St Aloysius College (Autonomous) Mangaluru

Re-accredited by NAAC "A++" Grade

Course structure and syllabus of

B.A./B.Sc.

COMPUTER ANIMATION

Under NEP Regulations, 2021

ಸಂತ ಅಲೋಶಿಯಸ್ ಕಾಲೇಜು (ಸ್ವಾಯತ್ತ)

ಮಂಗಳೂರು– 575 003, ಕರ್ನಾಟಕ

www.staloysius.edu.in

ST ALOYSIUS COLLEGE (AUTONOMOUS)
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ESTD : 1880

Re-accredited by NAAC with 'A++' Grade with CGPA 3.67/4 (Cycle 4)
Recognised as Centre for Research Capacity Building under UGC-STRIDE Scheme
Recognised under DBT – BUILDER Scheme, Government of India
College with "STAR STATUS" Conferred by DBT, Government of India
Recognised by UGC as "College with Potential for Excellence"

Date: 21-02-2022

NOTIFICATION

Sub: Syllabus of **B.A. /B.SC. COMPUTER ANIMATION** under NEP Regulations, 2021.
(As per Mangalore University guidelines)

Ref: 1. Decision of the Academic Council meeting held on 18-12-2021 vide
Agenda No: 6
2. Decision of the Academic Council meeting held on 09-07-2022 vide
Agenda No. 14
3. Decision of the Academic Council meeting held on 02-09-2023 vide
Agenda No. 3
4. Office Notification dated 21-02-2022
5. Office Notification dated 17-08-2022
6. Office Notification dated 26-09-2023

Pursuant to the above, the Syllabus of **B.A./B.SC. COMPUTER ANIMATION** under NEP Regulations, 2021 which was approved by the Academic Council at its meeting held on 18-12-2021, 09-07-2021 & 02-09-2023 is hereby notified for implementation with effect from the academic year **2021-22**.

PRINCIPAL

REGISTRAR

To:

1. The Chairman/Dean/HOD.

2. The Registrar Office

3. Library

Date of BOS Held in the department of Computer Application and Animation : 19/11/2021

Members Present:

1. **VC Nominee**:

    Dr. Veerabhadrappa

    Subject Expert:

2. Dr. Vasudeva

3. Dr. Jeevan Pinto

4. Mr. Ananthmurthy

5. Dr. Manjaiah

6. Ms Geetha

    Industrial Expert:

7. Mr. Arun Renny

8. Ms Shilpa Shetty – Chairman

9. All members of Department.

10. A meeting of the Board of Study in Computer Animation was held on 28/08/2023

11. The following members were present for the meeting.

12. 1. Chair Person: Shlpa Shetty

13. 2. Members of Department

14. 3. Mr. Ananth Murthy, NMAMIT, Nitte

15. 4. Ms. Jeetha, Srinivas University

16. 5. Dr.Manjaiah D.H,VC Nominee, Mangalore University

17. 6. Dr. Vasudeva Acharya, Department of IS, NMAMIT, Nitte

18. 7. Mr.Prakash Kumar, HOD, Vivekananda College, Puttur

19. 8.Mr.Shailesh, HOD, SDM College, Ujire

20. 9.Mr.Srikanth, PPC Udupi

Model Programme Structure (B2) for Bachelor of Science (Basic/Honours) Programme (Subjects with Practical)

Sem.	Discipline Core (DSC) (Credits)	Discipline Elective (DOE) /Open Elective (OE) Credits)	Ability Enhancement Compulsory Courses (AECC), Languages (Credits) (L+T +P)		Ski II Enhancement Courses (SEC)			Total Credits
					Skill based (Credits) {L*T*P}	Value based (Credits) (L*T+P)		
	DSC A1I4+2) DSC B1(4+21	OE 1 (2)	L1-1{2), L2—1{1) (4 hrs. each)		S6C—1! {2) (1 + 0 + 2)	Yoga (JI(O• 0•2)	Health&Wellness (1) (0•0* 2)	25
	DSC A2(4*2) DSC B2(4*2)	0 E-2 (3)	L1-2(3), L2-2f3) (4 hrs. each)	Environmental Studies /2)		5 ports f1) fQ*O*2)	NCC/NSS/R&R(S&G)/ cultural fi)(P•o•z\	2S
			Exit option with Certificate	4 8 credits)				
	DSC A3(4*2) DSC B3(4+2)	0 E-3 (3]	L1-3{3], L2-3{3) (4 hrs. each I		SEC-2 (2)(1+0+2}	SpQEi S (1) (O*O*2)	NCC/NSS/R&R(5&G)/ Cultural (1) (O*O* 2)	2 5
IV	DSC A4{4+ 2} DSC B4(4+2)	OE-4 (3]	L1-4(31, L2-4{3} (4 hrs. each)	-Constitution at India (2)		sQOFts(1) (D+0 2)	NCC/NSS/R&R(S&G)/ Eultuiral (1) (O*0*2)	25

Curriculum Structure for BA/BSc Animation

Program: BSC / BA (Basic and Honors)   **Subject: Computer Animation**

Sem	Discipline Specific Core Courses (DSC)	Hour of Teaching/ Week		Discipline Specific Elective Courses (DSC)	Hour of Teaching/ Week
		Theory	Lab		
1	DSC -1: Graphic Design for Animation DSC -1 Lab: Graphic Design Lab	4	4		
2	DSC -2: Pre Production and 2D Animation DSC -2 Lab: 2D Animation Lab	4	4		
3	DSC -3: Visual Effects DSC -3 Lab: Visual Effects Lab	4	4		
4	DSC -4: 3D Modelling DSC -4 Lab : 3D Modelling Lab	4	4		
5	DSC -5: 3D Texturing, Camera & Lighting DSC -6: Web Designing & Development DSC -5 Lab : 3D Texturing Lab DSC -6 Lab : Web Designing Lab	3 3	4 4	VC-1: Story Board & Script Writing	
6	DSC -7: 3D Rigging & Animation DSC -8: 3D Dynamics & Effects DSC-7 Lab: 3D Rigging & Animation Lab DSC -8 Lab : 3D Dynamics & Effects Lab	3 3	4 4	VC-2: Traditional Animation	
7	DSC- 9: Game Environment Design DSC- 10: Digital Designing & Advertisement DSC- 11: Film Making DSC- 9 Lab: Game Environment Design Lab DSC- 10 Lab: Digital Designing & Advertisement Lab	3 3 3	4 4	DSE -1: Stop Motion and Cut-out Animation Group – 1 DSE -2: History of Animation DSE -3: Layout Designing Group - 2 Research Methodology:	3 3 3
8	DSC -12: 3D Character Modelling & Animation DSC -13: Environment Sketching DSC -14: Production Techniques DSC -12 Lab: 3D Character Modelling & Animation Lab	3 3 3	4	DSE -1: Comic Art & Design DSE -2: Sculpture design DSE -3: Ad Film Making	3 3 3

