

Dr. Babasaheb Ambedkar Open University
Term End Examination February – 2026

Course	: BCADES	Date	: 14-02-2026
Subject Code	: BCADES-304 (Graphics)	Time	: 11:30am to 01:45pm
Subject Name	: 3D Graphics-2	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Explain the concept of light in 3Ds Max, including reflection, refraction, diffuse and specular components.
2. Write a detailed note on Fog and Volume Fog effects, highlighting their differences and uses.
3. Write a detailed note on Wire Parameters and Curve Editor.
4. Explain rigging techniques used for character animation.
5. Explain the concept of particles and stages of particle life cycle.

Section B

Answer the following (Attempt any four) (20)

1. Explain Omni, Spot, Direct and Skylight with their applications.
2. Explain the Effects panel in 3Ds Max.
3. Explain the concept of cameras in 3Ds Max and their importance in rendering.
4. Explain Depth of Field in cameras.
5. Explain Star Field and Highlight effects with suitable examples.
6. Differentiate between Forward Kinematics (FK) and Inverse Kinematics (IK).

Section C

Part – A (Multiple Choice Questions) (10)

- Which type of light illuminates objects uniformly in all directions?
A Spot Light
B Omni Light
C Direct Light
D Skylight
- Which reactor utility is used to reduce polygon complexity?
A Asset Browser
B Motion Capture
C Polygon Counter
D Level of Detail
- Which type of body does not change shape during simulation?
A Soft Body
B Cloth Body
C Rigid Body
D Rope Body
- Which space warp applies downward force like gravity?
A Gravity
B Wind
C Push
D Vortex
- Which particle system is commonly used for rain and snow effects?
A P-Cloud
B Spray
C Snow
D Meta Particles

- 6 Reaction Manager is mainly used to:
 - A Apply textures
 - B Control animations using states
 - C Create particles
 - D Edit materials
- 7 Which modifier is used to bind mesh vertices to bones?
 - A Skin Wrap
 - B Morph
 - C X-Form
 - D Skin
- 8 Which solver is mainly used for character limbs?
 - A HI Solver
 - B HD Solver
 - C Spline IK Solver
 - D IK Limb Solver
- 9 Forward Kinematics (FK) controls movement from:
 - A End joint to root
 - B Root to end joint
 - C Camera to object
 - D Object to camera
- 10 Which helper is used to measure distance in a scene?
 - A Point Helper
 - B Compass Helper
 - C Tape Helper
 - D Grid Helper

Part – B (Do as Directed)

(10)

State whether the following statements are true or false

- 1 Refraction occurs when light passes through a transparent object and changes its direction.
- 2 The Fog effect in 3ds Max has a uniform density throughout the entire 3D space.
- 3 Dolly camera movement changes only the focal length of the camera.
- 4 Image Alpha is used to define transparency information in Video Post.
- 5 Soft bodies can deform when forces are applied during reactor simulation.
- 6 Particle life defines how long a particle exists in the scene.
- 7 Bone Tools are used only for texturing characters.
- 8 The Melt modifier causes an object to stretch upward automatically.
- 9 The Motion Panel is used only for modeling objects in 3ds Max.
- 10 Negative effect converts light areas into darker regions and vice versa.
