

Cat. No: Sacs.1104.

Marks: 50.00

Title: Principles of Soil Science (2+0)

Time: 2 hours

I Fill up the blanks/Answer the following

(10x1=10)

1. Muscovite and biotite are two main members of ----- minerals.
2. Nutrients that are relatively immobile in the soil, move from soil particles to the root surface by the process of -----
3. ----- is called as diffuse double layer theory.
4. Soil colour is determined with the use of -----
5. ----- is the arrangement of soil particles.
6. Effective modules for N-fixation are usually ----- in colour.
7. Soil is derived from the Latin word -----
8. What is the basal spacing of kaolinite.
a) 10.25°A b) 7.5°A c) 10°A d) 14°A
9. Potassium availability to plant is limited by excessive.
a) Calcium b) Magnesium c) Sodium d) Boron
10. Trioctahedral sheet is dominated by
a) Al^{3+} b) Mg^{2+} c) Si^{4+} d) Ca^{2+}

II Write short notes/answers on any FIVE of the following

(5x2=10)

1. Soil forming rocks.
2. Gypsum requirement of sodic soils.
3. Biological sickness of soil.
4. Green manure and green leaf manure.
5. Organic and biodynamic farming.
6. Organic soil colloids.
7. Nitrification and denitrification.

III Write short answers on any FIVE

(5x4=20)

1. Explain Residual sodium Carbonate (RSC).
2. Use of sodic water in crop production.
3. Effect of acidity on plant growth.
4. Microbiological properties of salt affected soils.
5. Integrated nutrient management.
6. Soil forming processes.
7. Co-ordination theory and Pauling's rule

IV Write essay on any ONE

(1x10=10)

1. Lime requirement of acidic soils and its management.
2. Explain organic resources, its decomposition and effect on crop production.
