SCHEME OF COURSE WORK

Course Details:

Course Title	**: Multimedia and Application Development**		
Course Code	**: 13IT1104**	**L T P C**	**: 4 0 0 3**
Program:	**: B.Tech, 2017-2018**		
Specialization:	**: Information Technology**		
Semester	**: VII**		
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	Write basic programs using Action Script language.
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	M											
CO2		S			S							
CO3	S	M										
CO4	S											
CO5	S	M										

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.	CO1	1) Explain about different graphics/Image data types. 2) Give the overview of different multimedia software tools.	▫ Lecture	Quiz-1 Mid-1 Assignement-1
2	ACTION SCRIPT 3.0 CORE CONCEPTS: Tools for writing action script code, Flash client runtime environments, compilation, just in time compilation, classes and objects, creating a program, packages, defining a class, variable and values, constructor parameters and arguments.	CO2	1) Describe about Just In Time Compilation. 2) Briefly explain about packages in ActionScript 3.0	▫ Lecture ▫ PPT	Quiz-1 Mid-1
3	COLOR IN IMAGE AND VIDEO: color science, color models in images, color models in video. ACTION SCRIPT 3.0 CONDITIONALS, LOOPS AND FUNCTIONS: conditionals, loops, Boolean logic. Functions: package-level functions, nested functions, source-file-level functions, accessing definitions from within a function, functions as values	CO1, CO2	1) Explain about different color models in video. 2) Explain about source file level functions	▫ Lecture ▫ PPT ▫ Discussion	Quiz-1 Mid-1 Assignment-1
4	**UNIT-2:** Types of video signals, analog video, digital video, digitization of sound, MIDI, quantization and transmission of audio.	CO1	1) Describe about component and composite video.	▫ Lecture ▫ Discussion	Quiz-1 Mid-1 Assignment-1
5	ACTION SCRIPT 3.0 DATA TYPES AND TYPE CHECKING: Data types and type annotations, un typed variables, parameters, return values.	CO2	1) What are the various data types available in Action Script? Explain them.	▫ Lecture ▫ PPT	Quiz-1 Mid-1
6	strict modes three special cases, warnings for missing type annotations, detecting reference errors at compile time, casting ,conversion to primitive types, default variable values, null and undefined.	CO2	1) How casting is done in Action Script 3.0. Describe with an example.	▫ Lecture ▫ Discussion	Quiz-1 Mid-1 Assignment-1

7	**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
8	Lossy compression algorithms: Quantization, Transform Coding, Wavelet-Based Coding	CO3	1) Explain about wavelet based coding	▫ Lecture	Quiz-1 Mid-1
9	MID TEST-I & QUIZ-I				
10	ACTION SCRIPT 3.0 INHERITANCE : A primer on inheritance, overriding instance methods, constructor methods in sub classes, preventing classes from being extended and methods from being overridden.	CO2	1) Explain how classes are being prevented from being extended	▫ Lecture ▫ PPT	Quiz-2 Mid-2 Assignment-2
11	**UNIT-4:** BASICS OF VIDEO COMPRESSION : Introduction to Video Compression, Video Compression with Motion Compensation, Search for Motion Vectors ACTION SCRIPT 3.0 INTERFACES : The case for interfaces, interfaces and multiple data type classes, interface syntax and use, another multiple type example.	CO4 CO2	1) Explain about Search for motion vectors	▫ Lecture ▫ PPT	Quiz-2 Mid-2 Assignment-2
12	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 ▫ Discussion	Quiz-2 Mid-2
13	Synthetic Object Coding in MPEG-4, MPEG- 4 Object types, Profile and Levels. ACTION SCRIPT 3.0 ARRAYS : What is an array?, the anatomy of an array, creating an array, using single dimensional and ,multi dimensional arrays.	CO4 CO2	1) Explain about synthetic object coding. 2) Explain about multi-dimensional arrays	▫ Lecture ▫ Discussion	Quiz-2 Mid-2 Assignment-2
14	**UNIT-5:** MULTIMEDIA NETWORKS : Basics of Multimedia Networks, Quality of Multimedia Data Transmission	CO5	1) Explain about Quality of service parameters.	▫ Lecture	Quiz-2 Mid-2

15	ACTION SCRIPT 3.0 EVENTS AND EVENT HANDLING: Action script event basics, accessing the target Object, Accessing the object that registered the listener, preventing default event behavior, Event Listener priority, Event listeners and memory management.	CO2	1) Explain about Event Listener priority	▫ Lecture ▫ PPT	Quiz-2 Mid-2
16	MULTIMEDIA COMMUNICATION : Multimedia over IP, Multimedia over ATM Networks, Transport of MPEG-4, Media-on Demand (MOD).	CO5	1) Explain About MPEG-4.	▫ Lecture ▫ Discussion	Quiz-2 Mid-2
17	ACTION SCRIPT 3.0 :The exception handling cycle, handling multiple types of exceptions, exception bubbling, The finally block, nested exceptions	CO2	1) Explain about exception bubbling	▫ Lecture ▫ PPT	Quiz-2 Mid-2 Assignment-2
18	MID TEST-II & QUIZ-II				
19/20	END EXAM				