



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
ITC7054	Multimedia Systems	4	-	-	4	-	-	04
		Examination Scheme						
		ISE		MSE		ESE		
		10	30	100 (60% Weightage)				

Pre-requisite Course Codes	TEITC501 (Computer Graphics and Virtual Reality)		
After successful completion of the course, student will be able to:			
Course Outcomes	CO1	Identify the relevance and underlying infrastructure of multimedia systems.	
	CO2	Apply multimedia system to indicate the current requirements of multimedia products.	
	CO3	Apply the knowledge in developing the multimedia system as per industry standards.	

Module No.	Topics	Ref.	Hrs.
1	Introduction to Multimedia What is multimedia, Hypermedia, Multimedia tools, Multimedia Authoring & its Tools, VERML, File Formats.	1	02
2	Color in Images & Video Color Models for Images & Videos, Video Signals, Digital Video, MIDI, Quantization, Transmission of Audio.	1,2	04
3	Compression Algorithms Lossless Compression, Introduction, Basics, RLC, VLC, lossless Image Compression, Lossy Compression, introduction, Distortion, Rate Distortion Theory, Quantization	1,2	04
4	Image Compression Standards JPEG standards, JPEG 2000 standards, JPEG-L S standards, Bi-Level Image Compression Standards.	1,2	04
5	Video Compression Techniques Introduction, Motion Compensation, Motion vectors, H.261 & H.263, MPEG-1 & MPEG-2, MPEG-4, MPEG-7, MPEG-21	1,2	05
6	Audio Compression ADPCM, Vo coders, Psychoacoustics, MPEG audio.	1,2	03
7	Multimedia Network Applications Quality of Multimedia Data transmission, Multimedia over IP, Multimedia over ATM, Media on Demand, Multimedia over Wireless Network.	1,2	06



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8	Multimedia Databases Design and Architecture of Multimedia Database, Types, Organization, Medias Abstraction, Query Language.	1,2	07
9	Frame Work for Multimedia Standards Introduction, Standard Activates, Standard to built a news Global Information Infrastructure, Standardization process on Multimedia Communication, ITU-I Media com 2004 Frame work, ISO/MPEG-21Framework, IETF Multimedia Internet Standards.	1,2	06
10	Application layer: Introduction, ITU applications, MPEG Application, Digital Broadcasting Applications, Universal multimedia access.	1,2	07
	Total hours of instructions		48

References:

1. Ze-Nian Li & Mark. S. Drew,"*Fundamentals of Multimedia* “.
2. K. R. Roa , Zoran S, Bojkovic & Dragorad A. Milovanovic," *Introduction to Multimedia Communication, Application, Middleware, Networking*”