King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math-302   Semester-162   QUIZ IV

NAME: S.No.   ID:

Maximum Marks: 10   Section:02   Time Allowed: 30 minutes

(1) Let $\widehat{E} = x^2 y \, \widehat{a}_x \; - \; y \, \widehat{a}_y$.

(a) Evaluate $\nabla \times \widehat{E}$.

(b) Find $\oint_L \widehat{E}.\widehat{dl}$, where L is shown in figure.

(c) Find $\oint_S (\nabla \times \widehat{E}).\widehat{dS}$, where S is the area bounded by L.

(d) Is Stoke's theorem verified?

Figure