Program :	**Diploma in Computer Engineering / Computer Hardware Engineering**
Course Code : **6132C**	Course Title: **Multimedia**
Semester : **6**	Credits: **4**
Course Category: **Open Elective**	
Periods per week: **4 (L:3 T:1 P:0)**	Periods per semester: **60**

Course Objectives:

- Provide the students with the conceptual knowledge of multimedia technologies.
- Experience technologies underlying digital images, videos and audio contents, animations and various FOSS tools.
- Summarize the making of multimedia.

Course Prerequisites:

Topic	Course code	Course name	Semester
Basic knowledge on computer concepts.		Introduction to IT Systems	1

Course Outcomes :

On completion of the course, the student will be able to:

COn	Description	Duration (Hours)	Cognitive Level
CO1	Summarize the various concepts of Multimedia	14	Applying
CO2	Illustrate the visual and sound elements of Multimedia.	15	Applying
CO3	Demonstrate the effects of animation and videos in Multimedia Applications	17	Applying
CO4	Explain the making of Multimedia Projects	12	Understanding
	Series Test	2	

CO – PO Mapping

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3						
CO2	3						
CO3	3						
CO4	2						

Course Outline

Module Outcomes	Description	Duration (Hours)	Cognitive Level
CO1	**Summarize the various concepts of Multimedia**		
M1.01	Define the common multimedia terms.	1	Understanding
M1.02	Describe uses of multimedia in different environments.	1	Understanding
M1.03	Describe the primary multimedia delivery methods.	1	Understanding
M1.04	Identify the importance of word of choice	1	Understanding
M1.05	Explain Fonts and Faces	2	Understanding
M1.06	Identify the importance of text and ways text can be leveraged in multimedia presentations	2	Understanding
M1.07	Illustrate font editing and design using tools like Ink scape	6	Applying

Contents:

Multimedia : Definition, Multimedia terms, Uses of Multimedia, Delivering Multimedia

Fonts : Importance of word choice, Fonts and Faces, Text in Multimedia, Computers and Text, Font editing and design using Ink scape tool.

Module Outcomes	Description	Duration (Hours)	Cognitive Level
CO2	**Illustrate the visual and sound elements of Multimedia.**		
M2.01	Describe the capabilities and limitations of bitmap, vector, and 3-D images.	2	Understanding
M2.02	Describe the use of colors and palettes in multimedia	1	Understanding
M2.03	Identify the various image file types used in multimedia	1	Understanding
M2.04	Illustrate the capturing and editing image with GIMP	2	Applying

M2.05	Describe the components and measurements of sound	1	Understanding
M2.06	Use digital audio to record, process, and edit sound	1	Understanding
M2.07	Use MIDI and understand its attributes, especially relative to digitized audio	1	Understanding
M2.08	Compare and contrast the use of MIDI and digitized audio in a multimedia production	1	Understanding
M2.09	List the important steps and considerations in recording and editing digital audio	1	Understanding
M2.10	Determine which audio file formats are best used in a multimedia project	1	Understanding
M2.11	Cite the considerations involved in managing audio files and integrating them into multimedia projects	1	Understanding
M2.12	Illustrate sound recording using tools like Audacity/ Ardour	2	Applying
	Series Test – I	1	

Contents:

Image : Preparing a graphical approach, Making still images, Colour, Image file formats, Capturing and editing images using GIMP.

Sound: Basics of Sound, Digital Audio, Making Digital Audio Files, MIDI audio, MIDI vs Digital Audio, Multimedia System Files, Adding Sound to Your Multimedia Project, Sound Recording using tools like Audacity/Ardour

CO3	Demonstrate the effects of animation and videos in Multimedia Applications		
M3.01	Outline the importance of storyboarding	1	Understanding
M3.02	Describe the how animations can be used in multimedia.	1	Understanding
M3.03	Explain the principles of animation	1	Understanding
M3.04	Explain animation techniques.	2	Understanding
M3.05	Create computer-generated animations from multiple still images	2	Understanding
M3.06	Illustrate the creation of animation using FOSS tool like Ktoon/Synfig	2	Understanding
M3.07	Outline the implications of using digital video in multimedia	1	Understanding

M3.08	Explain the video analog and digital technologies and displays	2	Understanding
M3.09	Explain digital video containers and codecs	2	Understanding
M3.10	Outline the steps in Shooting and editing video for use in multimedia using FOSS tools	3	Understanding

Contents:

Animation : Power of motion, Principles of animation, Animations by computer, Animation Techniques, Making animations using FOSS tools like Ktoon/Synfig

Video : Using Video, Working of Videos and Displays, Digital video Containers, Obtaining video clips, Shooting and Editing of Videos, Editing Videos with FOSS tools like Open Movie Editor

CO4	**Explain the making of Multimedia Projects**		
M4.01	Describe the four primary stages in a multimedia project	2	Understanding
M4.02	Describe the intangible elements needed to make good multimedia:	2	Understanding
M4.03	Describe the common hardware and software used in Multimedia Projects	2	Understanding
M4.04	Choose multimedia authoring system is most appropriate for any given project	2	Understanding
M4.05	Describe the skills required for members of a multimedia project team	2	Understanding
M4.06	Identify the importance of selecting and managing a team in order to produce successful multimedia projects	2	Understanding
	Series Test – II	1	

Contents:

Making of Multimedia :Stages of Multimedia Project, Intangibles, Hardware and Software requirements, Authoring systems, Multimedia skills

Text / Reference

T/R	Book Title/Author
T$_1$	Vaughan T**, Multimedia: Making it work,** McGraw Hill, 8th Ed.
T$_2$	Daniel James, **Crafting Digital Media**,Apress
R$_1$	Multimedia and Animation, V.K. Jain, Khanna Publishing House, Edition 2018
R$_2$	Fundamentals of Multimedia, Ramesh Bangia, Khanna Book Publishing Co., N. Delhi

Online Resources

Sl.No	Website Link
1	https://www.it.iitb.ac.in/lakshya/
2	Www.gimp.org
3	Www.inscape.org