Geology 1030

Exam I Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Each answer must be at least five sentences or more. You need to provide enough information to show you understand the concepts. You can use your text, class notes and the Internet if needed.

1. Population and sustainability are two of the main concepts in environmental studies. Define sustainability and indicate how these two concepts are related.
2. List the populations of the Earth, USA and Utah. List the population growth rates for each and indicate the year in which each population will double.
3. Describe the precautionary principle.
4. This class should help you get a perspective on humans in terms of our place in the universe and our place on earth. Briefly describe the origin of the universe, elements, earth, oceans, atmosphere and life. As part of your answer indicate the ages of the universe and earth and indicate approximately how long modern humans have existed. A timeline is recommended.
5. The scientific method is a process used to understand our world and solve problems, and will be applied throughout this class. Describe the scientific method, and as part of your answer describe the following: falsifiability, independence, repeatability, representativeness and uncertainty.
6. What is a system? Include information about energy in your answer.
7. Describe the plate tectonic system.
8. Describe the hydrologic system.
9. What is a biogeochemical cycle?
10. What are the three main types of rocks that make up earth’s crust and in what types of environments do they form?
11. What is uniformitarianism? How is it applied in environmental studies?
12. Soil is essential to life on earth. Soil contamination and erosion reduce the amount of available soil and limit land use. What is soil, and how does soil form?
13. What are the two general categories of soil? Draw and label a typical soil horizon.
14. Summarize the information in the text about agriculture and soil conservation on pages 78-80.
15. Summarize the information in your text about land use and urbanization on page 82.
16. Define the following terms: ecology, biosphere, biodiversity, population, community, habitat and niche. You don’t need five sentences for each.
17. Summarize the information in your text on pages 94-95 about ecosystems (What is an Ecosystem and Natural Service Functions of Ecosystems).
18. Summarize the information about the “Golden Rule of the Environment” on page 104.
19. Summarize the information at this webpage about biodiversity. <http://www.sltrib.com/opinion/ci_11095542>
20. In class we discussed the concept of footprints and our impacts. What little things can you do to help improve our environment?
21. Extra Credit: What part of class interested you the most so far? Did you learn anything new or eye opening?