BSc (Animation)

Program Outcomes (POs)

PO01: Product Development: Analyse, design and develop novel products and solutions for emerging new media opportunities.

PO02: Skill Competency: Demonstrate globally accepted competent skills in passive and interactive content space.

PO03: Problem Analysis: Identify, formulate and solve complex media design challenges using fundamental principles involved in technology, design and storytelling.

PO04: Modern Tool / Techniques usage: Select, adapt, and apply appropriate tools, techniques, resources to various activities, with an understanding of their boundaries.

PO05: Professional Ethics: Understand and commit to professional ethics and IP regulations, responsibilities, and norms of professional publishing practices based on Criteria.

PO06: Life-long learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a creative professional.

PO07: Communication Efficiency: Communicate effectively with the creative community, and with society at large by being able to comprehend audience/ viewers requirement and tell compelling story narratives, structured design processes, make effective presentations, and give and understand clear instructions.

PO08: Societal and Environmental Concern: Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to creative requirements.

PO09: Individual and Team work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

PO10: Innovation and Entrepreneurship: Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

PO11: Conduct Investigations of complex production and distribution problems: Use research-based knowledge and research methods, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO12: Project management and finance: Demonstrate knowledge and understanding of the computing and management principles and communicate efficiently with team, to manage projects and in multidisciplinary environments.

Program Specific Outcomes (PSOs)

PSO01. Competent ideator in Animation, Advertisement and VFX industry

PSO02. Design characters, background grounds, colour scheme, storyboards and basic audio requisites for Animation and VFX industry

PSO03. Demonstrate Technical skills in creating asset, animation and effects required for Full CG and VFX workflow

PSO04. Identify media opportunities, analyse, design and develop novel products and solutions for emerging new media

Course Outcomes (COs)

2019-20 Batch

Semester	Course Code	Course Name	Course Outcomes (COs)
I	21BSA103	Foundation Art	**CO1** :Define the role of different medium and materials. **CO2** :Analyze importance of Perspective. **CO3** :Utilizing perspective drawing from real life **CO4** :Apply Light and shade in Art. **CO5** :Apply accurate anatomy characteristics in figure drawing.
	21BSA104	2D Digital Animation	**CO1** :List the techniques in creating 2D animation **CO2** :Analyze timing and sequencing of Animation. **CO3** : Apply the techniques of animation staging for creating a scene. **CO4** : Compare the application for exporting animation file. **CO5** : Design 2D animation with background in a scene.
	21BSA105	Digital Art I	**CO1** :Demonstratecolour theory in digital media **CO2** :Categorise file formats in digital art **CO3** :Categorise the role of raster graphics in digital media **CO4** : Apply vector art in creating graphics and illustration **CO5** : Plan image manipulation and magazine design cover in digital art
	21BSA106	3D Assets I	**CO1** :Examine object behaviour in 3D space **CO2** :Demonstrate tools and techniques required for NURBS modelling and UV unwrapping. **CO3** : Create simple Animations including Expressions, constraints and cycles using dope and graph editor. **CO4** : Exhibit Rigging techniques for props, using deformer, and basic understanding of joints and control types. **CO5** : Demonstrate Skinning techniques for various objects.

Semester	Course Code	Course Name	Course Outcomes (COs)
	21BSA103L	Foundation Art Lab	**CO1** :Define the role of different medium and materials. **CO2** :Analyzeimportance of Perspective. **CO3** :Utilizing perspective drawing from real life **CO4** :Apply Light and shade in Art. **CO5** :Apply accurate anatomy characteristics in figure drawing.
	21BSA104L	2D Digital Animation Lab	**CO1** :List the techniques in creating 2D animation **CO2** :Analyze timing and sequencing of Animation. **CO3** : Apply the techniques of animation staging for creating a scene. **CO4** : Compare the application for exporting animation file. **CO5** : Design 2D animation with background in a scene.
	21BSA105L	Digital Art I Lab	**CO1** :Demonstratecolour theory in digital media **CO2** :Categorise file formats in digital art **CO3** :Categorise the role of raster graphics in digital media **CO4** : Apply vector art in creating graphics and illustration **CO5** : Plan image manipulation and magazine design cover in digital art
	21BSA106L	3D Assets I Lab	**CO1** :Examine object behaviour in 3D space **CO2** :Demonstrate tools and techniques required for NURBS modelling and UV unwrapping. **CO3** : Create simple Animations including Expressions, constraints and cycles using dope and graph editor. **CO4** : Exhibit Rigging techniques for props, using deformer, and basic understanding of joints and control types. **CO5** : Demonstrate Skinning techniques for various objects

