

The Open University of Sri Lanka  
Faculty of Engineering Technology  
Bachelor of Technology

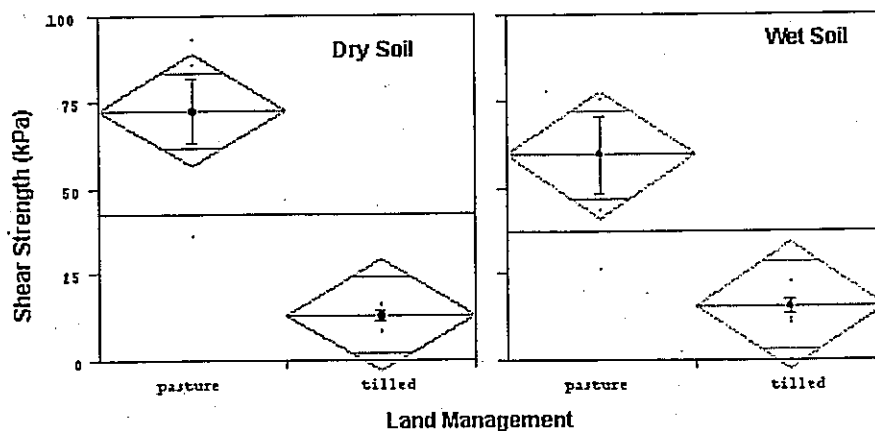
Final Examination- 2011/2012

AEX3231 Soil management, tillage, traction

Date : 02.03.2012  
Time : 09.30 - 12.30hrs  
Duration : Three (03) hours

SECTION 2: Answer any four (04) questions.

1. a). Write down the short note on "soil profile and its layers"
- b). Briefly discuss the basic factors that affect the growth rate of plants.
  
2. a). The picture below depicts the results of land management against wet and dry soil shear strength. In both cases the strength in the pasture sites are much higher than that of the tilled sites. Briefly discuss the reasons for these differences.



b). Landslides occur when the shearing forces exceed the resisting forces of earth.

Write down factors which contribute to either increased or reduced shear strength, thus initiating the landslide process.

3. a). Prepare a list of implements used for primary tillage and secondary tillage.

b). Briefly discuss the causes which affect soil compaction.

c). What are the desirable and undesirable effects of soil compaction on plant growth?

4. Write down the short notes in any three of the following.

a). Minimum tillage and zero tillage

b). Suppression of weed growth in low land rice cultivation

c). Bulk density and porosity

d). Wheel slip and sinkage in a rice field

5. a). Write down characteristics of an agro ecosystem.

b). Briefly discuss the importance of agro forestry in upland farming.

6. a). List out factors which affect the soil failure.

b). Briefly discuss the advantages and disadvantages of paddy transplanting.