



ARSD College, University of Delhi

Lesson Plan

| Course Name: Computer Networks | | B.Sc. (Hons.) Computer Science (Practical) | | | | |
|--------------------------------|-------------|--|---------------|--------------|---------------|------------|
| Semester | Course Code | Course Title | Lecture (L) | Tutorial (T) | Practical (P) | Credit (C) |
| III | 32341303 | DSC- Computer Networks | 4 Credit-4 | 0 | 4 Credit-2 | 6 |
| Teacher/Instructor(s) | | Ms. Uma Ojha | | | | |
| Session | | 2022-23 | | | | |

Course Objective:

This course covers the concepts of data communication and computer networks. It comprises of the study of the standard models for the layered protocol architecture to communicate between autonomous computers in a network and also the main features and issues of communication protocols for different layers. Topics covered comprise of introduction to OSI and TCP/IP models also.

Course Learning Outcomes:

On successful completion of the course, the student will be able to:

1. Describe the hardware, software components of a network and their interrelations.
2. Compare OSI and TCP/IP network models.
3. Describe, analyze and compare different data link, network, and transport layer protocols.
4. Design/implement data link and network layer protocols in a simulated networking environment.

List of Experiments:

| Details of the Lab Course | | |
|---------------------------|---|---------------|
| Session | Name of Experiment | Contact Hours |
| 1 | Simulate Cyclic Redundancy Check (CRC) error detection algorithm for noisy channel. | 8 |
| 2 | Simulate and implement stop and wait protocol for noisy channel. | 8 |
| 3 | Simulate and implement go back n sliding window protocol. | 8 |
| 4 | Simulate and implement selective repeat sliding window protocol. | 8 |
| 5 | Simulate and implement Dijkstra algorithm for shortest path routing. | 8 |
| 6 | Simulate and implement distance vector routing algorithm | 8 |
| | Total | 48 |

Evaluation Scheme:

| No. | Component | Duration | Marks |
|-----|--------------------------|----------|-------|
| 1. | End Semester Examination | 4 hr | 50 |

Suggested Books:

| Sl. No. | Name of Authors/Books/Publishers | Year of Publication/Reprint |
|----------------------------|---|-----------------------------|
| 1. | Forouzan, B. A. Data Communication and Networking, 5 th Edition. McGraw-Hill Education | 2013 |
| 2. | Tanenbaum, A.S. & Wethrall,D.J. Computer Networks, 5 th Edition. Pearson Education | 2011 |
| Mode of Evaluation: | | End Semester Exam |