

KERALA AGRICULTURAL UNIVERSITY

BS.c (Hons) Agriculture 2014 Admission
Vth Semester Final Examination-January 2017



Cat. No: Ssac.3105

Marks: 50

Title: Soil Chemistry, Soil Fertility and Nutrient Management

Time : 2 hours

I. Fill in the blanks/True or False:

(10 x 1=10)

1. Chlorosis of N occurs first on the -----
2. Conversion of ammonia to nitrite and nitrate is -----
3. ----- is a mineral containing phosphorus.
4. Reddening of leaves in cotton is due to deficiency of -----
5. Movement of iron from higher concentration to low concentration is -----
6. Calcium nitrate is soluble in water but not hygroscopic (T/F)
7. In submerged soils iron, manganese, zinc are less available to plants (T/F)
8. Use of sulphur in the alkaline soil tends to increase the alkalinity (T/F)
9. The reduction of nutrient concentration in plants due to dilution effect is termed as "Steenberg effect" (T/F)
10. The form of nitrogen subjected to leaching loss is $\text{NO}_3\text{-N}$. (T/F)

II. Write short notes/answers on ANY FIVE:

(5x 2=10)

1. Alkalinization.
2. Slow release N fertilizers.
3. What is root interception?
4. Effect of pH on phosphorus availability in soil.
5. Gypsum requirement of sodic soils.
6. Nutrient availability in submerged soils.
7. Law of minimum.

III Write answers on ANY FIVE:

(5 x 4=20)

1. Reclamation and management of alkali soils.
2. What is anion exchange capacity? Explain its importance in nutrient availability.
3. Define NUE. Enumerate the factors influencing use efficiencies of N, P&K.
4. Give an account on N fixation in soil.
5. Fertility capability classification.
6. Differentiate the deductive and inductive approach in soil fertility evaluation.
7. Describe the S Cycle.

IV. Write essay on any ONE

(1 x 10=10)

1. Discuss on the quality of irrigation water.
2. Explain the sources, method and scheduling of nutrient for different soils and crops grown under rainfed condition.