Network Analysis and Management syllabus

UNIT I A SYSTEM APPROACH TO NETWORK DESIGN AND REQUIREMENT ANALYSIS

Introduction-Network Service and Service based networks- Systems and services- characterizing the services. Requirement Analysis: Concepts – Background – User Requirements- Application Requirements- Host Requirements-Network Requirements – Requirement Analysis: Guidelines – Requirements gathering and listing- Developing service metrics to measure performance – Characterizing behavior- developing performance threshold – Distinguish between service performance levels. Requirement Analysis: Practice – Template, table and maps –simplifying the requirement analysis process –case study.

UNIT II FLOW ANALYSIS: CONCEPTS, GUIDELINES AND PRACTICE

Background- Flows- Data sources and sinks- Flow models- Flow boundaries- Flow distributions- Flow specifications- Applying the flow model-Establishing flow boundaries-Applying flow distributions- Combining flow models, boundaries and distributions- Developing flow specifications- prioritizing flowsimplifying flow analysis process –examples of applying flow specs- case study.

UNIT III LOGICAL DESIGN: CHOICES, INTERCONNECTION MECHANISMS, NETWORK MANAGEMENT AND SECURITY

Background- Establishing design goals- Developing criteria for technology evolution- Making technology choices for design-case study- Shared Medium- Switching and Routing: Comparison and contrast- Switching-Routing-Hybrid Routing/Switching Mechanisms – Applying Interconnection Mechanism to Design – Integrating Network management and security into the Design- Defining Network Management- Designing with manageable resources- Network Management Architecture- Security- Security mechanism- Examples- Network Management and security plans- Case study.

UNIT IV NETWORK DESIGN: PHYSICAL, ADDRESSING AND ROUTING

Introduction- Evaluating cable plant design options – Network equipment placement- diagramming thephysical design- diagramming the worksheet –case study. Introduction to Addressing and routingestablishing routing flow in the design environments- manipulating routing flows- developing addressing strategies- developing a routing strategy- case study.

UNITV NETWORK MANAGEMENT AND SNMP PROTOCOL MODEL

Network and System management, Network management system platform; Current SNMP Broadband and TMN management, Network management standards. SNMPV1, SNMPV2 system architecture, SNMPV2, structure of management information. SNMPV2 – MIB – SNMPV2 protocol, SNMPV3-Architecture, Application, MIB, security user based security model, access control RMON.

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