KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Forestry Degree Programme. 2014 Admission.

IVth Semester Final Examination-August .2016

Cat. No: Safo.2209 **Marks: 50**

Title: Chemistry and Fertility of Forest soils (2+1) **Time: 2 hours**

I Fill up the blanks **(10 x 1=10)**

1. Nitrogen fixation is an _____ process
2. In soils, the _____ fractions act as a buffer system
3. The commercial fertilizer superphosphate supplies not only phosphorus but also _____
4. An example for free living nitrogen fixing organism _____
5. The process of conversion of Organic N into ammonia is known as _____
6. Rock phosphate should not be recommended to strongly _____ soils
7. Plants mostly absorb nitrogen in the form of _____
8. Mo deficiency in Cauliflower causes _____
9. Inherent capacity of a soil to supply nutrients to plant in adequate amount in suitable proportion is known as _____
10. The essential plant nutrients required in minute quantities are termed as _____.

II Write short notes on any FIVE. **(5 x 2=10)**

1. Soil fertility and productivity.
2. Functions of Zn in crop plants.
3. N-fixation by Rhizobium – tree legume symbiosis.
4. Give the classifications of Nitrogen fertilizers.
5. Criteria for essentiality of plant nutrients.
6. How will you maintain C:N ratio in the soil.
7. Microbiological transformation of Phosphorous.

III Write short essay on any FIVE **(5 x 4=20)**

1. List out the mineral elements essential for plant growth and their available forms.
2. Microbiological methods of soil fertility evaluation.
3. How will you manage the low productive soils?
4. Discuss briefly the role of organic matter in soil fertility.
5. Carbon cycle.
6. Define humus, and write its properties and functions in soil fertility.
7. Afforestation and its effect on soil properties

IV Write Essay on any ONE **(1 x 10=10)**

1. Enumerate steps to be adopted to increase the fertility status of the forest soils of Kerala.
2. INM in plantation forestry.

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