

EASTERN UNIVERSITY, SRI LANKA

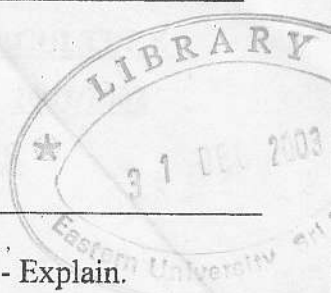
SECOND YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE - 2002/2003 (June/July 2003)

ACH 2101 SOIL PHYSICAL PROPERTIES

Answer all questions

Time: 02 hours

This paper should be answered in English



1. a. "Loamy soils are desirable for Agriculture than sandy and clayey soils". - Explain.
b. Briefly explain the factors influencing the soil aggregate formation and its stability.
2. a. Define the term soil bulk density, particle density and porosity, and express their relationship.
b. A sample of moist soil having a wet mass of 850g and a volume of 530 cm³ was dried in an oven and found to have a dry mass of 700g. Assume a typical value for particle density for mineral as 2.65 g/cm³ and calculate the following:
 1. Bulk density
 2. Porosity
 3. Void ratio
 4. Degree of saturation
 5. Air filled porosity.
3. a. "Soil aeration is an important feature in determining soil productivity".- Justify this statement.
b. Briefly Explain the ways used to determine the aeration status of a soil.
4. a. "Water holding capacity depends on soil conditions". - Discuss this statement.
b. Explain the following terms
 1. Soil consistency.
 2. Available water in soils.
 3. Hygroscopic co – efficient
