

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics  
Math-201 Semester-093 QUIZ III

NAME:

S.No.

ID:

Maximum Marks: 15

Section:04

Time Allowed: 25 minutes

(i) Find the traces of the surface  $25y^2 + z^2 = 100 + 4x^2$  in the planes  $x = k$ ,  $y = k$  and  $z = k$ . Then identify the surface and sketch it.

(ii) Let  $f(x, y) = \ln(9 - x^2 - 9y^2)$ .

(a) Find and sketch the domain.

(b) Find the range of  $f$ .