

JI-01

Dr G R DAMODARAN COLLEGE OF SCIENCE (AUTONOMOUS)

2020-21

COIMBATORE - 641014

CAREER ORIENTED COURSE

PC SOFTWARE

(Under Choice Based Credit System)

EFFECTIVE FOR THE STUDENTS ADMITTED DURING THE ACADEMIC YEAR 2020-2021

<b>Programme Outcome</b>	
PO1	To have an understanding in the concepts, principles and theories of the various courses related to Desktop Publishing and Animation
PO2	To build the necessary skill set and analytical abilities for developing computer based solutions
PO3	Ability to use appropriate techniques, skills and tools necessary for computing practice
PO4	To organize information efficiently in the visual form using appropriate software
PO5	To provide knowledge on three dimensional modeling mechanisms
PO6	To create effective 2D and 3D animations
PO7	Imparts knowledge for creating multimedia content for the web, video etc
PO8	Imparts skills to make graphic compositions, which disseminate a message efficiently.
PO9	To take up a profession in software or animation industry
PO 10	To build a successful career in the field Computer Science and its related domain

<b>Programme Specific Outcome</b>	
PSO1	Exploring different technologies in desktop publishing and computer animation.
PSO2	Emphasis on conceptualization, creativity, and visual aesthetics
PSO3	To develop competencies and skills needed for creating effective Animations
PSO4	Explore technical knowledge in diverse areas of Software Industry or experience an environment conducive future in entrepreneurship
PSO5	To Enhance skills and adapt new computing technologies for attaining professional excellence



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**SCHEME OF EXAMINATIONS**

Year	Level	Course Code	Course Name	MARKS			Hrs. / Week	Exam. Duration (Hrs.)	Category
				CA	TEE	TOTAL			
I	Certificate	20348A	Desktop Publishing Software	25	75	100	3	3	THEORY
		20348P	Desktop Publishing Software Lab	40	60	100	3	3	PRACTICAL
II	Diploma	20348B	Fundamentals of Animation	25	75	100	3	3	THEORY
		20348Q	Animation Lab	40	60	100	3	3	PRACTICAL
III	Advanced Diploma	20348C	Advanced Animation Techniques	25	75	100	3	3	THEORY
		20348R	Multimedia Lab	40	60	100	3	3	PRACTICAL

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**MAPPING OF COURSES WITH PROGRAMME OUTCOME LEVELS**

Course Code	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
20348A	Desktop Publishing Software	3	1	2				3	2	1	
20348P	Desktop Publishing Software Lab				2		3				3
20348B	Fundamentals of Animation	3		2	2		3	1	2	1	
20348Q	Animation Lab					3	3				3
20348C	Advanced Animation Techniques	3	1	2	2	3	3	2	3	1	
20348R	Multimedia Lab					3	3				3

**Indicators: 1. Reasonable    2. Significant    3. Strong**

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Level	Course Code	Course Title	Theory/ Practical	Problems %	Theory %
Certificate	20348A	Desktop Publishing Software	Theory	-	100

**Objective of the Course:** Vector graphics are becoming increasingly important in the recent scenario and this course provides a brief overview to non-proprietary authoring tool such as Inkscape.

**UNIT I: Creating and Editing Objects**

**(Teaching hours: 10)**

**Creating and Editing 2D geometric shapes :** Rectangles and Squares, Ellipses, Circles and Arcs, Polygons and Stars – Creating freehand and straight lines – Creating paths using the Pen tool – Creating Calligraphic shapes – Using the Eraser tool – Creating and Editing 3D boxes – Creating and Editing Text – Clipping.

**UNIT II: Editing Colors and Clones**

**(Teaching hours: 10)**

**Editing Colors:** Changing fill and stroke color using palette. Patterns: Create Patterns, Moving Patterns along with Objects – Moving Patterns along with objects.

**Creating and Editing Clones:** Drawing Clock dial markers using Clones and tiled Clones– Drawing a colorful grid of tiled clones – Drawing a tree with cloned leaves using the spray tool.