				Group - 3	
				Research Project:	6

PROGRAMME OUTCOMES: BSC / BA with Computer Animation combination

	After successful completion of three year BSC / B.A. degree programme with Computer Animation as one of the major subject in two major system, a student of Computer Animation should be able to;
Programme Outcomes	- Obtain a knowledge on fundamental and advanced aspects of computer animation, graphic design & visual effects. - To innovate best practices for elements of design, web technology and Gaming. - To explore the theories of multimedia and animation to design and develop 2D/3D animations, film-making, visual effects for the Interactive media - Apply in depth knowledge of animation and the knowledge of principles of animation in every project - Able to work with professional skills in animation studios and production houses.
Programme Specific Outcomes	Design, create and animate characters and objects using fundamental principles of animation - Understand the techniques of 2D and 3D software. - Understanding stop motion and basic traditional animation - Understand the concept of linear and nonlinear editing, Video Capture and VFX techniques - Understand the web designing method with interactive animation

BA/BSC Animation-Program Structure

Proposed Scheme of Teaching & Evaluation for BA/BSc Animation (Basic/Hons)
having practical core courses

Sl. No	Course Code	Title of the Course	Category of Courses	Teaching Hours per Week (L + T + P)		SEE	CIE	Total Marks	Credits
				Theory	Lab				
1	G 110 DC 1.1/ G 512 DC 1.1	Graphic Design for Animation	DSC	4		60	40	100	3
2	G 110 DC 1.1P/ G 512 DC 1.1P	Graphic Design Lab	DSC		4	25	25	50	2
3	G 110 OE 1.1	Environment & Character Sketching	OE	3		60	40	100	3
4	G 110 DC 1.2/ G 512 DC 1.2	Pre-Production and 2D Animation	DSC	4		60	40	100	3
5	G 110 DC 1.2P/ G 512 DC 1.2P	2D Animation Lab	DSC		4	25	25	50	2
6	G 110 OE 1.2	Digital Designing	OE	3		60	40	100	3
7	G 110 DC1.3	Visual Effects	DSC	4		60	40	100	3
8	G 110 DC2.3P	Visual Effects Lab	DSC		4	25	25	50	2
9	G 110 OE 1.3	History of animation	OE	3		60	40	100	3
10	G 110 DC1.4	3D Modelling	DSC	4		60	40	100	3
11	G 110 DC2.4P	3D Modelling Lab	DSC		4	25	25	50	2
12	G 110 OE 1.4	Video editing	OE	3		60	40	100	3

Course Code: G 110 DC1.1/ G 512 DC1.1	Course Title: Graphic Design for Animation
Course Credits: 4 Total Contact Hours: 52	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

On completion of this course students will be able to

- Understand the basic principles of graphic design using Corel Draw & Photoshop including typography, compositing, color, and composition
- Design layouts for web pages, paper adverts, brochures, CD covers, package designing event and exhibition stall designs, pop ups, touch ups, color corrections   paintings, drawings, converting B/W photo to color
- Understand the vector and bitmap graphics and its properties
- Understand different tools and features of vector and bitmap software's.
- Select and create appropriate art to convey specific artistic expression that effectively communicates the artist intent.
- To able to create different kinds of designs like Logo, Brochures, certificates, greetings cards, pamphlets, business cards etc.
- Creating GIF Animation files

Content	Hours
Unit - 1	
Introduction to Graphic designing and Animation, elements of Graphic design, types of color modes, Introduction of Image, Pixel, Image features & properties, different formats, usage of Graphic design in market. Introduction to Vector Graphics, difference between Bitmap Graphics & Vector Graphics, print media, animation industry, importance of animation	13
Unit - 2	
Introduction to Corel draw, drawing lines, drawing calligraphic, drawing shapes like rectangle, squares, circles, arcs, converting objects to curves, positioning objects, aligning vector objects, spraying objects along a line, creating cartoon character, trimming & welding objects, intersecting objects. Creating logos, drawing with freehand & pen tool, drawing with the artistic	13

media tool, using blending tools, contouring the object, distorting objects, extruding as 3D objects, transparency effect,	
Unit - 3	
Introduction to Adobe Photoshop, bitmap image editing, creating bitmaps, Photoshop interface preference settings, resize image, resizing canvas, file types, document sizes, resolutions, customize document, crop tool, magnetic lasso tools, trimming image, uses of layers, background layer, creating, deleting & merging layers, re-arranging layers, linking layer movement, locking layer movement, layer transparency, using marquee tools, type tool, text boxes, font size, applying gradient colors, photo manipulation	13
Unit - 4	
Creating gif animation image, layer mask, script- image processor, drop shadow, inner shadow, inner glow, outer glow, bevel and emboss, satin, color overlay, gradient overlay, pattern overlay, stroke, pasting effects, RGB levels, hue & saturation, sharpen, dodge, burn, healing brush, blending options, radial & shape blur, brightness/contrast, creating new pattern, saving for web, creating magazine cover, greeting card, invitations, certificates brochures, advertisements.	13

Text Books:

- Adobe Photoshop CC Classroom in a Book - by Andrew Faulkner
- CorelDraw X7: The Official Guide – by Gary David Bouton
- Graphic Design School: A Foundation Course for Graphic Designers Working in Print, Moving Image and Digital Media by David Dabner
- Introduction to Graphic Design by Sherin Aaris

