

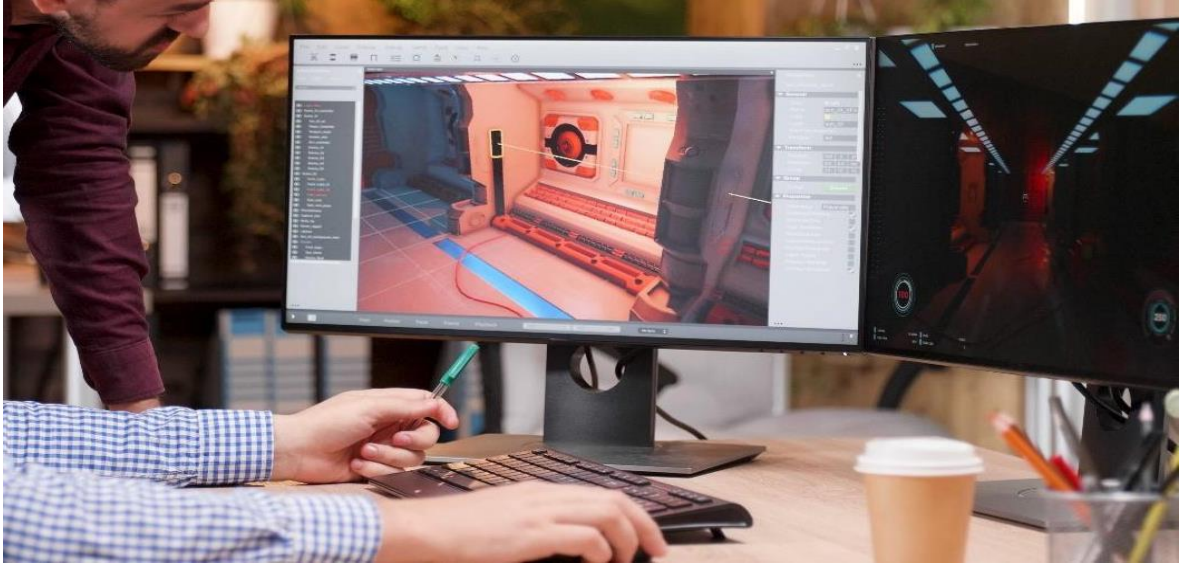


सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
DEVELOPMENT COMMISSIONER
MINISTRY OF MICRO, SMALL & MEDIUM
ENTERPRISES

MSME TECHNOLOGY CENTRE



Model Curriculum



Qualification Name: VFX Associate

Qualification Code:

Version: 2.0

NSQF Level: 4

Model Curriculum Version: 2.0

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

Govt. of India

A-Wing, 7th Floor, Nirman Bhawan, Maulana Azad Road

New Delhi-110108

Contact No. +91-674-2654700

Email- msmetcab@gmail.com

NOS / MODULE TEMPLATE

NOS/Module Name: Understand and Create Computer Graphics

NOS/Module Code: MSME/VFXA/01

NOS/Module Outcome:

- Understand the fundamentals of computer graphics.
- Install and navigate software for computer graphics.
- Create and manage documents, panels, and workspaces.
- Differentiate between file types, resolution, and colour modes.
- Make selections and perform basic compositing techniques.
- Use layers and masks effectively for editing.
- Apply cropping, transformations, and perspective warping.
- Adjust images using histograms and adjustment layers.
- Perform localized retouching and photo enhancements.
- Utilize typography, guides, and grids for design layouts.
- Manage libraries, save files, and export projects efficiently.

