

Math-201 Semester-121 QUIZ III

NAME:

S.No.

ID:

Maximum Marks: 15

Section:18

Time Allowed: 40 minutes

(1) Find an equation of the plane that passes through the points  $P(1, 3, 2)$ ,  $Q(3, -1, 6)$ ,  $R(5, 2, 0)$ .

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

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