CSE333: Computer Networking Lab

Programme: B.Tech (CSE)   **Year:** Third   **Semester:** Sixth
Course: Core   **Credits:** 2   **Hours:** 40 hours

Course Context and Overview (100 words):

On completion of this lab course the student should be able to design Network Architecture with different layers, implement routing protocol, measure performance of network architecture and design client server architecture.

Prerequisites Courses:

NIL

Course outcomes (COs):

The Outcomes of this Course are
CO1: Understand the structure and organization of computer networks
CO2: Understanding concepts of application layer protocol design by implementing including client/server models.
CO3: Understanding concept of transport layer using socket programming in connection oriented and connection-less modes, implement different protocols to provide reliable data delivery using congestion and flow control.
CO4: Understanding concept of network layer by implementing different routing algorithms and network interconnections
CO5: Understand the basic concepts of data link layer by implementing error-detection and correction techniques, and different flow control techniques.

Course Topics

Contents		Lab Hours
UNIT – 1 Introduction to Networking		3
1.1	Introduction to network devices and equipment	3	
UNIT – 2 Network design using OMNET++ Simulator		6
2.1	Simple Network design and simulate the packet transfer	3	
2.2	Simulate Layered Architecture	3	
UNIT –3 Protocol Simulation and Performance Analysis		15
3.1	Simulate Stop and wait ARQ protocol	3	
3.2	Simulate Sliding window control protocol	3	
3.3	Simulate routing protocol	3	
3.4	Simulate wireless network using INET framework	3	
3.5	Simulate network application	3	

UNIT - 4 Networking Tools		3
5.1	Introduction of network tools	3
UNIT-5 Socket Programming		6
7.1	Socket program for Server and client	6

Textbook references (IEEE format):
Text Book:
Behrouz A. Forouzan. 2007. *Data Communications and Networking* (4 ed.). McGraw-Hill, Inc., New York, NY, USA.

Evaluation Methods:

Component	Weightage (%)
Lab Evaluation	50%
Mid term	20%
End term	30%

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