



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

UG PROGRAM (4 Years Honors)
CBCS - 2020-21

B. Sc
Animation



Syllabus and Model Question Papers



TABLE OF CONTENTS

S.No	Particulars	Page No.
1	Resolutions of the BOS	3
2	Details of paper titles & Credits	4
	a. Proposed combination subjects:	4
	b. Student eligibility for joining in the course:	4
	c. Faculty eligibility for teaching the course	4
	d. List of Proposed Skill enhancement courses with syllabus, if any	4
	e. Any newly proposed Skill development/Life skill courses with draft syllabus and required resources	4
	f. Required instruments/software/ computers for the course	5
	g. List of Suitable levels of positions eligible in the Govt /Pvt organizations	6
	h. List of Govt. organizations / Pvt companies for employment opportunities or internships or projects	7
	i. Any specific instructions to the teacher /papersetters/Exam-Chief Superintendent	
3	Program objectives, outcomes, co-curricular and assessment methods	8
4	Details of course-wise syllabus for Theory and Lab	9
5	Model Question Papers for Theory and Lab	11
6	Details of Syllabus on Skill Enhancement courses and Model Question Papers for Theory and Lab	

Note: BOS is to provide final soft copy in PDF and word formats and four copies of hard copies in bounded form to the office of Dean Academic affairs.



1. RESOLUTIONS OF THE BOARD OF STUDIES

Meeting held on: 22.01.2021.Time:10 A.MAt: Adikavi Nannaya University , RJY

Agenda:

1. Adoption of revised-common program structure and revising/updating course-wise syllabi(in the prescribed format) as per the guidelines issued by APSCHE.
2. Adoption of regulations on scheme of examination and marks/grading system of the University UG programs.
3. Preparation of Model question papers in prescribed format.
4. List of equipment/software requirement for each lab/practical
5. Eligibility of student for joining the course
6. Eligibility of faculty for teaching the course
7. List of paper-setters/paper evaluators with phone, email-id in the prescribed format

Members present:

Dr. P.Venkateshwara Rao	Chairman, Dept. of CSE,ANUR.
Dr. V.Persis	Member, Dept. of CSE,ANUR.
Mr. N. B. C. S. N.Murthy	Member , Dept. of CSE,Aditya Degree College, Kakinada
Mrs. P S V D Gayatri	Coordinator, Dept. of CSE,ANUR

Resolutions:

1. Resolved to adopt the revised-common program structure and revising/updating course-wise syllabi (in the prescribed format) as per the guidelines issued by APSCHE.
2. Resolved to adopt the regulations on scheme of examination and marks/grading system of the University UG programs.
3. Resolved to prepare the Model question papers in prescribed format.
4. Resolved to give the list of equipment/software requirement for each lab/practical
5. Resolved the eligibility of student for joining the course
6. Resolved the eligibility of faculty for teaching the course
7. Resolved to give the list of paper-setters/paper evaluators with phone, email-id in the prescribed format



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

2. DETAILS OF PAPER TITLES & CREDITS

Sem	Course no.	CourseName	Course type (T/L/P)	Hrs./ Week (Science:4+2)	Credits (Science: 4+1)	Max. Marks Cont/ Internal/Mid Assessment	Max. Marks Sem-end Exam
I	1	2D Graphic Design	T	4	4	25	75
		2D Graphic Design Lab	L	2	1	-	50
II	2	2D Animation	T	4	4	25	75
		2D Animation Lab	L	2	1	-	50
III	3	Introductionto 3D	T	4	4	25	75
		Introductionto 3D Lab	L	2	1	-	50
IV	4	Web Technologies	T	4	4	25	75
		Web publishingLab	L	2	1	-	50
	5	Advanced3D	T	4	4	25	75
		Advanced3D Lab	L	2	1	-	50
V							

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

- Proposed combination subjects: Computer Science , Film Studies[i.e., B.Sc.(Computer Science, Animation, Film Studies)]
- Student eligibility for joining in the course:
- Faculty eligibility for teaching the course:
- List of Proposed Skill enhancement courses with syllabus, if any:
- Any newly proposed Skill development/Life skill courses with draft syllabus and required resources.



