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**University Examinations 2015/2016**

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

CERTIFICATE IN AGRICULTURE

**NAR 0140: SOIL GENESIS AND CLASSIFICATION**

**DATE: AUGUST 2016 TIME: 1 ½ HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two***questions.

**QUESTION ONE (30 MARKS)**

1. Explain why soil is considered as a natural dynamic body (3 marks)
2. The interaction of the natural spheres results into the formation of pedosphre. In relation to the soil components, explain this phenomenon. (6 marks)
3. Describe the following terms
4. Soil profile
5. Soil texture
6. Illuviation
7. Soil collid (4 marks)
8. What is the difference between soil formation and soil development (2 marks)
9. By giving two examples, explain how igneous rocks are formed (6 marks)
10. Describe the characteristics of A-Horizon (4 marks)
11. Calculate Particles density of a soil sample that has a bulk density of 1.55g/cm3 and a porosity of 40%. (5 marks)

**QUESTION TWO (15 MARKS)**

1. Explain how soil is weathered through chemical processes (10 marks)
2. Explain why climate is a soil forming factor (5 marks)

**QUESTION THREE (15 MARKS)**

1. Explain how soil texture can be determined using the soil textural triangle (5 marks)
2. Describe the soil textural classes in a soil triangle (7 marks)
3. What is the significance of soil surveying (3 marks)

**QUESTION FOUR (15 MARKS)**

1. Explain the characteristics of hydromorphic soils (7 marks)
2. Explain how the transported soils are formed. (5 marks)
3. Describe the residual soils. (3 marks)