Theory Hours: 30 Practical Hours: 30 Theory Marks: 100 Practical Marks: 100

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks	Th Marks
1	Introduction to Computer Graphics	<ul style="list-style-type: none"> • Gain knowledge about Computer Graphics, Design Styles • Gain Knowledge to install software's 	<ul style="list-style-type: none"> • Basics of Computer Graphics • Software's Installation 	3	3	5	5
2	Quick-Start Exercise	<ul style="list-style-type: none"> • Understand workspace, document creation, and customization • Explore Mac and Windows differences and interface options 	<ul style="list-style-type: none"> • The Start Workspace • Creating New Documents • Mac and Windows Differences • Art boards • Working with Panels • Customize Panels • Customize the Toolbar • Keyboard Shortcuts and Menu Commands • Using Workspaces • Interface Shading Options • Screen Modes • Working with Multiple Documents • Tab Preferences • Document Navigation • Preferences Dialog Box 	3	3	5	5
3	Digital Imaging Concepts	<ul style="list-style-type: none"> • Gain knowledge about file types, resolution, and colour modes • Understand resizing, resampling, and print size considerations 	<ul style="list-style-type: none"> • Understanding File Types • Reviewing RAW Formats • Bitmaps vs. Vectors • Understanding Resolution • Resize vs. Resample Images • Print Size • Colour Modes 	3	3	5	5
4	Making Selections and	<ul style="list-style-type: none"> • Master selection tools, feathering, copying, and scaling 	<ul style="list-style-type: none"> • Selection Tool Overview 	3	3	5	5

	Basic Compositing	<ul style="list-style-type: none"> Explore quick selection, magic wand, and Select Subject <p>Learn about Select and Mask, quick mask mode, and saving selections</p>	<ul style="list-style-type: none"> Practical Marquee Selection Feather a Selection Copy and Paste Scaling the Image Modifying Selections Quick Selection and Magic Wand Tools Select Subject Select and Mask Workspace Quick Mask Mode Colour Range Command Saving Selections 				
5	Layers and Masks	<ul style="list-style-type: none"> Understand layer basics, selection, and panel options Explore layer groups, opacity, blend modes, and masks 	<ul style="list-style-type: none"> Undo and Redo Background Layer Opening Images to Layers Layer Basics Selecting Layers Layer Panel Options Locking Layers Distribute and Align Layers Layer Groups Layer Opacity Options Understanding Blend Modes Layer Mask Basics Gradient Layer Masks Layer Styles Flatten Layers 	4	4	5	5
6	Crops, Transformations, and Warps	<ul style="list-style-type: none"> Master crop tool, non-destructive crops, and canvas adjustments Learn about perspective crop, straightening, and transformations 	<ul style="list-style-type: none"> Using the Crop Tool Non-destructive Crops Crop to Add Canvas Canvas Size Dialog Box Perspective Crop Tool Straighten an Image Transform Content-aware Scale Puppet Warp Perspective Warp 	4	4	5	5
7	Adjustments	<ul style="list-style-type: none"> Understand adjustment layers, levels, curves, and colour adjustments 	<ul style="list-style-type: none"> Reviewing the Histogram Adjustment Layers Levels Adjustment Adjustment Layer Mask Clipping to the Adjustment Layer Curves Adjustment Hue/Saturation Adjustment Vibrance Adjustment Photo Filter Adjustment Remove a Colour Cast Black and White Adjustment 	4	4	5	5

8	Localized Adjustments and Photo Retouching	<ul style="list-style-type: none"> Explore toning tools, healing brushes, patching, and content-aware techniques 	<ul style="list-style-type: none"> Toning Tools Spot Healing Brush Healing Brush Patch Tool Content-aware Fill Content-aware Move Eraser Tools Sharpening an Image 	3	3	5	5
9	Type, Guides, and Grids	<ul style="list-style-type: none"> Learn about type tools, guides, and grid systems for layout 	<ul style="list-style-type: none"> Type Tool Area Type Tool Displaying Rulers Using Guides Add a Guide Layout Smart Guides Showing the Grid Grid Preferences 	2	2	5	5
10	Libraries, Output, and Updates	<ul style="list-style-type: none"> Understand creative libraries, file saving, and quick export Learn about software updates and their significance 	<ul style="list-style-type: none"> Creative Libraries Shared Libraries Saving Files Quick Export 	1	1	5	5

NOS / MODULE TEMPLATE

NOS/Module Name:Attain knowledge to create 3D Model, Texture and Light

NOS/Module Code: MSME/VFXA/02

NOS/Module Outcome:

- Understand the basics of 3D modelling and differentiate between 2D and 3D.
- Navigate and customize the 3D user interface, including viewports and navigation controls.
- Select, manipulate, and transform objects in a 3D scene.
- Organize and manage the elements of a 3D scene using hierarchies, groups, and layers.
- Create polygonal models using primitives, selection techniques, and modelling tools.
- Model polygonal meshes with references, extrusion, edge loops, symmetry, and other techniques.
- Refine polygon meshes using subdivision surfaces, creasing, smoothing, and deformations.
- Sculpt meshes using brush-based sculpting tools.
- Employ NURBS modelling techniques, including primitives, curves, revolve, loft, and extrude.
- Refine NURBS meshes using Isopar’s, curves, trimming, and conversion to polygons.
- Explore advanced modelling tools and alternative plug-ins for specialized modelling tasks.
- Learn hard surface modelling techniques for creating cars and trucks.
- Master organic modelling for characters, bipeds, and quadrupeds.
- Unwrap UVs using the UV editor and apply UV mapping to complex geometry.
- Practice unwrapping UVs for organic models of bipeds and quadrupeds.

- Understand the concepts of rendering and shaders in 3D graphics.
- Explore different types of materials, textures, and shaders.
- Learn to create and manipulate materials using shading networks and hyper shade.
- Apply bump mapping and displacement to enhance surface details.
- Gain proficiency in rendering using Mental Ray and Arnold rendering engines.
- Develop skills in laying out UVs and applying materials and textures to 3D objects.
- Master texturing techniques for organic models, including facial and clothing textures.
- Apply textures to inorganic models for realistic surface effects.
- Understand lighting principles and control light colour, intensity, and shadows.
- Adjust render settings and optimize the quality of the final rendered images.
- Learn basic rendering techniques such as depth of field and motion blur.
- Explore advanced rendering techniques like ray tracing, global illumination, and image-based lighting.
- Gain proficiency in using third-party renderers, specifically Arnold.
- Understand different 3D light types and their real-world counterparts.
- Create and place lights in 3D scenes to achieve desired lighting effects.
- Manipulate light attributes and optimize lighting using Arnold render view.

Theory Hours: 30 Practical Hours: 150 Theory Marks: - NA Practical Marks: 100

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks
1	Introduction to 3D	<ul style="list-style-type: none"> • Overview of 3D modelling, texturing, and lighting • Understanding the importance and applications of 3D graphics • Comparison between 2D and 3D graphics 	<ul style="list-style-type: none"> • Overview of 3D modelling, texturing, and lighting • Understanding the importance and applications of 3D graphics • Comparison between 2D and 3D graphics 	5	3	10
2	3D User Interface	<ul style="list-style-type: none"> • Introduction to the interface of 3D software • Navigating viewports and customizing the workspace • Understanding and using essential tools and features 	<ul style="list-style-type: none"> • Introduction to the interface of 3D software • Navigating viewports and customizing the workspace • Understanding and using essential tools and features 	5	3	10
3	Select and Manipulate Objects	<ul style="list-style-type: none"> • Techniques for object selection • Transforming objects (move, rotate, scale) • Duplicating, cutting, copying, and pasting objects • Introduction to the Channel Box and Attribute Editor 	<ul style="list-style-type: none"> • Object selection techniques • Transforming objects (move, rotate, scale) • Duplicating, cutting, copying, and pasting objects • Introduction to the Channel Box and Attribute Editor 	5	3	10
4	Organize 3D Scene	<ul style="list-style-type: none"> • Managing objects in the scene using the Outliner • Creating hierarchies and groups • Working with layers and selection masks 	<ul style="list-style-type: none"> • Managing objects in the scene using the Outliner • Creating hierarchies and groups • Working with layers and selection masks 	5	3	10