**UNIT III: Wallpaper and Raster**

**(Teaching hours: 10)**

**Wallpaper:** Creation - Exploring wallpaper in different formats – Creating a flow chart using connectors.

**Raster and Almost Raster:** Importing raster images of different dpi – Isolating part of a raster image – Creating gradient meshes.

**UNIT IV: Web Graphics**

**(Teaching hours: 10)**

**Web Graphics Preparation:** Introduction – Creating Aqua style buttons – Creating curled stickers – Creating rollover images – Creating a web page mockup

**SVG in Websites:** Creating an interactive map for a web game – Creating an editable business chart.

**UNIT V: Compilation**

**(Teaching hours: 10)**

**Compilation:** Compiling the document metadata – Compiling development builds on Linux.

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**Course Outcome mapping with Knowledge level**

Course Outcome	CO Statement	Knowledge level
CO1	Creation and manipulation Geometric Shapes using vector graphics	K1, K2
CO2	Creation and interacting with various editing colour options and working with Clones	K2, K3
CO3	Creation and working with Wallpaper and related Raster images of various resolutions	K3, K4
CO4	Selecting the right web graphics to transform the work into a striking and powerful communication	K5
CO5	Fixing up the missing libraries and Compilation of the content	K5

**Note: K1- Remembering; K2 – Understanding; K3 – Applying; K4 – Analysing; K5 – Creating & Evaluating.**

**Course Outcome mapping with Programme outcome**

Course outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2				1	2	2	1
CO2	3	2		2		2	1			1
CO3	3	2	2		2			1	1	2
CO4	2		3	2			3	2		
CO5	2	2	3	2			1	1	2	3

**Indicators: 1. Reasonable 2. Significant 3.Strong**

<b>Text Books</b>				
S.No.	Title	Author	Publishers	Publication Year & Edition
1	Inkscape 0.48 Illustrator's Cookbook	Mihaela Jurkovic, Rigel Di Scala	PACKT Publishing	2011, First

**Pedagogy:** Lecture, PPT presentation, Assignment, Quiz, Group Discussion

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**2021**

Level	Course Code	Course Title	Theory/ Practical	Problems %	Theory %
Certificate	20348P	Desktop Publishing Software Lab	Practical	-	-

**Objective of the course:** This paper provides practical knowledge of working in Inkscape.

1. Creating and Editing 2D geometric shapes.
2. Creating and Editing 3D boxes.
3. Creation of Patterns.
4. Applying spray tool in objects.
5. Designing Wallpaper.
6. Creation of Flowchart using connectors.
7. Creation of Web Page with Aqua Style buttons.
8. Creation of Business Chart.

**Course Outcome mapping with Knowledge level**

Course Outcome	CO Statement	Knowledge level
CO	Provides hands on real time experience in the creation of logos, flexes, brochures, wall papers and any kind of vector designing based on the lining	K5

**Note: K1- Remembering; K2 – Understanding; K3 – Applying; K4 – Analysing; K5 – Creating & Evaluating.**

**Course Outcome mapping with Programme outcome**

Course outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO				2		3				3

**Pedagogy:** Demonstration, Experiments

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Level	Course Code	Course Title	Theory/ Practical	Problems %	Theory %
Diploma	20348B	Fundamentals of Animation	Theory	-	100

**Objective of the Course:** This course component enables the students to create animations, cartoon movies and publishing the animated movies using the open source software Synfig Studio

**UNIT I: Overview**

**(Teaching hours: 10 )**

Getting Started with Synfig Studio: Overview – Getting Started – Animation Basics – Adding Layers – Creating Shapes – Animating Shapes – Basic Bone creation.

