

BU-COMMUNITY COLLEGE CONSULTANCY CENTRE

REVISED SYLLABUS – 2021-22

FOR

DIPLOMA IN MULTIMEDIA



BHARATHIAR UNIVERSITY

COIMBATORE-641046

BHARATHIAR UNIVERSITY: COIMBATORE

**DIPLOMA IN MULTIMEDIA
(Community College)**

(for the Candidates Admitted from the Academic Year 2021-22 Onwards)

Minimum qualification for admission to Diploma Course in Multimedia is a pass in Standard X.

SCHEME OF EXAMINATIONS

S.No	Title of the Course	Credits	Maximum Marks
1	Fundamental of Multimedia (theory)	4	100
2	Multimedia (theory)	4	100
3	Graphics and Animation (theory)	4	100
4	Computer 2D Animation (theory)	4	100
5	Practical -I	4	100
6	Practical -II	4	100
7	Practical-III	4	100
8	Internship	4	100
	Total	32	800

Question paper Pattern: Theory

Section A: (10 x 2=20 Marks)

Answer ALL the questions

Section B: (5 x 6 = 30 Marks)

Answer ALL the questions either (a) or (b)

Section C: (5 x 10 = 50)

Answer ALL the questions either (a) or (b)

Duration of examinations for all papers is three hours.

*Minimum Pass Mark: 40 Marks

PAPER I
FUNDAMENTAL OF MULTIMEDIA

Unit:1		
Multi Media Fundamentals: Multimedia, Multimedia Objects, Multimedia in business and work, Multimedia hardware, Memory & Storage devices, Communication devices.		
Unit:2		
Multimedia Tools: Presentation tools, object generation which includes video sound; image capturing, Authoring tools, card and page based authoring tools.		
Unit:3		
Sound/Audio: Perception of sound, hearing sensitivity, frequency range, sound- wave length, the speed of sound. measuring the sound, musical sounds, noise signal, dynamic range, pitch, harmonics-equalization reverberation time, Sound isolation and room acoustics- treatments- studio layout –room dimensions. The Basic set-up of recording system; The production chain and responsibilities. Microphones types - phantom power, noise, choosing the right mike; Mixing console; Input devices; Output devices; Audio Publishing		
Unit:4		
Graphics /Image: Image file formats and how and where it is used, Principles of animation,2D and 3D animation, Morphing, Kinematics, tweening, Motion capture, character animation, modeling, special effects, and compositing, Video Conferencing, Web Streaming, Video Streaming, Internet Telephony - Virtual Reality - Artificial intelligence		
Unit:5		
Multimedia Information Representation: Analog Signal, Waves, General properties of Analog Signals, Digital Representation, Need for digital representation, Analog to digital conversion, Nyquist's Sampling Theorem, Encoder Design, Digital to Analog conversion, Decoder design and its principles, Encoder – Decoder, Relation between sampling rate and bit depth.		
Reference Books		
1	Rose Gonnella, Christopher Navetta, Max Friedman, Design Fundamentals: Notes on Visual Elements and Principles of Composition, 2015, 2nd edition, Peachpit Press	
2	David A. Lauer, Stephen Pentak, Design Basics, 2012, Eighth edition, Wadsworth Cengage Learning	

