# LESSON PLAN (ACN)

## Academic Session: 2016-2017

Course Name: **B.Tech. VII<sup>th</sup> Semester**
Subject: **Advanced Computer Networks**                    Paper Code: **ETIT-401**
No of hours allotted to complete the syllabus: **36 Hours**
No of hours allotted per week: **3 Hours**

| Topic Details | No of Hours |
|---|---|
| **1<sup>st</sup> TERM** | |
| UNIT-I<br>Network Layer<br>ARP,RARP<br>ICMP & IPv4<br>Routing Principles, Routing and overview<br>DVR and LSR, the IGRP and EIGRP<br>BGP<br>Routing Information Protocol (RIP)<br>OSPF (IPv4 / IPv6).<br>Multicasting in IP Environments-Broadcasting Multicasting IGMP and Multicast Listener Discovery (MLD)<br>Distance Vector Multicast Routing Protocol (DVMRP) Multicast OSPF (MOSPF)<br>Protocol Independent Multicast (PIM). | 12 |
| UNIT-II<br>Transport Layer<br>Transport layer overview<br>UDP<br>TCP (Flow Control, Error Control, and Connection Establishment)<br>TCP Protocol: TCP Tahoe, TCP Reno. | 8 |
| **First Term Exam** | |
| **2<sup>nd</sup> TERM** | |
| UNIT-III<br>Optical Networking:<br>Introduction to Optical networking- its benefits and drawbacks<br>SONET layered architecture, frame format<br>SONET network configuration, its advantages and benefits.<br>Quality of Service: Introducing QoS<br>Queue Analysis, QoS Mechanisms<br>Queue Management algorithms<br>Resource Reservation<br>Diffserv and Intserv. | 10 |
| UNIT-IV<br>Overview of latest concepts:<br>TCP/IP Applications: VoIP, NFS<br>Telnet ,FTP,SMTP<br>SNMP, Finger, Whois and WWW<br>IP v6 and Next Generation Networks xAAS(PAAS,SAAS,HAAS) and Cloud Computing<br>Big data<br>Elements of Social Network. | 6 |
| **Second Class Test** | |

**Text Books:**

[T1]    Douglas E. Comer, "Internet networking with TCP/IP", Pearson. TCP/IP, Vol. 2

[T2]    B. A. Forouzan, "TCP/IP Protocol Suite", TMH, 2nd Ed., 2004.

**Reference Books:**

[R1]    TCP/IP Illustrated, Volume 1 (The Protocols) by W. Richard Stevens, Pearson Education.

[R2]    U. Black, "Computer Networks-Protocols, Standards and Interfaces", PHI, 1996.

[R3]    W. Stallings, "Computer Communication Networks", PHI, 1999.