



The Open University of Sri Lanka

Faculty of Engineering Technology

Diploma/Degree in Industrial Studies (Agriculture)

Final Examination- 2008/2009

**AEI5243 Farm power and machinery**

**Date** : 27-03-2009  
**Time** : 1400-1700 hrs  
**Duration** : Three (03) hours

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**SECTION 2: Answer question 1 and any three others.**

- (1) a. Clearly differentiate four stroke and two stroke engines.
  - b. Four stroke engine has eight (8) cylinder arrangements. To complete the four stroke cycle, the engine crankshaft must make two revolutions and one revolution is 360°. Determine the angle between the cylinders.
  - c. Briefly explain two (02) criteria to be used in engine classification.
- (2) Assume that you have 5 ha of bare land in Anuradapura area and you have decided to convert it to large scale paddy cultivation. Write an essay on potential of using farm mechanization to achieve maximum output from your land.
- (3) Sri Lanka is a potential country of generating energy from solar. Comment on that. Illustrate your answer using the geographical location of the country, potential areas and technology transferring ability among the people.
- (4) Write short notes on any three (03) of the following topics.
  - a. Increasing the efficiency of a tractor tyre
  - b. Solar pond technology
  - c. Mouldboard plough
  - d. Row crop cultivator
  - e. Nozzle spray pattern of a sprayer
- (5) a). Briefly discuss the way of obtaining peak efficiency of human labour force.
  - b) Write a small account on impacts of farm mechanization on soil compaction.
- (6) Primary tillage operations are much harder than secondary tillage operations. Discuss it with using suitable examples. Your answer should be consisting of equipments used in above operations and their impacts.