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

f. Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., for a batch of 15 students)

Sem. No.	Lab/Practical Name	Names of Instruments/Software/ computers required with specifications	Brand Name	Qty Required
1	2D Graphic Design Lab	Art Studio Setup 1. Light Box for 2D/ Cartoon animation 2. Donkey chair (Drawing chair) 3. Pen Table / Digitizer Table – Wacom 4. Manqulars Software's: 1. Adobe Creative suite (CS / CC) Adobe Photoshop	Adobe	5
2	Composting Lab	Visual Effects Studio Setup 1. Green/Blue matte Studio 2. Still & Video camera (HD) 3. Tripod 4. Lights + Light Stand (minimum 4 cool lights) 5. Movable green/blue matte cloth (Height: 7 feet X Weigh 8 feet) 6. Flex Box or extended power box (minimum 10 feet)	Canon / Nikon	3
3	2D Animations Lab	Animation Studio Setup 1. Big mirror for capture the facial expressions 2. Frame by frame animation 3. Stop motion capture equipment (Stand + Camera) Softwares: 1. Toon boom 2. Adobe Creative suite (CS / CC) Adobe Photoshop Adobe InDesign	Adobe, US Animation	5



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

		Adobe Flash Adobe AfterEffects Adobe Premiere Adobe		
4	Web Publishing Lab	Dreamweaver Adobe Audition Adobe Lightroom	Adobe	5
5	Introduction to 3D Lab & Advanced 3D Lab	1. Autodesk – 2016 to2019 Autodesk Maya Autodesk 3Ds Max Autodesk Matchmovre Autodesk Arnold renderer for maya 2. Real flow 3. Z- Brush 4. Mudbox 5. Substance painter (Adobe) 6. Fume EFX 7. Rayfire 8. Ms- Office 9. Script writer	Auto Desk, Adobe	8

g. List of Suitable levels of positions eligible in the Govt /Pvt organizations

Suitable levels of positions for these graduates either in industry/Govt organization like., technical assistants/ scientists/ school teachers., clearly define them, with reliable justification

S.No	Position	Company/ Govt organization	Remarks	Additional skillsrequired, if any
1	2D Artist	Cartoon studios		
2	Layout designer	Graphic Design Studio		
3	Advertisement maker	Advertisement industry		
4	3D Modeler	3D industry		
5	Story boardArtist	Film & Animation industry		
6	Animator	2D or 3D industry		
7	Composter	Visual effects industry		
8	Game Designer	Game industry		
9	Video & Audio editor	Film(or)Television(or)Entertainmen tindustry		
10	Trainer	Media School (or) College		



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

- h. List of Govt. organizations / Pvt companies for employment opportunities or internships or projects

S.No	Company/ Govt organization	Position type	Level of Position			
1	Film Industry					
2	Animation Industry					
3	Medical Industry					
4	Media Industry					
5	Interior Designing					
6	Automobile Industry					
7	Photography Industry					
8	Web desing & Development Industry					
9	Visual effects Industry					
10	Gaming Industry					
11	Banking Industry					
12	Educational Industry					
13	Photography Industry					

- i. Any specific instructions to the teacher /paper setters/Exam-Chief Superintendent



3. PROGRAM OBJECTIVES, OUTCOMES, CO-CURRICULAR AND ASSESSMENT METHODS

B. Sc	ANIMATION
-------	-----------

1. Aim and objectives of UG program in Subject:
 - Develop the skills on the Art & Animation
 - Working with upcoming concepts
 - Evaluate the projects and assignments developed/prepared by the students
 - Apply the filters and effects to get photorealistic and quality outputs
2. Learning outcomes of Subject (in consonance with the Bloom's Taxonomy):
 - Learning recent methods in print and designing works
 - Fundamentals of making process
 - Understand the Production pipeline(Pre-Production, Production & Post-Production)
 - Apply many techniques for quality outputs
 - Use different tools to build complex objects
3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class-cum-lab work
4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)
 - A. Measurable**
 - Seminar & Workshop on subjects relevant topics with students and industry experts
 - Group Discussion on subject relevant topics
 - Quiz program on each module
 - RVJ (Reflective Visual Journal) on the theory and particles
 - B. General**
 - Exhibition on the practical works
 - Outdoor/ Field study on their subject
 - Maintain a blog
5. Recommended Continuous Assessment methods:
 - Oral presentations
 - Self – reflective blogs
 - Peers and self assessment on outputs
 - Evidence of process and experimentation in response to artistic exercises

Portfolios on outputs



1. Details of course-wise Syllabus

B. Sc	Semester: I	Credits: 4
Course: 1	2D Graphic Design	Hrs/Wk: 4

Aim and objectives of Course (Title of the course/paper): **2D Graphic Design**

- This course will study advanced topics in Graphic design. The focus will be on learning recent methods in print and designing graphic works.

