ESSAY QUESTIONS FOR TEST 1, January 26th, 2010

The first part of the exam will consist of 40 multiple choice questions, ½ point each (I provide a ‘bubble’ sheet, YOU provide a pencil). The second part of the exam is essay, two questions, 5 pts each. The essay questions are taken directly from the Learning Objectives given for each lecture, however I have limited it to just one per lecture as possibly being included in the test. For learning objectives not listed here or not used in the essay section, those concepts will appear instead in the multiple choice section of the test. It is wise to know all the learning objectives and study questions, but PARTICULARLY wise to know the six listed below since they make 1/3 of the test.

You will be given TWO OF THESE to answer for the essay section. It would be good to know them all since you do not know which ones you will be asked to answer.

1. Compare and contrast the goals and methods of Astrobiology and SETI (Search for Extra Terrestrial Intelligence)
2. Explain the difference between a scientific theory and the “popular” usage of the term theory. Give two examples of a scientific theory.
3. Compare and contrast Dark MATTER with Dark ENERGY (how are they similar, how are they not). Describe the scientific evidence (the observations) that suggests their existence.
4. Provide at least five pieces of evidence supporting the ‘nebular theory’ through the observed physical properties of our Solar System.
5. Draw a diagram with the three (common on Earth) phases of matter in a triangle and label with arrows the 6 transitions between them (example transition: melting).
6. List the three major layers of the earth’s interior, giving properties (density, phase and composition), location and how these layers came to be like this.