

SOIL

1. a)(i) This is the arrangement of soil layers along a mountain slope from top to bottom.

(iii) - Soils are thin/shallow
 - Have low organic content
 - Soils have low moisture content
 - Soils are rich in calcium/alkalinec)
 - In savanna areas there is alternating wet and dry season
 - During wet season, mineral salts in the horizon A dissolve in the percolating rainwater.
 - The dissolved minerals are precipitated/deposited in the lower layer. This process is called eluviation.
 - Insoluble minerals such as iron and aluminium accumulate in A horizon/top layer to form a crust known as laetrile
 - During dry season illuviation occurs. Soluble minerals are dissolved in the capillary water and moves upwards to horizon A.
 - Evaporation occurs on the horizon A.
 - Minerals are precipitated near/on the surface to form crust.
2. a) Loamy
Clay
Silty
Sandy

Gravel

b) -Humus help to improve soil porosity

-Humus improves the moisture retention capacity in the soil

-Humus improves soil texture

-Humus provides essential minerals in the soil

3. - Soil accumulation of rock particles, minerals, organic matter, water and air found on the surface of the earth.
- Is the superficial layer of loose/unconsolidated rock material overlying on crustal rocks and on which plants grow.

4.

- Zonal
- Intrazonal
- Azonal

5.

Take place through to stages namely mineralization and humification **mineralization** is the biological and chemical breakdown of dead plant tissue by soil micro-organisms to produce simple soluble organic substances. This is the initial stage of decomposition.

Humification is the second stage of decomposition where the dead plant material which had been mineralized are regrouped into large molecules to form humus.

6.

- Leaching process common in arid areas.

- Soils are leached upward through capillarity
- In some areas this leads to formation of thin salty crust on the surface

7. Zonal order soil is a type of soil classification which groups together soils which have undergone long time of soil formation process under good drainage conditions.

8.

- Planting cover crops
- Ploughing along contours
- Practicing crop rotation
- Controlled grazing
- Agro forestry
- Mulching
- Adding fertilizer

9.

- Is a severe leaching process
- Is limited to middle and high latitude areas
- The climatic conditions are too cold that bacteria action is inhibited while moisture is sufficient enough to allow large green plants to grow.
- Humic acid produced from abundant leaf mould and humus, leaches the upper soil strongly of bases, colloids and oxides of iron and aluminum leaving composed largely ash gray as soil horizon of silica.