Learning outcomes of Course (in consonance with the Bloom’s Taxonomy):

- Analyze the range of technologies in digital image acquisition and manipulation
- Apply the fundamental principles of 2D computer graphics
- Develop, Document and Evaluate students graphics works within range of media
- Create and demonstrate graphics works

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

Multimedia: Introduction to multimedia - Multimedia system Requirements - - Multimedia application - Types of graphics - Difference between Raster Graphic & Vector Graphic and its uses- Graphic Design - Types of objects - Audio formats - Video formats - Image formats - Text document formats - Types of video editing - Types of printers - printing outputs.

UNIT II:

Introduction: Getting started with Photoshop - document dimension – Working with selections - Drawing toolbar - healing tool - clone stamp tool - Status bar – Photo - Ruler- Grid – Working with Colors- color mode – Resolution - Guide – Working with Layers New layer - Delete layer - Working with quick mask – Applying filters – Adding and Manipulating type – Saving and printing images

UNIT III:

Illustrator: Getting started with Illustrator - Interface – Workspace – Tools – Menus – Working with paths – Pathfinder – Paths - Live Paint - Compound Path - Working with Objects and Symbols – Clip Mask - Working with type - Text Wrap – Types of Tools - Gradient – Working with Layers - Logos - Tracing images – Drawing – Effects, Filters and Style - Hotkeys – Saving & Printing – Export and Import - Save for web - Convert PDF

UNIT IV:

In design: Getting started – Introduction the workspace – Tools & Menus – Working with panels - Working with styles – Working with graphics – Working with Layer - Flowing Text – Working with Typography - Creating Table

UNIT V:

CorelDraw: Workspace Tour – Application window: Tools & Menus - CorelDraw terminology and concepts– Object; Drawing; Vector graphic - Artistic Test; Paragraph Test -Drawing Shapes - Working with objects - Filling Objects - Working with color - Changing the Transparency of objects - Working with pages and layout tools - Creating layers -Publishing web etc.



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

TEXT BOOKS:

1. Introduction to Multimedia and Its Applications (English, Paperback, Jain V. K.)Khanna Publishers
2. Master Adobe Photoshop, Illustrator, Premiere and After Effects by Wiley-dreamtechIndia Pvt. Ltd.
3. Adobe InDesign CC Classroom in a Book – Pearson

REFERENCES:

1. Adobe In Design CC Classroom in a Book (2017 release) 1st, Kindle Edition
2. Adobe Illustrator CC Classroom in a Book by Wood Brian (Author)
3. Adobe In Design CS6 Classroom in a Book by Adobe Creative Team
4. Corel DRAW X7: The Official Guide Book by Gary David Button

CO-CURRICULAR ACTIVITIES:

- Graphic assignments
- Seminar/Workshop on Graphic design role in the industry
- The student will demonstrate the graphic works with print
- Visiting the Graphic design Studios/House for getting the knowledge on the liveexperience
- RVJ (Reflective Visual Journal) on the theory and particles
- Group discussion on topics related to graphic industry

ASSESSMENT METHODS:

- Oral presentations
- Self-reflective blogs
- Practical production works
- Peers and self –assessment for output



B. Sc	Semester: I	Credits: 1
Course: 1(L)	2D Graphic Design Lab	Hrs/Wk: 2

4. Details of Lab syllabus: 2D GRAPHIC DESIGN LABA

Adobe Photoshop:

1. Create your visiting card
2. Create Title for any forthcoming film
3. Digital Matte Paint
4. Convert Black and White to Color
5. Convert Day mode to Night mode
6. Design Image manipulation
7. Smooth skin and remove blemishes & scars
8. Create a 3D pop-out effect
9. Create Textures
10. Timeline Animation

Adobe Illustrator:

1. Advertisement
2. Digital Illustrations
3. Brochure
4. Packet Design(Toothpaste packet, Soap cover, any Food product)
5. Dangers for display
6. Menu cards
7. Calendar Design
8. Tracing image
9. Vehicle Design
10. Festival

Adobe Indesign:

1. Magazine A4 Size
2. Newspaper layout design & advertisements – Fine arts
3. Special Supplement
4. Different categories of Books
5. Info-graphics
6. Caricatures

Corel DRAW:

1. Create a paper ad for advertising of any commercial agency
2. Package Design
3. Corporate ID
4. Exhibition Layout
5. Oblers



MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS

Semester - I

Course : 2D Graphic Design

Time: 3Hrs.

