

COURSE CODE	COURSE TITLE	L	T	P	C
1152IT106	MULTIMEDIA COMMUNICATION NETWORKS	3	0	0	3

Course Category:

~~Foundation (0) / Program Core (1) / Program Elective (2) / Allied Elective (3) / University Elective (4) / Value Education Elective (5) / Independent Learning (6) / Industry Higher Learning Institute Interaction (7).~~

a.Preamble :

This course provides an introduction to Standards for Multimedia Communications, provides concepts of Broadband ATM networks, Multimedia Communications Across different Networks.

b.Prerequisite Courses:

Computer networks

c.Related Courses:

Network security Principles and protocols

d.Course Educational Objectives :

Students undergoing this course are expected:

- To learn the multimedia communication standards and compression techniques.
- To understand the multimedia communication models
- To analyze the guaranteed service model
- To study the multimedia transport in wireless networks
- To explore real-time multimedia network applications

e.Course Outcomes:

CON os	Course Outcomes	Level of learning domain(Based on revised Bloom's taxonomy)
CO1	Deploy the right Multimedia Communication models	K2
CO2	Apply QoS to multimedia network applications with efficient routing techniques	K2
CO3	Develop the real-time multimedia network applications	K2

f. Course Content:

Unit I

Multimedia Communications -Introduction-Multimedia networks-Multimedia applications-Applications and networking terminology- Audio compression and Video Compression

Unit II

Standards for Multimedia Communications-Introduction-Reference models-Standards relating to interpersonal communications-Standards relating to interactive applications over

the Internet Standards for entertainment applications. Digital communication basics: Transmission media Sources of signal impairment-Asynchronous transmission-Synchronous transmission-Error Detection methods

Unit III

The Internet-IP data grams-Fragmentation and reassembly-IP addresses-ARP and RARP Routing algorithms-ICMP-QoS support-The PPP link layer protocol-IPv6-IPv6/IPv4 interoperability

Unit IV

Broadband ATM networks: Cell format and switching principles- Switch architectures- Protocol architecture. Entertainment networks and high-speed modems: Cable TV networks- Satellite television networks-Terrestrial television networks-High-speed PSTN access technologies Transport protocols: TCP/IP protocol suite-UDP-RTP and RTCP

Unit V

Multimedia Communications Across Networks: Packet Audio/Video in the network Environment -Video transport across generic networks-Multimedia transport across ATM networks – Multimedia across IP networks – Multimedia across DSLs – Internet access Networks – Multimedia across wireless - Mobiles Networks – Broadcasting Networks – Digital Television infrastructure for interactive multimedia services

Text Books:

1.Fred Halsall, Multimedia Communications, Pearson, Seventh Indian Reprint, 2005. ISBN: 81-7808-532-1. 2.

2.K .R. Rao, Zaron S. Bojkovic, Dragorad A. Milocanovic, Multimedia Communication Systems, Prentice Hall India, 2002. ISBN: 81-203-2145-6.

Reference Book:

Steve Heath, Multimedia and Communication Technology, Second Edition, Focal Press, 2003. ISBN: 81-8147-145-8.