



KERALA AGRICULTURAL UNIVERSITY
B. Sc. (Hons.) Ag. 2018 admission
II Semester Final Examination-July-2019

sac.1203

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

Marks: 50
Time: 2 hours

I Fill in the blanks **(10x1=10)**

- 1 The predominant phosphate in single superphosphate is.....
- 2is a neutral nitrogenous fertilizer.
- 3 An example for organic chemical fertilizer is.....
- 4 Fertilizer which contains two or more plant nutrients obtained by manual mixing of two or more straight fertilizer is.....
- 5 Nitrogen content in the fertilizer Ammonium sulphate is.....

State True or False

- 6 The micro organism *Azotobacter* fixes atmospheric nitrogen.
- 7 The process of conversion of organic form of N to inorganic form of N is termed as immobilization.
- 8 Blood meal is an example for concentrated organic manure.
- 9 Ammonium sulphate is an acid forming nitrogenous fertilizer.
- 10 In SSNM approach, omission plot technique is used for N- management.

II Write short notes on ANY FIVE of the following **(5x2=10)**

- 1 Give the classification of phosphatic fertilizers based on solubility with example.
- 2 Define hidden hunger.
- 3 Differentiate nitrification and de-nitrification processes.
- 4 Write about Arnon's Criteria of Essentiality of nutrients.
- 5 Write short note on Fertilizer Control Order.
- 6 Write a note on classification of organic manures.
- 7 What do you understand by Integrated Plant Nutrient System?

III Answer ANY FIVE of the following **(5x4=20)**

- 1 Briefly discuss on the manufacturing methods of $(\text{NH}_4)_2\text{SO}_4$.
- 2 What are secondary nutrients? Briefly discuss important role in plant nutrition and their deficiency symptoms.
- 3 Enumerate on leaf colour chart based N management.
- 4 Briefly discuss on nitrogen transformations in soils.
- 5 Give an account on sulphur cycle.
- 6 Give a brief note on lime requirement of an acid soil and liming materials used for reclamation of acid soils.
- 7 Discuss on phosphorus cycle in soil.

IV Write an essay on ANY ONE of the following **(1x10=10)**

- 1 Give an account on soil fertility evaluation approaches.
- 2 Explain about Nutrient Use Efficiencies of major and micro nutrients and enhancement techniques.