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II	21BSA2C03	Storytelling	**CO1** :Analyze the effective techniques involved in storytelling. **CO2** :Classify story based on a genre and express opinions from a narrative point of view. **CO3** : Design character driven stories. **CO4** : Create environment for the story **CO5** : Design Storyboard Panels for Visual narration of story.
	21BSA2C04	Digital Art II	**CO1** :Demonstrate skills required for character designing in advanced digital art **CO2** :Plan and execute concept art **CO3** :Utilisation of Typography Design **CO4** :Compose a background composition and collages **CO5** :Design and visualize a photorealistic matte painting
	21BSA2C05	3d Assets II	**CO1** :Examine object behaviour in 3D space **CO2** :Demonstrate tools and techniques required for NURBS modelling and UV unwrapping. **CO3** :Create simple Animations including Expressions, constraints and cycles using dope and graph editor. **CO4** :Exhibit Rigging techniques for props, using deformer, and basic understanding of joints and control types **CO5** : Demonstrate Skinning techniques for various objects.
	21BSA2C04L	Digital Art II Lab	**CO1** :Demonstrate skills required for character designing in advanced digital art **CO2** :Plan and execute concept art **CO3** :Utilisation of Typography Design **CO4** :Compose a background composition and collages **CO5** :Design and visualize a photorealistic matte painting

Semester	Course Code	Course Name	Course Outcomes (COs)
	21BSA2C05L	3d Assets II Lab	**CO1** :Examine object behaviour in 3D space **CO2** :Demonstrate tools and techniques required for NURBS modelling and UV unwrapping. **CO3** :Create simple Animations including Expressions, constraints and cycles using dope and graph editor. **CO4** :Exhibit Rigging techniques for props, using deformer, and basic understanding of joints and control types **CO5** : Demonstrate Skinning techniques for various objects.
Course Outcomes (COs) **2020-21 Batch**			
III	**20BSA3C01**	History of VFX	**CO1** : Recall the Pioneers of Visual Effects who contributed towards the evolution of art. **CO2** : Discuss the warfare impact in shaping the future of visual effects **CO3** : Describe the people in the making both from a global as well as Indian Perspective. **CO4** : Determine the evolution of visual effects films with the rise of computers **CO5** : Analyze the state of art technologies in the realm of the digital world.
	20BSA3C02	Preproduction	**CO1** :Describe the films formats and aspect ratio of early films. **CO2** :Outline the script writing skills. **CO3** : Examine the significance of storytelling through drawing skills. **CO4** :Identify the use of storyboard in film. **CO5** : Design sound and use it to visualize film through animatics.

Semester	Course Code	Course Name	Course Outcomes (COs)
	20BSA3C03	3D Animation	**CO1** :Illustrate the 3D Animation with basic animation principle and acting. **CO2** :Derive the significance of Each process in production by using Maya Software. **CO3** : Understand the significance of graph editor with required techniques. **CO4** : Build artistic expression in creation and its propagation in production for CGI and use of dope sheet. **CO5** : Build the visual and logical strategies for processes in production for Animation.
	20BSA3C04	Compositing Techniques	**CO1** :Recall the evolution of the traditional methods of compositing to the modern techniques **CO2** :Interpret various color manipulation techniques used for digital image generation **CO3** :Demonstrate Layer manipulation techniques of the layer based compositing software – After Effects **CO4** :Demonstrate the Lighting and advanced compositing techniques of the layer based compositing software – After Effects **CO5** :Create Video Art for various application's like music, dance, media, automation and interactive film.
	20BSA3C03L	3D Animation Lab	**CO1** :Illustrate the 3D Animation with basic animation principle and acting. **CO2** :Derive the significance of Each process in production by using Maya Software. **CO3** : Understand the significance of graph editor with required techniques. **CO4** : Build artistic expression in creation and its propagation in production for CGI and use of dope sheet. **CO5** : Build the visual and logical strategies for processes in production for Animation.

