency Communications
   (B) Request For Comments
   (C) Radio For Commoners
   (D) None of these

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

Q.2 a. With the help of a neat diagram, explain Distributed Computing Environment with LANs and WANs. **(8)**

b. Explain the TCP/IP based internet and intranet network. **(4)**

c. Define communication protocol and list the commonly used protocols in network management. **(4)**

Q.3 a. What is ASN.1 and why is it required? With the help of a block diagram, outline the ASN.1 data type structure and tag. **(8)**

b. List the five Network Management Standards with their salient points. **(8)**

Q.4 a. With the help of suitable diagram explain the two-tier and three-tier organization model of SNMP management. **(4+4)**

b. Draw the SNMP Network Management Architecture and explain its function. **(8)**

Q.5 a. Compare RMON1 and RMON2. Illustrate your answer by listing various goals and benefits of Remote Monitoring. **(6+2)**

b. What SNMP operations comprised of ? Explain Get Request –PDU and Get Next Request-PDU operation. **(8)**

Q.6   a. What is meant by network provisioning? How is it implemented in the ATM technology?   **(8)**

b. Explain any two event correlation techniques.   **(8)**

Q.7   a. Write a description of report management function of network management application. What are the specific planning and management reports?   **(8)**

b. Explain Policy-Based Management.   **(8)**

Q.8 (For Current Scheme students i.e. DC70)
a. Identify the five functional components of a Network management system. List any one service offered by each of these components along with pictorial representation.   **(8)**

b. Write short notes on the following:-   **(8)**
(i) Bit Error Rate Tester
(ii) Network Traffic Monitoring Tools

Q.8 (For New Scheme students i.e. DC123)
a. Write about Network Statistic Measurement Systems.   **(8)**

b. What do you mean by Network Management Systems (NMS)? Discuss about its functional components.   **(8)**

Q.9 (For Current Scheme students i.e. DC70)
a. Describe the components used in web-based enterprise management.   **(8)**

b. Explain Embedded Web Based Management Configuration with a diagram. Give its features.   **(8)**

Q.9 (For New Scheme students i.e. DC123)
a. Write in brief about Broadband Access technologies.   **(8)**

b. Draw and explain about the ATM Network Reference Model.   **(8)**