

1	Name of Syllabus	<b>C.C. in Multimedia Animation Technology (101107)</b>																																								
2	Max.Nos of Student	25 Students																																								
3	Duration	6 Months																																								
4	Type	Part Time																																								
5	Nos Of Days / Week	6 Days																																								
6	Nos Of Hours /Days	4 Hrs																																								
7	Space Required	Practical Lab = 200 Sq feet Class Room = 200 Sq feet TOTAL = 400 Sq feet																																								
8	Entry Qualification	S.S.C. appeared																																								
9	Objective Of Syllabus/ introduction	Can achieve one skills for developing multimedia animation.																																								
10	Employment Opportunity	Self-employment – he can work as a freelancer for animation studios, advertising agencies and other clients who outsource their animation work from home. He have the option of working for and established medium to large-scale organization involved in graphics and animation work. Visualizers, Ink and Paint Artists, Special Effects Persons, 3D Animations, character Animators and Modeling Artists.																																								
11	Teacher’s Qualification	Diploma/Degree in Related Subject.																																								
12	Training System	<b>Training System Per Week</b> <table><tr><td>Theory</td><td>Practical</td><td>Total</td></tr><tr><td>6 Hours</td><td>18 Hours</td><td>24 Hours</td></tr></table>						Theory	Practical	Total	6 Hours	18 Hours	24 Hours																													
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13	Exam. System	<table><tr><th>Sr. No.</th><th>Paper Code</th><th>Name of Subject</th><th>TH/PR</th><th>Hours</th><th>Max. Marks</th><th>Min. Marks</th></tr><tr><td>1</td><td>10110711</td><td>Computer Fundamentals &amp; Multimedia</td><td>TH-I</td><td>3 hrs.</td><td>100</td><td>35</td></tr><tr><td>2</td><td>10110721</td><td>Multimedia Animation</td><td>PR-I</td><td>3 hrs.</td><td>100</td><td>50</td></tr><tr><td>3</td><td>10110722</td><td>3d Max</td><td>PR-II</td><td>6 hrs.</td><td>200</td><td>100</td></tr><tr><td></td><td></td><td><b>Total</b></td><td></td><td></td><td>400</td><td>185</td></tr></table>						Sr. No.	Paper Code	Name of Subject	TH/PR	Hours	Max. Marks	Min. Marks	1	10110711	Computer Fundamentals & Multimedia	TH-I	3 hrs.	100	35	2	10110721	Multimedia Animation	PR-I	3 hrs.	100	50	3	10110722	3d Max	PR-II	6 hrs.	200	100			<b>Total</b>			400	185
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# **SYLLABUS**

## **Theory - I**

### **Computer Fundamentals & Multimedia**

#### **Computer Fundamentals**

1. Introduction To Computer
2. Characteristics Of Computers
3. The Evolution Of Computers
4. The Computer Generations
5. Classification Of Computers
6. Input & Output Devices
7. System Unit
8. Memory
9. Secondary Storage Devices.

#### **Concept of Graphics**

- a. Learn important design techniques
- b. Visual Thinking
- c. Concept Development
- d. Composition & Typography
- e. Understand conceptual knowledge about elements of art such as objects texture, color theory space and character design
- f. What is Pixel?
- g. What is Resolution?
- h. Introduction to Vector & Raster Graphic
- i. Color Mode
- j. Scanning Image
- k. Image Input & Output Devices (Graphic tablets light pens touch panels and image scanners)
- l. What is Graphics Software? Types of Graphic Software
- m. Image Size
- n. Graphics File Formats (JPEG GIF TIFF and PNG)

#### **Concept of Animation**

- a. Introduction to Animation
- b. Define Animation
- c. Principles of animation
- d. Types of animation
- e. Animation including all the fundamentals of 3D animation like Projections views Maps Lighting Character Design and Rendering.

**Practical - I**  
**Multimedia Animation**  
**(Animation Using Macromedia Flash 8 & Adobe Photoshop 7)**

Flash

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Flash workflow & Workspace

1. Introduction to flash
2. Workspace overview
3. Customize the workshop
4. Using the Stage and Tools panel
5. About the Timeline
6. Using Flash panels
  - a) Property inspector
  - b) Library panel
  - c) Movie Explorer
  - d) History panel
  - e) Colour panel

Working with Flash documents

1. About Flash files
2. Create or open a document and set its properties
3. View a document when multiple documents are open
4. Working with project
5. Importing artwork into Flash  
(Working with Photoshop PSD files (PSD file import preferences))
6. Adding media to the library
7. Work with libraries & its items
8. Working with timeline
9. Working with scenes
- 10 Find and replace command
11. About templates

Drawing Basis

1. about vector and bitmap graphics
2. Flash drawing mode
3. About overlapping shapes
4. Using Flash drawing and painting tools
  - a. Draw with the pencil tool
  - b. Draw straight lines
5. Reshaping lines and shape outlines
6. Snapping (object snapping pixel snapping snap alignment)
7. Working with colour strokes and fills

