MAC 3313 Cal3   **Quiz 4u**   6 Mar 1996   **Name:**

Show **ALL** work for credit; be neat; and use only **ONE** side of each page of paper.

1. Let P be the point $(3, -2, 4)$. Find the equation of the tangent plane at P to the level surface of $F(x, y, z) = xz + yz + xy$ that passes through P.

2. Find s and t so that the distance between $\mathbf{X}(t) = \langle 1, 0, 0 \rangle + t \langle 1, 1, 1 \rangle$ and $\mathbf{Y}(s) = \langle 0, 0, 1 \rangle + s \langle 3, 2, 1 \rangle$ is as small as possible.