



KERALA AGRICULTURAL UNIVERSITY
B. Sc. (Hons.) Ag 2017 Admission
II Semester Final Examination-July-2018

sac.1203

Manures, Fertilizers and soil fertility management (2+1)

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

I Fill in the blanks:

- 1 Fertilizer grade of a fertilizer reveals
- 2 Well de-composted cattle dung, urine and left over feed is called manure
- 3 Under low pH conditions of soil, P gets fixed in as
- 4 The potassium bearing primary mineral of soil is
- 5 An synthetic nitrogenous fertilizer in the NH_2 form is
- 6 "Akiochi" disease in rice is due to
- 7 Symbiotic biological N fixation in legumes is in association with genera of bacteria
- 8 Plants absorb N in cationic and anionic form as and
- 9 An alkali soil has dominance of cation and anion
- 10 nutrient element is structural constituent of chlorophyll

II Write Short notes on ANY FIVE of the following

(5x2=10)

- 1 STCR
- 2 GIS
- 3 Critical nutrient concentration/range
- 4 NUE
- 5 Complex fertilizer
- 6 Diffusion and massflow
- 7 Chelate

III Answer ANY FIVE of the following

(5x4=20)

- 1 Explain with chemical reactions how de-nitrification occurs and soil conditions that favour it
- 2 What is DRIS? Describe how norms are developed and recommendations are based on DRIS approach.
- 3 Explain in brief soil, crop and fertilizer management practices to increase phosphorus use efficiency
- 4 State Arnon and Stout criteria of nutrient essentiality
- 5 What is rapid tissue analysis? How different it is from total analysis
- 6 What is soil fertility evaluation? Which are different approaches?
- 7 Explain S transformation in soils and how these reactions modify S availability?

IV Write an essay on ANY ONE of the following

(1x10=10)

- 1 Explain the mechanism of P fixation in an acid and a calcareous soil.
- 2 Describe how physical, chemical, fertility and biological properties of acidic soil are different compared to normal soils and how to reclaim them
