KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Ag. 2014 and Previous Admission
I st Semester Final Examination- March-2015

Cat. No: Ssac.1101 **Marks: 50**
Title:Introduction to soil Soil science(2+1) **Time: 2 hours**

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

1. The most abundant element in the earth 's crust is _____
2. _____is an example for 2:2 clay minerals
3. The mass per unit volume of soil including pore space is called_____

State True or False

4. Humus is an organic colloid
5. Illite is a 2 :1 fully expanding type clay mineral
6. Gypsum is an ameliorant for acid soil
7. The soil order aridisols represents organic soils

Define

8. Plastic number
9. PH
10. Primary mineral

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

1. Lime requirement in soils
2. Briefly explain the factors of soil formation
3. What is C : N ratio. What are the practical implications of C:N ratio in soil fertility
4. What is the importance of soil temperature in plant growth and biological activities in the soils
5. Compare and contrast the structure of 1:1 and 2:1 clay minerals
6. What is soil crusting. Narrate the mechanisms to control soil crusting
7. What are the different methods for particle size analysis .What is the basis of each method

III Write short essays on any FIVE of the following **(5 x 4 =20)**

1. Describe the different methods of estimation of soil moisture content
2. Illustrate the classification of soil structure with suitable examples .Discuss the factors affecting the aggregate formation in soils
3. Briefly describe the different systems of soil classification
4. What are the factors affecting porosity of soil .Give the relationship between porosity and densities of soil
5. How soil colour is determined .What are the implications of soil colour

IV Write essay on ANY ONE **(1 x 10=10)**

1. Discuss in detail the respiratory and fermentative metabolism in bacteria with suitab examples
2. Give an account of the beneficial plant microbe interactions and their use as biofertilize for crop production

****