**UNIT II: Interface study and Artwork construction**

**(Teaching hours:10 )**

Quick Overview: Interface Study. Artwork Import: Import and Export files  
Artwork Construction: Spline Tool – Outline Layer – Region Layer – Colour Editor – Draw Tool - Brush Tool – Width Tool

**UNIT III: Tools for Art Construction and Data Linking**

**(Teaching hours: 10 )**

Art Construction Tools: Group Layer – Switch Group Layer- Children Lock – Gradient Tool – Gradient Editor – Blend Method – Sets – Guides – Grid.  
Data Linking: Linking – Library Panel – Export- Convert- Sewing Splines – Link to Spline – Value Nodes – Reusing Exported Value Nodes – Switching Scenes

**UNIT IV: Animation**

**(Teaching hours: 10)**

Animation: Slideshows – Duplicate Layer – Brushes – Pluggins – Audio Synchronisation  
Animation: Keyframes – Time Track Panel – Waypoint – Reuse Animations – Editing Lock Keyframes – Following a Spline – Z-Depth – Time Loop Layer – Rescale Animations- Time Offset Parameter.

**UNIT V: Advanced Animation and Rendering**

**(Teaching hours: 10)**

Animation Techniques: Morphing – Cut-out.  
Viewing Output: Preview – Render Options – Render Dialog – SVG Export.

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**Course Outcome mapping with Knowledge level**

Course Outcome	CO Statement	Knowledge level
CO1	Getting started and work with basic bone creation for animation	K1
CO2	To Construct Artwork using the basic tools	K2
CO3	Using the Advanced tool for art construction and linking with the for the construction of scenes	K2,K3
CO4	To build animation using the Keyframes	K3, K4
CO5	Work with the advanced animation techniques like morphing and render the animation to create movie sequence	K5

**Note: K1- Remembering; K2 – Understanding; K3 – Applying; K4 – Analysing; K5 – Creating & Evaluating.**

**Course Outcome mapping with Programme outcome**

Course outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3				1	1		2	
CO2	3	2	2		1	2				
CO3			2	3	2		3	2	1	2
CO4			3	2		3	1	2		
CO5		2	3	2		3	1	1		

Indicators: 1. Reasonable 2. Significant 3.Strong

Text Books				
S.No.	Title	Author	Publishers	Publication Year & Edition
1	Synfig Manual		Advanced Micro Systems Sdn Bhd	

**Web References**

2. <https://wiki.synfig.org/Category:Manual>

**Pedagogy:** Lecture, PPT presentation, e-content seminar, Assignment, Quiz, Group Discussion

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Level	Course Code	Course Title	Theory/ Practical	Problems %	Theory %
Diploma	20348Q	Animation Lab	Practical	-	-

**Objective of the course:** This course provides practical knowledge about the tools in Synfig Studio and the creation of effective animations

1. Basic Bone Creation
2. Usage of Spline Tool
3. Usage of Draw Tool
4. Work with Brush and Width Tool
5. Working with Group Layers
6. Usage of Gradient Tool
7. Working with masking
8. Working with Animation and Rendering

**Course Outcome mapping with Knowledge level**

Course Outcome	CO Statement	Knowledge level
CO	This course provides practical knowledge about the tools in Synfig Studio and the creation of effective animations to deliver the multimedia content of the web and other communication media	K5

**Note: K1- Remembering; K2 – Understanding; K3 – Applying; K4 – Analysing; K5 – Creating & Evaluating.**

**Course Outcome mapping with Programme outcome**

Course outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO					3	3				3

**Pedagogy:** Demonstration, Experiments

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Level	Course Code	Course Title	Theory/ Practical	Problems %	Theory %
Advanced Diploma	20348C	Advanced Animation Techniques	Theory	-	100

**Objective of the Course:** This course focuses on GIMP a free and open-source raster graphics editor used for image retouching and editing. The students are taught on mastering core tools, layers, selections, masks, and colorspaces.

**UNIT I: Getting started and working with Images (Teaching hours: 10)**

GIMP Basics - Introducing the GIMP Windows and Dialogs - The Toolbox - The Image Window - The Layers, Channels, and Paths Dialogs - Loading and Saving Images - Creating New Images - RGB, Grayscale, and Indexed Images - Copy, Cut, and Paste Buffers - Zoom and New View - Zoom - New View - The Help System.

