CS328: Multimedia System Design	L	T	P	Nil
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Course Objective: To study the concepts of multimedia data, algorithms and compression.

S. No.	Course Outcomes (CO)
CO1	Understand multimedia systems and tools, including hardware, software, and authoring techniques.
CO2	Apply multimedia building blocks such as text, audio, and video in various formats.
CO3	Implement data compression techniques for efficient multimedia storage and transmission.
CO4	Apply concepts of digital audio and speech compression for multimedia sound optimization.
CO5	Utilize image formats, standards, and compression techniques for multimedia applications.
CO6	Manage multimedia databases, video compression, and retrieval systems in modern multimedia services.

S. No	Contents	Contact Hours
UNIT 1	Introduction to Multimedia, Multimedia Information, Multimedia Objects, Multimedia inbusiness and work. Convergence of Computer, Communication and EntertainmentProducts ,Stages of Multimedia Projects:Multimedia hardware, Memory & storage devices, Communication devices, Multimedia softwares, presentation tools, tools for object generations, video, sound, image capturing,authoring tools, card and page based authoring tools.	10

UNIT 2	Multimedia Building Blocks: Text, Sound MIDI, Digital Audio, audio file formats, MIDI under windows environment, Audio & Video Capture.	**8**
UNIT 3	Data Compression: Huffman Coding, Shannon Fano Algorithm, Huffman Algorithms, Adaptive Coding,Arithmetic Coding Higher Order Modeling. Finite Context Modeling, Dictionary basedCompression, Sliding Window Compression, LZ77, LZW compression, Compression,Compression ratio loss less & lossy compression.	**10**
UNIT 4	Speech Compression & Synthesis : Digital Audio concepts, Sampling Variables, Loss less compression of sound, lossy compression & silence compression.	**6**
UNIT 5	Images: Multiple monitors, bitmaps, Vector drawing, lossy graphic compression, image fileformats, animations, Images standards, JPEG Compression, Zigzag Coding.	**6**
UNIT 6	Multimedia Database. Content based retrieval for text and images, Video: Video representation, Colors,Video Compression, MPEG standards, MHEG Standard Video Streaming on net, VideoConferencing, Multimedia Broadcast Services, Indexing and retrieval of Video Database,recent developments in Multimedia.	**8**
	Total	**48**