Max.Marks:75

Section -A

Answer any 5 question

5X5 = 25M

1. Explain system requirements in details
2. Write about the Photoshop in detail
3. Brief about the illustrator
4. Write about the tools and menus
5. What is application window?
6. Explain about the video formats
7. Explain different color modes
8. How to change the objects to transparency

Section -B

Answer following question

5X10 = 50M

9. A) what is multimedia and multimedia system
(OR)
B) Explain Raster and Vector Graphics
10. A) Explain Tool bar and menu bar in Photoshop
(OR)
B) What is layer and layer mask explain in detail
11. A) What is text and text wrap
(OR)
B) Write following question in details
a) Effects b) Filters c) Hotkeys d) style
12. A) what is graphics explain in detail
(OR)
B) Explain typography? Role in the industry
13. A) what is artistic test?
(OR)
B) What is publishing web in detail?



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

B. Sc	Semester: II	Credits: 4
Course: 2	2D ANIMATION	Hrs/Wk: 4

Aim and objectives of course: 2D ANIMATION

- Understand and Apply the symbols, animation keys
- Analyze the tweens, shapes and articulated motions, Navigation menus and interactive movie clips
- Evaluate the developed project

Learning outcomes of course (in consonance with the Bloom's Taxonomy):

- Knowledge and utilize components to create interactivity and manipulate animation using several animation tools and techniques in this course.

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

What is Animation - Early examples of Animation - Stop Motion Photo Animation - Zoetrope – Thaumatrope – Cell and Paper Animation - Types of Animation - Facial expressions - Flash Overview – About Adobe Animate Interface - Menu Bar, Tools – Layers-Property Inspector – Timeline – Stage - Scene - File Formats: .fla, .swf – Library - Import to the stage - Import to Library - Color Swatches - Grid, Guide & Rulers - Creating New Document - Working on Stage.

UNIT II:

Using Layers: About Layers - Create - Delete Layers, Rename Layers - Lock & Unlock Layers - Type of Frames: Key frame - Blank Frame - Onion Skin – FPS – Symbols – Graphics - Movie Clip & Button – Tweening - Types of Tweens - Object & Merge Drawings-Gradient Color - Color Effects

UNIT III:

Filters, Shape Tween, Shape Hint Tween, About Mask, Layer Mask, Ease in and Ease out Animation, Working Frame - by - Frame Animations, Working on Tween Animation, Character creation - Animation - Creating Storyboard, Creating any Cartoon Character, Creating Background Scenes, Using Bone Setup Tool, Lip Movements, Adding Audio to Scene, Publish Movie, Publish Setting.

UNIT IV:

Online Frame Work - Types of E - learning's - ADDIE model for E-learning - Analysis and Design – Development – Implementation – Evaluation - Action Script, Interface of Action Script in Flash, Uses of Action Script, Event Handling, Using Code Snippets, Drag & Drop, Moving with Keyboard Arrows, Go to Frame and Stop, Play & Stop Sound Layout Creation - Timeline Actions- Creating Frame- Action Controlling Sound -Sound Controls– Video Controls- Handling Components- Applying Behavior.

UNIT V:

Action Script on Buttons, Movie Clips, Event Handlers, Create a Slide Show, Creating an Interactive Flash Game, Flash File Publishing, Export Options, Publish Settings from Flash to After Effects Working on Adobe After Effects, Export Flash to After Effects, Create Character Animation in After Effects, Export to Movie Format, Test Movie.

TEXT BOOKS:

1. The Animator's Survival Kit by Richard Williams, Straus & Giroux Pub. (U.S.A)
2. Flash Professional CC Class Room In a Book - Pearson

REFERENCES:

1. The complete animation course by Chris Patmore -Baron's Educational Series. (New York)
2. Animation Unleashed by Ellen Bessen, Michael Weise Productions, 2008(U.S.A)
3. Draw Animation by Paul Hardman.