**UNIT II: Working with Layers (Teaching hours: 10 )**

Review of Layers - Layers and the Role They Play in Images- Channels and Their Relationship to Layers - Layer Creation, Deletion, Duplication, and Organization - Layer Export and Import- Floats- Manipulating Layers - Positioning Layers - Resizing and Scaling- Flipping- Rotating in 90o Increments- The Transform Tool - Combining Layers.

**UNIT III: Usage of Selection Tools (Teaching hours: 10 )**

Selections - The Basic Selection Tools - The Six Selection Tools from the Toolbox - The Rectangle Select and Ellipse Select Tools - The Lasso (the Free-Hand Selection Tool) - The Magic Wand (the Fuzzy Select Tool) - Bezier Paths - The Intelligent Scissors - Combining Selections - Adding - Subtracting - Intersecting - Add, Subtract, and Intersect with the Rectangle and Ellipse Selection Tool Features.

**UNIT IV: Working with Masking (Teaching hours: 10 )**

Masks- Channel Masks- Layer Masks- Conversions of Selections, Channel Masks- Layer Masks, and Alpha Channels- Masks and Selections- Using Masks to Refine Selections- The Quick Mask- Finding the Natural Mask

**UNIT V: Touchup and Sharpening Effects (Teaching hours: 10 )**

Touchup and Enhancement- Improving Tonal Range- Highlights and Shadows- Using the Levels Tool - Removing Color Casts - The Curves Tool- Color Correcting by Balancing the Neutrals- Finding the Shadow, Midtone, and Highlight- Other Colors- The Perturbation Technique- Getting More Detail into the Subject- Color Correcting Tools- Repairing Blemishes with the Clone Tool- Sharpening.

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**Course Outcome mapping with Knowledge level**

Course Outcome	CO Statement	Knowledge level
CO1	Study the user interface and the preliminaries associated with the same	K1
CO2	Working with Layer masks which are a fundamental tool in image manipulations	K2
CO3	Usage of Gimp's selections to create any shape of mask to perform animations	K3, K4
CO4	Usage of the different types of masks to refine selection	K4
CO5	Aesthetically improving photos and explains how to use the GIMP to achieve terrific results	K4,K5

**Note:K1- Remembering; K2 – Understanding; K3 – Applying; K4 – Analysing; K5 – Creating & Evaluating.**

**Course Outcome mapping with Programme outcome**

Course outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1				1	1	1	2	2	2
CO2	1	2			1	3	3			
CO3			2	3	2	2		1	1	
CO4			3	2	3	3	3	2	3	
CO5		2	3	2	3	3	3	1	2	3

**Indicators: 1. Reasonable 2. Significant 3.Strong**

<b>Text Books</b>				
S.No.	Title	Author	Publishers	Publication Year & Edition
1	Grokking the GIMP	Carey Bunks	Sams Publisher	2000, First
2	Gimp User Manual version 1.0.1, The Complete Guide to GIMP	Karin Kylander, Olof S. Kylander	Coriolis Open Press	1999, First

Pedagogy: Lecture, PPT presentation, e-content seminar, Assignment, Quiz, Group Discussion

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**2021**

Level	Course Code	Course Title	Theory/ Practical	Problems %	Theory %
Advanced Diploma	20348R	Multimedia Lab	Practical	-	-

**Objective of the course:** This paper provides practical knowledge about the tools in multimedia software tools

1. Create an image using simple tools
2. Layer Creation, Deletion, Duplication
3. Manipulating Layers
4. Transformation Tools
5. Selection Tools
6. Combining Selections
7. Working with Channel and Layer Masks
8. Color Correcting tools.

**Course Outcome mapping with Knowledge level**

Course Outcome	CO Statement	Knowledge level
CO	This course provides practical knowledge about the tools in GIMP and the creation of effective animations to deliver the multimedia content of the web and other communication media	K 5

**Note: K1- Remembering; K2 – Understanding; K3 – Applying; K4 – Analysing; K5 – Creating & Evaluating.**

**Course Outcome mapping with Programme outcome**

Course outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO					3	3				3

**Pedagogy:** Demonstration, Experiments