5	Create Polygonal Models	<ul style="list-style-type: none"> • Modelling using polygon primitives • Selecting polygons and using soft selection • Combining and separating polygon objects • Introduction to Booleans for complex shapes 	<ul style="list-style-type: none"> • Modelling using polygon primitives • Selecting polygons and using soft selection • Combining and separating polygon objects • Introduction to Booleans for complex shapes 	20	3	6
6	Laying out UVs	<ul style="list-style-type: none"> • Understanding UV mapping and projections • Mapping UVs on different geometry types • Approaching UVs for complex geometry 	<ul style="list-style-type: none"> • Understanding UV mapping and projections • Mapping UVs on different geometry types • Approaching UVs for complex geometry 	15	3	10
7	Apply Materials and Textures	<ul style="list-style-type: none"> • Introduction to materials, shaders, and textures • Assigning materials to objects • Basic UV mapping techniques • Applying textures using UV projections and the UV editor 	<ul style="list-style-type: none"> • Introduction to materials, shaders, and textures • Assigning materials to objects • Basic UV mapping techniques • Applying textures using UV projections and the UV editor 	25	3	10
8	Lighting and Rendering	<ul style="list-style-type: none"> • Understanding different light types and their properties • Adjusting light colour, intensity, and shadows • Configuring render settings and output options • Rendering the final sequence 	<ul style="list-style-type: none"> • Understanding different light types and their properties • Adjusting light colour, intensity, and shadows • Configuring render settings and output options • Rendering the final sequence 	30	3	10
9	Refine 3D Models	<ul style="list-style-type: none"> • Advanced modelling techniques (edge loops, bevelling, symmetry) • Sculpting organic models • Refining NURBS and polygonal meshes • Using advanced modelling tools and plugins 	<ul style="list-style-type: none"> • Advanced modelling techniques (edge loops, bevelling, symmetry) • Sculpting organic models • Refining NURBS and polygonal meshes • Using advanced modelling tools and plugins • 	20	2	8
10	Advanced Texturing and Lighting	<ul style="list-style-type: none"> • Texturing organic and inorganic models • Applying advanced materials and shaders • Implementing lighting techniques for realistic effects • Exploring third-party renderers and their features 	<ul style="list-style-type: none"> • Texturing organic and inorganic models • Applying advanced materials and shaders • Implementing lighting techniques for realistic effects • Exploring third-party renderers and their features 	10	2	8
11	Review and Project	<ul style="list-style-type: none"> • Review of key concepts and techniques covered in the course • Completing a 3D modelling, texturing, and lighting project • Demonstration and presentation of the project 	<ul style="list-style-type: none"> • Review of key concepts and techniques covered in the course • Completing a 3D modelling, texturing, and lighting project • Demonstration and presentation of the project 	10	2	8

NOS / MODULE TEMPLATE

NOS/Module Name: Gain Knowledge to Animate a 3D Character and Apply FX

NOS/Module Code: MSME/VFXA/03

NOS/Module Outcome:

- Familiarize with the animation interface and its key components, including the graph editor, dope sheet, and motion path.
- Set and manipulate keys to create keyframe animations.
- Utilize animation tools such as animation controls and motion paths to create dynamic animations.
- Add secondary motion and effects to enhance the realism of animations.
- Understand principles of animation, including timing, weight, and secondary motion.
- Explore advanced animation tools like the Trax editor, graph editor, and camera sequencer.
- Master techniques for animating bouncing balls, walk cycles, run cycles, jumps, and flight sequences.
- Blend multiple animations using the Trax editor for seamless transitions.
- Create complex animation scenes, such as acrobatic fight scenes and dialogue interactions.
- Animate facial expressions, including eyes, eyebrows, and lip syncing.
- Apply animation techniques for special effects, like paper folding and time warps.
- Animate swinging characters and create dynamic and expressive movements.
- Gain insights and tips for effective animation practices and workflows.
- Set up emitters and understand the rules of working with dynamics in 3D.
- Manipulate common particle attributes, animate emitters, and control particle speed and emission.
- Change particle types, set up particle shading, and finalize particle shading effects.
- Cache simulation data for efficient playback and rendering.
- Learn the basics of nParticles and use the interface for nParticles.
- Utilize fields and forces, passive colliders, and various types of emitters.
- Emit particles from objects, curves, and surfaces.
- Work with point particles, including animation, rendering, and collision events.
- Explore ball particles and use widgets, mass and collision layers, constraints, and particle instancing.
- Work with cloud particles, adjust colour and opacity, use goals and scripting techniques.
- Create liquid water particles, simulate filling objects, and handle object interactions.
- Create an energy blast effect using nParticles, including painting emission rate maps and animating fields.
- Finalize the energy blast effect by adjusting curves, emitting particles from particles, and assembling passes.
- Set up rendering in Arnold, fine-tune render settings, and produce final renders.

