

Midterm : September 17th, 2009

Syllabus: Everything covered till Thursday September 3rd, 2009

1. Exam Instructions:

- (a) The Exam will be closed book, no notes.
- (b) A simple calculator will be allowed.
- (c) Please show your work in the exam, write in complete sentences, and Indicate your answers clearly.

2. Preparing for the Midterm:

- (a) You should know *at the very least* the definition/meaning/ of any of the following terms:
 - i. Sample Space.
 - ii. Events.
 - iii. Mutually exclusive events.
 - iv. Probability.
 - v. Independent Events.
 - vi. Conditional probability and Bayes Theorem.
 - vii. Axioms of probability
 - viii. Discrete Random variable.
 - ix. Probability Mass function, Distribution Function.
 - x. Bernoulli/Binomial/Poisson/Geometric/Hypergeometric/ distributions.
 - xi. Joint Distribution, Marginal Distributions and conditional distributions.
 - xii. Normal and Poisson Approximation.
 - xiii. Sampling with and without replacement
- (b) **Be able to do:**
 - i. understand the relationships between the Discrete Random variables and the experiments.
 - ii. all the examples, worksheet problems, and homework problems. (Try as many problems as you can from the texts.)
 - iii. application of Normal and Poisson approximation.
 - iv. find distribution of random variables and their functions.