EASTERN UNIVERSITY SRI LANKA
FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE - 2013/2014
(September 2015)

AE 1101 – FARM MECHANIZATION

Practical Examination

Answer all questions
Time: One hour

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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 pump operator identified a problem of no water delivery from the discharge pipe. Give at least 5 possible reasons and solutions to remedy this problem.

03. Briefly explain as to how you will adjust the volume application rate of a knapsack sprayer.

04. Answer the following questions based on your observation of a combine harvester in a paddy field:
(i)   What are the important components of a header unit?
(ii)   How will you measure the losses of grains caused by the header unit?
(iii)   How will you separate the shattering losses of grains from the sample obtained in (ii)?
(iv)   How does the rotational speed of reel influence on grain losses?
(v)   How will you measure the separation losses of grains?

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