Estd. 1962 "A⁺⁺⁺" Accredited by NAAC(2021) With CGPA 3.52

SHIVAJI UNIVERSITY, KOLHAPUR - 416 004, MAHARASHTRA

www.unishivaji.ac.in, bos@unishivaji.ac.in

शिवाजी विद्यापीठ, कोल्हापूर - ४१६ ००४,महाराष्ट्र

दूरध्वनी - ईपीएबीएक्स - २६०९०००, अभ्यासमंडळे विभाग दूरध्वनी ०२३१–२६०९०९३/९४



SU/BOS/Science/498

Date: 10/07/2023

To,

The Principal,	The Head/Co-ordinator/Director
All Concerned Affiliated Colleges/Institutions	All Concerned Department (Science)
Shivaji University, Kolhapur	Shivaji University, Kolhapur.

Subject: Regarding syllabi of B.Sc. Part-II (Sem. III & IV) as per NEP-2020 degree programme under the Faculty of Science and Technology.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of B.Sc. Part-II (Sem. III & IV) as per NEP-2020 degree programme under the Faculty of Science and Technology.

B.ScII (Sem. III & IV) as per NEP-2020						
1.	Computer Science (Opt)	8.	Food Technology & Management (Entire)			
2.	Computer Science (Entire)	9.	Biochemistry			
3.	Animation (Entire)	10.	Biotechnology (Optional/Vocational)			
4.	Information Technology (Entire)	11.	Biotechnology (Entire)			
5.	Food Science and Technology (Entire)	12.	Environmental Science (Entire)			
6.	Food Science	13.	Pollution			
7	Food Science and Quality Control (Entire)					

This syllabus, nature of question and equivalence shall be implemented from the academic year 2023-2024 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website <u>www.unishivaji.ac.in</u>)

The question papers on the pre-revised syllabi of above-mentioned course will be set for the examinations to be held in October /November 2023 & March/April 2024. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Conv to.

Dy Registrar

Dr. S. M. Kubal

Copy			
1	The Dean, Faculty of Science & Technology	8	P.G. Admission/Seminar Section
2	Director, Board of Examinations and Evaluation	9	Computer Centre/ Eligibility Section
3	The Chairman, Respective Board of Studies	10	Affiliation Section (U.G.) (P.G.)
4	B.Sc. Exam/ Appointment Section	11	Centre for Distance Education

SHIVAJI UNIVERSITY, KOLHAPUR



Estd. in 1962 'A⁺⁺' Accredited by NAAC (2021) with CGPA 3.52

CHOICE BASED CREDIT SYSTEM WITH MULTIPLE ENTRY AND MULTIPLE EXIT OPTIONS AS PER NEP-2020

Syllabus For B.Sc.

Part – II

Animation

SEMESTER III and IV

(SYLLABUS TO BE IMPLENTED FROM ACADEMIC YEAR 2023-24)

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Structure of B. Sc. Animation Program (Semester III & IV)

DSC : - Discipline Specific Core Course : All papers are compulsory.

AECC- Ability Enhancement Compulsory Course (C) : Environmental Studies: EVS (Theory – 70 & Project – 30 Marks)

There shall be separate passing for internal and University theory as well as practical / project examinations.

Practical Examination will be conducted annually for100 Marks per course (subject).

Except Environmental Studies, there shall be combined passing for two theory papers of 40 marks each. i. e. minimum. 28
marks are required for passing out of 80.
 Minimum 4 marks are required for passing out of 10 for Internal Examination of each
paper.

• Examination of SEC shall be either theory or practical depending upon type of SEC.

CBCS B.Sc. Animation: List of courses

B. Sc Animation: Part-II (Semester III & IV)

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Course code	Name of Course	Course code	Name of Course				
	Semester-III	Semester-IV					
BAST-301	Basics of 3D Animation	BAST-401 Advance of 3D Animation					
BAST-302	Rigging in 3D Animation	BAST-402 Rendering in 3D Animation					
BAST-303	Cinematography	BAST-403 Digital Editing					
BAST-304	Basics of Printing Technology	BAST-404 Advance in Printing Technology					
BAST-305	Motion Graphics	BAST-405 IPR and Cyber Security					
BAST-306	Basics of Production Process	BAST-406 Programming in Dreamweaver cc					
AECC-C	Environmental Studies (Theory)	AECC-D	Environmental Studies (Project)				

