

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics  
Math-201 Semester-121 QUIZ V

NAME:

S.No.

ID:

Maximum Marks: 10

Section:07

Time Allowed: 30 minutes

(1) Find the local maximum and minimum values and saddle point(s) of the function

$$f(x, y) = (1 + xy)(x + y)$$

(2) Use Lagrange multiplier to find maximum and minimum value of the function

$$f(x, y) = 2x + 6y + 10z \text{ subject to constraint } x^2 + y^2 + z^2 = 35.$$