Working with graphic objects

1. Selection objects
2. Moving copying and deleting objects
3. Arranging object (Stack Align Group Break apart groups and object)
4. Transforming object

## Using symbols instances and library assets

1. Symbols overview
2. Types of symbols
3. Create symbols
4. Convert animation on the Stage into a movie clip
5. Duplicate symbols
6. Edit symbols
7. Working with symbol instances

## Creating animation

1. Animation basics
  - a) Creating motion
  - b) Creating key frames
  - c) Representations of animation in the Timeline
  - d) Frame rates
  - e) Frame-by-frame animation
  - f) Onion skinning
  - g) Extend still images
  - h) Mask layers
2. Using Timeline effects
3. Twinned animation
4. Special effects
  - a) Filter
  - b) Animation Filters
  - c) Create preset filter libraries
5. Blend modes in Flash
6. Working with text
7. Working with sound
8. Working with video

## **Adobe Photoshop**

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### Basics of Photoshop

1. Introduction to Photoshop
2. Uses of Photoshop
3. File Menu (New Open Browse Save Save As)

### Tool Box

1. Move Tool
2. Option Panel
3. Introduction to Layer
4. Making Layers Deleting Layers Visibility of Layers Opacity of layers & Merge Layers
5. Foreground & Background Colors Setting Colors Default Swapping Foreground & Background Colors
6. Zoom Tool & Hand Tool
7. Navigator & Info Panel

### Color Edit View & Brush

1. Introduction to color picker color dialog box.
2. Edit-Fill
3. View Menu-Rulers Grid Guides.
4. Brush Tool –Soft Edge & Hard Edge View of Brushes Opacity & Flow properties.
5. Shape Dynamics
6. Scattering
7. Texture
8. Dual Brush
9. Color Dynamics
10. Other Dynamics
11. AirBrush option of Brush Tool
12. Pencil tool

### Tool Box & Select Menu

1. Marquee Tool Add Selection Subtract Selection Intersect from selection.
2. Select Menu- Deselect & Inverse Selection
3. Select Menu- Feather Modify Color Range.
4. Making Square & Perfect Circular Selection
5. Feather & Anti-alias Option.
6. Style(Normal Fixed Aspect Ratio Fixed Size)
7. Transforming Selection
8. Creating your own Brush

### Menus

1. Layer Menu – New –Layer via Cut- Layer via Copy
2. Edit- Free Transforms Skew Scale Distort Perspective.
3. Creating Patterns.

### Tool Box & Menus

13. Lasso Tool Polygonal Lasso Tool Magnetic Lasso Tool Magic Wand
14. Edit- Stroke

### Channels

1. Introduction to Channel
2. Creating New Channel Save selection as New Channel Load selection as a New Channel

### Tool Box

3. Gradient Tool Different Types of gradients
4. What is Dither?
5. Paint Bucket Tool
6. Assignment: Making Pen using gradient tool.
7. Making CD using gradient tool.
8. Eraser Background Eraser Magic Eraser Tool
9. Text Tool Character Pallate Text wrap options
10. Assignment: Making Magazine Cover

### Masking

1. Introduction to Masking Add Mask to Layer Delete Mask Quick Mask.
2. Layer Menu- Group with Previous Layer

## Pen Tool

1. Pen Tool & its uses add & Edit anchor points.
2. Creating a Vector Mask Make a Selection Fill Path Stroke Path
3. Path & Direct selection Tool
4. Custom Shape.

## Layer Styles

1. Drop & Inner Shadow
2. Outer & Inner Glow
3. Bevel & Emboss
4. Satin
5. Color Overlay
6. Gradient Overlay
7. Pattern Overlay\
8. Stroke
9. Blending Options

## Tools & Menus

1. Dodge Tool Burn tool & Sponge Tool
2. Tool Box
3. Clone Stamp Pattern Stamp Healing Brush & Patch Tool.
4. Tool Box & Menus
5. History Brush Art History Brush History Pallate.
6. Crop Tool.
7. Image Menu- Rotate Canvas
8. Layer Menu- matting

## Color Theory

1. What are Primary colors Secondary colors Complementary colors?
2. What is Tint & Shade?
3. What are Warm & Cool colors?
4. What is Natural gray
5. What is hue & Saturation
6. What is Brightness Contrast & Gamma?
7. What is Black Point White Point & Gray Point?

## Tool Box

1. What is Color Model?
2. What is Color Space?
3. What is Device Independent Color Mode?
4. Different Types of Color Modes: (RGB CMYK LAB INDEXED etc...)
5. What is Gammut?

