

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 301 Major Quiz 2

Name : ID #..... Serial #:

Question 1:[2+3 points] Find

a) $\mathcal{L} \{e^{-3t} \cos t \sin t\}$

b) $\mathcal{L}^{-1} \left\{ \frac{1}{s^4} + \frac{s+6}{(s-1)^2-4} \right\}$

Question 2:[5 points] Use Laplace transform to solve the initial value problem:

$$y' + 6y = e^{4t}, \quad y(0) = 0.$$