THEORY

PRACTICAL

BASP-307	Lab Course IX (BAST - 401 + BAST - 402)
BASP-308	Lab Course X (BAST – 303 + BAST – 304)
BASP-309	Lab Course XI (BAST - 305 + BAST - 306)

*DSC FS: Discipline Specific Core Course BSc. Animation

*AECC: Ability Enhancement Compulsory Course: Environmental Studies

Course – BAST-301: Basics of 3D Animation

- 1) Understanding and applying Principals for animation.
- 2) Understand principles strategies for 2D production process.to in between
- 3) Students will able to understand the flow of classical animation with principles and they createan animated movement for an object using motion twining and the motion editor.
- 4) Students will able to produce with advance production process of animation using 12 principles.

Credits (Total Credits 2)	SEMESTER-III BAST-301 Basics of 3D Animation	No. of hours per unit/credits
UNIT - I	History and Basic Principles	(11)
	Understanding principles that translate sequential, images into action to make animation believable Understanding properties of matter, Making use of the wave principle, delayed secondary , action, slow and fast action impact , speed, weight, tendency of weight to move in a certain way, recoil effects, squash and stretch related to weight, overlapping action, follow through Animating force acting on objects , object , weight, construction, flexibility, object behavior when force acts on them Principles of Timing, Gaining an insight into the invisible , concept of time in nature Understanding the basic unit of time in animation, Emphasizing the difference between , caricature, drama, humor Timing governing acting and movement	
UNIT - II	Principles Strategies	(11)

	The use of anticipation, action, reaction, Methods of doping, writing exposure sheets, bar sheets, planning accents, beats, scene timing, spacing of drawings, holds, easing in and out Animating to music, Principles of Movement, Understanding the meaning of movement and, movement innature.	
UNIT - III	Force of action	(12)
	conveyed through movement and animate and inanimate object behaviour Examining the laws of motion in the context of animation; cause and effect, thrown objects, rotating, force, oscillating movement, friction, resistance Studying the tendency of weight to move in a particular manner Simplification and exaggeration of movement	
UNIT - IV	History of Animation Production and current process	(11)
	understanding of the evolution of animation, Delving into animation history- both of India and the world. Precursors to animation: Cave paintings, animation toys. Animation before Disney Studio animation, Feature animation, Experimental animation Personal films and expression, Adult animation, final production process Animation	

- 1) Understand and demonstrate in between drawing and execution with squash and stretch, staging, arc, principle.
- 2) Web compatible animation through the proper use of follow through and overlapping action with Flash interface.
- 3) Animate human and animal walk cycle using principle of animation.
- 4) Produce motion graphics Animation and creativity per industry standards

References-

1. The Animators Survival Kit, Expanded Edition: A Manual of Methods, Principles and Formulas forClassical, Computer, Games, Stop Motion and Internet Animators by <u>Richard</u> <u>Williams</u>

2. The Illusion of life Disney animation-Frank Thomas and Ollie Johnston.

- 3. Cartoon Animation by Preston Blair
- 4. Harold Whitakar

Course – BAST-302: Rigging in 3D Animation

- 1) Understand deep knowledge of digital storyboarding
- 2) Understand interface of ToonBoom Harmony with plug-in.
- 3) Identify key historical events of drawing/ painting contributed to the development of the animation industry.
- 4) Identify animation principles and how to apply them when animating.

Credits	SEMESTER-III	No. of hours
(Total	BAST-302	per unit/credits
Credits 2)	Rigging in 3D Animation	
UNIT - I	Introduction of Digital Storyboarding	(11)
	History of Storyboard-Composition with your picture frame- Working with Shapes-Rule of thirds-	
	Character-Poses-Shape and movement of character-Aspect Ratio-Camera Shot-Screen direction-Advance storyboard technique-Character Model Sheet.	
UNIT - II	Interface Highlights	(11)
	Introduction of Toon boom Harmony 16.0, Project Creation- Creating Scenes, Scene Settings, User interface- Menus, Toolbars, Views, Workspaces, Interface Navigation Layers and Columns-	
	Adding Layers and Columns, Deleting, Renaming, Locking, Unlocking and navigating layers, Clone and Duplicate layers, Grouping and ungrouping the layers.	
	Timing- Scene Length, Exposure, Drawings, Scene Markers	
UNIT - III	Drawing & Painting	(12)

