King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math-201 Semester-112 QUIZ V

NAME: S.No. ID:

Maximum Marks: 10 Section:04 Time Allowed: 40 minutes

(1) Use Lagrange multipliers to find maximum and minimum value of the function $f(x, y, z) = x^2 + y^2 + z^2$ on $x^4 + y^4 + z^4 = 1$.

(2)If $R = [0, 3] \times [0, 2]$, use a Riemann sum with $m = 3, n = 2$ to estimate the value $\int\int_R (y^2 - 2x^2)dA$. Take the sample points to the upper left corners of the square.