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**Assignment**

Semester: Fall 2017

Course ID: MAT 216 (Section: 06)

Course Title: Linear Algebra and Fourier Analysis

**Answer all the questions:**

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| Q1. | Evaluate the iterated integral  by converting to polar coordinates. | [5] |
| Q2. | Evaluate by applying transformation where and and integrating over an appropriate region in -plane. | [5] |
| Q3. | Find the volume of the solid that is bounded by the cylinder and by the planes and . | [5] |
| Q4. | Use Green’s theorem to evaluate the integral  ,  Where C is the square with vertices and . | [5] |
| Q5. | Let represents a force field. Determine if is independent of path. If it is, then find a potential function . | [5] |