

ADIKAVI NANNAYA UNIVERSITY

SEMESTER - III

Sno	Course	Total Marks	Mid Sem Exam*	Sem End Exam	Teaching Hours	Credits
1	First Language English	100	25	75	4	3
2	<i>Foundation course – 4B</i> ICT – 2 <b>Character Designing</b>	50	0	50	2	2
3	<i>Foundation course -2B</i> Communication & Soft Skills -2	50	0	50	2	2
4	Introduction to 3D	100	25	75	4	3
5	Introduction to 3D Lab	50	0	50	2	2
6	2D Animation	100	25	75	4	3
7	2D Animation Lab	50	0	50	2	2
8	Audio and Video Editing	100	25	75	6	5
9	Audio and Video Editing Lab	50	0	50	2	2
Total		650	100	550	28	24

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## **III Semester Syllabus**

### **Introduction to 3D**

#### **Unit - I (3D Modeling)**

Introduction to 3D - Spline Modeling - Working with Modifiers (extrude, Bevel) -Compound Objects - Lofting - Object Modeling - Standard and Extended Primitives - Surface Modeling - Introduction to Character Modeling - Working with NURBS Curves- Working with NURBS Surfaces - Modeling using Patches - Modeling high Resolution Models for film Industry using Polygons - Applying Mesh Smooth -Modifier - Applying Materials.

#### **Unit - II (Interiors Designing)**

Introduction to Designing - Understanding Blue Print - Understanding working with Measurement Controllers - Creating Interiors and Furniture - Applying Materials and Maps - Cameras - Assigning Controllers - Walkthroughs - Working with Environmental Effects.

#### **Unit - III (Animation and Rendering)**

Introduction - Animating using time line - Materials - Auto Key - Set Key - key Animation - Dope Sheet - Curve Editor - Advanced Animations using Track View - Working with Controllers for Animation - Rendering a Scene - Max Render Engine - Anti - Aliasing - Virtual Frame - Buffer - Video Post Rendering - Rendering for Animations.

#### **Unit - IV (Character Studio)**

Introduction - Layers - Freedom Animation - Human Anatomy - Modeling Biped as per the Character - Assigning Character to a Biped - Behavior Files - Motion Capture - Applying Physique.


#### **Unit - V (Rigging)**

Introduction - Bones - Inverse Kinematics - Bone Parameters - Restricting the access of the bone - Assigning a Model to bones - Rigging Methodologies -Controlling the Character.

#### **BOOKS RECOMMENDED :**

1. KELLY L. MURDOCK- 3DS Max 6 Bible.
2. PETER RATNER-3D Human Modeling and Animation.
3. DAVID KALWICK-How to do everything with 3DS Max 6.
4. SHAM TIKKOO- 3DS Max for Animators, interior decorators and Architects.
- 5.FOX- 3DS Max 6 Animation: CG Film making from concepts to completion.

### **Introduction to 3D Lab**

Unit  - I (Modeling & Animations)



1. Creating a model & Animating
2. Creating a polygon model
3. Creating a subdivision model
4. Modeling Props

**Unit – II (Interiors Designing)**

1. Creating a Landscape
2. Creating House hold objects
3. Creating Walk throughs

**Unit – III (Character Animations)**

1. Animating a Character
2. Applying Physique

## **2D Animation**

**Unit - I (Building Blocks)**

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Introduction to 2D Animations - Make a Flash Movie - Time Line - Set Up - Input Text  
Animate Text - Testing Movie - Movie Properties - Designing Templates - Stage



Concepts - Use of Grid, Rulers & Guides - Tool Panel - Open & Close Panels

- About Library.

**Unit - II (Flash Movie Graphics)**

Making simple Graphics - Drawing Concepts - About Fill and stroke colors - Brushes

- Text Designing - Manipulate Graphics & Text - Adding Images to Flash Movie -Working with Video & Sound - Usage of Symbols.

**Unit - III (Motion)**

Animation Concepts - Types of Animations - About key frames - Incorporation of Motion Tweening - Shape Tweening- Buttons & Movie Clips - Adding Sound & Movie Clips to the button.

**Unit - IV (Interactivity)**

Adding Behaviors to a Movie - Flash Action Script - Communicate with Symbol Instances - Creating a target Movie Clip - Action Script to Create Simple Interactivity - Navigating the Timeline with ActionScript.

