Course Code : CS609 Instruction Hours per Week : 4
Course Type : Elective Credits : 4

COMPUTER NETWORKING

Objectives:

1. To impart the principles, protocols and practices of computer networking
2. To provide orientation for learning the concepts of wireless and mobile networks

Outcomes:

1. Ability to describe the design issues of TCP / IP layers their related protocols
2. Ability to evaluate the performance of TCP / IP protocols
3. Ability for enriching the concepts of wireless and mobile networks

UNIT-I:

Introduction - Services and protocols, Reference models; Application Layer - Principles, Application-level protocols, Writing simple networked applications.

UNIT-II:

Transport layer- Principles of a reliable transport protocol, User Datagram Protocol, Transmission Control Protocol.

UNIT-III:

Network layer - Principles, Internet Protocol, Routing in IP networks

UNIT-IV:

Data link layer and the Local Area Networks - Principles, Medium Access Control. Data link layer technologies.

UNIT-V:

Wireless and Mobile Networks- Introduction, Wireless links and Network characteristics, Mobility Management, Mobile IP, Managing Mobility in cellular Networks; Concepts of MANETS, and Wireless Sensor Networks.

TEXT BOOKS:

1. Olivier Bonaventure , " Computer Networking: Principles, Protocols and practices", Saylor URL: http://www.saylor.org/courses/cs402/ .
2. J.F. Kurose and K . W. Ross , "Computer Networking- ATop-Down Approach Featuring Internet ", 3/e, Perason Education, 2005.

REFERENCES:

1. Janos Vegh, Network Architectures and Protocols, February, 2013, *www.inf.unideb.hu/~j**vegh**/fix/edu/network/network1B_EN.pdf*
2. Keshav S , " An Engineering Approach to Computer Networking ".,Pearson Education, 2000.
3. Andrew S. Tanenbaum , "Computer Networks", 3/E, PHI, 1996.
4. Behrouz A. Forouzan, "Data communications and Networking", 3rd Edition, MH, 2003.
5. William Stallings, "High Speed Networks & Internets", 2nd ed., Pearson Education, 2002.
6. IEEE/ACM Trans on Networking.
7. NPTEL videos.