MULTIMEDIA COMMUNICATIONS

17ECMC1T5D   **Credits: 4**
Lecture: 4 periods/week   **Internal Assessment: 40 Marks**
                                          Semester End Examination: 60 Marks

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Pre-requisites: Concepts of Signal and image processing, Computer Networks, Data Communications

Course objectives

- Analyzing the fundamental concepts of Multimedia
- Understanding the multimedia communication standards and compression techniques.
- Understand the Internet protocols.
- Understand the Multimedia communication across the networks.

Learning Outcomes
At the end of the course the students are able to

- Analyze the concepts of Multimedia
- Implement the standards and compression techniques utilized in Multimedia
- Analyze the internet protocols
- Analyze the Multimedia communication across the networks

UNIT-I
Introduction: Multimedia information representation, multimedia networks, multimedia applications, Application and network terminology
Multimedia Information Representation- Introduction Text, images, Audio, Video

UNIT-II
Text and Image Compression: Introduction, Compression principles, Text Compression, Image Compression
Audio and Video Compression: Introduction, Audio Compression, Video Compression

UNIT-III
Multimedia enterprise networks: Introduction, LANs, Ethernet, Token ring, Bridges, FDDI, High-Speed LANs
The Internet: Introduction, IP datagrams, Fragmentation and Reassembly, IP addresses, ARP and RARP, Routing Algorithms, QOS Support, IPV6

UNIT-IV
Broadband ATM Networks: Introduction, Cell format and switching Principles, switching Architectures, Protocol architecture, ATM LANs, ATM MANs, Wide area ATM Networks.
Transport Protocols: Introduction, TCP/IP protocol suite, TCP, UDP, RTP and RTCP

Text Book(s)

1. Fred Halsall, "Multimedia Communications: Applications, Networks,Protocols and Standards", Pearson Education, Asia, Seventh Indian Reprint, 2005

References

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

2. Nalin K Sharda "Multimedia Information Networking", PHI,2003

3. Ralf Steinmetz, Klara Narstedt, " Multi Media Fundumantals: Vol.I –Media coding and Content Processing" , Pearson Education, 2004.

4. Prabhat K. Andleigh, Kiran Thakur," Multimedia Systems Design", PHI, 2004.