BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(AM)-Hons-2020/B.Sc.(AM)-Hons-2021/B.Sc.(AM)-Hons-2022
Course Name – 3D Animation I
Course Code - BMMC501
(Semester V)

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) Identify what was used to create the pupil for the eye texture.
a) A scan of an eye b) A pupil texture
c) A black circle d) A ramp

(ii) Locate the tool in Maya used primarily for creating depth in a flat plane.
a) Move Tool b) Extrude Tool
c) Rotate Tool d) Scale Tool

(iii) Choose the correct approach when planning to create a low-poly model in Maya that will still appear detailed.
a) Use high-resolution textures b) Increase the polygon count
c) Focus on silhouette and blocking d) Add more edge loops

(iv) Choose the correct action when you want to create a sharp crease along an edge in Maya.
a) Subdivide the edge b) Delete the edge
c) Add supporting edge loops d) Apply a bevel

(v) Select the operation used to convert multiple faces into a single face in Maya.
a) Bridge b) Combine
c) Merge d) Collapse

(vi) Choose the best method for adding detail to a flat surface in Maya.
a) Adding vertices b) Adding edges
c) Extruding faces d) Smoothing

(vii) Choose the shortcut key for snapping to the grid in Maya.
a) G b) X
c) V d) C

(viii) Identify the tool that used to smooth out the entire model by increasing the polygon count.

a) Smooth Tool
b) Sculpt Tool
c) Soft Select
d) Mirror Geometry Tool

(ix) Select the key that toggles between wireframe and shaded mode in the viewport.

a) 3
b) 4
c) 5
d) 6

(x) Locate the feature in the UV Editor for aligning UVs along the X axis.

a) UV Alignment Tool
b) Align UVs
c) UV Snap Tool
d) Snap to Grid

(xi) Choose the Mesh tool in Maya that is used to reduce the polygon count of a mesh while preserving its overall shape.

a) Mesh > Smooth
b) Mesh > Reduce
c) Mesh > Cleanup
d) Mesh > Combine

(xii) Identify the option that enables softening the edges of a mesh to create a smooth appearance.

a) Mesh Display > Harden Edge
b) Mesh Display > Unlock Normals
c) Mesh Display > Soften Edge
d) Mesh > Cleanup

(xiii) Select the material property that controls the transparency of a surface.

a) Opacity
b) Reflectivity
c) Glossiness
d) Specular

(xiv) Choose the Arnold shader setting used to simulate the effect of light scattering beneath the surface of a material.

a) Subsurface Scattering
b) Translucency
c) Transmission
d) Refraction

(xv) Locate the map type that controls the level of light transmission through a material, affecting its transparency.

a) Opacity Map
b) Reflection Map
c) Bump Map
d) Emission Map

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Write Pro's & Con's of working with smooth polygons. (3)
3. Discuss if a polygonal models be used in real-time applications, such as video games. (3)
4. Define the use of Channel Box used in Maya. (3)
5. Describer the UV coordinates in 3D model and why are they essential. (3)
6. Explain the Bridge command in Polygon modeling. (3)

OR

Illustrate the difference between edge loops and edge rings in Maya. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Describe the process of lighting and shading in 3D rendering. How different types of lights and materials affect the perception of depth and realism in a scene. (5)
8. Describe the process of UV unwrapping in polygonal modeling and its significance for texturing. (5)

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9. Explain the different types of lights available in Autodesk Maya, and how do they differ in terms of lighting effects. (5)
10. Explain the process to create simple sword in maya. (5)
11. Describe the relationship between specular maps and the shininess of materials in 3D graphics. (5)
12. Describe the steps involved in the 3D workflow in Maya, from concept to final render. (5)

OR

Describe the differences between NURBS and polygonal modeling in Maya and the scenarios where each technique is preferable. (5)

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