

KERALA AGRICULTURAL UNIVERSITY
B.Sc. Hons. (Agriculture) – 2007 Admission - Vth Semester
Final Examination - January 2010

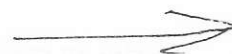
Cat. No. : Ssac 3105
Title : Soil Chemistry, Soil Fertility and
Nutrient Management (2+1)

Max. marks: 80
Time : 3 hours

I Answer ALL questions

(10 x 1 = 10)

1. Fruit cracking and button shedding are typical symptoms of _____ deficiency
a. Magnesium b. Potassium c. Calcium d. Boron
2. *Kaira* disease in rice caused by _____ deficiency
a. Zn b. B c. Mo d. Cu
3. Poor legume nodulation in acid soil is due to the absence of _____
a. Mo b. Ca c. Mo d. N
4. Potassium ions are transported in soil by _____ process
a. Mass Flow b. Diffusion c. a & b d. Root Interception
5. Liming is recommended for reclaiming _____ in soils
a. Acidity b. Salinity c. Sodicity d. Crusting
6. All the productive soils are usually fertile (True / False)
7. Permanent ^dharness of water is caused by carbonates & bicarbonates (True / False)
8. Plants store P in the form of _____
9. Chemical formula for gypsum is _____
10. Bacterial species nodulating soybean is _____



II Write short notes on any TEN of the following questions

10 x 3 = 30

1. Arnon's Hypotheses
2. Explain Carrier Ion Hypothesis of nutrient transport
3. Factors affecting availability of nutrients
4. Corrective measures for Zn deficiency
5. Suggest diagnostic keys to identify Iron deficiency in crops
6. Acid sulphate soils and their management
7. DRIS - Explain
8. Importance of LCC in rice cultivation
9. Critical level of nutrients in soils
10. Biological methods of soil fertility evaluation
11. Rapid tissue test for phosphorous
12. Tracer techniques available for soil fertility assessment

III Answer any SIX questions

6 x 5 = 30

1. Assessment of irrigation water quality
2. Agronomic, physiological and economic perspectives of NUE
3. Soil Test Crop Response (STCR) based fertilizer prescription
4. Schematic diagram with reactions involved in symbiotic N fixation
5. Management of tsunami affected soils of coastal belts
6. Active and passive ion transport
7. Phosphorous availability in soils is enigmatic - Justify
8. Integrated Nutrient Management (INM)

IV Write an essay

1 x 10 = 10

1. Importance of carbon in orchestrating physical, chemical and biological properties of soils
2. Genesis, occurrence and management of acid, saline and sodic soils of India