Uva Wellassa University
Faculty of Animal Science and Export Agriculture

B.Sc. in Export Agriculture
Bachelor of Animal Science

End Semester Examination – August / September 2014
Year I Semester II

Principles of Agricultural Engineering Technology EAG 141-1/0

Instructions

Answer **all** questions
No. of questions : Three (03)
No. of pages : Three (03)
Time : One (01) hour
Total marks allocated : 100%

Index No:

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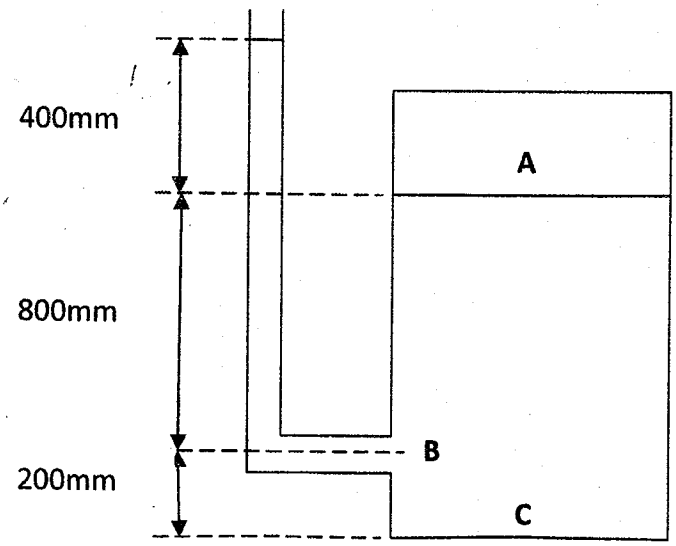
Question 01

I. Briefly discuss,

a) Total energy of flowing fluids (10 marks)

b) Reynold's number of flowing fluids (10 marks)

II. Calculate pressure values at point A, B and C of following piezometer filled with a fluid having a specific weight of 24.8 kN/m^3. (15 marks)



Question 02

(I) A missile is launched into the air at an initial velocity of 80 m/s. It is moving with a constant velocity until it reaches 1000 m. When the engine fails;

(a) How long does it take it to reach 1000m?

(b) How high does the missile go up?

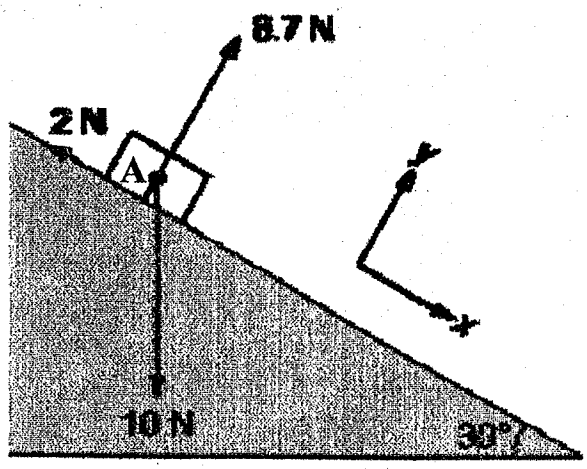
(c) How long does it take to fall back to the earth?

(d) How long does it stay in the air?

(e) How fast is it moving after hitting on the ground?

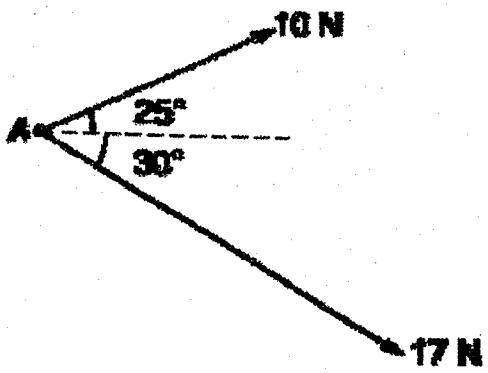
(20 Marks)

(II) a. Calculate the resultant force exerted on the object "A" given below



(08 marks)

b. As shown in the figure given below, two forces of 10 N and 17 N are now acting on point *A*. In order to keep *A* in equilibrium, what should be the magnitude of the third horizontal force needed to be added?



(07 marks)

Question 03

(I) Draw and label the components of a bridge truss

(II) Explain the assumptions in a truss design

(III) Describe the common types of trusses with labeled diagrams

(30 marks)

20