

EASTERN UNIVERSITY SRILANKA
FIRST YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE (2009/2010) ✓
(Jan/Feb/ March 2012)

AEN 1201 – FARM POWER AND MACHINERY
Practical Examination



Answer all questions
Time: 02 hrs

01. A four cylinder 4 stroke diesel engine has a cylinder bore of 30 mm and piston stroke of 100 mm. The engine develops 40 kW at 2000 rpm with a mechanical efficiency of 75% when coupled to a dynamometer. Determine the indicated mean effective pressure and the brake power.
02. (a) Briefly explain the procedure to calibrate a knapsack sprayer to adjust its volume application rate per hectare.
- (b) The following data were obtained during the calibration process of a piston type knapsack sprayer
- Speed of advance = 3 m / min
 - Volume flow rate = 500 ml/min
 - Swath width = 1.5 m at a nozzle height of 1m from the ground
- Determine the volume application rate of this sprayer.
03. (a) What do you mean by the term 'priming' of a centrifugal pump.
- (b) List out the factors considered in selecting a pump for a particular site.
04. (a) How can you distinguish a '**disc plough**' from a '**disc harrow**' based on their design (structure) and function?
- (b) Briefly explain the deleterious effects of adopting high and low forward velocities of a rotovator during ploughing.
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