

## CSE 423: Computer Graphics Quiz - 3

Duration: 25 minutes [No Extra page]

Full Marks: 20

Name:	ID:	Section: 02

CO1	1.	In a CMY color model given C=0.4 , M=0.8, Y=0.6. Find out the Hue, Saturation and Lightness in HSL model	10
CO1	2.	In a perspective projection The center of projection is at (15,-30.25,0) and the Projection Plane is at (0,0,-320). Find the projected output point for input point (35,10,-400).	10
CO1	3.	•	

$$C = 0.9$$

$$M = 0.8$$

$$Y = 0.6$$

$$L = \frac{M_{\text{ex}} + min}{2} = \frac{0.6 + 0.2}{2}$$

$$R = 0.6$$

$$M = 0.2$$

$$M = 0.2$$

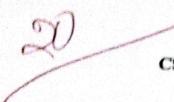
$$M = 0.4$$

$$M = 0.2$$

$$M = 0.4$$

Hue max P

$$50 H = \frac{(x - b)}{1} \times 60^{\circ}$$
 $= \frac{0.2 - 0.9}{0.4} \times 60^{\circ}$ 
 $= -30^{\circ} + 30^{\circ}$ 
 $= 30^{\circ} + 30^{\circ}$ 
 $= 30^{\circ} + 30^{\circ}$ 
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## CSE 423: Computer Graphics Quiz - 2

Duration: 20 minutes [No Extra page]

Full Marks: 20

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CO1	1.	What is the benefit of a homogeneous coordinate system over a cartesian coordinate System? Give an example.	65
CO1	2.	Find out the reflection of point (5,6) with respect to line $\sqrt{3}x-3y+3=0$	15
CO1	3.		T

contesion

$$\frac{1}{2} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \times \begin{bmatrix} 1 & 0 \\ 1 & 1 \end{bmatrix} \times \begin{bmatrix}$$

benefitz

- 1) In cortesian system, we had to add an additional (tx.t.) which is noticed in homogenous system.
- 1 Homogeneous system is more efficient than enterior so

perfection of point (5,6) with respect to line 13x-37+3=0

$$= 7 \qquad 53 = 37 + 3 = 0$$

$$\sqrt{3} = 37$$

Reflection along n axis

$$\begin{bmatrix}
x' \\
y'
\end{bmatrix} = \begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 1
\end{bmatrix} * \begin{bmatrix}
\cos 30' - \sin 30' & 0
\end{bmatrix} * \begin{bmatrix}
1 & 0 & 0 \\
0 & -1 & 0
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0 & 0 & 1
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