	Drawing Tools, Drawing Optimization, Strokes Conversion, Color Swatches, Palettes, Painting Drawings, Closing Gaps. Paperless Animation- Creating a Rough Animation, Paperless Animation Tools. Scene Staging- Layer Position, Transform	
	Tool	
UNIT - IV	Exporting Digital Animation	(11)
	Pegs, Key frames, Controls, Functions, Copying Motions, Velocity.	
	Importing - Importing Bitmap Images, Importing a Multi- Layer PSD, Importing Vector Files, Importing QuickTime Movies.	
	Camera Set-up and Animation - Adding a Camera, Positioning the Camera Frame, Animating the Camera ,Exporting and rendering project.	

- 1. Work with Digital Storyboarding(storyline)
- 2. Create and rigged character(pre-production) in ToonBoom
- 3. Create and Lip Syncing or(production) Motion Paths in ToonBoom.
- 4. Produced final output (post production) and enhanced effects in ToonBoom.

References-

- 1) Professional Storyboarding: Rules of Thumb Sergio Paez, Anson Jew
- 2) Complete Book of Toon Boom
- 3) User Guide- ToonBoom Harmony 16.0.
- 4) Animate to Harmony: The Independent Animator's Guide to Toon Boom 1st Edition by AdamPhillips (Author)

Semester – III

Course – BAST-303: CINEMATOGRAPHY

- 1. Work with Cinematographer position.
- 2. Understand equipment functions and library resources related to the study of photography.
- 3. Understand learn and explore the use of pencil and various tools to create textures fordifferent subjects.
- 4. Create how to be creative in use of pencil for drawing and expression.

Credits	SEMESTER-III	No. of hours
(Total	BAST-303	per unit/credits
Credits 2)	CINEMATOGRAPHY	
UNIT - I	Introduction of Visual Storytelling	(11)
	Visual Storytelling, Photography, Exposure Times, Photography as Art, Images as Communication, The Power of the Image, Messages Hidden in Images, Communicating Your Message, The Frame, Aspect Ratio	
UNIT - II	Introduction of Camera & Camera Placement	(11)
	How is an Image Created?, Camera Obscure, Creating a Permanent Photograph, Modern Camera Sensors, Creative Use of Exposure Time, Camera Components Camera Functions, Exposing an Image, Exposure and Shutter Speed Using Slow Shutter Speed on a Video Camera, Controlling Exposure Three Exposure Controls, Aperture Effects, Exposure and Aperture, The Sensor Adjusting Sensitivity, Noise, Camera Distance, Shot Types, Extreme Long Shot, Medium Long Shot, Medium Shot, Medium Close Up and Close Up, Extreme, Close Up, Shot Size and Lenses, Over the Shoulder Shot, Two Shot, Camera Height, Eye Level Height, High Angle, Low Angle	
UNIT - III	Lens & Camera Movement	(12)
	What is a Lens?, Lens less Photography, Convergence, Lens Speed, Field of View, Sharpness, Distortion, Guidelines for Choosing a Lens, The Main Functions of a Photographic Lens, Consumer Cameras, What Lens Do I Need?, Choosing a Lens, The Normal Lens, Field of View, Lens Types, Perspective and	

	Depth, When Was the Camera Moved First?, Camera	
	Movement Types, Motivated Camera Movement, The	
	Panning Shot, The Tilt Shot, The Tracking Shot, The	
	Circular Move, The Push-In Shot, The Pull-Out Shot,	
	The Crane Shot, The Handheld Shot, The Steadicam Shot	
UNIT -IV	Creative Lighting & Color	(11)
	Three-Point Lighting, The Key Light, The Fill Light, The	
	Back Light, Effective Use of Three-Point Lighting,	
	Practical Lighting Applications, Lighting Analysis,	
	Lighting the Face, Visual Intensity, Contrast and	
	Affinity, Contrast in Color, Evaluating Color Contrast,	
	Storytelling with Lighting, How Does Light Help Tell a	
	Story? What is Color?, The Relativity of Color, The	
	Human Eye, After Images, Primary Colors,	
	Complementary Colors, Color Interpretation, Shades of	
	Red, Color Interpretation in Cinema, The Meaning of	
	Color, Color in Images and Film, "Drive", Emotion and	
	Color	