Reference Books:

- Photoshop CC Bible (Author - Lisa DaNaeDayley)
- Eric Adobe Photoshop CS4 Bible - by Stacy Cates, Simon Abrams, Dan Moughamian Publisher: Wiley India Pvt Ltd
- Phil 300 Photoshop-Workshops by Das Meisterstück In Sachen Tutorials by Stefan Petri Publisher: 4eck Media Gmbh

Course Code: G 110 DC1.1P/G 512 DC1.1P	Course Title: Graphic Design Lab
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Creating basic Vector Art
2. Creating Logos by using weld, trim, intersect
3. Creating Cartoon Character by using pen tool & free hand tool
4. Creating Greeting cards & advertisements by using artistic media tools
5. Creating digital posters by using Photoshop
6. Photo manipulating & Photo corrections by using patch tool, healing brush & clone stamp tools
7. Converting black & white photo to color, also manipulating hair & skin colors
8. Decreasing image size by adding Photoshop Script
9. Creating magazine cover designs & newspaper advertisement
10. Creating different types of gif animations in Photoshop.

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: G 110 OE 1.1	Course Title: Environment & Character Sketching
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Do shading, colouring and gesture drawings.
- Create different perspective sketching
- Understand principles of art in detail.
- Understand different pictorial drawings and dimensions.
- Draw and understand geometrical structures.

Course Content

Content	Hours
Unit - 1	
Character sketching, head study, illustration technology, modern art, geometrical drawings, drawing from objects and other geometrical shapes, sketches and study, drawing from life, color basics, perspectives, background designs, shadows and lights, human and cartoon figures, fun fiction, coloring, city landscapes, pattern creation, applying core skills, gesture drawings, flip book, walk cycle, design for marketing, space, illusion of depth, linear perspective,	12
Unit - 2	
Types of perspective, open and close compositions, repeated figures, multiple images, motion blur, value- introduction, patterns, light and shade, digital shading and lighting, points and lines- types, direction, quality, lines and outlines, contours, lines as value, shapes, geometric and rectilinear, curvilinear and biomorphic, abstract, positive and negative, collage, visual.	10
Unit - 3	
Color characteristics, color theory, wheels, triangles and trees, color through ages, color interactions, unity and harmony- thematic unity, gestalt and visual unity, achieving unity, balance- formal and informal balance, balance by position and eye direction, crystallographic balance.	10

unit - 4	
Scale and proportion, human scale, contrast and confusion, ideal proportion, contrast and emphasis- contrast, isolation, placement, absence of focal point, rhythm- rhythm and motion, alternating and progressive rhythm, rhythmic sensation.	10

Text Book:

- Beyond Art Fundamentals by Marisa Lewi
- Foundation of Art and Design, Thames & Hudson - by Alan Pipes
- How to Draw: Drawing and Sketching Objects and Environments from Your Imagination by Scott Robertson
- Perspective Made Easy Paperback Illustrated - by Ernest R Norling
- Drawing Dimensions: A Shading Guide for Teachers and Students - By Holmes V Catherine

Reference Books:

- Pen and Ink Drawing Workbook by Alphonso a Dunn
- How to Draw Cool Stuff: A Drawing Guide for Teachers and Students Hardcover – By Catherine Holmes
- Elements of design: structure of visual relationships - By Gail Greet Hannah, Rowena reed Kostellow
- Perspective drawing (Paperback) – By Kenneth W. Auvil,

Course Code: G 110 DC1.2/G 512 DC1.2	Course Title: **Pre-Production and 2D Animation**
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completing this course satisfactorily, a student will be able to:

- Learn animation fundamentals and understand how animation works.

- Knowledge about using animation principles in 2D applications and understand the fundamental skills of 2D space

- Work on timeline and understand tools and features to create 2D drawings

- Work systematically on layers and masking for creating motion animation

- Rendering and exporting 2D animation files in different file formats.

- Create animation sequences that employ basic cinematography principles and storytelling skills to create, develop and execute animation sequences

- Develop, assemble and present a demo reel or portfolio in a manner that meets current industry expectations, and highlights one's creativity, skills and proficiency with relevant animation software and related technologies.

Course Content

Content	Hours
Unit - 1	
Introduction to 2d animation, animation uses, animation industry, 2d animation production process, story board drawing, reverse story board, other media for animation, principles of 2d animation, art design, qualities of an 2d artist, computer animation production tasks, digital editing, digital video early activity.	13
Unit - 2	
Story and concept, background design, animatic, interface – drawing toolbar, view toolbar, grading toolbar, option toolbar, properties panel, modelling objects and shaping, timeline status, layers, play head, timeline header, creating layer, folders & properties, layer mask, symbols, graphic move clip button, using library.	13

Unit - 3	
Animating objects, tweening animations, motion tween, shape tween, filters drop shadow, blur, glow, bevel, gradient glow & bevel, camera animation, sound importing, sound placing, sound button, editing, start and end points of sound, publish setting, SWF, GIF, JPEG, PNG, QuickTime formats.	13
Unit - 4	
Masking layer, letter animation using mask, character creation, layout design, divided layout, use of layers, character rig, leg walk, man walk, eye and lips movement, interactive pages, 2d games using action script, introduction to other animation tools, advantage and disadvantages of the various 2D applications.	13

Text Books

- Computer Animation: Algorithm and Techniques by R Parent, Morgan Kaufmann. Morgan Kaufmann Publishers
- Character Animation Fundamentals: Developing Skills For 2D And 3D Character Animation by Steve Roberts
- Mastering Digital 2D And 3D Art by Les Pardew, Don Seegmiller Publisher: Course Technology
- Dynamic Life Drawing for Animators: Bring your artwork to life with the power of the FORCE Watch,
- Book by Michael D. Mattesi
- The Animator's Survival Kit: The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games -by Richard Williams