Semester	Course Code	Course Name	Course Outcomes (COs)
	20BSA3C04L	Compositing Techniques Lab	**CO1** :Recall the evolution of the traditional methods of compositing to the modern techniques **CO2** :Interpret various color manipulation techniques used for digital image generation **CO3** :Demonstrate Layer manipulation techniques of the layer based compositing software – After Effects **CO4** :Demonstrate the Lighting and advanced compositing techniques of the layer based compositing software – After Effects **CO5** :Create Video Art for various application's like music, dance, media, automation and interactive film.
	20BSA3S251	Character Design Concepts	**CO1** :Describe the Character and its development process, different character types, its importance in storytelling, **CO2** : Illustrate the attributes of the character according to the type. **CO3** : Identify the anthropomorphic character and environment integration, the dynamics between them, it influences on each other. **CO4** : Plan costume and props for the character design. **CO5** : Design various handouts in the form of model sheet, expression chart.
	20BSA3S251L	Character Design Concepts Lab	**CO1** :Describe the Character and its development process, different character types, its importance in storytelling, **CO2** : Illustrate the attributes of the character according to the type. **CO3** : Identify the anthropomorphic character and environment integration, the dynamics between them, it influences on each other. **CO4** : Plan costume and props for the character design. **CO5** : Design various handouts in the form of model sheet, expression chart.

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	20BSA3S252	PHOTOGRAPHY	**CO1** :Define the term photography and the principles of camera obscura. **CO2** : Analyze the structure of camera **CO3** :Utilizing the lighting create indoor and outdoor shooting **CO4** : List out the types of accessories used in photography **CO5** : Create light painting and different special effects.
	20BSA3S252L	PHOTOGRAPHY LAB	**CO1** :Define the term photography and the principles of camera obscura. **CO2** : Analyze the structure of camera **CO3** : Utilizing the lighting create indoor and outdoor shooting **CO4** : List out the types of accessories used in photography **CO5** : Create light painting and different special effects.
IV	20BSA4C01	Film Appreciation and Analysis	**CO1** : Categorize the process involved in analyzing films through language and grammar. **CO2** : Explain history of cinema and its various genres and their evolution. **CO3** : Analyze films based on study and create feedback documentation. **CO4** : Examine elements involved in making a film **CO5** : Evaluate film case studies
	20BSA4C02	Lighting & Rendering	**CO1** : Describe the significance of light and surface properties in real life and CG. **CO2** : Justify the role of different elements in CG lighting and shading. **CO3** : Inspect tools and techniques available in Lighting and suggest appropriate strategies for CG imagery **CO4** : Compose a visual expression for artwork for desired styling. **CO5** : Describe the Indirect lighting techniques

Semester	Course Code	Course Name	Course Outcomes (COs)
	20BSA4C03	Advanced Compositing Techniques	**CO1 :**Recall the integrating of passes for compositing using Nuke **CO2 :**Interpret various color manipulation techniques used for digital image generation **CO3 :**Demonstrate advanced compositing techniques of the node based compositing software – NUKE **CO4 :**Perform 3D manipulation techniques of working in the 3D work space of NUKE **CO5 :**Create seamless integration of CGI and Live action Plates using Camera Projection, tracking and Rotoscopy techniques.
	20BSA404	3D Dynamics	**CO1 :**Describe physics requirement in effects creation **CO2** : Demonstrate believable rigid body collisions in CG space **CO3** : Create effects using particles like dust, fire, crowd, water spray and many more **CO4 :**Formulate strategies for creating Vortex, Rain and other soft body simulation **CO5** : Demonstrate nature element simulations in motion graphics and other CG production
	20BSA4C02L	Lighting & Rendering Lab	**CO1** : Describe the significance of light and surface properties in real life and CG. **CO2** : Justify the role of different elements in CG lighting and shading. **CO3** : Inspect tools and techniques available in Lighting and suggest appropriate strategies for CG imagery **CO4** : Compose a visual expression for artwork for desired styling. **CO5** : Describe the Indirect lighting techniques