## Image Menu

1. Adjustments
2. Hue/Saturation
3. Desaturate
4. Variations
5. Postarize
6. Threshold
7. Invert
8. Equalize
9. Adjustment Levels- Curves Color Balance Brightness/Contrast Replace Color  
Selective Color Channel Mixer & Gradient Map

## Filter Menu

1. Artistic Blue Noise Render
2. Brush Stroke Pixelate Distort.
3. Extract Liquify Pattern Maker

## Actions

1. Actions
2. Image Menu- Image Size & Canvas Size
3. File – Automate
4. Tool Box
5. Slice Tool
6. Eye Dropper Tool
7. Notes Tool

## Tool Box

1. Different File Format
2. What are ICC Profiles?
3. File Menu- Save for Web

## Projects

1. Making a scene
2. Making a CD Cover
3. Designing a Web Page

## **Practical - II**

### **3D Max**

#### **Introduction to 3D Studio Max**

1. Salient features and applications
2. Orthographic and Perspective view

#### **Toolbar & Menu bar**

1. Learning the main toolbar
2. Using the Command Panel
3. Using the Function Panels
4. Using Additional Interface Controls
5. Using the Time Controls
6. Learning from the Status Bar and the Prompt Line
7. Interacting with the Interface
8. Using the Asset Manager Utility
9. Using the Pull-Down Menus
10. File Menu
11. Displaying Scene Information
12. Viewing Files
13. The Edit Menu and Tools Menu
14. The Group Menu and Views Menu
15. The Rendering Menu and the Track View Menu
16. Using the Tab Panel

#### **Working with Primitive Objects**

1. Using Keyboard Entry for Precise Dimensions
2. Altering Object Parameters
3. Primitive Object types
4. Extended Primitives

#### **Spline Shapes**

1. Drawing in 2D
2. Understanding Spline Primitive
3. Making Splines Renderable
4. Editing Vertices Segments Spline Subobject
5. Controlling Spline Geometry

#### **Creating Patches**

1. Introducing Patch Grids
2. Editing Patches
3. Converting to an Editable Patch
4. Editing Patch Sub-Objects and Modifying Patches

#### **NURBS**

1. Understanding NURBS Curves and Surfaces
2. Creating and Editing NURBS



## **Modifying Objects**

1. Using the Modify Panel
2. Modifying Object Parameters
3. Exploring Modifier Types
4. Working with the Modifier Stack
5. Copying Modifiers
6. Collapsing the stack
7. Modifying Sub objects

## **Meshes**

1. Parametric versus Non-Parametric
2. Creating an editable Mesh Object
3. Editing a Mesh Object
4. Editing Vertices and Edges
5. Editing Face Polygon and Element Sub-Objects
6. Modifying Meshes

## **Loft Objects**

1. Creating a Loft Object
2. Using the Get Shape and Get Path Buttons
3. Controlling Loft Parameters and setting Skin Parameters
4. Using Deformations
5. Modifying Loft Subobjects

## **Compound Objects**

1. Understanding Compound Object types
2. Modeling with Boolean Objects
3. Morphing Objects
4. Creating different Objects

## **Exploring the Material Editor**

1. Understanding Material properties
2. Working with the Material Editor
3. Using the Sample Slots
4. Applying and using Standard Materials
5. Extended Parameters
6. Dynamic Properties
7. Using different Materials

## **Using Material Maps**

1. Understanding Maps and Material Map Types
2. Common Parameters 2D Maps
3. Compositors and Color Modifiers
4. Reflection and Refraction
5. The Maps Rollout
6. Creating new materials Animating materials and applying multiple materials

## **Lights**

1. Basics of Lighting
2. Understanding Light types
3. Viewing a scene from a light
4. Altering Light Parameters
5. Lighting special effects
6. Using Volume lights Projector Maps and Raytraced Shadows

## Cameras

1. Understanding Cameras
2. Creating Camera Object and a Camera View
3. Camera Viewport Controls
4. Setting Camera Parameters
5. Aiming a Camera

## Particle Systems

1. Understanding the Various Particle Systems
2. Creating a Particle System
3. Setting Particle Parameters
4. Using Particle Parameter Systems

## Using Space Warps

1. Creating and Binding Space Warps
2. Space Warp Types
3. Particles and Dynamics

## Animation Basics

1. Using the animate button
2. Working with keys
3. Controlling time
4. Using the Motion Command Panel
5. Animating Objects

## Working with the Track View

1. Track View modes
2. Working with keys
3. Using Visibility Tracks and the Level of Detail Utility
4. Editing Time
5. Working with Curves and Tangents
6. Filtering Tracks
7. Working with Controllers
8. Synchronising to a Sound Track

## Working with Backgrounds Environments and Atmospheric Effects

1. Creating an Environment and defining the Rendered Environment
2. Using Atmospheric Apparatus Gizmos
3. Creating Atmospheric Effects

## Setting Rendering Parameters

1. Understanding MAX Renderers
2. Working with Previews
3. Render Parameters
4. Scanline A-Buffer Renderer
5. Rendering preferences and Render types

## Using the Video Post Interface

1. Understanding Post-Production
2. Using Video Post Dialog Box
3. Adding Editing and using Events
4. Working with Ranges and Lens Effects Filters

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