Reference books

- Animation for Beginners: Getting Started with Animation Filmmaking - by Morr Meroz
- Adobe Flash Professional CC: A Tutorial Approach - by Prof Sham Tickoo Purdue Univ
- Adobe Flash Animation: Creative Storytelling for the Web and TV - by Philip Carrera
- Adobe Flash CS3 Professional Bible - by Robert Reinhardt and Snow Dowd
- Teach Yourself Adobe Flash - by Niranjan Jha

Course Code: G 110 DC1.2P/G 512 DC1.2P	Course Title: **2D Animation Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Tools and steps involved in first simple animation using motion twining – basic shapes–Shape Twining–shape tweening in Flash MX.
2. Importing video files into Flash using Adobe Media Encoder and tracing the video file.
3. Creating mask animation and path animation
4. Creating sunset scenery in Adobe flash
5. Creating Camera Animation like push in and pull out, panning.
6. Key frames and position animation
7. Background layout moment animation for movie scenes
8. Character Rigging for 2D cartoons
9. Flat Character Animation for rigged character
10. Creating a complete 2D animation with characters and dialogue.

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: G 110 OE 1.2	Course Title: Digital Designing
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

- Understand digital design for print and web: resolutions, files formats, tools & menus, layouts
- Design layouts for web pages, paper advertisements, brochures, CD covers, package designing event and exhibition stall designs, pop ups, color corrections paintings, drawings, converting B/W photo to color
- A student will get a complete overview of the whole print from design to the layout to print it
- Use basic Photoshop skills and concepts to develop effective graphics for both web and print media.
- Discover how to edit their own photographs to get rid of dust and scratches, fix the color, and correct image exposure
- understand how best to choose fonts and colors for digital designs
- understand key industry-standard techniques, that are used in the print and design industries

Course Content

Content	Hours
Unit - 1	
Importance of Digital Designing, Introduction to Vector & Raster graphics, difference between digital media & print media, newspaper & magazine color settings, understanding pixels & High definition resolution, Corel draw layout and workspace, page settings & formats, RGB & CMYK color modes, gradient colors for advertisings, hex values of colors, raster image pixels & vector lines, adjusting resolution for different files	12
Unit - 2	
Drawing vector lines, Drawing shapes, Drawing rectangles and squares, transformations, and effects, Positioning objects, Aligning and distributing objects, Using curve objects, creating cartoon character Drawing with Freehand Tool, Pen tool, Blending tool, Contouring the Object, Distorting	10

Objects, Extruding of the Object, Drop Shadow, Applying Transparency Effect, Trim, Welding objects, Intersecting objects.	
Unit - 3	
Introduction to Adobe Photoshop, bitmap image editing, converting as smart objects, creating bitmaps, Photoshop interface preference settings, resize image & canvas, file types, document sizes, resolutions, magnetic lasso tools, trimming & cropping image, uses of layers, background layer, creating, deleting & merging layers, re-arranging layers, linking layer movement, locking layer movement, layer transparency, using marquee tools, type tool options, applying gradient colors, photo manipulation	10
Unit - 4	
Creating gif animation image, layer mask, script- image processor, drop shadow, inner shadow, inner glow, outer glow, bevel and emboss, satin, color overlay, gradient overlay, pattern overlay, stroke, pasting effects, RGB levels, hue & saturation, sharpen, dodge, burn, healing brush, blending options, radial & shape blur, brightness/contrast, creating new pattern, saving for web, creating magazine cover, greeting card, invitations, certificates brochures, advertisements.	10

Text Books

- How to Use Graphic Design to Sell Things - by Michael Bierut
- Adobe Photoshop CC Classroom in a Book – by Andrew Faulkner and Conrad Chavez
- CorelDraw X7: The Official Guide – by Gary David Bouton
- Designing Brand Identity: An Essential Guide for the Whole Branding Team - by Alina Wheeler
- How to be a Graphic Designer, Without Losing Your Soul - by Adrian Shaughnessy

References

- The Non-Designer's Design Book - by Robin Williams
- The Elements of Typographic Style - by Robert Bringhurst
- The Design of Everyday Things - by Don Norman
- Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation – by Tim Brown

Third Semester

Course Code: DSC-3	Course Title: Visual Effects
Course Credits: 4 Total Contact Hours: 52	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completion of this course students should be able to

- Understand the concept of linear and nonlinear editing.
- Understand the concept of transitions, layering.
- Mastering filmmaking terminology to communicate effectively throughout all stages of production.
- Creating quality media productions including skills in story development, producing, cinematography, editing, and audio production/post production.
- Edit and compress video for use in various delivery modes of digital media using standard digital video editing software.
- Identify hardware and software protocols specific to the field of visual effects.
- Create photo-real images to match live action footage by the application of advanced rendering techniques.
- Integrate 2D and/or 3D computer generated imagery and live action elements using compositing techniques.

Course Content

Content	Hours
Unit - 1	
Introduction and getting organized and Understand the Premiere interface. Non-linear versus linear editing, video capture, formats and resolution, Analog versus Digital - the difference, Transitions-Fades, Cuts, Dissolves, Wipes, Keying & Layering, formats- Avi, MPG-2, Mov, Wmv, VCDs and DVDs, Internet formats, VHS	13

Unit - 2	
Introduction to Motion Capture, Live Video capture from capture card, tuner card, satellite & local channel capture to edit, Capturing and gathering media Build and organize your story, – titles, importing, Rough cut, Trim your story, Stop Motion, Motion Effects Text, Titles, Multichip Filtering and Keying, Organizing Clips In The Browser, THE Creation of Sequences and BINS, The Icon View and Columns View, Marking Controls.	13

Unit - 3	
Elements of editing, The Timeline Buttons and Controls, The Timeline Overview, Editing Clips Into The Canvas & Timeline, Transferring Clips in the Timeline, applying key frames, Trimming Using the Selection Tool, Closing and Finding Gaps, Adjusting Audio Over Time, The Audio Mixer & using the voice over tool, Delete Between the In/out Points,	13

Unit - 4	
Introduction to After Effect, titling styles, Lights and Cameras, Expressions, Motion tracking, Painting, applying animation presets, blending modes, 3d layers, mattes, rendering techniques, exporting composition to other file formats. Using cameras in editing and applying vfx, demonstrate basic media management techniques.	13

