

UNIT-I

SOIL GENESIS AND CLASSIFICATION

- 1) What is the weathering in rocks formation explain about different rocks and minerals
- 2) Define soil and explain about Pedagogical and edaphological concepts of soil
- 3) Briefly explain about classification of soils?
- 4) What are the different factors affecting soil formation
- 5) Explain Physical, chemical ,biological weathering and how those influence on soil formation
- 6) Explain the importance of Igneous, Sedimentary and Metamorphic rocks in soil formation
- 7) Explain the stepwise procedure for formation and composition of soil?
- 8) Give a brief note about how soil science is important in agricultural engineering? Give one example
- 9) What type of weathering causes the formation of soil?
- 10) How u can classify the soil? What are the methods we are generally used for determination of soil texture write a procedure for any one of method

UNIT-II**PROPERTIES OF SOIL**

- 1) Define the texture, structure in soil? Briefly, explain about the soil water relationship?
- 2) What Is **Soil Water Retention and soil water movement**? how those are affected by physical properties
- 3) What is gaseous exchange in soil, how it effects on the plant growth. What are the factors influence on gaseous exchange
- 4) Define the fallowing soil heat, soil resistivity, heat conductance in soil
- 5) How bulk density, porosity, moisture content, soil texture and structure effects on thermal properties of soil
- 6) Briefly explain about the soil, plant and water relationship and list out the physical properties of soil ?
- 7) Explain how the primary and secondary tillage influence on crop performance
- 8) What is tillage? Define the primary and secondary tillage? List out the advantages and disadvantages of tillage
- 9) Explain how tillage influences on soil physical properties?
- 10) What are the different tillage practices are there ad their advantages

UNIT – III
SOIL COLLOIDS – PROPERTIES

- 1) What is meant by ion exchange and explain their significance?
- 2) What are the factors influencing the ion exchange?
- 3) What is the buffering capacity of the soil? What affects buffering capacity? What is a good pH level for soil? How can buffer capacity be increased?
- 4) What is EC in soil science?? Why is soil EC important? How does EC affect plant growth?
- 5) How do you calculate EC? Explain the procedure for calculating EC of soil
- 6) Define soil colloids and explain their significance? List out types of colloids
- 7) What are the properties of soil colloids? write about origin of charge on colloids
- 8) What is ion exchange in soil? Why is it important for soil to exchange ions? How we can calculate ion exchange
- 9) What is base saturation in soil? What is a good CEC in soil? How can I improve soil CEC?
- 10) What is CEC and AEC in soil and how it is important in agricultural engineering

UNIT – IV

ACID SOILS AND SALINE SOILS

- 1) What is meant by acid soils how it format? Write about the characteristics of acid soils?
- 2) What is reclamation of acid soils? write a procedure for reclamation of acid soils
- 3) What is meant by saline soils how it format? Write about the characteristics of saline soils??
- 4) Explain about requirement for reclamation of sodic/alkali soils
- 5) What is meant by reclamation of soil? when it is require in soil? at what purpose?
- 6) How the sodic soils are forming what are the characteristics of those soils
- 7) How the Acid soils are forming what are the characteristics of those soils
- 8) Write a note on nutrient availability in acid and saline soils
- 9) Write a note on how the acidic soils are influences on physical properties
- 10) Differentiate between the acid soils and saline soils

UNIT – V**SOIL FERTILITY AND PRODUCTIVITY**

- 1) Define Soil fertility, what are the factors influencing to increase fertility
 - 2) Define the nutrients? What are the nutrients-deficiency symptoms in plants?
 - 3) What is meant by liquid fertilizer? How it is beneficiary to farmers
 - 4) What is meant by chemical fertilizer? list out the classification of fertilizers
 - 5) Explain about Liquid fertilizer solubility and compatibility
 - 6) What is meant by bio fertilizer and liquid fertilizer? Explain their advantages
 - 7) Explain about organic and inorganic fertilizers
 - 8) Write a note on Chemical fertilizers reactions in soil with examples
 - 9) What are the differences between organic and Bio fertilizers? Write their advantages in the point of plant growth
 - 10) Explain the different types of nutrients and their classification
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