



The Open University of Sri Lanka
Faculty of Engineering Technology

Technology (Engineering) Programme of Study
Final Examination – 2009
AEX 3231 Soil Management, Tillage and Traction

Date : 12-03-2010

Time : 09.30-12.30 hours

Duration: Three (03) hours

SECTION 2: Answer any four questions.

1. Describe in detail, the characteristics of a soil suitable for successful crop growth, and how a poor soil may be improved.
2. What do you understand by the term “land formation”? Describe in detail the operations involved in land formation..
3. Write short notes on any three of the following:
 - (a) Soil shear strength.
 - (b) Mohr’s stress circle
 - (c) Triaxial test
 - (d) Passive and active failure of soil.
4. Describe the forces acting on a tillage tool and how these vary depending on implement width, rake angle and working depth. Your answer should be illustrated with simple diagrams where necessary.
5. Describe the important properties of land suitable for lowland rice cultivation.
6. Discuss the advantages and disadvantages of using large four wheel tractors and power tillers (two wheel tractors) for paddy cultivation in Sri Lanka.