

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E02811

Course Code : 24UEVC41

UG Degree - End Semester Examinations, April 2026

Fourth Semester

B.Sc., VISUAL COMMUNICATION

3D Forms and Modelling

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. The primary difference between 2D and 3D design is
K:1 (a) Colour usage (b) Presence of depth
(c) File format (d) Resolution
- CO:1 2. The X, Y and Z directions in 3D space are referred to as
K:2 (a) Grids (b) Pivots
(c) Coordinates (d) Polygons
- CO:3 3. Polygon modelling primarily deals with
K:1 (a) Curves (b) Vertices, edges and faces
(c) Textures (d) Lighting
- CO:3 4. Boolean operations in 3D modelling are mainly used to
K:2 (a) Apply textures (b) Join or subtract objects
(c) Render scenes (d) Animate models
- CO:2 5. NURBS stands for
K:1 (a) Non-Uniform Rational B-Splines (b) Non-Universal Render Blocks
(c) Network Utility Render System (d) Numerical Uniform Rendering Base
- CO:2 6. Splines in 3D modelling are mainly used to
K:2 (a) Create lighting effects (b) Draw curves and paths
(c) Apply materials (d) Render frames

- CO:4 7. Bump maps are used to create
K:1 (a) Real lighting (b) Surface texture illusion
(c) Transparency (d) Reflection
- CO:4 8. UV mapping is related to
K:2 (a) Lighting setup (b) Texture placement
(c) Polygon reduction (d) Rendering speed
- CO:5 9. Rendering in 3D graphics refers to
K:1 (a) Modelling objects (b) Applying materials
(c) Generating final output image (d) Editing meshes
- CO:5 10. Eevee and Cycles are examples of
K:2 (a) Modelling tools (b) Lighting systems
(c) Render engines (d) Animation rigs

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:1 11. (a) Explain the basic concepts of 3D design and coordinate
K:3 systems.

(OR)

- (b) Compare open-source and commercial 3D modelling applications.

- CO:3 12. (a) Discuss the concepts and challenges involved in polygon
K:4 modelling.

(OR)

- (b) Analyse the role of Boolean operations and mesh editing.

- CO:2 13. (a) Explain NURBS curves and their applications in 3D
K:3 modelling.

(OR)

- (b) Describe spline tools used for creating 3D surfaces.

- CO:4 14. (a) Examine the importance of texturing and materials in 3D
K:4 models.

(OR)

- (b) Analyse the role of shaders and UV mapping.

CO:5 15. (a) Explain the basic types of lighting used in 3D rendering.

K:3

(OR)

(b) Describe the rendering setup and frame rendering options.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 500 words.

CO:1 16. (a) Analyse the workflow involved in creating a basic 3D model
K:4 from concept to output.

(OR)

(b) Examine the evolution of 3D design tools and interfaces.

CO:3 17. (a) Evaluate polygon modelling techniques used in
K:5 contemporary 3D applications.

(OR)

(b) Assess the advantages and limitations of Boolean operations.

CO:2 18. (a) Apply NURBS and spline techniques to design a complex 3D
K:6 object.

(OR)

(b) Create a step-by-step workflow for generating 3D text.

CO:4 19. (a) Examine how textures, materials and shaders enhance
K:5 realism in 3D models.

(OR)

(b) Assess the impact of UV mapping on final visual output.

CO:5 20. (a) Design a basic lighting and rendering setup for a 3D scene.

K:6

(OR)

(b) Evaluate different rendering engines used in modern 3D software.