Semester	Course Code	Course Name	Course Outcomes (COs)
	20BSA4C03L	Advanced Compositing Techniques Lab	**CO1 :**Recall the integrating of passes for compositing using Nuke **CO2 :**Interpret various color manipulation techniques used for digital image generation **CO3 :**Demonstrate advanced compositing techniques of the node based compositing software – NUKE **CO4 :**Perform 3D manipulation techniques of working in the 3D work space of NUKE **CO5 :**Create seamless integration of CGI and Live action Plates using Camera Projection, tracking and Rotoscopy techniques.
	20BSA4C04L	3d Dynamics Lab	**CO1** :Describe physics requirement in effects creation **CO2** : Demonstrate believable rigid body collisions in CG space **CO3** : Create effects using particles like dust, fire, crowd, water spray and many more **CO4** : Formulate strategies for creating Vortex, Rain and other soft body simulation **CO5** : Demonstrate nature element simulations in motion graphics and other CG production
	20BSA4S361	LAYOUT DESIGN CONCEPTS	**CO1** :Define environments for characters, which are contributing by interaction and location. **CO2** : Explain the visualizing of an idea through storyboard. **CO3** :Utilising of depth, space and aspect ratio for visualizing layout. **CO4** : Apply the method of rendering the layouts with composition. **CO5** : Apply and plan the camera movements in the layout.
IV	**20BSA4S361L**	LAYOUT DESIGN CONCEPTS LAB	**CO1** :Define environments for characters, which are contributing by interaction and location. **CO2** :Explain the visualizing of an idea through storyboard. **CO3** :Utilising of depth, space and aspect ratio for visualizing layout. **CO4** : Apply the method of rendering the layouts with composition. **CO5** : Apply and plan the camera movements in the layout.

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V	20BSA4S362	MATTE PAINTING	**CO1** : Describe the Evolution of Matte Painting with CG, Live Action and VFX movie. **CO2** : Outline students with software its interface, tools and techniques. **CO3** : Examine the significance of Layers, Light, shadow and composition in matte painting **CO4** : Identify the use of dark and light space in matte painting. **CO5** : Design using advanced techniques in creating matte painting.
	20BSA4S362L	MATTE PAINTING LAB	**CO1** : Describe the Evolution of Matte Painting with CG, Live Action and VFX movie. **CO2** : Outline students with software its interface, tools and techniques. **CO3** : Examine the significance of Layers, Light, shadow and composition in matte painting **CO4** : Identify the use of dark and light space in matte painting. **CO5** : Design using advanced techniques in creating matte painting.
		ROTOSCOPY & PAINT	**CO1 :**Usage of rotoscopy in various occasions in a composite. **CO2 :**Implement masking for simplification of other process like keying and tracking. **CO3 :**Composite organic and inorganic object on new BG with help of detailed rotoscopy. **CO4 :**Implement various tracking methods on compositing shots as per requirements. **CO5 :**Implement Paint techniques for the composited shots.
		ROTOSCOPY & PAINT LAB	**CO1 :**Usage of rotoscopy in various occasions in a composite. **CO2 :**Implement masking for simplification of other process like keying and tracking. **CO3 :**Composite organic and inorganic object on new BG with help of detailed rotoscopy. **CO4 :**Implement various tracking methods on compositing shots as per requirements. **CO5 :**Implement Paint techniques for the composited shots.

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		STEREOSCOPIC TECHNIQUES	**CO1 :**Knowledge in the latest techniques involved in theatrical stereoscopic display. **CO2 :**Implement stereo workflow in the existing shots **CO3 :**Composite stereoscopy in 3d software and composite. **CO4 :**Implement various methods of 3D stereo conversion over existing shots
		STEREOSCOPIC TECHNIQUES LAB	**CO1 :**Knowledge in the latest techniques involved in theatrical stereoscopic display. **CO2 :**Implement stereo workflow in the existing shots **CO3 :**Composite stereoscopy in 3d software and composite. **CO4 :**Implement various methods of 3D stereo conversion over existing shots
		MATTE PAINTING	**CO1** : Describe the Evolution of Matte Painting with CG, Live Action and VFX movie. **CO2** : Outline students with software its interface, tools and techniques. **CO3** : Examine the significance of Layers, Light, shadow and composition in matte painting **CO4** : Identify the use of dark and light space in matte painting. **CO5** : Design using advanced techniques in creating matte painting.
		MATTE PAINTING LAB	**CO1** : Describe the Evolution of Matte Painting with CG, Live Action and VFX movie. **CO2** : Outline students with software its interface, tools and techniques. **CO3** : Examine the significance of Layers, Light, shadow and composition in matte painting **CO4** : Identify the use of dark and light space in matte painting. **CO5** : Design using advanced techniques in creating matte painting.

