

# KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Forestry. 2013 Admission  
IV<sup>th</sup> Semester Final Examination- August-2015

Cat. No: Safo.2209

Title: Chemistry and Fertility of Forest Soils (2+1)

Marks: 50

Time: 2 hours

## I Fill up the blanks

(10 x 1=10)

1. \_\_\_\_\_ element is a major constituent of chlorophyll
2. \_\_\_\_\_ is an example for natural mineral fertilizer of P
3. Amide form of N fertilizer is \_\_\_\_\_
4. In tropical rain forest ecosystem the main soil forming process involved is \_\_\_\_\_
5. Mostly, rosetting of young leaves is associated with \_\_\_\_\_
6. Most suited phosphatic fertilizer for acid soil is \_\_\_\_\_
7. The only micro nutrient that is available in alkaline soils is \_\_\_\_\_
8. The process by which organic matter is added to the surface horizon thus making it dark in colour is known as \_\_\_\_\_
9. The Optimum C:N ratio in soils is \_\_\_\_\_
10. The process of conversion of ammonia into nitrate is known as \_\_\_\_\_

## II Write short notes on any FIVE

(5 x 2=10)

1. Forest soil acidity
2. Podzolization
3. Silicate minerals
4. Visual deficiency symptoms of Ca
5. Forest Soil Profile
6. Properties of forest floor
7. Crop logging

## III Write short notes on any FIVE

(5 x 4=20)

1. Major soil forming processes of forest soils
2. Importance of mycorrhizae in forest ecosystems
3. The role of organic matter on the soil fertility
4. Mechanism of P fixation in soils
5. Nitrogen cycle in forest ecosystems
6. Biological nitrogen fixation in forest trees
7. Nitrogenous fertilizers

## IV Write essay on ANY ONE

(1 x 10=10)

1. Explain integrated nutrient management in forestry
2. Explain in detail about nutrient cycling in forest ecosystem