

**Roll No.**

**Total No. of Pages : 02**

**Total No. of Questions : 09**

**B.Tech. (Agriculture Engineering) (Sem.-1)**

# PRINCIPLES OF SOIL SCIENCE

**Subject Code : BTAG-104-22**

**M.Code : 92762**

**Date of Examination : 20-01-23**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION - B & C.** have **FOUR** questions each.
3. **Attempt any FIVE** questions from **SECTION B & C** carrying **EIGHT** marks each.
4. **Select atleast TWO** questions from **SECTION - B & C.**

## SECTION-A

**1. Write short notes on :**

- a) Liquid fertilizers
- b) Cation Exchange Capacity
- c) Soil taxonomy
- d) Percolation
- e) Nutrients availability
- f) Leaching
- g) Micelle
- h) Gypsum requirement
- i) Eluviation
- j) Mineralization.

### **SECTION-B**

2. Discuss role of organic matter in maintain the soil health.
3. Discuss in detail the source of negative charge on silicate clay minerals.
4. Explain the composition of earth crust with the help of diagram.
5. Discuss the ion exchange and its effect on nutrients availability in soil.

### **SECTION-C**

6. Define mineral. Classify minerals on the basis of their appearance in light, degree of hardness and special gravity.
7. Discuss in details about the liquid fertilizers with their solubility and compatibility.
8. Describe the conditions under which saline and sodic soils are formed and write in detail about their reclamation.
9. Enlist factors of soil formation and discuss role on any one in detail.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**