NAME: S.No.   ID:

Maximum Marks: 15   Section:07   Time Allowed: 40 minutes

(1) Show that the lines $x = y = z$ and $x + 1 = \frac{y}{2} = \frac{z}{3}$ are skew lines.

(2) Find an equation for the plane consisting of all points that are equidistant from the points $(1, 1, 0)$ and $(0, 1, 1)$.

(3) Identify and sketch the surfaces $x^2 + 2z^2 - 6x - y + 10 = 0$. Also, find the traces in the plane $y = k$ and $xy - plane$.

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