CO-CURRICULAR ACTIVITIES:

- Demonstrate or exhibit the graphics animation and school projects
- Seminar/workshop on E-Learning and 2D Animation
- Study tour to visit 2D animation production house

ASSESSMENT METHODS:

- Domain specific projects assessment
- Portfolios of 2D
- Reflective Visual Journal for the works

B. Sc	Semester: II	Credits: 1
Course: 2(L)	2D ANIMATION Lab	Hrs/Wk: 2

4. Details of Lab syllabus : 2D ANIMATION LAB

1. Creating Web Banners in Adobe Flash
2. Creating a Logo Animation in Adobe Flash
3. Creating Frame by Frame animation
4. Draw Cartoon Animation using reference.
5. Create Lip Sink to Characters
6. Using filters & Special effects
7. Create a scene by using Mask layers animation

E-Learning Lab:

8. Student Application form
9. Video Controlling
10. Audio Controlling
11. Start Drag and Stop Drag Actions
12. Interactive Keyboard Controls using Flash Action Script.
13. Interactive Flash Game.
14. Creating Character Animation in After Effects



MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS

Semester - II

Course : 2D Animation

Time: 3Hrs.

Max.Marks:75

Section -A

Answer any 5 question

5X5 = 25M

1. What is animation?
2. What is the use of symbols and graphics
3. What is filter and shape Tween
4. What is E – learning
5. Explain Action script
6. Explain menu bar in flash
7. What is FPS and explain the video formats
8. How to apply action script on buttons

Section - B

Answer following question

5X10 = 50M

9. A) What is layer and layer property
(OR)
B) Explain the facial expression with drawing
10. A) what is Onion skin and blank frame
(OR)
B) Write about the tweening and Gradient color
11. A) What is shape hit tween and shape
(OR)
B) Explain the process of cartoon character desing
12. A) how to controls sound and video? In detail
(or)
B) what is action and timeline action
13. A) Write about the buttons and movie clips
(or)
B) how to create character animation in software



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

B. Sc	Semester: III	Credits: 4
Course: 3	INTRODUCTION TO 3D	Hrs/Wk: 4

Aim and objectives of Course (Title of the course/paper): INTRODUCTION TO 3D

- Understand the virtual 3D space and how to build objects
- Create objects using primitive shapes and sub patch geometry
- Analyze the importance of file backup and management (projects setup)
- Evaluate the projects and assignments developed/prepared by the students

Learning outcomes of Course (in consonance with the Bloom's Taxonomy):

- Use these tools to build complex objects then learn the basic 3D rendering tools and techniques including camera settings. Expose to all relevant aspects of CG creating with 3D Soft wares.

UNIT I:

Introduction to the interface of Maya, Menu set, Main Menu Bar, Panel Menu, The Channel Box and Layer Editor, Shelf, Hotkeys, Viewport, Attribute Editor, Hot Box, Setting and Preferences, New, Set Project, About Polygons, Creating Polygon primitives, Cameras, Edit Selections: Selection, Move, Scale, Rotate, Lasso tools - Creating New Shelf, Duplicating objects, Pivot points, Snapping, Outline.

UNIT II:

NURBS, CV, EP, Bezier, Pencil Curve tools. Props Modeling - Modeling a high poly model, Mesh Conversion: Polygon to Nurbs, Nurbs to polygon, Highpoly, Low Poly, viewport references, Model using Reference images, basic posture, Difference between hi- poly & low-poly characters.

UNIT III:

Introduction to basic material types & Procedurals. Study of concepts: Opacity, Transparency, Specularity and color, Working with Transparency, Reflection & Refraction, Bump & Displacement Maps. Introduction to unwrapping, Unwrapping the maps for various 3d characters. Working with 2D Textures and 3D, Texture, Introduction to the mapping and Normal Maps, Shadow maps, Raytraced shadows.

UNIT IV:

Lighting, Working with Maya Lights 1-Point, Direct, Spot, Working with Maya Lights 2-Ambient, Area and Volume, Direct Illumination-Creating and Illuminating a Stage Show, Three Point Lighting and Exterior Lighting, Cast shadows, decay rate, Previewing lighting and shadows creating depth map Shadow, creating ray-traced

UNIT V:

Concept of a lighting system and shadows, Creating area light shadows, setting area light visibility, Creating soft shadows with spotlights, Indirect lighting: Setting illumination for interiors, Tuning global illumination, rendering an AVI, Rendering an image sequence. Render layers: introduction, creating, Applying to render layer presets, setting overrides, creating render layer composites, Render Passes: Introduction, compare render passes and render layers, Render quality: anti-aliasing, setting color profiles, diagnosing ray tracing, adjust motion blur.