Text Books:

- Adobe Premiere Pro Classroom in a Book (2022 Release) by Maxim Jago Pearson Education (US)
- Adobe Premiere Pro CS6 - The Official Training Workbook from Adobe Systems
- Learn Adobe Premiere Pro CC for Video Communication by Joe Dockery, Rob Schwartz, Conrad Chavez
- Learn Adobe After Effects CC for Visual Effects and Motion Graphics by Joe Dockery, Conrad Chavez
- Adobe After Effects CC Classroom in a Book by Adobe Creative Team

Reference Books:

- Keith Underdahl - "Adobe Premiere elements for dummies
- Adobe After Effects CS5 Classroom In A Book:The Official Training Workbook From Adobe Systems by Adobe Press

Course Code: DSC-3 Lab	Course Title: Visual Effects Lab
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 20
Exam Marks: 30	Exam Duration: 3 Hours

Practical Lab

11. Creating basic Graphic key animation

12. Capturing footage for new VFX projects

13. Creating & modifying movie titles using Saber.

14. Applying audio filters-Animating filter-using third party plugin

15. Using Green screen and blue screen effects for duble acting editing

16. Creating product advertisements, program trailers and movie trailers

17. Working with colour grading techniques

18. Using Rotoscoping of captured footage in editing

19. Creating image slideshow and transition effects

20. Using key frame changing & making the pace of a clip & export techniques.

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total	**50(reduced to 25)**

Course Code: CSOE3/CAOE3	Course Title: History of animation
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Understanding how the techniques in the past made things the way they are today
- Understanding the thoughts, ideas, and concepts of various fields artists in the past
- Gives an In-Depth Look at the World Art
- Understanding & orient ourselves in the present animation techniques
- Understand how to Integrate Information from the past

Course Content

Content	Hours
Unit - 1	
Early Animation, The past – Cave painting, Flip book, Egyptian murals, the magic lantern, The present – Stop motion, CGI animation, the future animated humans, Victorian parlor toys, Zoetrope (190 AD: 1834) Thaumatrope (1824), Phenakistoscope (1831), Praxinoscope (1877).	12
Unit - 2	
Animation industry in different country, Chinese animation, Iranian Animation, Japanese animation, British animation, French animation.	10
Unit - 3	
First color cartoon, First animated feature film, early Walt Disney, History of mickey mouse, silly Symphonies, origin of Warner Bros, MGM cartoon studios, sound animation.	10
unit - 4	
The rise of Computer Animation, the fall of traditional animation, from big screen to small screen, start of television era, modern animation in USA, eighties trends, golden age of animation.	10

Text Book:

- The World History of Animation - By Stephen Cavalier, Sylvain Chomet
- Creators of Life - A History of Animation - By Donald Heraldson
- The Comic Book History of Animation: True Toon Tales of the Most Iconic Characters, Artists and Styles! - By Fred Van Lente, Ryan Dunlavey
- The History of Chinese Animation by Sun Lijun

Reference Books:

- Hollywood Cartoons American Animation in Its Golden Age - By Michael Barrier
- French Animation History By Richard Neupert

Course Code: DSC-4	Course Title: 3D Modelling
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completing this course satisfactorily, a student will be able to:

- Knowledge about using 3D applications and understand the fundamental skills of 3D space
- Creating different types of polygon models
- Creating 3D objects using line & NURBS
- Creating interior designs & exterior designs
- Rendering and exporting 3D files in different image file formats.
- Create different 3D environments, models, structures, architectures.
- Understanding how mesh works in 3D modelling.

Course Content

Content	Hours
Unit - 1	
Understanding 3D Space, The Interface Elements, Using the Menus, Learning the main toolbar, Viewing the floating toolbars, Using the Viewports, Using the Command Panel, Working with rollouts, Orthographic and Perspective, Zooming a view, Panning a view, Rotating a view, Controlling viewports with a scroll wheel, Merging and replacing objects, Rendering preferences, Gizmos preferences, Creating Primitive Objects, Using the Create panel, Assigning colors, Exploring the Primitive Object Types, Standard Primitives, Extended Primitives, Modifying object parameters, Translating, Rotating, and Scaling Objects,	13

Unit - 2	
Applying modifiers, Using Pivot Points, Mirroring Objects, Creating groups, Ungrouping objects, Attaching and detaching objects, Building Links between Objects, Introducing Modifiers and Using the Modifier Stack, Free Form Deformer modifiers, Parametric objects versus editable objects, Working with shape primitives, Editing Splines, Editing vertices, Using Spline Modifiers, Creating Editable Poly Objects, Edit Geometry rollout, Extrude modifier, Face Extrude modifier, MeshSmooth modifier, NURBS Curves and Surfaces	13

Unit - 3	
Understanding Compound Object Types, ShapeMerge Object, Creating Connect Objects, Modeling with Boolean Objects, Creating a Scatter Object, Creating a Loft Object, Using the Get Shape and Get Path buttons, The Deformation window interface, Modeling some interior objects, Modeling a garden, Creating AEC Extended objects, Creating Mountains, Exterior Modeling using railing and wall, creating doors, windows and stairs, Creating street for gaming	13

Unit - 4	
Modelling in Maya -Maya interface, the view window, tools, buttons, customizing view, zooming in and out, navigate between different artwork displays through key commands and shortcuts, creating basic 3D models, using Transform tools to move, rotate, and scale, how to group and parent objects and pivot them, selecting components and rotating, scaling, and transforming the elements of the model. face and edge deleting, extrude, poke, or cut to add details to the objects, Boolean, duplicate, flip, split polygons by creating new vertices and faces and draw new polygons freehand, creating gradients and bevels to smoothen edges, modeling basic shapes and figures using primitives.	13

Text Books

- 3D MAX Bible 2022, Publisher: Wiley India Pvt Ltd
- Poly-Modeling with 3ds Max - Thinking Outside of the Box - By Todd Daniele
- Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, BarrettFox
- 3ds Max Modeling for Games Insider's Guide to Game Character, Vehicle, and Environment Modeling By Andrew Gahan
- Introducing Autodesk Maya 2022: Autodesk Official Press -by Dariush Derakhshani

