

EE 641000

Homework Assignment #5

Spring Semester, 2006
Due Date: May 11, 2006

Please do the following Exercises in the Textbook.

1. Exercise 4.8.
2. Exercise 4.10.
3. Exercise 4.15.
4. Please show that $x \in Z_N$ has an inverse x^{-1} if and only if $(x, N) = 1$.
5. Let x, N be relatively prime positive integers with $x < N$. Please show that the order $o_N(x)$ of x modulo N is a divisor of the Euler function $\varphi(N)$ of N .
6. Exercise 5.2.
7. Exercise 5.4.
8. Exercise 5.5.
9. Exercise 5.6.
10. Exercise 5.9.