- 1. Work with command of materials, equipment functions and library resources related to the study of photography.
- 2. Understand visual forms and their aesthetic functions and basic design principles.
- 3. Handle props with tools, extension or external sources, techniques, technologies andentire knowledge of work processes concept to finished product.
- 4. Produce industrial and commercial applications(lights) for advanced photography using colours or advanced cinematography production.

References-

- 1) Cinematography -second edition blain brown
- 2) Digital Cinematography: Fundamentals, Tools, Techniques, and Workflows David Stump, Asc
- 3) Cinematography Techniques: The Different Types of Shots in Film By Timothy Heiderich Unit
- 4) The Filmmaker's Guide to Digital Imaging blain brown

Course – BAST-304: Basics of Production Process

- 1. Understand and identify freeware editing software and recent tools and parameters.
- 2. Understand the fundamental concepts of video editing
- 3. Perform video editing commercially and produced video with techniques prevalent for industry.
- 4. Work on post production process using effect rack.

Credits (Total Credits 2)	SEMESTER-III BAST-304 Basics of Production Process	No. of hours per unit/credits
UNIT - I	Workspace and workflows	(11)
	Introduction of Adobe Premiere, Interface of Adobe Premiere Working with Projects, Capturing and Importing Source Clips, Working with Panels, Tools panel and Options panel, Creating projects, Set preferences, Set Audio Hardware preferences, Working with Photoshop and Premiere Pro, Set up a Color workspace, Apply basic color correction, Adjust color using color correction curves	
UNIT - II	Importing footage into Premiere Pro	(11)
	Importing still images, Importing digital audio, Capturing and digitizing footage, Working with timecode, Editing sequences and clips in Premiere Pro, Rendering and previewing sequences, Multi-camera editing workflow, Working with markers, Create and play clips, Trimming clips, Freeze and hold frames, Working with captions, Graphics, titles, and Motion Graphics templates	
UNIT - III	Effects	(12)

	Fixed effects, Standard effects, Applying, removing, finding, and organizing effects, Viewing and adjusting effects and keyframes, Master Clip effects, Masking and tracking, Transition, Motion: position, scale, and rotate clips, Adjustment Layers, Color correction effects, Lighting Effects	
UNIT - IV	Transitions	(11)
	Audio effects and transitions, The rolling shutter repair effect, Video effects and transitions, Blur and Sharpen effects, Channel effects, Color Correction effects, Distort effects, Noise & Grain effects, Perspective effects, Animation and keyframes in Premiere Pro, Editing audio in Premiere Pro, Compositing in Premiere Pro.	

- 1. Create organize content and sequences for video editing.
- 2. Create advanced editing techniques for documentary.
- 3. Work as source monitor and developed e-contain video for e-learning or IT industry.
- 4. Work as post production artist for any film making industry which is related tovideo production.

References-

- 1. Premiere_pro_reference
- 2. A Beginners Guide To Using Adobe PremierePro.
- 3. Premiere Pro for Filmmakers: 1 (The Digital Filmmaking Handbook Presents) : Sonja Schenk,3 March 2020
- 4. Learn Adobe Premiere Pro CC for Video Communication: Adobe Certified Associate Exam Preparation Second Edition, Joe Dockery/Rob Schwartz/Conrad Chavez, 8 May 2020

Course – BAST-305: Motion Graphics

- 1) Understand meaning of multimedia and its types
- 2) Navigate through all aspects of the new CS6 user interface.
- 3) Utilize tweens and articulated motions with inverse kinematics and on straint to morph shapes.
- 4) Publish flash movies in numerous formats and contexts in a professional and web-friendly manner.

