



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech(ECE-NEW)/SEM-7/EC-704F/2009-10

2009

**TELECOMMUNICATION NETWORK
MANAGEMENT**

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :
 $10 \times 1 = 10$
 - i) A trunk is a between two switches in respect of network management.
 - a) connector path
 - b) path
 - c) logical link
 - d) pathway.
 - ii) SMI
 - a) describes how the management information is structured
 - b) is specification of how information managed on TCP/IP network
 - c) both (a) and (b)
 - d) none of these.



- iii) AMPS uses
 - a) CDMA
 - b) TDMA
 - c) FDMA
 - d) WDMA.
- iv) Router uses in
 - a) data link layer
 - b) transport layer
 - c) physical layer
 - d) network layer.
- v) Which layer of OSI is responsible to formation the packet ?
 - a) Physical layer
 - b) Data link layer
 - c) Network layer
 - d) Transport layer.
- vi) How many OSI layers are there in a TMN network ?
 - a) Three
 - b) Six
 - c) Eleven
 - d) Seven.
- vii) The ITU-T TMN recommendations of TMN management function is
 - a) M.3020
 - b) M.3180
 - c) M.3400
 - d) M.3300
- viii) Network management is done between
 - a) manager and agent
 - b) manager and manager
 - c) agent and agent
 - d) all of these.
- ix) SONET was developed by
 - a) ITU-T
 - b) ANSI
 - c) ISO
 - d) CCITT.



- x) Collection of policies to be distributed to an SNMP agent for implementation is called
- a) packet b) package
 c) message d) none of these.
- xi) Link that supports communications in both directions but only one direction at a time is called
- a) half-duplex b) full-duplex
 c) simplex d) unidirectional.
- xii) TCP/IP protocol required in
- a) television b) telegraphy
 c) satellite d) internet.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. What are the major components of telecommunication network ? Describe cable hierarchy for subscriber loops. 5
3. Discuss the embedded web-based management. 5
4. Define the different elements using in network management system. 5
5. Explain forward and backward signaling applicable to Diffserv networks. 5
6. What is network management ? Explain the goals of network management. What do you mean non-homogeneous network management and homogeneous network management ?

1 + 2 + 1 + 1



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) What is the Telecommunication Management Network (TMN) and application of TMN ?
b) Describe functional architecture of TMN and draw the block diagram of physical architecture of TMN.
c) What is the relationship of TMN with data and telecommunication network ? $3 + 9 + 3$
8. What are the advantages of using MIMO antennas in broadband wireless access ? Discuss the functions of service, segment, technology and management in converged networks. Show the conceptual view of the system-to-system architecture to manage converged network and services. $3 + 8 + 4$
9. a) Which layer of the OSI reference model contains management applications ? In which layer do you find SNMP ? 3
b) What is TRAP ? What is its purpose ? 5
c) Explain briefly SNMP network management architecture. Write the advantage of SNMPv2 over SNMP. $5 + 2$
10. Discuss the managerial and agency model used in guerrilla management architecture. What are the functions of Nomadic manager and lightweight active probe ? $8 + 7$
11. Write short notes on any *three* of the following : 3×5
- a) SNMPv2
b) GSM
c) CMIS / CMIP
d) Structure of information modelling.