**Tutorial – 8**

**Computer Graphics**

1. Given a rectangular parallelopiped which is unit distance on Z-axis, 2-distance on X-axis and 3-distance on Y-axis. What is the effect of scaling when scaling factor Sx = ½, Sy = 1/3 and Sz = 1?

2. A rectangular parallelopiped is given having length on X-axis, Y-axis and Z-axis as 3, 2 and 1 respectively. Perform a rotation by an angle -90° about X-axis and an angle 90° about Y-axis.

3. For the given matrix,

First apply a rotation of 45° about the Y-axis followed by a rotation of 45°  about X-axis.

4. Perform reflection of unit cube about the XY plane.

5. Transform the given position vector [ 3 2 1 1 ] by the following sequence of operations,

* Translate by [-1 -1 -1] in [x y z] respectively.
* Rotate by 30° about X-axis and 45° about Y-axis.

6. Define tilting transformation. Does the order of performing the rotation matter?