1. List the processes leading to the formation of soil.
2. What is the name of horizon is typical soil profile with a compact, brown to orange brown material having high content of clay minerals, iron minerals and organic matter?
3. A soil grain size less than 0.002 mm is known to be -----
4. clay b) silt c) fine sand d) coarse sand
5. What is the composition of a typical soil (% volume)?
6. Briefly explain the types of silicate minerals?
7. What is the composition of soil organic matter? Draw a schematic diagram showing the composition in soil organic matter.
8. List the soil physical properties.
9. If a soil contains 40 % sand, 40 % silt and 20 % clay, what would be the soil texture according to US Department of Agriculture?
10. Derive a mathematical expression linking bulk density (ρb) to soil density (ρs) using soil porosity (n).
11. What is the unit of cation exchange capacity (CEC)? What is the CEC of clay minerals in soil?
12. What is the correct sequence for preferential adsorption of following cations via ion exchange?

Fe3+, Mg2+, Na+