Introduction to Soil Study Questions

CH 1 Q 3 and 9

3. What are the five main roles of soil in an ecosystem? For each of these ecological roles, suggest one way in which interactions occur with another of the five roles.

9. Define these terms: *soil texture, soil structure , soil pH, humus, soil profile, B horizon, soil quality, solum, and saprolite.*

CH 2 Q1,2, 5-7 and 10

1. What is meant by the statement, *weathering combines the processes of destruction and synthesis?* Give an example of these two processes in the weathering of a primary mineral.

2. How is water involved in the main types of chemical weathering reactions?

5. Name the five factors affecting soil formation. With regard to each of these factors of soil formation, compare a forested Rocky Mountain slope to the semiarid grassland plains far below.

6. How do *colluvium, glacial till,* and *alluvium* differ in appearance and agency of transport?

7. What is *loess,* and what are some of its properties as a parent material?

10. For the two soils described in question 5, make a profile sketch using master horizon symbols and subordinate suffixes to show the approximate depths, sequence, and nature of the horizons you would expect to find in each soil.

CH 3 Q 2,3,4,6

2. Explain the relationships among a *soil individual, a polypedon, a pedon, and a landscape.*

3. Rearrange the following soil orders from the least to the most highly weathered: Oxisols, Alfisols, Mollisolls, Entisols and Inceptisols.

4. What is the principal soil property by which Ultisols differ from alfisols? Incepttisols from Entisols?

6. Of the five soil forming factors discussed in Chapter 2 (parent material, climate, organisms, topography, and time), choose two that have had the dominant influence on developing soil properties characterizing each of the following soil orders: Vertsols, Mollosols, Spodosols, and Oxisols.