

Department of Mathematics and Statistics  
King Fahd University of Petroleum and Minerals  
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Math 101-091

Quiz # : III

Name : = ----- ID# -----

Sec #: -----

Q. Let  $C: y = f(x) = x^4 - 4x^3 + 1$  be a given curve

1. Discuss concavity of the graph
2. Discuss the intervals where the function may be increasing or decreasing
3. discuss the local extrema of the function
4. Plot the graph of the curve.

Q. 2

Solve the differential equation

$$y^{(2)} = e^x + (3x + 4)^{-1/2}$$

where  $y(0) = 2$  and  $y^{(1)}(0) = 5$