

EASTERN UNIVERSITY, SRILANKA
Fourth Year First Semester Examination in Agriculture 2013/2014
(Sept/Oct - 2015)
AE - 4105 Advanced Farm Mechanization

Answer all questions

Time: One hour

01. (a) What are the **important** measurements to be taken in testing and evaluation of a seeder and explain the method of recording each of them.

(40 marks)

(b) Give a brief note on the following test procedures:

- (a) Tank pressure test of a knapsack sprayer;
- (b) Draft measurement test for a tractor-drawn plough;
- (c) Endurance test of a combine harvester.

(60 marks)

02. (a) State whether the drawbar horsepower is always less than the PTO horsepower. Briefly explain the reason.

(25 marks)

(b) A farmer needs to use a subsoiler to conduct primary tillage in an untilled soil at 6.5 km/h. The tillage work is expected to be completed within 6 days. The size of the field is 80 hectares and the soil type is loamy. The working depth of the subsoiler is 90 cm. Determine the required PTO power of the tractor.

Assume that the PTO power multiplication factor is 1.5 KW for an untilled soil condition and the draft force requirement of subsoiler in loamy soil at 6.5 km/h is 156 N/cm depth.

(75 marks)