Theory Hours: 30 Practical Hours: 90 OJT: 60 Practical Marks: 100 Theory Marks: NA

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks
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1	Animation Basics	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation • Working with animation editors like the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation 	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation 	5	5	10
2	Animation Tools	<ul style="list-style-type: none"> • Exploring the animation interface and keyframe animation • Utilizing animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and utilizing animation tools • Play blasting animations and enhancing them with sound 	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation 	10	5	15
3	3D Animation	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation in a 3D environment • Working with animation editors like the Graph Editor and Dope Sheet • Creating motion paths and using animation tools specific to 3D animation • Play blasting animations and incorporating sound for a complete presentation 	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation 	20	5	15
4	3D Dynamics	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation with a focus on dynamics • Working with animation editors like the Graph Editor and Dope Sheet • Creating motion paths and utilizing animation tools for dynamic simulations • Play blasting animations and enhancing them with sound 	<ul style="list-style-type: none"> • Introduction to the animation interface and keyframe animation • Working with animation editors such as the Graph Editor and Dope Sheet • Creating motion paths and using animation tools • Play blasting animations and adding sound for enhanced presentation 	30	5	15
5	nDynamics	<ul style="list-style-type: none"> • Introduction to nParticles and their interface for dynamic simulations • Working with the nParticle tool and the Nucleus node • Using fields and forces to affect particle behaviour in simulations • Utilizing passive colliders for particle interactions • Emitting particles from objects and curves • Creating nParticles caches for optimized playback 	<ul style="list-style-type: none"> • Introduction to nParticles and their interface • Working with the nParticle tool and the Nucleus node • Using fields and forces to affect particle behaviour • Utilizing passive colliders for particle interactions • Emitting particles from objects and curves • Creating nParticles caches for optimized playback 	30	4	15

6	Working with Particle Types	<ul style="list-style-type: none"> • Understanding different particle types such as point, ball, cloud, and liquid particles • Exploring render types and engines specific to different particle types • Animating particles using fields and forces • Rendering point particles with different renderers (hardware, Arnold) • Working with widgets, mass and collision layers, and constraints for ball particles • Creating meshes from particles and utilizing particle instancing • Manipulating colour, opacity, and incandescence for cloud particles • Scripting particle behaviour using goals and painting emission rates 	<ul style="list-style-type: none"> • Understanding the basics of point, ball, cloud, and liquid particles • Exploring render types and engines for different particle types • Animating particles using fields and forces • Rendering point particles with different renderers (hardware, Arnold) • Working with widgets, mass and collision layers, and constraints for ball particles • Creating meshes from particles and utilizing particle instancing • Manipulating colour, opacity, and incandescence for cloud particles • Scripting particle behaviour using goals and painting emission rates 	25	3	15
7	Creating Special Effects	<ul style="list-style-type: none"> • Creating an energy blast effect using nParticles • Analysing assets and planning the effect • Painting emission rate maps and animating fields for the energy blast • Using volume axis fields and curves for turbulence and control • Finalizing energy blast effects with secondary passes • Rendering and fine-tuning settings for the final effect 	<ul style="list-style-type: none"> • Creating an energy blast effect using nParticles • Analysing assets and planning the effect • Painting emission rate maps and animating fields for energy blast • Using volume axis fields and curves for turbulence and control • Finalizing energy blast effects with secondary passes • Rendering and fine-tuning settings for the final effect 	30	3	15

NOS / MODULE TEMPLATE

NOS/Module Name: Basic Understanding of Video Editing & Compositing

NOS/Module Code: MSME/VFXA/04

NOS/Module Outcome:

- Understand the basics of video editing, colour theory, and editing software.
- Import and organize files, use important tools and shortcuts.
- Apply effects, transitions, and create split-screen and vertical-to-horizontal conversions.
- Master green screen techniques, add titles, and manipulate audio.
- Learn colour correction, grading, and advanced effects like chroma keying and parallax.
- Apply timecode stamps, manage cache data, and prevent software crashes.
- Access free stock videos and templates for editing projects.