Credits (Total	SEMESTER-III BAST-305	No. of hours
Credits 2)	Motion Graphics	per unit/creatis
UNIT - I	Multimedia History	(11)
	History of Motion Graphics, Workspace, working with the Library Panel, Understanding the Timeline, Organizing Layers in a Timeline, Using the Properties Inspector, Using the Tools Panel Undoing Steps in Flash, Previewing Your Movie, Modifying the Content and Stage, Saving Your Movie Publishing Your Movie, Finding Resources for Using Flash, Checking for Updates	
UNIT - II	Interface and parameters	(11)
	Understanding Strokes and Fills ,Creating Shapes ,Making Selections, Editing Shapes, Using Gradient and Bitmap Fills , Making Patterns and Decorations, Creating Curves, Creating Transparencies, Creating and Editing Text, creating and editing symbol, Importing Illustrator Files ,About ,Creating Symbols, Importing Photoshop Files Editing and Managing Symbols, Changing the Size and Position of Instances, Changing the Color Effect of Instances, Understanding Display Options Applying Filters for Special Effects Positioning in 3D Space, Animation Understanding the Project File ,Animating Position ,Changing the Pacing and Timing Animating Transparency Animating Filters Changing the Path of the Motion, Swapping Tween Targets, Creating Nested Animation, Using the Motion Editor Easing ,Animating 3D Motion ,Testing Your Movie	
UNIT - III	Inverse Kinematics and constraint	(12)

	Testing Your Movie, Articulated Motion with Inverse Kinematics, Constraining Joints, Inverse Kinematics with Shapes ,Armature Options, Morphing with Shape Tweens, Using Shape Hints, Simulating Physics with Inverse Kinematics About Interactive Movies, Creating Buttons Understanding ActionScript 3.0, Preparing the Timeline ,Adding a Stop Action, Creating Event Handlers for Buttons, Creating Destination, Keyframes, Creating a Home Button with Code Snippets, Code Snippets Options, Playing Animation at the Destination, Animated Buttons ,Understanding TLF Text Adding Simple Text, Adding Multiple Columns	
UNIT - IV	Rendering in 2d	(11)

- 1) Work on recent version of flash cs (IK).
- 2) Animate fundamentals particles and vertexes using interface.
- 3) Create rigging or grouping for professional animation
- 4) Work on concepts of multimedia technology for 2D/3D animation production using animation principles.

References-

- 1. Adobe Flash CS6 Digital Classroom-Fred Gerantabee and the AGI Creative Team
- 2. Adobe ® Flash Professional CS5 Todd Perkins Wiley India

3. How To Cheat In Adobeflashcs6 The Art Of Design And Animation Chris Georgenes

4. Acting and Character Animation: The Art of Animated Films, Acting, and Visualizing- Rolf Giesen and Anna Khan

Course – BAST-306: Basics of Printing Technology

- 1. Understand history of Sculpturing and also know interface of mudbox.
- 2. Evaluate mudbox digital painting and digital sculpting.
- 3. Apply a high-performance environment and professional-quality tools to create highly realistic models for 2D/3D Animation.
- 4. Create props and compelling concept designs with details.

Credits (Total Credits 2)	SEMESTER-III BAST-306 Basics of Printing Technology	No. of hours per unit/credits
UNIT - I	Basics of Printing Technology	(11)
	Introduction of mud box, Sculpting Concepts, Comparing Traditional and Digital Sculpting, Anatomy sculptures, Proportion and measurements, Form negative space and gesture, Expression and emotion in sculptures	
UNIT - II	Introduction to Basics of Printing Technology	(11)
	Interface Overview, A 3D Primer, understanding 3D space, Polygon basics, Resolutions, UV Mapping, Digital Images, Mudbox hotkeys, setting up the scene, Selecting and scaling the model, Creating Layer and Subdividing, Sculpting detail.	
UNIT - III	Working with Tools	(12)
	Sculpting a portrait bust, sculpting a Likeness, changing proportion, Refine the shapes, Facial Expression, Setting up reference sketch, Adding Camera and Bookmark, Sculpting with negative space, Sculpting a figure, Anatomy Primer	
UNIT - IV	Texturing with Printing	(11)
	Painting Sculptures, UV Mapping, The Paint Tools, Paint Layers, Painting the Creature, Creating Basic Skin, Viewport Rendering, Creating Displacement Maps, Normal Maps, Displacement Maps, Extracting Displacement Maps, Exporting a Low-Resolution Model, Applying Mudbox Displacement Maps.	

