

## ANDHRA PRADESH

### RECRUITMENT OF ASSISTANT PROFESSORS IN THE UNIVERSITY SYLLABUS FOR THE SCREENING TEST

#### ANIMATION

#### SUBJECT CODE - 69

##### UNIT -1:

**Color Design:** Light Colour, components of color, contrast and value, tints, and shades, color tones, key of colors, in Primary and secondary colors. Elements and Principles of Design: Line, Texture, Shape, Form, Value, Space, Colour, Balance, Harmony, Contrast, Rhythm, pattern, and repetition. Intersection and overlapping of different Geometrical shapes. Creating Spaces inside the different, Geometrical shapes. Sand painting, Sand miniatures, Two dimensional, 3Dimensional sand modules.

##### UNIT -2:

**History of Animation:** shadow play, magic Lantern, Trauma trope. Zoetrope, phenakistoscope. Types of Animation: Clay animation, Traditional animation, 3D animation, Puppet/ Toy animation, material animation.

**Principles of Animation:** Squash and stretch, Anticipation, Staging, Straight-ahead action, and pose-to-pose, Follow through and overlapping action, Slow in and slow out, Arc, Secondary action, Timing, Exaggeration, Solid drawing, Appeal.

##### UNIT -3:

**Basic Computers:** Definition of Computers, Characteristics of Computer, Generations of Computer, Block Diagram of Computer, Primary and Secondary Memories, Input and Output Devices, Hardware, Software. MS Word - Word Processing Animation: Animation Transition, Working with Powerpoint objects, Designing & Presentation a Slide Show.

**Raster & Vector Graphics:** Introduction to digital image editing: Raster Image, Vector Image, Image File Formats, Interface Basic Palettes and Menus, Tool Bar - Selection Tools, painting tools, Editing, and retouching tools, Layers and Filters.

##### UNIT-4:

**Visual Effects** - Adobe After Effects Tools- Typography Animation - Masking Concept - Track Mattes: Introduction to Track Mattes, Parenting & Link and Blending Modes and Motion Path Techniques.- Chroma keying - motion tracking- motion stabilization, 3d camera tracking- time remapping.

## **UNIT-5:**

**3D Animation:** Creating NURBS Models, NURBS Curves, Revolving, lofting, and extruding –polygons- Primitive Polygons- Using various lights to illuminate scenes, daylighting, night lighting, 3-point lighting,

**Rigging,** Pipeline of rigging, Tools or rigging – Grouping, Parenting, Constraints, Connection editor, Set driven keys, MEL Scripting basics.

## **UNIT-6:**

**Digital sculpting:** Anatomical Study for Character Modelling and Planning Mesh Flows / Face Loops, Sculpting medium details and fine details, and Retopology.

**Organic & Inorganic Modelling:** pipeline, and modelling guidelines, Modelling Biped character, Blocking, Head proportions, Hands and arms, Muscle structure, Legs, and feet.

## **UNIT-7:**

**Editing:** Editing tools, Clips, shots, Scenes, and frames clipping and transition tool Video Transitions and effects: Basic techniques of building a scene. Editing video clips to music, Adding dynamic transitions, Speed-ramping footage, Using color filters and effects to enhance footage, and working with Mattes- Audio Editing.

## **UNIT-8:**

**2D or 3D Compositing:** Principles of compositing. Tools of compositing, Rotoscoping, Roto prep, Clean up, BG plate preparation, Colour correction, Match moving, 3D deep compositing, Character Animation, Enhancement of Editing.

## **UNIT-9:**

**Advanced Animation and Lighting:** Animation, Adjusting FPS and animation timeline, Animation principles in 3d animation, Implementation of 12 principles, Animating ball bounce, walk cycle and run cycle. Arnold for Maya, Arnold Basics, Using a Linear Workflow, Lighting Basics, Using Specialized Lights, Using Arnold Materials, Texturing, Rendering Effects

**Texturing and Rendering:** batch rendering- UVLayouts & Texturing.

## **Unit-10:**

**Advanced Character modelling:** designs and human anatomy in the development of male and female character models. work with the available tools to add realism to these designs. Developing low poly models that are well-built and dynamic. Pre-designed characters and real-life reference material to ensure that the models are proportionate and have proper anatomy. Character design for animation- design, and production of characters for the animation and video game industry.

## **Unit-11:**

**Dynamics& Fluids:**Particles taking the form of dots, streaks, spheres, blobby surfaces and more. geometry of particles-create diverse effects, including clouds, fog, explosions, fire, and thick smoke- effects such as fur, cloth, and clothing designs can also be incorporated. Advanced visual effects tools offer a wide array of functions, including stereoscopy, which enhances the perception of depth in animations.