PAPER II
MULTIMEDIA

Unit:1	
Introduction to Multimedia: History of Multimedia, Multimedia Definition, Properties of a Multimedia System, Multimedia Building Blocks, Modes of data transmission, Asynchronous Transmission Mode, Synchronous Transmission Mode, Isochronous, Transmission Mode.	
Unit:2	
Multimedia Information Representation: Analog Signal, Waves, General properties of Analog Signals, Digital Representation, Need for digital representation, Analog to digital conversion, Nyquist's Sampling Theorem, Encoder Design, Digital to Analog conversion, Decoder design and its principles, Encoder – Decoder, Relation between sampling rate and bit depth.	
Unit:3	
Discrete Media: Types of Media, Time Independent Media, Time dependent Media, Text, Unformatted Text, Formatted Text, Hyper Text, Essential Features of HTML, Graphics and Images, Creation of Computer Graphics, Digitised documents, Digitised Pictures, Digitised Cameras, Raster Scan Principles, Image Analysis, Image Transmission.	
Unit:4	
Continuous Media: Audio, Speech Signals, Analog Signals, PCM Speech, CD-Quality audio, Synthesised audio, Types of Synthesizers, Characteristics of Synthesizers, Streaming Video, File Formats, Streaming Methods, Sound Fundamentals, Music, MIDI Basic concepts, MIDI Devices, MIDI Messages, Video, Broadcast Television, Digital Video – Format, HDTV Format, SIF, CIF, QCIF, PC Video and Video Content.	
Unit:5	
Text Representation and Compression Static Huffman coding, Arithmetic Coding. Image Storage and Compression: Introduction to images, Digital image representation, Vector Graphics and Bitmapped images, History and advantages, Bitmap concept, Stored Images, Bitmap versus Vector Graphics, Captured Image Format, Stored Image Format, Graphics Interchange Format (GIF), GIF Coding Standard, Tagged Image File Format (TIFF), Joint Photographic Experts Group (JPEG), Image/Block Preparation, Forward DCT, Quantization, Entropy Encoding, Frame building, JPEG decoding.	
Reference Books	
1	David Dabner "Graphic Design School: A Foundation Course for Graphic Designers Working in Print, Moving Image and Digital Media", Thames & Hudson Ltd; 5th Revised edition (28 July 2014)
2	Walt Stanchfield, "Gesture Drawing for Animation", 2015, 1st edition, Andrews McMeel Publishing 2015, Williams, R. The Animator's Survival Kit. Revised Edition, Faber & Faber 2011

PAPER III
GRAPHICS AND ANIMATION

Objective		
To understand the basics of Graphics, Animation and visual effects		
Unit:1		
Digital Image- Pixels – Bit Depth – DPI- PPI – LPI - Resolution - File Formats (Print and screen Formats - GIF, JPEG, TIFF, etc.) - Compression: Lossy - Lossless - Raster and Vector Images - Colour: Colour Theory, colours and meanings; Colour modes- CMYK-RGB - Process colour - Spot Colour - Colour systems		
Unit:2		
Elements of design; Principles of design: Unity, balance, rhythm, proportion, movement; Language of design: white space, fonts, pictures; Graphic Design Theories, Gestalt theory of perception, Information structuring and ordering. - Graphic design applications, Introduction to graphic design software – Features and application of Raster and Vector Graphic Design softwares. - Principles of photo editing.		
Unit:3		
Typography: measurement, type styles; types of composition, Typography and mood creation - styles and features, Its application and techniques in design. - Corporate Identity Design: Symbols - Logotypes/Logos - Corporate Typefaces – Mascots/Promotional Characters – Concept of style guides.		
Unit:4		
Information Design: Basics of information visualization–translating data into visuals – statistical information graphics - Recreating events in space and time. semiotics-selection, application etc. - Digital Illustration: Digital illustration methods – Character creation – Human – Animals – Birds – objects - Story illustration – Poem illustrations etc.		
Unit:5		
Desktop publishing; process, techniques, cost, advantages; Paper: Types of paper for printing, paper selection, cost; other printing materials; recent trends in printing. - Design for publication: Concept of page layout- grid system, Colum, gutter space, margins etc. - Dummy page make-up on- computer layout, principles and elements of page make –up and layout. Latest trends in lay- out. Design of, Newsletters - Journals - Pamphlets – Brochures etc.		
Reference Books		
1	The elements of Graphic design: Alex W. White	
2	Adobe Photoshop Classroom in a Book: Adobe Creative Team	
3	Adobe Illustrator Classroom in a Book: Adobe Creative Team	
4	The Book of GIMP - A Complete Guide to Nearly Everything: Olivier Lecarme, KarineDelvare	

5	Stop Stealing Sheep and Find Out How Type Works: Erik Spiekermann, EM Ginger
6	Designing with Type: A Basic Course in Typography: James Craig, William Bevington, Susan E. Meyer

