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The Open University of Sri Lanka
Faculty of Engineering Technology

Technology (Engineering) Programme of Study
Final Examination – 2010/2011
AEX 3231 Soil Management, Tillage and Traction

Date : 11/03/2011
Time : 0930-1230
Duration: Three (03) hours

SECTION 2: Answer any four questions.

1. Describe in detail, the basic requirements of soils for crop growth.
2. Describe in detail, the cultivation requirements of a paddy field.
3. Write short notes on any three of the following:
 - (a) The tri-axial compression test.
 - (b) The Coulomb equation
 - (c) The effect of pore water pressure on the shear strength of soil
 - (d) The relationship between organic matter and soil tilth.
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, with the aid of suitable diagrams, “passive” and “active” failure of soil.
6. Discuss the importance of accurate seeding and describe three different types of seeders in detail.