TEXT BOOKS:

1. Digital Modeling Book by William Vaughan
2. Advanced Maya Texturing and Lighting Book by Lee Lanier

REFERENCES:

1. 3D Automotive Modeling: An Insider's Guide to 3D Car - Book by Andrew Gahan
2. Character Development in Blender 2.5 Book by Jonathan Williamson
3. 3D Modeling and Printing with Tinkercad: Create and Print - Book by James Floyd Kelly
4. Beginning Blender: Open Source 3D Modeling, Animation, - Book by Lance Flavell
5. Integrating 3D Modeling, Photogrammetry - Book by David Halbstein and Shaun Foster



CO-CURRICULAR ACTIVITIES:

- Presentation on Modeling, Texturing Rendering, and popular workflow
- Demonstrate or Exhibit(museum) developed projects
- Group discussion on 2D, 2.5D & 3D
- Study tour or Visit to production house to get knowledge on the 3D pipeline
- Exhibit on the external and internal models with a team project

ASSESSMENT METOHD:

- Written assignment
- Self-directed study with peers and tutors
- Evidence of process and experimentation in response of animation

B. Sc	Semester: III	Credits: 1
Course: 3(L)	Introduction to 3D Lab	Hrs/Wk: 2

Details of Lab syllabus : Introduction to 3D Lab

1. Create any Model some objects such as chairs, tables, fruits, utensils
2. Create any Model instruments, tools
3. Create any Model of Cars or Bike,
4. Create any model of the male or female character.
5. Create any Model of any animal.
6. Create any Model of any birds, fishes, and worms.
7. Apply basic material and shader types & Procedurals textures.
8. Unwrap the models of objects and characters using various projection maps.
9. Apply texture on various objects and characters.
10. Create a natural outdoor or indoor scene.
11. Create Opacity, Smoothness, Secularity, and color maps, Transparency, Reflection
12. Bump & Displacement Maps
13. Render a frame and video of indoor and outdoor scenes.
14. Render a video of indoor scenes.
15. Render a photorealistic output of an interior scene.
16. Advance lighting using mental ray render.
17. Animate day and night scene of a street with the help of lighting.



MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS

Semester - III

Course : Introduction to 3D

Time: 3Hrs.

Max.Marks:75

Section -A

Answer any 5 question

5X5 = 25M

- 1.Explain men set in the maya
2. What is NURBS in detail
- 3.Explain Reflection & Refraction
4. Write about the lighting in details
5. What is AVI, Rendering an image
6. What is CV, EP, Bezier
- 7.Explain highpoly
- 8.How to create render for layer compositing

Section - B

Answer following question

5X10 = 50M

9. A) Briefly write maya interface
(OR)
B) What shelf,hotkey and attribute editor? In detail
10. A) Explain Polyand NURBS in detial
(OR)
B) What is difference between high & low poly
11. A) What is texture? Explain 2D & 3D textures
(OR)
B) Explain Normal, shadow, raytraced maps
12. A) What is illumination and how to create
(OR)
B) Explain Lighting and shadows creating
13. A) Difference between interiors and exterior lighting
(OR)
B) What is HDRI and explain in detail



B. Sc	Semester: IV	Credits: 4
Course: 4	WEB TECHNOLOGIES	Hrs/Wk: 4

Aim and objectives of Course (Title of the course/paper): WEB TECHNOLOGIES

- Understand the web softwares to build objects
- Apply the knowledge to create web pages and web banners
- Analyze the importance of file backup and management(setup forms)
- Evaluate the projects and assignments developed/prepared by the students

Learning outcomes of Course (in consonance with the Bloom's Taxonomy):

- Define the terms and principles of web design and development. Get knowledge on the programming and scripting languages to develop web

UNIT I:

Page Setup, Designing Web Layout, Creating a Header, Create a Menu Bar, Search options, Importing Images, Aligning the page, Slice Tool Options, File Formats, Save for Web, Create a Animate Web Banner, Web Template using Flash, Publishing for Web.

