



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Sc.(Hons).Forestry 2016 Admission**  
**IV Semester Final Examination- July 2018**

Safo.2210

**Soil Biology and Fertility (2+1)**

**Marks: 50**  
**Time:2 hours**

- 1 Fill up the blanks** **(10x1=10)**
- 1 The conversion of organic form of nutrients to inorganic form is called -----
  - 2 ----- is the form in which nitrogen is taken up by the paddy crop.
  - 3 ----- is the nutrient that is termed as quality factor.
  - 4 The microbe which converts the ammoniacal nitrogen to nitrate nitrogen is -----
  - 5 The micronutrient element which is present in alkaline condition only is -----
  - 6 The phosphatic fertilizer that is recommended for acid soils is -----
  - 7 The alkaline soils are reclaimed by -----.
  - 8 The fraction of organic matter which is soluble in both acid and alkali is -----
  - 9 The C:N ratio that is present in a normal cultivated soil is -----
  - 10 In Casuarina, the organism that is responsible for N fixation is -----.

**II Write short notes/answers etc on ANY FIVE** **(5x2=10)**

- 1 Distinguish soil fertility and soil productivity.
- 2 Differentiate the soil forming processes Podzolisation and Laterisation
- 3 What is NUE ? How we can increase NUE ?
- 4 What are chelates ? Explain their role in making the micronutrients available to the plants .
- 5 What is humification ?
- 6 What is nitrification? Explain the role of microbes in nitrification?
- 7 Explain INM and IPNS

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

- 1 Different methods of soil fertility evaluation.
- 2 Factors that affect the P fixation in soils.
- 3 Role of actinorhizal fungi in forestry ?
- 4 Classify the nitrogenous fertilizers ?
- 5 Differentiate forest soils and cultivated soils
- 6 What is forest floor ? Explain the stratification of forest floor?
- 7 What are the different essential nutrient elements? Explain the role of secondary nutrients?

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

- 1 Nitrogen cycle in forest soils.
- 2 Explain in detail the different soil forming processes and their special features with regard to forest soil ecosystem ?

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