PAPER IV
COMPUTER 2D ANIMATION

Unit:1		
2D Design & Animation Suite (3 Credits) Anatomy study, Working with audio, Video streaming & editing, Concepts of 2D Animation, 2D graphics & animation with Flash, Principles of animation using Flash, Flash scripting, 2D Animation Portfolio (Case Study), Sound Fore 9, Adobe Premier Pro CS 4, Action Script 3.0 ,User interface design, Interactive animated web pages, E- cards Funny cartoon shorts animation		
Unit:2		
2D Graphics-Creation Features; Underlying data type: raster, vector, Raster painting and/or import features, Vector shapes, Vector free-form and control-point placement tools, Features specific to the program in use.		
Unit:3		
Digital 2D Animation Orientation Prevailing file format standards and other compatibility issues, History and future trends of computer animation applications in the visual arts,2D animation application software interface, Default settings and user preferences, Document setup. Import and export formats, Document and timeline window features, Tools and commands palettes, Media-selection tools and techniques, Asset-management features		
Unit:4		
2D graphics editing features. Basic geometric transformations, Boolean operations on shapes, Object stroke attributes, Object fill attributes, Shading techniques (blends, gradients),Packaged effects (extensions, plug-ins),Features specific to the program in use.		
Unit:5		
2D animation frame-sequencing features. Straight-ahead animation, Key frames animation, Motion paths, Applying geometric transformations over time, In betweening options, Looping and palindrome motion, Features specific to the program in use.		
Reference Books		
1	The illusion of life: Disney animation: By Ollie Johnston.	
2	Timing for animation: By Harold Whitaker.	
3	The animator's survival kit: By Richard Williams	

PAPER V
PRACTICALI

Photoshop	
1	Crop the image using Photoshop.
2	To make a nose surgery I n Photoshop.
3	Combine two picture in a single window
4	Convert black & white photo into a color photo.
5	Create a webpage types Photoshop file.
6	Draw the ellipse and insert a picture in inside.
7	Create Boucher.
Coral Draw	
1	Create a coral draw document using versions shapes
2	Creating spiral shapes
3	Create two pictures one another based on mirror function
4	Fill the color existing image
5	Create a pie model diagram
6	Create an envelop
7	Write a text in different paths
8	Create an outline on exiting image
Reference Books	
1	CorelDraw in Simple Steps – Shalini Gupta
2	Corel Draw Bible - Deborah Miller 2007.
3	Teach yourself Adobe Photoshop – Rose Carla.
4	Adobe Photoshop CS classroom in a book by adobe press 2007.
5	Corel DRAW X5 The Official Guide (August 27, 2010) - McGraw-Hill Osborne Media.
6	Corel DRAW Suite X5: Home and Student.

PAPER VI
PRACTICAL II

Premier Practical	
1	Editing video and images.
2	Adding for video effects.
3	Importing and exporting videos and audio files.
4	Composite video and audio tracks.
5	Output rendering.
Sound Forge Practical	
1	Working methods in audio tracks.
2	Import and export audio files.
3	Song and voice mixing.
4	Working with effects plug-in.
5	Save formats and output audio file.
Flash Practical	
1	Ball animation.
2	Create mask and shape effects.
3	Walk cycle animation.
4	Image tracing.
5	Create cartoon drawing with flash.
Reference Books	
1	Adobe premiere pro cs3:adele drabbles and Seth Greenberg
2	Sound forge-Scott R. garages Publish book for sound forge tips and tricks.
3	Macromedia Flash Bible ; Aptech Publisher 2008
4	Timing for Animation – Harold Whitaker and John Halas
5	Macromedia 2d Animation ; Macromedia Publisher

PAPER VII
PRACTICAL III

2 D Animation	
Objectives	
1	To provide training to students on animation operations.
2	To help the students to get the practical skill in the area of Flash animation design.
Exercises	
1	Procedure to create an animation to represent the growing Moon.
2	Procedure to create an animation to indicate a ball Bouncing on steps
3	Procedure to simulate movement of a cloud.
4	Procedure to draw the fan blades and to give proper animation
5	Procedure to display the background given (filename: Tulip.jpg) through your name.
6	Procedure to create an animation with the following features. Welcome Letters should appear one by one The fill colour of the text should change to a different colour after The display of the full word.
7	Procedure to simulate a ball hitting with another ball
8	Procedure to create an animated cursor using startdrag ("ss", True); mouse.hide(); Procedure to design a visiting card containing atleast one Graphic and text information
9	Procedure to take a photographic image. Give a title for the Image. Put the border. Write your names. Write the name of institution and place.

PAPER VIII
INTERNSHIP MULTIMEDIA 30 days

With a graphic design internship, you will be involved in projects that focus on nearly every aspect of a business's visual design strategies. Your internship tasks may include creating graphic and video content, template design, web design work, and many more exciting tasks. Plus our graphic design internships range in industries, so we work with you to find one that best matches your career goals. Look through our program locations and placement examples to get a better understanding of all the graphic design.