UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: 3D Complexity Techniques for Graphics Modeling, Simulation & Animation
Semester: VI
Program: B.Tech GG　　　　　　　　　　　　　　　　　**Time   : 03 hrs.**
Course Code: CSGG3007　　　　　　　　　　　　　　　**Max. Marks: 100**

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Name any 4 animation production stages.	4	CO1
Q 2	Which modifier in blender can be used to apply physics on a blender object.	4	CO2
Q 3	Consider the animation of a character kicking a football? Which mechanism between forward and inverse kinematics would be better for such an animation.	4	CO4
Q 4	What are the advantages of using keyframe mechanism over frame by frame mechanism to produce animation clip.	4	CO2
Q 5	Consider an animation with a framerate of 30 frames per second and a object moving with the velocity of (0,100,0) per second from the position vector of (0,0,0). Compute the cube's position vector on frame number 50.	4	CO3

SECTION B
(4Qx10M= 40 Marks)

Q 6	Describe the advantages or disadvantages of using the vector graphics over the raster graphics.	10	CO4
Q 7	What are some main reasons for performing a storyboard designing phase before the animation generation?	10	CO3
Q 8	Explain Bezier curve generation procedure with an example? **OR** Given 3 control points P1(0,0) P2(50,50), P3 (0,100) compute the point on the Bezier curve at t = 0.5.	10	CO3
Q 9	Describe how *composition from primitive shapes* can be used to generate complex graphics objects. Use this method to generate a *Hat* Object.	10	CO4

	SECTION-C		
	(2Qx20M=40 Marks)		
Q 11	Describe the significance of principles of animation in conventional film making. Also explain the drawbacks of each principle separately with examples. **OR** Compare and contrast computer animation production and conventional film making stages. Also mention why some stages of computer animation production can be ignored in conventional film making.	20	CO2
Q 12	Explain applications of animation in 4 different industries. Recommend the utilization of animation in the fields, where it has not been conventionally. Also state its advantages over traditional methods in identified applications.	20	CO1