Reference books

- 3D Art Essentials The Fundamentals of 3D Modeling, Texturing, and Animation By Ami Chopine
- Getting Started in 3D with 3ds Max Model, Texture, Rig, Animate, and Render in 3ds Max - By Ted Boardman
- Autodesk 3ds Max 2020: a Detailed Guide to Modeling, Texturing, Lighting, and Rendering, 2nd Edition (in Full Color) By Pradeep Mamgain

Course Code: DSC-4 Lab	Course Title: 3D Modelling Lab
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 20
Exam Marks: 30	Exam Duration: 3 Hours

Practical Lab

1. Creating a 3D House by using standard primitives
2. Creating interiors like chair, tables by using spline objects
3. Creating Architectural modelling designs
4. Creating a Garden & forest, landscape scenes by using foliage options
5. Creating an Airplane and Helicopter by using polygon extrude & bevel option
6. Modelling the Character –creating a Male & Female Character
7. Creating wall, curtain, sofa, window and railings, stairs
8. Modelling a car –using High Polygonal.
9. Creating lock, key, lamp, sandals and other daily used objects
10. Modelling a product designs by Boolean, face extrude & shape merge

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total	**50**

Course Code: CSOE4/CAOE4	Course Title: Video editing
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

- Identify and describe key terms, concepts, major trends and periods related to various modes of production.
- Learn how to combine basic design principles in video editing.
- Demonstrate skills required to create quality media productions
- Apply methodological design process for construction of a television program.
- create an audio visual television program

Course Content

Content	Hours
Unit - 1	
Over view of the editing process, Advantages, elements of editing, Principles of editing, Non-linear versus linear editing, video capture, formats and resolution, Analog versus Digital - the difference,	12
Unit - 2	
Titles and credits, safe titles, Transitions-Fades, Cuts, Dissolves, Wipes, Keying & Layering, formats- Avi, MPG-2, Mov, Wmv, VCDs and DVDs, Internet formats, VHS , 3D compositing, DI process in films.	10
Unit - 3	
Video and audio editing softwares, Capturing and gathering media Build and organizing, importing, Rough cut, Trim the story, Motion Effects Text,	10
Unit - 4	

Multichip Filtering and Keying, Organizing Clips In The Browser, THE Creation of Sequences and BINS, The Icon View and Columns View, Marking Controls.	10

Text Books
- The Video Editing HandbookFor Beginners - By Aaron Goold
- Editing Digital Video - The Complete Creative and Technical Guide By Robert M. Goodman, Patrick McGrathEditing
- Digital Video (Digital Video and Audio Series),
- Adobe Premiere Pro CC Classroom in a Book, By Maxim Jago. By Adobe

References
- Digital Audio Editing Fundamentals - By Wallace Jackson
- The Art and Science of Digital Compositing, Morgan Kaufmann by Ron Brinkmann
- Digital Compositing for film and Video, Focal Press

Course Code: DSC -5	Course Title: 3D Texturing, Camera & Lighting
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completion of this course students should be able to

- Give detailed texturing and colouring to 3D characters or objects.
- Understand how shaders are applied.
- Understand different mapping done to enhance the details of the object.
- Understand the concept of hair dynamics and different presets.
- Creating camera animations.
- Creating a desired lighting required for the 3D scene e.g. interiors, exteriors.

Course Content

Content	Hours
Unit - 1	
Working with default maps, Understanding Material Properties, Opacity and transparency, Shininess and specular highlights, Working with the Material Editor, Using the sample slots, Naming materials, Getting new materials, Assigning materials to objects, Understanding Material Map Types, 2D maps, 3D maps, Reflection and refraction maps, Diffuse Color mapping, Specular Level mapping, Glossiness mapping, Opacity mapping, Bump mapping, UVW Map modifier, Using the Unwrap UVW modifier,	12
Unit - 2	
Working with Shaders & Hair, Using Shading Types, Blinnshader, Phongshader, Anisotropic, Multi-Layer shader, Oren-Nayar-Blinnshader, Metal shader, Strauss shader, Translucent shader, Multi-Layer Materials, Blend, Double Sided, Using Compound Materials, Raytrace Materials, Multi/Sub-ObjectTop/Bottom, Ink 'n' Paint Material, Using material IDs, Working with Hair, Growing hair, Setting hair properties, Adding hair to a Man's head, Using hair presets, Using Hair Dynamics, Running a simulation,	10

Unit - 3	
Working with Cameras, Creating a camera object, Creating a camera view, Controlling a camera, Aligning cameras, Setting Camera Parameters, Lens settings and field of view, Camera type and display options, Using the Motion Blur effect, Using the Depth of Field effect,	10
Unit - 4	
Working with Lights, Basic Lighting Techniques, Natural and artificial light, Shadows, Light Types, Default lighting, Ambient light, Omni light, Spotlight, Direct light, Skylight, Creating and Positioning Light Objects, Transforming lights, Using the Sunlight and Daylight Systems, Using the Compass helper, Understanding Azimuth and Altitude, Specifying date and time, Specifying location, Volume light parameters	10

Text books

1. 3D MAX Bible 2022, Publisher: Wiley India Pvt Ltd
2. Autodesk 3ds Max 2022 Essentials: Autodesk Official Press by - Randi L. Derakhshani &DariushDerakhshani
3. Inside 3d Studio Max: Animation by Kennedy macstrifrantz Publisher: New Riders

Course Code: DSC -5 Lab	Course Title: **3D Texturing Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Applying different textures to 3D objects
2. Creating multi color objects – using multi sub object map
3. Creating shining & reflecting objects.
4. Creating glass texture by using ray trace map
5. Creating facial texture by using UVW Map
6. Using 2D & 3D Maps for different scenes

7. Using Hair & Fur modifier and creating real hair for the character

8. Using Camera in the indoor & out door scense

9. Attaching camera to the path and animating it

10. Creating spot light, target light omni light.

11. Different types of lights in different scenes

12. Creating projector scenes using projector map

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: DSC -6	Course Title: Web Designing & Development
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completion of this course students should be able to

- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.

- Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.

- Learn the language of the web: HTML and CSS.

- Develop skills in digital imaging (Adobe Photoshop.)

- Be able to embed social media content into web pages.

- To create web elements like buttons, banners & Bars and of course complete UI designs.

Course Content

Content	Hours
Unit - 1	
Different types of computer networks, Introduction to World Wide Web, Growth of internet, Accessing internet through modem and ISP, introduction to browsers, search engines. How web pages will work, Introduction to web hosting. Introduction to CMS (content management system) sites.	12
Unit - 2	
Growth of HTML, Types of web pages, and Basic structure of Html files, formatting of text with different styles. Inserting images into web pages, applying background color and textures, creating tables, spanning of rows and columns, nesting of tables, inserting video files and flash files into it	10
Unit - 3	
Applying interactivity using forms, designing log in form feedback form and contact us forms. Using submit buttons and reset buttons, various other types of forms like radio and checkboxes, drop down menu and password, Creating hyperlinks, email links and website links, image links video and audio file links, downloading files	10
Unit - 4	
Dividing web pages using frames, nesting of frames, using cascading style sheets, managing websites, using spry menu when developing sites, using Photoshop for mock up web pages, slicing the page, replicating it, publishing on the internet.	10

Text books

- Willard-"Html 5: Beginner's Guide"
- Adobe Systems-"Adobe Dreamweaver CS3: classroom in a book"
- Joseph W. Lowery -"Dreamweaver CS3 Bible"
- Jennifer Niederst, Jennifer Niederst Robbins -"Learning Web design: a beginner's guide
- o HTML, graphics, and beyond"

Course Code: DSC -6 Lab	Course Title: **Web Designing Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Web page designing in Photoshop and slicing method

2. Basic structure of HTML file including various head and body tags

3. Simple web page creation with images and text

4. Hyperlinks –HTML link, image links, pdf, email and download links

5. Incorporating video and animate files into web pages

6. Displaying tabular data in web pages using tables

7. Web page using forms and Frameset tags.

8. Spry menu bar, tabbed panel, Accordion etc.

9. Web page layouts – tables and div tags

10. Creating a complete website (minimum 3 pages)

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

<u>**Vocational Course**</u>

Course Code: VC-1:	Course Title: Story Board & Script Writing
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completion of this course students should be able to

- Write the scripts for movies and advertisements.
- Learn the good and bad body languages and essence of cinema.
- Develop skills in camera techniques and its meaning.
- Gaining knowledge of communication skills.
- Be able to understand and interpret movies.

Course Content

Content	Hours
Unit - 1	
Basic elements of story, Archplot, Multiplot, Miniplot, Nonplot, Antiplot structure. History of Indian Cinema. Language of Cinema. History & Development. Discuss Theme, Meaning, Emotion and Character. Movie Analyse, Layouts, locations, mapping. Props design. Reverse story board	12
Unit - 2	
Discuss historical approaches to structure, power and conflict, reversals of plot and expectation, the inciting incident, progressive complications, turning points. Set ups and pay offs, crisis, climax and resolution. Indoor setup requirements, Outdoor set ups.	10
Unit - 3	
Principles of Exposition, Backstory, Flashbacks, Screenwriting Problems, narrative and Dialogue, Produce a series of cohesive storyboards from a script. Recognize and define common storyboard terminology.	10
Unit - 4	
Apply basic drawing techniques to create legible storyboards. Create and output a simple Animatic from scratch. Identify and state common pre-production workflow.	10

Text books

- Movie Storyboards: The Art of Visualizing Screenplays Hardcover – by Fionnuala Halligan
- Film Directing: Shot by Shot - Visualizing from Concept to Screen - by Steve D Katz Steve D. Katz
- The Visual Story: Creating the Visual Structure of Film, TV, and Digital Media - by Bruce Block
- The Art of the Storyboard, 2nd Edition: A Filmmaker's Introduction - by John
- Storyboards: Motion In Art - by Mark A. Simon
- Professional Storyboarding: Rules of Thumb - by Sergio Paez (Author), Anson Jew (Author)

Sixth Semester

Course Code: DSC -7	Course Title: 3D Rigging & Animation
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completion of this course students should be able to

- Mastering 3D rigging and animation to bring characters, objects, and scenes to life
- Able to work as a character animator, creating movements and expressions for characters in films, TV shows, video games, and advertisements.
- Understand 3D animations to visualize buildings, interiors, and landscapes
- Understand Animation to explain complex medical and scientific concepts, making them easier to understand for both professionals and the general public.
- Understanding problem-solving skills as students figure out how to make characters move realistically, create convincing physics simulations, and troubleshoot technical issues.
- Creating a Character and different types of object animation clips

Course Content

Content	Hours
Unit - 1	
Working with Object Animation, The Rendering Menu, Understanding the Max Renderers, Creating Atmospheric Effects, Adding effects to a scene, Using the Fire Effect, Using the Fog Effect, Creating Lens Effects, Glow, Ring, Star, Ray, Batch Rendering Scenes, Using the Batch Render tool, The Video Post toolbar, Adding an image input event, Adding scene events, Adding image filter events, Adding an image output event, Assigning controllers in the Track View, Transform controllers, Position track controllers, Rotation and Scale track controllers, Learning the Track View Interface, Track View menus and toolbars, Track View menus and toolbars,	12
Unit - 2	
Working with Particles, Creating Particles and Particle Flow, Understanding the Various Particle Systems, Using the Spray and Snow Particle Systems, Using the Super Spray Particle System, Super Spray Basic Parameters rollout, Particle Generation rollout, Particle Type rollout, Using the Blizzard Particle System, Using the PArray Particle System, Using the Time Controls, Setting frame rate, Auto Key mode, Set Key mode, Using the Motion Panel, Animating Objects, Animating cameras, Animating lights, Animating materials,	10
Unit - 3	
Working with Space warps & Reactor, Creating and Binding Space Warps, Creating a Space Warp, Binding a Space Warp to an object. Space Warp Types, Force Space Warps, Deflector Space Warps, Geometric/Deformable Space Warps, Modifier-Based Space Warps, Using reactor, Springs, wind, Using the Preview window, Creating animation keys, Morpher modifier, Working with the constraints,	10
Unit - 4	
Working with Biped & Bones, Creating a Biped, Customizing a biped, Modifying a biped, Bending links, Working with Postures and Poses, Animating a Biped, Using Footstep Mode, Creating a Rigging Workflow, Building a Bones System, Assigning an IK Solver, Setting bone parameters, IK Limb solver, Understanding the Skinning Process, Binding to a skeleton,	10

