BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – M.Sc.(AM)-2021/M.Sc.(AM)-2022/M.Sc.(AM)-2023
Course Name – Advanced Animation and CG Production-3d/Advanced Animation and CG Production - 3d
Course Code - MMM402A-II/MMM402AII
(Semester IV)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question)   1 x 15=15
1. *Choose the correct alternative from the following :*

(i) Choose the correct tools to modify any kind of deformation without editing the components of geometry.

   a) Smooth Bind.   b) Jiggle Deformer.
   c) Lattice   d) Sculpt Geometry Tool.

(ii) Choose the correct function of the hotkey F4 in Autodesk Maya.

   a) toggles the Modeling menu set   b) toggles the Lighting menu set
   c) toggles the Animation menu set   d) toggles the Rigging menu set

(iii) Select the guideline that shows the actual view seen in the rendered image.

   a) The perspective view.   b) The render gate.
   c) The view gate.   d) The resolution gate.

(iv) Identify the following that describes the relationship between joints In a skeletal hierarchy.

   a) Sibling-sibling   b) Cousin-cousin
   c) Roots - nodes   d) Parent-child

(v) Apply the concept of skinning in rigging.

   a) Skin textures to characters for realism   b) Creating joints and controls for animation
   c) Binding a character's mesh to its skeleton d) Adjusting body weight

(vi) Recognize the purpose of using motion trails in animation.

   a) To simulate particle effects   b) To visualize the trajectory of animated objects
   c) To generate procedural animations   d) To create realistic fur on characters

(vii) Identify the key factor in creating appealing poses in animation.

   a) Using complex lighting techniques   b) Adding intricate textures to character models

c) Understanding anatomy and posing characters convincingly

d) Incorporating advanced rendering effects

(viii) Select the tool used to evenly distribute skin weights across symmetrical joints.

a) Mirror Skin Weights

b) Transfer Attributes

c) Blend Shape Deformer

d) Graph Editor

(ix) Predict what happens when an expression modifies an attribute in Maya.

a) The attribute changes dynamically based on the expression

b) The object follows a motion path

c) A keyframe is automatically added

d) The rigging hierarchy is reset

(x) Identify the tool that allows real-time calculation of animation without keyframes.

a) Blendshapes

b) Set Driven Key

c) Expression Editor

d) Graph Editor

(xi) Indicate the feature for controlling complex shape transitions in facial animation in Autodesk Maya.

a) IK Handles

b) Animation Layers

c) Blendshapes

d) Pose Editor

(xii) Identify the key advantage of using Blendshapes over traditional rigging for facial animation.

a) Requires no keyframes

b) Allows precise control of subtle expressions

c) Works only with polygon objects

d) Requires a separate rigging hierarchy

(xiii) Identify the type of data that Blend Shapes modify.

a) Vertex Positions

b) Texture Maps

c) Render Layers

d) Light Intensity

(xiv) Select the correct tool to create a procedural animation in Maya.

a) MASH

b) Boolean

c) Camera Tracker

d) Bevel Tool

(xv) Predict the result of applying multiple Blend Shapes to a single character.

a) More expressive facial animations

b) Faster rendering

c) Reduced polygon count

d) Improved texture resolution

Group-B
(Short Answer Type Questions)

3 x 5=15

2. State the importance of keyframes in Maya animation. (3)
3. Examine the process of creating blend shapes for facial rig animation in Maya. (3)
4. Define nCloth and its advantages over traditional Cloth FX. (3)
5. Explain the concept of the Connection Editor in Maya. (3)
6. Illustrate how to use a Parent Constraint for rigging a mechanical arm. (3)

OR

Illustrate how to animate a flag using Cloth FX in Maya. (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

7. Define a rigging hierarchy and its importance in animation. (5)
8. Illustrate how to create a simple rigging setup in Maya. (5)
9. Explain the process of creating an IK handle for leg movement in Maya. (5)
10. Illustrate how to set up a Facial Rig using Blend Shapes in Maya. (5)
11. Illustrate how Timing and Spacing affects 3D animation. (5)
12. Describe the difference between FK (Forward Kinematics) and IK (Inverse Kinematics) in animation. (5)

OR

Describe how constraints enhance rigging efficiency. (5)