Semester	Course Code	Course Name	Course Outcomes (COs)
		MODELING FOR PRODUCTION	**CO1** :Ability to generate models for production **CO2** :Ability to understand digital sculpting **CO3** :Ability to create human model **CO4** :Ability to create realestic Texturing for models **CO5** :Ability to understand the shader and render concept
		MODELING FOR PRODUCTION – LAB	**CO1 :**Ability to generate models for production **CO2 :**Ability to understand digital sculpting **CO3 :**Ability to create human model **CO4 :**Ability to create realestic Texturing for models **CO5 :**Ability to understand the shader and render concept
		ANIMATION FOR PRODUCTION	**CO1 :**Introduction of 3D Animation and Maya software, explained 12 basic Animation principle and acting. **CO2 :**Explain the significance of Each process in production. **CO3 :**Outline the significance of acting and camera movement with required techniques. **CO4 :**Develop artistic expression in creation and its propagation in production for CGI. **CO5 :**Discuss the visual and logical strategies for processes in production for Animation.
		ANIMATION FOR PRODUCTION – LAB	**CO1 :**Introduction of 3D Animation and Maya software, explained 12 basic Animation principle and acting. **CO2 :**Explain the significance of Each process in production. **CO3 :**Outline the significance of acting and camera movement with required techniques. **CO4 :**Develop artistic expression in creation and its propagation in production for CGI. **CO5 :**Discuss the visual and logical strategies for processes in production for Animation.

Semester	Course Code	Course Name	Course Outcomes (COs)
		VISUAL EFFECTS FOR PRODUCTION	**CO1** :Explain the significance of each process in the VFX production pipeline with the creation of a basic composite **CO2** :Perform seamless Integration of CGI elements with Live action plates for processes in production for Visual effects. **CO3** :Explain the significance of tracking and Match-moving. **CO4** :Apply Chroma keying tools to create integrated compositions. **CO5** :Develop skills in creation of clean Plates and rotoscopy techniques
		VISUAL EFFECTS FOR PRODUCTION – LAB	**CO1** :Explain the significance of each process in the VFX production pipeline with the creation of a basic composite **CO2** :Perform seamless Integration of CGI elements with Live action plates for processes in production for Visual effects. **CO3** :Explain the significance of tracking and Match-moving. **CO4** :Apply Chroma keying tools to create integrated compositions. **CO5** :Develop skills in creation of clean Plates and rotoscopy techniques
VI		VIRTUAL REALITY	**CO1**: Know about Unity3D Game Engine **CO2**: Describe interaction in VR devices **CO3**:Manage development of game movements **CO4**:Plan and Develop Movies using Timeline Editor **CO5**:Publish a VR Movie
		VIRTUAL REALITY LAB	**CO1**: Know about Unity3D Game Engine **CO2**: Describe interaction in VR devices **CO3**:Manage development of game movements **CO4**:Plan and Develop Movies using Timeline Editor **CO5**:Publish a VR Movie

Semester	Course Code	Course Name	Course Outcomes (COs)
		STUDIO DESIGN & PROJECT MANAGEMENT	**CO1**: List production pipeline requirements. **CO2**: Describe hard and soft infrastructure requirements **CO3**: Plan human resource deployment **CO4**: Perform SWOT Analysis for a market opportunity **CO5**: Present risk mitigation and remediation strategies
		AUGMENTED REALITY	**CO1**: Ability to develop interactive augmented reality applications for both PC based mobile devices using a variety of novel input devices **CO2**: Ability to understand the AR development techniques **CO3**: Ability to discuss about asset development required for the AR **CO4**: Ability to explore the process of building with the help of third party plugins. **CO5**: Ability to demonstrate the augmented reality app