

Math-202 Semester-112 QUIZ I

NAME:

S.No.

ID:

Maximum Marks: 10

Section:07

Time Allowed: 30 minutes

(1) Verify that  $y = 2 + c e^{-2x^2}$  is one parameter family of solutions of the differential equation  $y' + 4xy = 8x$ . (2points)

(2) Find values of  $m$  so that the function  $y = x^m$  is solution of differential equation  $x^3 y''' + 5x^2 y'' + 7x y' + 8y = 0$ . (4points)

(3) Determine a region in which differential equation  $y' = \sqrt{\frac{y^2-9}{x-3}}$  has a unique solution through the point  $(x_0, y_0)$ . (4points)