MGF 1107 STUDY GUIDE FOR THE FINAL

1.) A question about various voting procedures. (Reference: Problems 9, 11, 13 on page 365).

2.) You should be able to explain in your own words the following concepts: Condorcet Winner Criterion, Independence of Irrelevant Alternatives, Pareto Condition, Monotonicity.

3.) Given a geometric object, (i) determine the types of symmetry that the object has; (ii) specify the symmetry group of the object. (Reference: Section 19.2, handout on symmetry, and handout on symmetry groups.)

4.) A question about angles. (Reference: Handout on angles and the corresponding homework.)

5.) A question about Pythagorean Theorem. (Reference: Handout on Pythagorean Theorem, and questions 1–6 from the Pythagorean Theorem homework.)

6.) A counting problem. (Reference: See Test 1.)

7.) (i) Carefully state Euler’s Theorem.
(ii) Using Euler’s theorem, determine if a given graph has an Euler circuit. Find one Euler circuit starting at a specified vertex. (Reference: See Test 1.)

8.) Use Vigenère Cipher (the keyword will be specified in the test) to encode a given message. (Reference: study carefully the Vigenère Cipher Example on pages 636 and 637 and the corresponding question on Test 2. You must know how Vigenère Cipher works; the algorithm will not be described in the test.)

9.) Florida Driver’s License Problem. You must know the algorithm (it will not be described in the test.) (Reference: See Test 2.)