Each of the questions on the following pages is worth 20 points. Answer any 5 questions. Please mark below which questions you want graded. Use only the space provided. Do not attach additional sheets or use the back of the exam.

Questions to grade (circle the appropriate number): 1 2 3 4 5 6 7  (If you leave this blank, questions 1-5 will be graded.)
1. Many studies show that Requirements Engineering is often a root cause of software failures. However, requirements engineering is not complex. What are the major causes of the RE problems and how can they be fixed? (20 points)
2. Examine the following requirements. If there are problems with the requirement, identify the problems and describe how the problems should be corrected. Analyze each requirement independently not as a group. (20 points)
   A. The system shall provide an easy-to-understand user interface.

   B. When the pressure exceeds 115, the system shall alert the pilot.

   C. All software shall be implemented using a CMM Level 3 process.

   D. During emergency conditions, the system shall suspend all non-critical functions.

   E. The system shall always be available.
3. What is mean by the phrase “non-functional requirement”? Identify 3 categories of non-functional requirement and provide example requirements statements for each. (20 points)
4. Structured analysis and Object Oriented analysis are the two most common structured methods used to analyze requirements. Provide a brief description of each and describe the strengths/weaknesses of each. (20 points)
4. What is a requirements baseline? What is the purpose of placing requirements under configuration control? Describe a typical requirements configuration control procedure, i.e., what are the steps in modifying a set of requirements that are under configuration management? (20 points)
5. Elicitation is the most error prone phase of requirements engineering. Why is this phase so error prone? What can be done to make it less error prone? (20 points)
6. Describe the characteristics of a good requirements document. (20 points)