



KERALA AGRICULTURAL UNIVERSITY  
B.Sc. (Hons.) Ag. 2015 Admission  
V Semester Final Examination-March-2018

Ssac.3105

Soil Chemistry, Soil Fertility and Nutrient Management (2+1)

Marks: 50  
Time: 2 hours  
(10x1=10)

**I Fill in the blanks**

- 1 Gypsum contains ----- % of Ca
- 2 A soil which has pH <8.5, ESP <15 and EC >4 dSm<sup>-1</sup> at 25°C is called-----
- 3 Inherent capacity of soil to supply nutrients in balanced form is called-----
- 4 The ability of soil resist changes in p<sup>H</sup> is called-----
- 5 ----- is considered to be most important soil organisms bringing about the conversion of NH<sub>4</sub><sup>+</sup> to NO<sub>3</sub><sup>-</sup>

**State True or False**

- 6 The importance of nitrogen is to increase growth and green colour in plants
- 7 Kharia disease in rice is caused due to the deficiency of zinc
- 8 Nitrosomonas is considered to be most important of the soil organisms bringing about the conversion of NH<sub>4</sub><sup>+</sup> to NO<sub>2</sub><sup>-</sup>.
- 9 The harmful effect of acid soil is due to high osmotic pressure of soil solution
- 10 Coconut is a chloride loving crop

**II Write Short notes on ANY FIVE of the following**

(5x2=10)

- 1 Arnon's criteria and different forms of nutrients
- 2 Gypsum requirement of sodic soil
- 3 Forms in which plant absorb nutrient elements
- 4 Differentiate RSC and RSBC
- 5 Essential and beneficial elements in plant nutrition.
- 6 Differentiate between antagonism and synergism
- 7 Different forms of phosphorus

**III Answer ANY FIVE of the following**

(5x4=20)

- 1 Brief about nitrogen cycle
- 2 Discuss on Integrated nutrient management(INM)
- 3 Brief about Indian standards for water quality
- 4 Write note on Mechanism of nutrient uptake
- 5 Define Nutrient use efficiency (NUE) and write about its concepts and factors influencing
- 6 Forms of nutrients in soil and factors affecting availability
- 7 Brief about effect of fertilizers and pesticides on soil water

**IV Write an essay on ANY ONE of the following**

(1x10=10)

- 1 Narrate the different concepts for soil fertility evaluation.
  - 2 What are all the different types of chemical problem soils and its genesis and management?
- \*\*\*\*\*