UNIT II:

Dream Weaver: Interface, Defining a Site, Properties Panel, Creating a Page with Text, Creating Tables, Importing Images, .swf files, videos, Creating Hyper links, Frames & Frame Sets, i frames, Forms, Rollovers, Div Tags, Cascading Style Sheet, Types of CSS: Inline, Internal or Embedded, and External CSS. Publishing the Web Site

UNIT III:

Introduction HTML – Structure of HTML program – Commonly used HTML tags – Text Formatting – Text Styles – Other Text Effects – Lists – Tables – Frames – Adding Graphics to HTML Document – Cascading Style Sheets – Font Attributes – Color and Background Attributes – Text Attributes – Border Attributes – Margin Attributes – List Attributes.

UNIT IV:

Web Types: Static and Responsive Web Pages, Communicating on the Internet Web Services, Domain Name, Overview of TCP/IP and its Services – Web Servers – Web Clients/Browsers.

UNIT V:

(Web Hosting) Introduction to Protocols – About FTP – Web Hosting – Hosting through DOS-Hosting through Character Interface & Graphics Interface.

TEXT BOOKS:

1. Web Design Portfolio 2020 - Adobe Dreamweaver & Photoshop
2. Adobe Dreamweaver CC Basics of Web Design & Development - MARK MYERS

REFERENCES:

1. DAVID, RHONDA – Web Design with HTML/Flash/Java Script Bible.
2. RON WODASKI – Web Graphics Bible.
3. JIM MAIVALD - Adobe Dreamweaver Classroom in a Book



B. Sc	Semester: IV	Credits: 1
Course: 4(L)	WEB PUBLISHING Lab	Hrs/Wk: 2

Details of Lab syllabus: WEB PUBLISHING LABPHOTOSHOP & FLASH

1. Designing Web Layouts
2. Designing Web Pages
3. Publishing Flash Intros with Links
4. Publishing the Web site
5. HTML Page Layouts
6. HTML Page Development
7. Adding Graphics to HTML Document

DREAMWEAVER

1. Creating Web Pages and aligning through Dreamweaver
2. Creating web page college/institution
3. Any Brand of Product/Services web page
4. Fashion Design/Creative studio web page
5. Create web page software company
6. Forms web page
7. Flash web page
8. Incorporating Audio & Video Files
9. Database Linking
10. Web Hosting

CO-CURRICULAR ACTIVITIES:

- Conducting seminar/workshop on web design and development
- Conducting quiz on web
- Competition on web page creation

ASSESSMENT METOHD:

- Domain specific projects assessment
- Maintain web pages for temples
- Reflective Visual Journal for the works



MODEL QUESTION PAPER (Sem-end. Exam)
B. Sc DEGREE EXAMINATIONS
Semester - IV
Course : Web Technologies

Time: 3Hrs.

Max.Marks:75

Section -A

Answer any 5 question

5X5 = 25M

1. What is web layout
2. Explain the dreamweaver interface
3. what is HTML ? in details
4. explain static webpages
5. What is FTP? In details
6. Explain flash templet
7. what is CSS in details
8. what is hosting and how to hosting through DOS

Section - B

Answer following question

5X10 = 50M

9. A) Explain the web layout and header
(OR)
B) Write menubar and search options in details
10. A) what is swf files, videos and hyper links
(OR)
B) How to publishing the website write step by step
11. A) What is text, text styles and text effects
(OR)
B) How to create font attributes and color
12. A) how to communicating on internet web services
(OR)
B) Write in detail TCP,IP and services
13. A) How to hosting through DOS
(OR)
B) Explain character interface & Graphics interface



ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
B.Sc Animation Syllabus (w.e.f: 2020-21 A.Y)

B. Sc	Semester: IV	Credits: 4
Course: 5	ADVANCED 3D	Hrs/Wk: 4

Aim and objectives of Course (Title of the course/paper): ADVANCED 3D

- Understand the origins of 3D Animation practice
- Learn fundamental principles of 3D animation
- Analyze the development in the 3D production
- Create the Artifacts appropriate for each stage of the pipeline

Learning outcomes of Course (in consonance with the Bloom’s Taxonomy):

- Hands-on experience on the processes, tools, techniques, and stages of production inherent in the 3D industry

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

Introduction to bone system/Joints and IK handles - Creating bone system and maintaining naming conventions - Skinning types - Import and export of skin weights - IK and FK basics - IK and FK switch - Introduction to Deformers - Introduction to constrains and implementation to rig - Maintaining proper hierarchy - Grouping and creating controls - Rigging the characters - Use of deformers in the rigging process.

