

11 Q.2 11

3D - Transformation:

i) In a three dimensional homogeneous coordinate representation, a point is translated from position $P(x, y, z)$ to position $P'(x', y', z')$ with matrix operation.

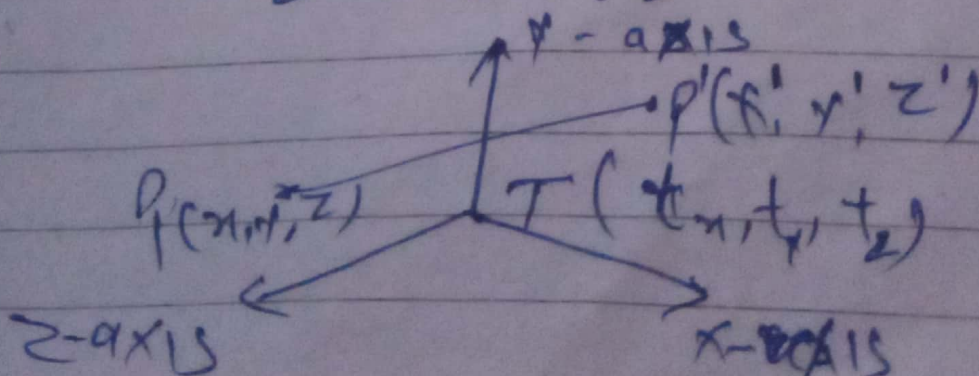
$$\begin{bmatrix} x' \\ y' \\ z' \\ 1 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & t_x \\ 0 & 1 & 0 & t_y \\ 0 & 0 & 1 & t_z \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \\ 1 \end{bmatrix}$$

$$P' = T \cdot P$$

$$x' = x + t_x$$

$$y' = y + t_y$$

$$z' = z + t_z$$



different b/w CMY and HSV color models.

CMY: The CMY color model is a subtractive color model that predicts the appearance of cyan magenta and yellow dyes or pigments organized as thin overlaid layers to reproduce a broad range of colors.

HSV is a color model that is often used in place of the RGB color model in graphics and paint programs.

(11) In using the color model, a color is specified then white or black is added to easily make color adjustments. HSV may also be called (short for hue, saturation and brightness).