

NETWORK ARCHITECTURE AND DESIGN (3-0-0)

Module-I (12 Hours)

Introduction: overview of analysis, architecture, and design processes, System description, Service description, service characteristics, performance characteristics, Network supportability.

Network Architecture: Component architecture, Reference architecture, Architectural models, System and network architectures.

Addressing and routing Architecture: Addressing mechanisms, Routing mechanisms, Addressing strategies, Routing strategies, Architectural considerations.

Module: II (14 Hours)

Network Management Architecture: Defining network management, Network management mechanisms, Architectural consideration.

Performance Architecture: Goals for performance, Performance mechanisms, Architectural consideration.

Security and Privacy Architecture: Security and privacy administration, Security and privacy mechanisms, Architectural consideration.

Module: III (14 Hours)

Designing a Network: LAN specifics, Network type, Ethernet fundamentals
Network operating systems, Hardware considerations, considering the client, choosing a protocol, connectivity devices, WAN technologies, Remote connectivity, Internet connectivity, securing the network.

Text Books:

1. Network Analysis, Architecture and Design, By James D. McCabe, Morgan Kaufmann publishers, 3rd edition, 2003
2. Network Architecture and Design, By J. F. DiMarzio, Sams Publishing, 2001, ISBN : 0-672-32082-7.