Theory Hours: 30 Practical Hours: 90

Theory Marks: - NA

Practical Marks: 100

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks
1	Introduction to Video Editing	<ul style="list-style-type: none"> Overview of video editing Basics of colour theory Introduction to editing software Understanding the user interface of editing software 	<ul style="list-style-type: none"> Overview Colour Theory Basics Basics of Editing Software Editing software User Interface 	5	10	20
2	Import and File Organize	<ul style="list-style-type: none"> Importing and organizing files Creating a new sequence and adding clips to the timeline Essential tools and shortcuts in editing software Working with the toolbar Adjusting and animating clip dimensions Using blend modes for creative effects Exporting screenshots Creating split-screen side-by-side video effect Converting vertical video to horizontal Applying common blur effects Fading to black Flipping videos Introduction to basic 3D effects 	<ul style="list-style-type: none"> Import and File Organize New Sequence and Add Clips to Timeline IMPORTANT Tools & Shortcuts in Editing Software Tool Bar Adjust/Animate Clip Dimensions How To Use Blend Modes Export SCREENSHOTS How to create Split Screen Side by Side Video Effect Convert Vertical video to Horizontal 3 Ways to Use a Common Blur Effect How to Fade to Black Flip Your Videos Basic 3D 	10	10	30
3	Compositing & Video Editing	<ul style="list-style-type: none"> Green screen (chroma key) technique Basic titles and templates Installing fonts into editing software Saving and using custom text animation presets Creating simple animated titles Wiping or revealing title text with video interaction Creating inverted text effects Separating audio from video Removing background noise Syncing video clips and music instantly Using auto ducking for audio adjustment Changing audio pitch Creating phone call voice effects Making audio sound distant and muffled Exporting HD video Best export settings for YouTube Keyframes animation and improving videos Adjusting volume using keyframes 	<ul style="list-style-type: none"> HOW TO Green Screen (Chromakey) Basic Titles and Templates How To Install Fonts into Editing Software How to Save and Use CUSTOM TEXT Animation Pre-sets Create Simple Animated Titles Wipe or Reveal Title Text with Video Interaction Inverted Text Effect separate audio from video Remove Background Noise INSTANTLY SYNC Video Clips and Music How To Use the Auto Ducking Audio Pitch Changer How to do Phone Call Voice Effect Make Audio Sound Distant and Muffled How to Export HD Video Best EXPORT Settings for YOUTUBE Key Frames Animation Use Key Frames to IMPROVE Your Videos Adjust Volume using Key frames Crop Opening Transition Effect 	75	10	40

		<ul style="list-style-type: none"> ● Creating crop opening transition effect ● Using default, custom, and plugin transitions ● Before and after wipe slide transition ● Flicker transition effect ● Easiest luma fade transition ● Difference between colour correction and colour grading ● Colour correction techniques ● Colour grading techniques ● Colour grading multiple clips using adjustment layers ● Inverting colours ● Creating Harry Potter's invisibility cloak effect ● Parallax universe effect ● Automatic mask tracking ● Creating a VHS VCR camcorder video look ● Cloning yourself in videos ● Freezing frames ● Fast forward effect for speeding up footage in bursts ● Reversing clip speed and adding vinyl scratch effect ● Applying echo effects ● Morph cut glitch transition effect ● Fish eye effect ● Preventing editing software crashes ● Deleting cache data in editing software ● Adding a timecode stamp or timer to footage ● Creating L-cuts and J-cuts ● Highlighting things in your video ● Utilizing free stock videos and templates 	<ul style="list-style-type: none"> ● Default Transitions ● Create Custom Transitions ● Use Plugin Transitions ● Before and After Wipe Slide Transition ● Flicker Transition Effect ● EASIEST Luma Fade Transition ● The Difference Between Colour Correction and Colour Grading ● How To Colour Correct ● How to Colour Grade ● Colour Grade MULTIPLE Clips AT ONCE Using Adjustment Layers ● How to Invert Colours ● Harry Potter's Invisibility Cloak ● Parallax Universe Effect ● Automatic Mask Tracking ● How to create a VHS VCR Camcorder Video Look ● How to Clone Yourself ● A Simple Way to FREEZE FRAME Your Video ● Fast Forward Effect (How to Speed Up Footage in Bursts) ● How to Reverse Clip Speed + Vinyl Scratch Effect ● ECHO EFFECTS ● Morph Cut Glitch Transition Effect ● FISH EYE EFFECT ● Stop Editing Software from Crashing ● How To Delete Cache Data in Editing Software ● How to add a Timecode Stamp or Timer to your footage ● How to make L-cuts and J-cuts ● Highlight Things in Your Video ● Free Stock Videos and Free Templates 			
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NOS / MODULE TEMPLATE