UNIT II:

Brief about animation principles - Animation tools in 3D - Applying classical 2D animation techniques - Stretch squash for the 3D character - Creating the illusion of weight - Overview of Maya - Playback controls and Exploring Maya animation preferences - Details about graph editor - Bouncing Ball Exercise - Body language - Animating object along a motion path - Utilizing the tracks-editor to blend animation clips - Controlling attributes with set driven keys - Animating with constraints.

UNIT III:

Keyframing – Graph editor – Set the beginning and ending keys – Keys to make a ball bounce – Speed up the animation – Tune the animation curve – Set driven key – Playback range and create the objects – Examine the driven key – Path animation – Raise the train above the path – Trax Editor – Character set – Motion with a new clip

UNIT IV:

Previewing animations in real-time with play blasts, Introduction to scene animation and keyframing, dope sheet. Animal walk& run cycles, snakes, and birds. Biped Character walk cycles, Biped Character run cycles, pushing and pulling objects. Facialanimation and lip-sync. Nonlinear Animation with Trax editor. Working with character sets and clips. character interactions.

UNIT V:

Rendering Overview, What is rendering, How Maya renders Shader Networks, Shading Groups, Materials, Lights, Maya architecture, Nodes and Attributes, Hyper graph, IPR (Interactive Photorealistic Rendering), V-Ray techniques, Mental ray Techniques.

TEXT BOOKS:

1. Mastering Autodesk Maya 2016 – Wiley

REFERENCES:

1. Character Emotion in 2D and 3D Animation Book by Les Pardew
2. Introducing Character Animation with Blender Book by Tony Mullen
3. Mastering 3D Animation Book by Peter Ratner
4. The Art of 3D Computer Animation and Effects Book by Isaac Victor Kerlow
5. 3D Animation Essentials Book by Andy Beane.



6. Animation Methods - Rigging Made Easy: Rig Your First 3D ...
7. 3D game animation for dummies Book by Kelly Murdock

CO-CURRICULAR ACTIVITIES:

- Follow the given assignments
- Study tour for getting professional practice in industry-standard 3D Softwares
- Students will give seminar on Oral presentation of the animation
- Conducting quiz program on the 3D
- Group discussions on 3D Pipeline

ASSESSMENT METHOD:

- Domain specific quiz
- Practical production work on 3D portfolio
- Oral presentations on outputs



B. Sc	Semester: IV	Credits: 1
Course: 5(L)	Advanced 3D Lab	Hrs/Wk: 2

Details of Lab syllabus : Advanced 3D Lab

1. Create rigs for any model
2. Make an animation of a character walking in the street he picks up some object and throws it.
3. Make various expressions of models and use them for blend shapes.
4. Make different kinds of biped walk (Happy, Sad, Attitude and Tiptop)
5. Mechanical rig and Vehicle rig
6. Rigging various props
7. Create run, jump, skid animations. Stair up and a stair down
8. Make animations of coin drop, ball bounce, path animation
9. Render a frame and video of indoor and outdoor scenes
10. Render a photorealistic output of an interior scene
11. Render a natural scene show different time by v-ray lighting
12. Advance lighting using mental ray render
13. Animate day and night scene of a street with the help of lighting
14. Create a hair system on a male or female model
15. Apply fur on a dog or cat model
16. Create a scene with a waterfall or fountain
17. Apply active/passive soft and rigid bodies
18. Create a scene of campfire followed by rainfall/snowfall
19. Create an animation of a non-living object.



MODEL QUESTION PAPER (Sem-end. Exam)
B. Sc DEGREE EXAMINATIONS
Semester - IV
Course : Advanced 3D

Time: 3Hrs.

Max.Marks:75

Section -A

Answer any 5 question

5X5 = 25M

1. What is IK
2. What is 3D
3. What is Graph editor
4. what is Biped character
5. Explain rendering in detail
6. What is rigging
7. Explain the body language
8. What is IPR and V-Ray

Section - B

Answer following question

5X10 = 50M

9. A) What is difference between IK and FK
(OR)
B) Explain the characters rigging step by step
10. A) Explain the overview of Maya
(OR)
B) Explain the bouncing ball with drawing
11. A) what is keyframing in details?
(OR)
B) What is trax & graph editor
12. A) Write animations in real time
(OR)
B) Draw pushing and pulling animation? Write in details
13. A) What is node and attributes
(OR)
B) what is hyper graph and IPR