SCHEME OF COURSE WORK

Course Details:

Course Title	**: Multimedia and Application Development**		
Course Code	**: 15IT1105**	**L T P C**	**: 4 0 0 3**
Program:	**: B.Tech**		
Specialization:	**: CSE**		
Semester	**: VI**		
Prerequisites	**: NIL**		
Courses to which it is a prerequisite	**: NIL**		

Course Outcomes (COs):

At the end of the course the student will be able to

CO No.	Course outcomes
CO1	Identify basic multimedia content types
CO2	Describe transmission of Audio and Video
CO3	Explain data compression algorithms
CO4	Discuss basics of Video compression
CO5	Identify different multimedia networks

Course Outcome versus **Program Outcomes:**

Course outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S											
CO2												
CO3				S								
CO4												
CO5	S											

S - Strongly correlated, *M* - *Moderately* correlated, *Blank* - *No correlation*

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam

Teaching-Learning and Evaluation

Week	Topic / Contents	Course Outcomes	Sample Questions	Teaching-Learning Strategy	Assessment Method & Schedule
1	**UNIT-1:** What is Multimedia? Multimedia and Hypermedia, World Wide Web, Overview of Multimedia Software Tools. Graphics and Image Data Representations: Graphics/Image Data Types. **COLOR IN IMAGE AND VIDEO:** color science, color models in images, color models in video.	CO1	1) Explain about different graphics/Image data types Explain about different color models in video	Lecture	Quiz-1 Mid-1 Assignment-1
3	**UNIT-2:** Types of video signals, analog video, digital video, digitization of sound, MIDI, quantization and transmission of audio	CO2	1) Explain types of video signals	Lecture	Quiz-1 Mid-1 Assignment-1
4	**UNIT-3** **MULTIMEDIA DATA COMPRESSION :** **Lossless compression algorithms:** Run-Length Coding, Variable Length Coding, and Dictionary Based Coding	CO3	1) Explain about LZW coding technique	Lecture	Quiz-1 Mid-1 Assignment-1
	MID TEST-1				
5	Lossy compression algorithms: Quantization, Transform Coding, Wavelet-Based Coding	CO3	1) Explain about wavelet based Coding	Lecture	Quiz-2 Mid-2 Assignment-2
6	**UNIT-4:** **BASICS OF VIDEO COMPRESSION :** Introduction to Video Compression, Video Compression with Motion Compensation, Search for Motion Vectors	CO4	1) Explain about Search for motion vectors	Lecture	Quiz-2 Mid-2 Assignement-2
7	**VIDEO CODING :** Overview of MPEG-1, MPEG-2 and MPEG-4. Motion compensation in MPEG-1, MPEG-2 Profiles, Object-based Visual Coding in MPEG-4,	CO4	1) Explain about object based visual coding.	Lecture	Quiz-2 Mid-2
8	Synthetic Object Coding in MPEG-4, MPEG- 4 Object types, Profile and Levels.	CO4	1) Explain about synthetic object coding.	Lecture	Quiz-2 Mid-2 Assignement-2
9	**UNIT-5:** **MULTIMEDIA NETWORKS :** Basics of Multimedia Networks, Quality of Multimedia Data	CO5	1) Explain about Quality of service parameters.	Lecture	Quiz-2 Mid-2

	Transmission				
10	**MULTIMEDIA COMMUNICATION :** Multimedia over IP, Multimedia over ATM Networks, Transport of MPEG-4, Media-on Demand (MOD).	CO5	1) Explain about different broadcasting techniques.	Lecture	Quiz-2 Mid-2
	MID TEST-2				
	END EXAM				