GLG 101 Possible Exam 3 Essay Questions

Instructions: For your exam 3 homework, you must complete two of the essay questions below, and turn them in on the day of the exam. Homework questions WILL NOT be accepted after the exam has been taken, unless prior arrangements have been made. The exam will contain one or two of the questions below.

1. Draw a concept sketch of an unconformity. Have your labels describe what events affected rocks above and below the unconformity and what processes formed the unconformity.

2. Sketch and label a simplified cross section that illustrates the main principles of relative dating: (Your sketch should include the following principles: cross-cutting relations, pieces of one rock type in another, younger rocks deposited on top of older rocks, rocks originally deposited horizontally, baking of rocks by magmas, etc.) NOTE: If this question is asked on the exam, you will not be given the information in the parentheses. In other words, I’ll expect you to know the main principles of relative dating.

3. Discuss at least four lines of evidence that suggest the Earth has had a long history.

4. Sketch cross sections of a normal fault and a reverse fault, showing whether the stresses are pushing in or pulling from the sides and whether this type of fault thins or thickens the crust. Draw concept sketch examples of how these types of faults produce mountain ranges.

5. Sketch an anticline, syncline, and monocline, labeling each appropriately.

6. Use a concept sketch to discuss whether the rocks in ocean basins are young or old and why. Also discuss the origin and significance of magnetic stripes on the ocean floor.

7. Sketch and describe the main layers in the earth (crust, mantle, inner core, outer core, and lithosphere vs. asthenosphere). Indicate the approximate thickness of the crust and lithosphere.

8. Draw and label a cross section showing how the elevation of a region is related to the thickness of continental crust, according to the principle of isostasy.

9. Describe the hazards associated with earthquakes, both on land and near the sea.

10. Sketch simple cross sections of the main features found in the deep ocean basin (mid-ocean ridges, trenches, seamounts, island arcs) illustrating how each forms.