

**... KERALA AGRICULTURAL UNIVERSITY**

B.Sc (Hons.) Forestry. 2014 Admission

I<sup>st</sup> Semester Final Examination- February/March-2015

Cat. No: Safo.1102

Marks: 50

Title: Fundamentals of Geology and Soil Science (2+1)

Time: 2 hours

I) Fill up the blanks

(10 x 1=10)

1. Most abundant element by weight in the earth crust is \_\_\_\_\_
2. Osmotic potential is due to \_\_\_\_\_
3. Prevailing suction at field capacity is \_\_\_\_\_ bars
4. Sedimentary rock account for \_\_\_\_\_% of the rock mass of the earth crust
5. Saline soil have ECE more than \_\_\_\_\_ dS/m
6. Eluviation occurs in \_\_\_\_\_ master horizon
7. Alkali soils can be reclaimed by using \_\_\_\_\_ as a chemical amendment
8. Podzolization occurs in \_\_\_\_\_ climate
9. Tensiometers can be used only up to \_\_\_\_\_ bars
10. Productive soils have \_\_\_\_\_ and \_\_\_\_\_ type of structure

II Write short notes on any FIVE

(5 x 2=10)

1. Write important differences between primary and secondary minerals
2. Which are soil colloids and write their properties
3. What is defloculation and explain the conditions that favour defloculation
4. Enlist factors influencing the soil bulk density and explain one factor
5. Draw a neat sketch of soil profile
6. Write about the forms of soil water
7. Reclamation of acid soils

III Write short essays on any FIVE of the following

(5 x 4 =20)

1. Explain the process of humification ,podzolization and laterization
2. What is soil consistency and describe consistency under dry, moist and wet conditions
3. Using Darcy's equation explain the process of saturated water movement in soils
4. Compare chemical ,physical and morphological characters of saline ,saline-alkali and non saline alkali soils
5. Describe the land capability classification
6. Discuss about the role of organic matter in nutrition and availability of elements to plants
7. Describe soil structure ,its genesis ,and management options to improve the structure

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**IV Write essay on ANY ONE**

**(1 x 10=10)**

1. Which are the different soil classification systems? Explain physico-chemical and morphological characters and management practices adopted in Ultisols
2. Describe the classification of rocks with characters and one example in each group

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