- 1) Understanding highly detailed 3D models with an intuitive using mudbox.
- 2) Apply digital sculpting and production-level texture painting programs.
- 3) Analysis and create digital sculpting and texture painting to both traditional and digital artists.
- 4) Create build models for the film, Architectural model, games for broadcasting industries or e-learning companies

References-

- 1) Mudbox Bible by Kelly L. Murdock
- 2) Mastering Autodesk 3ds Mudbox -by Jeffrey M. Harper
- 3) 3Ds Mudbox by Boughen, Nicholas

ANIMATION (BASP-307) (BAST - 301 + BAST - 302)

Basic 3D Animation + Rendering in 3D Animation

- 1. understand camera and its props.
- 2. understand difference between normal video shooting and Cinematographic video shooting position.
- 3. apply different animation techniques based on style, requirements and advantages using principles.
- 4. analysed animation principles and apply to2D animation.

Credits (Total Credit 04)	SEMESTER-III ANIMATION (BASP-307) (BAST – 301 + BAST – 302) Basic 3D Animation + Rendering in 3D Animation	No. of hours per unit/credits
Group-I	 Different types of Camera mounts &heads. Different types of camera movement. Camera lens - different types & properties of lenses. Differences between a Digital & Analogue image. Digital & Analogue Image formation theory. Different types of shots used in cinematography/videography. Colour filters: Use of colour filters in Cinematography. Different types of shooting formats and aspect ratio (RAW, 2k, 4k, JPEG etc). Colour Correction, Principles of colour correction. Basic use of lighting in Cinematography. Principles of different types of lights used in Use of light balancing and colour conversion filters in Cinematography. Colour temperature Different types of lighting. Shooting Assignment – Digital Cinematography 	4
Group-II	 Animating bouncing ball using squash and Stretch principle of animation Animating Jumping character animation by using Anticipation Animate follow through and overlapping principle of Animation. Animate Ease-In and Ease-Out Principle of Animation by using Wheel. Create Exaggeration principle of animation. 	4

6. Animate Arc principle of Animation by using Pendulum.
7. Create a scene setup design by using Staging principle of animation.
 Animate Straight ahead and pose to pose principle of Animation.
9. Animate Secondary action principle of Animation10. Animate Timing principle of Animation by using lip sync.11. Solid drawing principle of Animation.
12. Create and Render scene by using principle of animation

- 1) understand experimental and manipulative techniques using candid and contrived imagery documentary photography.
- 2) apply visual forms and their aesthetic functions and basicdesign.
- 3) analysed12 principles of animation for 2D or 3D film making production.
- 4) create and animate 'walk cycle' to a any character.

Practical references-

- 1. Cinematography -second edition- blain brown
- 2. Digital Cinematography: Fundamentals, Tools, Techniques, and Workflows David Stump, Asc
- 3. Cinematography Techniques: The Different Types of Shots in Film By Timothy Heiderich
- 4. The Filmmaker's Guide to Digital Imaging blain brown
- 5. The Illusion of life Disney animation-Frank Thomas and Ollie Johnston.
- 6. Cartoon Animation by Preston Blair

ANIMATION SCIENCE LAB- X (BASP-308) (BAST - 303 + BAST - 304)

Cinematography + Basics of Printing Technology

- 1. understand different animation techniques based on style, requirements and advantages.
- 2. analysed and identify animation principles for 2D animation.
- 3. apply tweens and articulated motions with inverse kinematics to morph shapes.
- 4. create and Publish flash multimedia movies in numerous formats and contexts in a professional and webfriendly manner.

Credits (Total Credit 04)	SEMESTER-III ANIMATION SCIENCE LAB- X (BASP-308) (BAST - 303 + BAST - 304)	No. of hours per unit/credi
	Cinematography + Basics of Printing Technology	ts
Group-I	 The Drawing View- Drawing Basic Objects/Scenes in Toon boom. Creating an object using he Drawing Tools. Working with Layers and Columns. Tracing character in ToonBoom using Shift and Trace. How to Make a Cartoon in ToonBoom. Creating an object using digital animation and importing it. Creating In-between Key poses- Key Frames vs. Drawings. Animating Organic Objects. Animating inorganic Objects ToonBoom. Frame-By-Frame Rough Animation. Animate Walk Cycles in ToonBoom. Creating Effect in ToonBoom. Cut out puppet animation in ToonBoom. Rendering Some Animation Scenes. 	4

