

Telecommunication Network Management

B.E. Sem. VIII [EXTC]

(Elective – II)

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	25
Term Work	–	25

SYLLABUS

Objective: To understand the concept of Telecom network management, architecture and protocol.

1. Foundations

Network management standards, network management model, organization model, information model abstract syntax notation 1 (ASN.1), encoding structure, macros, functional model.

Network management application functional requirements

Configuration management, fault management, performance management, Error correlation technology, security management, accounting management, common management, report management, polity based management, service level management, management service, community definitions, capturing the requirements, simple and formal approaches, semi formal and formal notations.

2. Telecommunication management network (TMN) architecture

Terminology, functional architecture, information architecture, physical architecture, TNN cube, TMN and OSI.

3. Common management information service element (CMISE)

CMISE model, service definitions, errors, scooping and filtering features, synchronization, functional units, association services, common management information protocol (CMIP) specification.

4. Information Modeling for TMN

Rationale for information modeling, management information model, object oriented modeling paradigm, structure of management information, managed object class definition, management information base (MIB)

5. Simple network management protocol (SNMP)

SNMPv1 : managed networks, SNMP models, organization model, information model, SNMPv2 communication model, functional model, major changes in SNMPv2, structure of management information (SMI), MIB, SNMPv2 protocol, compatibility with SNMPv1, SNMPv3, architecture, applications, MIB security, remote monitoring (RMON) SMI and MIB, RMON1 and RMON2.

6. Network Management Examples

ATM integrated local management interface, ATM MIB. M1, M2, M3, M4, interfaces, ATM digital exchange interface management, digital subscriber loop (DSL) and asymmetric DSL (ADSL) technologies, ADSL configuration management, performance management

Network Management Tools

Network statistics management, network management system, management platform case studies: OPENVIEW, ALMAP.

Reference Books:

1. Network Management: Principles and Practice (*Mani Subramanian, Addison Wesley*) Pearson Education Asia publication.
2. Fundamentals of Telecommunication Network Management (*Lakshmi Raman*) IEEE Communication Society, Prentice Hall of India Edition 1999
3. Telecommunication Network Management : Technologies and Implementations – (*Airdarous Salah, Plevyak Thomas*). Prentice Hall of India
4. Telecommunication Network Management (*Haojin Wang*) Mc- Graw Hill Professional Publication

