

Name:

Roll:

1. In Diffuse Reflection given the value of $I_p=10$. $K_d=0.5$ and angle between the \vec{L} and \vec{n} vector is 120 degree. Find out the value of Diffuse Reflection (D). (4)

2. In Specular Reflection 2 vectors \vec{V} and \vec{R} is given.

$$\vec{V} = 2\hat{i} + 3\hat{j} + 5\hat{k} \text{ and } \vec{R} = \hat{i} + 2\hat{j} + \hat{k}.$$

Find out the value of $\cos(\alpha)$. [Here α means the angle between the vector \vec{V} and \vec{R}] (7)

3. Write the Orthographic Projection Matrix if we project the (x,y,z) point on ZX plane where $y=-5$. [No Derivation required just write the matrix of 4×4 shape] (3)

4. Suppose a Oblique Projection on xy plane where $z=0$. Given, $\Phi=30$ degree and $\alpha=60$ degree. Input point is A (3, 5, 7) Find out the new co-ordinate of point A after projection. [Use Oblique Projection matrix to solve the math] (6)