

## 14. SOILS

*The topic entails:-*

- (i) *Definition of soil, soil profile, soil catena, soil degradation and soil erosion*
- (ii) *Discussing the composition of soil and soil forming processes*
- (iii) *Description of properties and characteristics of soils*
- (iv) *Description of soil profile and soil catena*
- (v) *Explaining soil degeneration*
- (vi) *Classifying soils according to soil order*
- (vii) *Discussing the significance of soils*
- (viii) *Discussing ways and means of managing and conserving soils.*
- (ix) *Identifying different types of soils and their uses within the local environment*
- (x) *Demonstrating the ability to manage and conserve soils.*

1.
  - a) Differentiate soil profile from soil catena
  - b) Name three types of soil types according to soil structure
  - c) i) Beside planting of trees state any other **three** measures that can be used to control desertification.  
ii) Explain how trees help in the conservation of the soil.
2.
  - a) i) What is soil?  
ii) Differentiate between **soil catena** and **soil profile**.
  - b) i) Explain how the following factors influence soil formation;  
- Climate  
- Living organisms  
ii) Give **three** factors that determine the colour of the soil.
3.
  - a) Briefly explain the factors that influence the development of soil catena.
  - (b) (i) Define the term soil profile  
(ii) Draw a simple diagram of soil catena  
(iii) Give **any four** soil forming processes  
(iv) State **four** causes of soil degeneration
4.
  - a) i) Define the term soil  
ii) Name three components of soils
  - b) i) Apart from living organisms state four other factors that influence soil formation  
ii) Explain how living organisms influence soil formation
  - c) i) Distinguish between soil air and soil texture  
ii) Describe the process of podzolisation  
iii) State the characteristics of soils in grassland areas
5.
  - (a) Draw a diagrammatic representation of vegetation zones on a slope common in tropical land
  - (b) (i) What is soil catena?  
(ii) Draw a labeled diagram to show a well developed soil profile.  
(iii) State **three** characteristics of the soils found in the arid regions of Kenya.
  - (b) Give **three** factors that determine the colour of soil.
  - (c) Describe how laterization occurs.
  - (d) Explain how the following farming practices cause soil erosion;  
(i) Burning.  
(ii) Continuous application of fertilizer on farm lands.

(iii) Monoculture.

6.
  - (a)
    - (i) Apart from latosols name any **two** other types of zonal soils
    - (ii) Describe how lateritic soils are formed
    - (iii) State any **two** characteristics of azonal soils
  - (b)
    - (i) Explain any **three** ways in which rain water can lead to degeneration of soils.
    - (ii) Apart from growth of plants, state any **three** other ways in which soils are beneficial to people
  
7.
  - (a)
    - (i) Differentiate between a soil profile and soil catena
    - (ii) State **two** processes of soil formation
  - (b) Explain how the following factors influence soil formation:
    - (i) Climate
    - (ii) Living organisms
    - (iii) Topography
  - (c)
    - (i) What is soil degeneration
    - (ii) Explain **three** ways through which vegetation naturally protects and prevent soil erosion
    - (iii) Give **two** sound farming methods that help conserve soil erosion
  
8.
  - (a)
    - (i) What is soil Catena?
    - (ii) State **three** factors which influence the development of a soil catena
  - (b) Explain **five** negative effects of soil erosion
  - (c) Describe how podzolization occurs in soils
  
9.
  - (a) Name **three** components of soil
  - (b) Explain how the following factors influence the formation of soil :
    - (i) Climate
    - (ii) Parent material
  - (c)
    - (i) Explain **three** ways in which human activities contribute to soil degeneration
    - (ii) Draw a well labeled diagram to show a mature soil profile
  
10.
  - a) What is a **lake**?
  - b) State **three** ways through which lakes are formed
  
11.
  - a) Define the term "**Soil**"
  - b) Explain how the following factors influence the formation of soil
    - i) Climate
    - ii) Topography
  - c)
    - i) State **two** ways in which humus improves the quality of soil
    - ii) State **four** characteristics of desert soils
  - d) Describe how the following types of erosion occur
    - i) Sheet erosion
    - ii) Gully erosion
    - iii) State **two** economic uses of soils
  
12.
  - (a) What is soil conservation?;
  - (b) State **three** methods that assist in soil conservation