


Name:			
Enrolment No:			
UPES End Semester Examination, May 2024			
Course: Web Programming for Graphics and Gaming(HTML5&WebGL) Semester : VI Program: BTech CSE in GG Time : 03 hrs. Course Code: CSGG3012 Max. Marks: 100			
Instructions: Code specification has to be used according to WebGL2.0			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q1	What type of object in THREE JS represents a point light source?	4	CO1
Q2	How are materials defined in THREE JS?	4	CO2
Q3	What is the name of the parameter that controls the field of view in a perspective camera in THREE JS?	4	CO2
Q4	Explain in short the relationship between the field of view (FOV) and the aspect ratio in defining the shape of a viewing frustum?	4	CO1
Q5	Write in short the role of web server for the texture?	4	CO2
SECTION B (4Qx10M= 40 Marks)			
Q6	Describe the difference between a point light and a directional light in THREE JS?	10	CO3
Q7	Write the code snippet to create a red point light positioned at (1, 2, 3) in the scene?	10	CO3
Q8	Write the HTML code to add two input fields and a 'submit' button. Also write the JS code to fetch the value from the two fields once the user presses the button.	10	CO4
Q9	Describe the steps involved in integrating a basic physics engine like Cannon.js into your THREE JS scene with example code? OR Compare and contrast the advantages and disadvantages of using a physics engine for simulating rigid body dynamics versus manually animating object movements in THREE JS?	10	CO2

SECTION-C
(2Qx20M=40 Marks)

Q10	Design and Implement the WebGL program to display a 3D cuboid and allow the user to control the rotation speed of the cuboid using keyboard input? <p style="text-align: center;">OR</p> Why 3D programming is preferred in comparison to 2D programming? What are the benefits of WebGL based programming in comparison to Unity?	20	CO4
Q11	Explain the steps involved in creating a skybox using THREE JS with separate images for each face. Break down the process into logical steps, including: <ul style="list-style-type: none">• Choosing the appropriate geometry for the skybox.• Loading individual images for each side of the skybox.• Creating materials for each image and assigning them to the corresponding faces of the geometry.• Ensuring the skybox renders correctly within the scene.	20	CO3