



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH (ECE)/SEM-7/EC-704F/2011-12  
2011**

**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 the following :

10 × 1 = 10

- i) According to OSI model, V5 is a
  - a) Physical layer protocol
  - b) Data Link layer protocol
  - c) Session layer protocol.
- ii) For network management activities, a mail server acts as
  - a) a server
  - b) an agent
  - c) a server as well as an agent.



- iii) For network management, ASN-1 ( Abstract Syntax Notation one ) is used by
  - a) TCP/IP model
  - b) OSI model
  - c) both TCP/IP model and OSI model.
- iv) SNMP managers and agents are
  - a) both software modules
  - b) both hardware modules
  - c) either software or hardware modules.
- v) One SNMP agent can interact with
  - a) one SNMP manager only
  - b) maximum two SNMP managers
  - c) multiple SNMP managers.
- vi) In SNMP environment, communication of management information among management entities is realized through exchange of just
  - a) 3 protocol messages
  - b) 5 protocol messages
  - c) 7 protocol messages.
- vii) SNMPv2 has
  - a) 3 protocol messages
  - b) 5 protocol messages
  - c) 7 protocol messages.
- viii) Resources in accounting management in Network Management is/are
  - a) number of transactions and packets
  - b) number of bytes and packets
  - c) number of bytes and transactions
  - d) any one of number of bytes, packets and transactions.



- ix) Dense wave Division Multiplexing is used in
- a) optical media
  - b) wireless media
  - c) electromagnetic media.
- x) CMIP ( Common Management Information Protocol ) has
- a) 3 protocol messages
  - b) 5 protocol messages
  - c) 7 protocol messages.

### GROUP – B

#### ( Short Answer Type Questions )

Answer any *three* of the following.  $3 \times 5 = 15$

2. What are the different sub-categories of performance management in Networks ? State the related activities.
3. Discuss the structure of management information ( SMI ) in networks.
4. Explain in brief, the management infrastructure of Indian Telecommunication.
5. Compare SNMPv3 with its previous versions.
6. Discuss the next generation principle related to Telecommunication Network Management with its architectural concepts.
7. How can we bypass active attacks on Mobile Ad hoc Networks ?
8. What would be the performance of Telecommunication in micro- and macro-level disasters ? What are the primary requirements and barriers ?



**GROUP – C**

**( Long Answer Type Questions )**

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

9. a) Show the SNMP trap protocol data unit. Explain. 8  
b) What are the current network management tools ?  
Comment on each. 7
10. Discuss the life cycle of a multicast group.
11. What is PNNI anycasting ? Discuss its architectural design.
12. a) Explain ISO OSI network management applications. 7  
b) How can a fault be managed ? 8
13. a) Explain the network management principles when a management application wishes to obtain the value of an MIB variable on a management agent. 6  
b) Examine how SNMP does its job. 9
14. a) On what factors does the QOS of the multicast tree depend ? Explain in brief. 10  
b) What are the failure recovery systems in multicasting ? 5
15. Discuss in brief, the Internet, Global Mobile Personal Communication Services, Intelligent Network Services, Asynchronous Transfer mode and voice over Internet Protocol applied in Indian Telecommunication.  $5 \times 3$

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