EASTERN UNIVERSITY SRILANKA
FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE - 2010/2011
(Jan/Feb/ March 2012)

AE 1101 - FARM MECHANIZATION (2:20/20/50)

Answer all questions
Time: 02 hrs

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01. (a) Briefly discuss the power sources used in the farming operations.
    (b) What is the purpose of tillage?
    (c) What are the implements used for primary and secondary tillage?
    (d) Give the basic components of each implement named in question 01 (c).

02. (a) Write a brief account on the hydraulic system of a farm tractor
    (b) How do the tyre inflation, area & weight affect traction?

03. (a) What is the functional difference between a seed drill and a planter
    (b) State the functions of seed drill and give a brief note about the components of a seed drill indicating the functions of each.

04. A rear wheel drive tractor is operating on a level ground. The static weight of tractor is 25 kN and wheel base is 2100 mm. The centre of gravity is located 800 mm ahead of the rear axle. The draw bar force applied to the tractor is located 750 mm behind and 125 mm below the rear axle cube. The rolling radius of each drive wheel is 600 mm. Assume the rear and front wheel reactions pass through their respective axle centres. Determine,
    (a) a steady state horizontal pull, required to maintain just 20% of tractor static weight on front axle.
    (b) The corresponding coefficient of traction