NOS/Module Name: Understanding to use 3D Models in VR Environment

NOS/Module Code: MSME/VFXA/05

NOS/Module Outcome:

- Compare and contrast VR with traditional media and understand its unique capabilities.
- Identify and address motion sickness concerns in VR applications.
- Implement various locomotion techniques to enhance user movement in VR environments.

- Optimize performance to meet the high demands of VR applications.
- Differentiate between geometry and normal maps and apply them effectively in VR graphics.
- Plan and design engaging VR museum experiences.
- Configure custom VR game modes and create immersive gameplay scenarios.
- Develop custom VR characters and seamlessly integrate them into VR environments.
- Utilize character possession and object attachment to enhance user interactions in VR.
- Construct gaze overlap blueprints to enhance user interaction with VR characters.
- Implement collision volumes for realistic physics and object interactions in VR.
- Establish communication between pawns and level blueprints in VR environments.
- Implement teleportation mechanics for seamless movement in VR.
- Create visual indicators and effects to enhance user experience in VR.
- Employ matinee events to control teleportation and create immersive storytelling in VR.

Theory Hours: 30 Practical Hours: 60

Theory Marks: - NA

Practical Marks: 100

Unit No	Unit Name	Unit Outcome	Content (Chapter/Topics)	PR Hours	TH Hours	PR Marks
1	Mastering Virtual Reality: From Basics to Advanced Techniques	<ul style="list-style-type: none"> ● Comparing VR with traditional media ● Addressing motion sickness in VR experiences ● Exploring locomotion techniques in VR ● Optimizing performance for VR applications ● Understanding geometry and normal maps in VR graphics ● Planning a VR museum experience ● Creating and setting up custom VR game modes ● Designing and implementing custom VR characters ● Incorporating VR characters into level design ● Utilizing character possession in VR interactions ● Attaching objects to the VR camera for enhanced immersion ● Building gaze overlap blueprints for VR characters ● Using collision volumes in VR environments ● Communicating between pawns and level blueprints in VR ● Implementing teleportation techniques for location-based movement in VR 	<ul style="list-style-type: none"> ● Setting Introduction to VR: A comparison with traditional media ● Overcoming motion sickness in VR experiences ● Exploring locomotion techniques in VR ● Optimizing performance for VR applications ● Understanding geometry and normal maps in VR graphics ● Planning a VR museum experience ● Creating and setting up custom VR game modes ● Designing and implementing custom VR characters ● Incorporating VR characters into your level design ● Utilizing character possession in VR interactions ● Attaching objects to the VR camera for enhanced immersion ● Building gaze overlap blueprints for VR characters ● Using collision volumes in VR environments ● Communicating between pawns and level blueprints in VR ● Teleportation techniques in VR: Location-based movement 	30	30	100

NOS /Module: Employability Skills

NOS /Module Code: MSME/ES/01

THEORY HOURS: 30 PRACTICAL HOURS: - THEORY MARKS: 100 PRACTICAL MARKS: -

Refer Standard Curriculum developed by NCVET. (30-hours-MC-Employability-Skills)