**Unit - V (Movie Publishing)**

Publishing Flash Movie - Flash Components - Optimizing Movie - Building Preloaded - Exporting a Flash Movie - Audio- Editing Applications.


**BOOKS RECOMMENDED**

1. Flash MX 2004 - A Beginner's Guide - Bonnie Blake, Doug Sahlin
2. ROBERT REINHARDT, JOEY LOTT-Flash MX 2004 Action Script Bible.
3. ROBERTREINHARDT, SNOWDOWD-Flash MX 2004 Bible.
4. DOUG SAHLIN - Flash MX virtual classroom training kit.
5. FERNANDEZ- Macromedia Flash Animation and Cartooning.

## **2D Animation Lab**

**Unit - I (Flash)**

1. Logo Animations
2. 2D Animations
3. Intro Animations
4. CBT'S

**Unit -  II (Flash Action Script)**



1. Electronic Presentations
2. Application Development
3. Interactive Gaming
4. Video & Audio Controlling

## **Audio & Video Editing**

### **Unit - I (Sound & Video)**

Introduction - MIDI - Digital Audio Basics - Sampling - Pitch - Timbre - Voice -Patch - MIDI Systems - Audio Equalizers - Mono & Stereo - Recording -Surround Sound Systems -

### **Unit - II (Video Conversions)**

DTS - Voice-overs - Encoders & Decoders – Audio Monitoring -Video Conversions - PAL/NTSC - .Different File Formats.

### **Unit - III (Sound Editing)**

Working with Audio Files - Recording & Playback - Processing Functions - Editing Concepts - Audio Tools - Producing for Multimedia and the Web - MIDI - Echo Effects - Pitch Effects - Graphic Dynamics - Chorus - Reverberation - Exporting File Formats.



**Unit - IV (Video Editing)**

Introduction to Video - Transmissions - Video Standards - Linear & Non - Linear Editing - About Digital Video Editing - Adding Transitions - Editing Techniques - Title Designing - Superimposing - Adding Motion - Applying Video & Audio Effects.

**Unit - V (Morphing)**

Introduction - Warping Techniques - Morphing Techniques - Image warping and morphing - Video morphing - Converting paths to shapes - Animating images along the path - Changing lighting in the images - Exporting techniques.

**BOOKS RECOMMENDED**

1. P.FISHER: Instant Sound forge.
2. BAKER - Adobe Premiere Pro Bible.
3. ADELE DROBLAS AND SETH GREENBERG- Adobe Premiere 6.5 Bible.

**Audio & Video Editing Lab**

**Unit - I (Sound Forge)**

1. Tuning Sounds
2. Sound Mixing for Promos
3. Creating Jingles
4. Dubbing
5. Sound Editing & Compositing

**Unit - II (Adobe Premiere)**

1. Video Clipping
2. Video Transitions
3. Video Mixing
4. Video & Audio Mixing
5. Sound Editing & Compositing

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## **Character Design**

### **Unit - I (Anatomy)**

Introduction - Basic human figure proportioning (male, female & child) - Cartoon character construction - Comic human figure proportions - Comic related character skeleton system - Dynamic figure Drawing - Forms and structures

### **Unit - II (Character Design)**

Introduction - Facial expression (Human & animals) - Comparisons - Comic character - Realistic character - Different angles (Male, Female and child) - Body angles and postures - Body angles with camera point of view in cylinders and cubes - Proportions as per age - Character designing / cartoon character designing - PDP In-house.

### **Unit - III (Principles of Animation)**

Introduction - Basic Animation Principles - Concepts of 12 animation Principles & their importance - Key Drawing and Assistance Animation - In-betweens and cleanups - Timing and spacing of animation - Line of Acting - Path of action - Slow in/slow out - Anticipation - Arc - Stretch and squash - Follow through and overlapping action - Wave action - Appeal.

### **Unit - IV (Personality Development for Animators)**

Introduction - Story telling - Creative writing - Narrative story telling - Dialogue - Point of view - Character development - Plot setting - Variations and alternative genres - Artistic medium - Visualize and dramatist - Criticism & Value of revision.



