Department of Mathematics and Statistics, KFUPM
Math-333 Semester-181 QUIZ II

NAME: S.No. ID:

Maximum Marks: 10 Section:03 Time Allowed: 40 minutes

(1) Verify the Stokes' theorem, where $\mathbf{F}(\mathbf{x}, \mathbf{y}, \mathbf{z}) = < y, y-x, z^2 >$ and S is the sphere $x^2 + y^2 + z^2 = 25,\ z \geq 0$.

(2) Verify the divergence theorem, where $\mathbf{F} =< -y, x, 6z^2 >$ and D is the region bounded by the paraboloids $z = 4 - x^2 - y^2$ and $z = x^2 + y^2$.