	1. Animate bouncing ball using Adobe Flash CS6.	
	2. Animating flag by using Adobe Flash CS6.	
	3. Grapping/Rigging character by using Adobe flash CS6.	
	4. Digital layout design by using Adobe Flash Cs6.	4
Group-II	5. Animating Human walk cycle by using Adobe Flash CS6.	
	6. Animating Animal walk cycle by using Adobe Flash CS6.	
	7. Animating Human Runcycle by using Adobe Flash CS6.	
	8. Animating Animal Runcycle by using Adobe Flash CS6.	
	9. Creating advance action animation by using Adobe Flash CS6.	
	10. Render scene with bg and character animation.	

- 1. understand ToonBoom studio 8.1 with new features.
- 2. apply various drawing effects using ToonBoom.
- 3. create Storyboarding and produced 2D animation using dissection techniques in Adobe Flash CS6.
- 4. create Advanced concepts of multimedia animation and animate digital content Adobe FlashCS6.

Practical references-

- 1. Complete Book of ToonBoom
- 2. User Guide- ToonBoom Harmony 16.0.
- 3. Animate to Harmony: The Independent Animator's Guide to Toon Boom 1st Edition
- 4. Adobe Flash CS6 Digital Classroom-Fred Gerantabee and the AGI Creative Team
- 5. Adobe ® Flash Professional CS5 Todd Perkins Wiley India

ANIMATION SCIENCE LAB- X (BASP-309) (BAST – 305 + BAST – 306)

Motion Graphics + Basic of Production Process

- 1. understand video editing software and related tools.
- 2. analysed the fundamental concepts of digital video and types of formats.
- 3. create 3D digital artwork for production.
- 4. create highly realistic 3D characters, engaging environments, detailed props for architectural animation.

Credits (Total Credit 04)	SEMESTER-III ANIMATION SCIENCE LAB- XI (BASP-309) (BAST - 305 + BAST - 306) Motion Graphics + Basic of Production Process	No. of hours per unit/credi ts
Group-I	 Importing / Capturing Clips. Basic Time line Editing. Color Corrections. Multicam Editing. Audio Editing. Audio Editing Video Editing Exporting. Adding Markers. Adding Effects Adding Transitions Mixing Audio. Creating Titles in Adobe Premiere Pro. Animating a Clip in Adobe Premiere Pro. Export / Render Video setting in Adobe Premiere Pro. 	4
Group-II	 Creating Basic object in mudbox. Creating Game Weapons in Maya and Mud box . Creating environmental background in Maya and Mud box. Dynamic Tessellation. Map Extraction. Creating organic object (Human) Creating organic object (Animal) HEAD and FACE sculpting, detailing, and painting tutorial. Creating organic object (Car) Preparing A Mesh For Multiple UV Tile Painting in Mud box. 	4

- 1. understand installing, setting up of Adobe Premiere.
- 2. understanding content and creating sequences of images.
- 3. create highly detailed 3d. models with an intuitive user interface Mudbox is accessible to bothtraditional and digital artists.
- 4. create digital sculpting and texture painting.

Practical references-

- 1. Premiere_pro_reference
- 2. A Beginners Guide To Using Adobe PremierePro.
- 3. Mudbox Bible by Kelly L. Murdock
- 4. Mastering Autodesk 3ds Mudbox -by Jeffrey M. Harper
- 5. 3Ds Mudbox by Boughen, Nicholas

NATURE OF QUESTION PAPER FOR B.Sc. PART – I, (40 + 10 PATTERN) ACCORDING TO REVISED STRUCTURE AS PER NEP – 2020 TO BE IMPLEMENTED FROM ACADEMIC YEAR 2022-23

Maximum Marks: 40 Duration: 2 hrs

Q. 1 Select the most correct alternate from the following [08]

i) to viii) MCQ one mark each with four options

- A)
- B)
- C)
- D)

Q.2 Attempt any TWO of the following [16]

- A)
- B)
- C)

Q. 3 Attempt any FOUR of the following [16]

- a)
- b)
- c)
- d)
- e)
- f)

Practical