Text books

- Kelly LdotMurtock – " 3DS Max Bible 2015"
- 3D MAX Bible 2022, Publisher: Wiley India Pvt Ltd
- Autodesk 3ds Max 2022 Essentials: Autodesk Official Press by - Randi L. Derakhshani &DariushDerakhshani
- Inside 3d Studio Max: Animation by Kennedy macstrifrantz Publisher: New Riders

Course Code: DSC -7 Lab	Course Title: **3D Rigging & Animation Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Creating ball bouncing animation
2. Ceiling fan & Table fan Animation
3. Creating Cracker blast animation
4. Fire animation with glow effect
5. Creating flag flying using wind animation
6. Object motion and basic techniques in Animation
7. Face morphing animation
8. Rigid body animation
9. Flying fabric motion
10. 3D walk through animation
11. Character bones animation
12. Creating 3D clip and rendering

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: DSC -8	Course Title: 3D Dynamics & Effects
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completion of this course students should be able to

- Mastering Dynamics and effects, particle, and emitters
- Able to work as a special effects artist, creating collisions and explosion for action films, TV shows, video games,
- Understand 3D animations to visualize sfx, interiors, and landscapes
- Understand Soft body and rigid body animation, making them easier to understand for both professionals and the general public.
- Creating a Special effects and collider animations for advertisement company

Course Content

Content	Hours
Unit - 1	
Working with Object Animation, The Rendering Menu, Autodesk Maya, Tools and Interface, Introduction to dynamics, Particle objects, Goals, Emitter, various methods, Particle Tool, Make Collide, Emit from Object, particle Shape, Particle Sample Info Node, Gravity field.	12

Unit - 2	
Make an object move with a dynamic parent, Duplicate particle objects, create particles, Particle collisions, Place particles on a surface, animate particles, set particle lifespan, use lights, reflections, refractions, and shadows, particle colour, Control execution time of particle dynamics, Apply forces in an object's local space.	10
Unit - 3	
Volume Axis, Vortex, move – Resize – Rotation, Newton, Gravity, Drag, Air, Soft bodies, Rigid bodies, Rigid body constraints, Springs, Duplicate soft bodies, Paint Soft Body Weights Tool, Edit attributes of a rigid body, rigid Solver, Fire, Lightning, Surface Flow, Curve Flow.	10
Unit - 4	
Key and parent constraints, Create Active Rigid Body, Create Passive Rigid Body, Break Rigid Body Connections - Set Passive Key - Set Active Key, Create Constraint, fixing problems with constraints, Create Smoke, Surface Flow procedures, nParticles and nDynamics.	10

Text books

- Elemental magic – "joseph gilland"
- Maya studio projects: Dynamics 1st edition- Todd Palamar
- Learning Autodesk maya 2019- Autodesk
- Autodesk maya 2023 basic Guide

Course Code: DSC -8 Lab	Course Title: **3D Dynamics & Effects**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Creating Particles
2. Creating dust blast
3. Creating Cracker blast animation
4. Fire animation with emitters
5. Creating fish and motion path animation.
6. Water flow animation.
7. Particle dance lady animation
8. Rigid body animation
9. Soft body animation
10. Set driven key animation
11. Explode animation

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

<u>Vocational Course</u>

Course Code: VC-2:	**Course Title: Traditional Animation**
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

 After completion of this course students should be able to

- Traditional animation skills make students a valuable asset to animation studios that create hand-drawn or hybrid animations.
- Students will be able to work in the field of art and design, such as character design, storyboarding, concept art, and illustration.
- Develop skills in drawing and sketching
- Gaining knowledge to work as a freelance animator, taking on projects such as animated commercials, music videos, or short films.
- Be able to understand to work in both traditional and digital animation pipelines

Content	Hours
Unit - 1	
History of animation, Rotoscoping, cartoon__animation, stop motion animation, thaumatrope, story board, script writing, scene designs, perspectives, live sketching,line drawings.	12
Unit - 2	
Background animation, foreground character animation, BG design,Prop design, scene planning, sequence setting, set artists, hand drawings.head theory, anatomy study, guesture study.	10
Unit - 3	
Layout design, divided layout design, active set design, traditional camera techniques, tred art, warli art, roman drawings, frame by frame animation, keying, sand animation, lighting animation.	10
Unit - 4	
Story board, , anime drawings, facial expression art, character sketching and colouring, story- scene- script – planning, Solid drawings, animatic drawings.	10

Text books

- Animation for Beginners - Basic Principles of Animation for Motion Graphics by Lisa Lee
- Character Design For Complete Beginners - Master the art of character drawing and design for comics, games and animated films by Danan Thilakanathan
- The Visual Story: Creating the Visual Structure of Film, TV, and Digital Media - by Bruce Block
- The Art of the Storyboard, 2nd Edition: A Filmmaker's Introduction - by John
- Frame-By-Frame Stop Motion - The Guide to Non-Puppet Photographic Animation Techniques, Second Edition by Tom Gasek

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Scheme of Assessment for Theory Examination

Question Pattern		Marks
Part – A		
1. Answer any FIVE sub-questions (5×2=10)		
Sub-question	Unit	
a		**10**
b		
c		
d		
e		
f		
Part – B **(Answer any FOUR sub-questions (4×5=20)**		
2		**20**
3		
4		
5		
6		
Part –C **(Answer any TWO sub-questions (3×10=30)**		
7		**30**
8		
9		
Total		**60**

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