**Unit - V (2D Character Animation)**

Introduction - Key Animation/ straight ahead Animation - Character Action -Volume and weight - Acting and attitude - Run, Jump, walk, push and pull Inbetweening techniques - Cleanup techniques - Time grid - registration - Trace back - Breakdown drawings - Line quality - Line consistency - Facial expression -Mouth chart - Lip sync - Eye expression - Eye blink - Water - Dust - Fire - Smoke - Rain - Explosion.

**BOOKS RECOMMENDED\_:**

- Cartoon Animation by Preston Blair (ISBN:1560100842)
- The Illusion of Life: Disney Animation. by Ollie Johnston (Author),Frank Thomas (Author) (ISBN:0786860707)
- The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas by Richard Williams (ISBN:0571212689)
- The work book of animation by Tony White (ISBN:0823002292) VTiming for Animation by Harold Whitaker, John Halas (ISBN:0240517148)
- The Human Figure in Motion (Hardcover) by Eadweard Muybridge (ISBN :0486202046)

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INTRODUCTION TO 3D  
MODEL QUESTION PAPER

Time: 3 hours

Max. Marks: 75

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Answer any five questions:

5 x 5 = 25

1. What is 3D Animation?
2. What is lofting?
3. Write about surface modeling.
4. Write about blue print.
5. What is virtual frame?
6. Write about layers.
7. What is rigging?
8. How to apply physique?

II Answer ALL questions:

5 x 10 = 50

9. a) Explain how to work with modifiers.

(or)

b) Explain about character modeling.

10. a) Explain how to create interiors and furniture.

(or)

b) Explain the working with environmental effects.

11. a) Explain advanced animations using track view.

(or)

b) Describe video post rendering.

12. a) Explain Human Anatomy.

(or)

b) Write about motion capture.

13. a) Explain inverse kinematics.

(or)

b) Write about rigging methodologies.



**2D ANIMATION**  
**MODEL QUESTION PAPER**

**Time: 3 hours**

**Max. Marks: 75**

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**I Answer any five questions:**

**5 x 5 = 25**

- 1) What is time line?
- 2) Write about 2D Animation.
- 3) Write about fill and stroke colors.
- 4) Explain about brushes.
- 5) Write about shape tweening.
- 6) What is flash action script?
- 7) What are editing applications?
- 8) Write about movie clip.

**II Answer all questions**

**5 x 10 = 50**

- 9) a) How to make a flash movie?  
(or)  
b) Explain about designing templates.
- 10) a) Explain drawing concepts.  
(or)  
b) Explain how to add images to flash movie.
- 11) a) Explain the types of animation.  
(or)  
b) Explain incorporation of motion tweening.
- 12) a) Explain the steps to create a target movie clip.  
(or)  
b) How to add behaviors to a movie?
- 13) a) Explain the steps to publish flash movie.  
(or)  
b) Explain about flash components.



**AUDIO & VIDEO EDITING**

**MODEL QUESTION PAPER**

Time: 3 hours

Max. Marks: 75

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**I Answer any five questions**

**5 x 5 = 25**

1. What I MIDI?
2. Write about audio equalizers.
3. Write about voice overs.
4. Write about recording and playback.
5. What is reverberation?
6. Write about transmissions.
7. Write about title designing.
8. Explain about warping techniques.

**II Answer ALL questions**

**5 x 10 = 50**

9. a) Explain about MIDI systems.  
OR  
b) Explain the process of recording.
10. a) Explain about Encoders & Decoders.  
OR  
b) Write about video conversions.
11. a) Explain how to work with audio files.  
OR  
b) Explain various Audio tools.
12. a) Explain about linear and non-linear editing.  
OR  
b) How to apply video & audio effects?
13. a) Explain various Morphing Techniques.  
OR  
b) Explain image warping and morphing.



**CHARACTER DESIGN**

MODEL QUESTION PAPER

Time: 2 hours

Max. Marks: 50

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**Answer ALL questions**

**5 x 10 = 50**

1. a) Describe basic human figure proportion.  
OR  
b) Describe Comic human figure proportions.
2. a) Draw different body angles and postures.  
OR  
b) Explain character designing.
3. a) Explain the basic animation principles.  
OR  
b) Explain about In betweens and cleanups.
4. a) What is creative writing?  
OR  
b) Explain the development of character.
5. a) Describe push and pull In-between techniques.  
OR  
b) Describe breakdown and line quality.

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