EASTERN UNIVERSITY SRILANKA
FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICUTURE - 2006/2007

AEN 1101 APPLIED MECHANICS (1:15/00)
(Repeat)

External Degree

Answer all questions
Time: One hour

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01. (i) Distinguish speed and velocity.

(ii) State the Newton's second law of motion.

(iii) An object is gently placed on a long conveyor belt moving with a speed of 5 ms^{-1}. If the coefficient of friction between the block and the belt is 0.5, what is the maximum distance that the block will slide on the belt? (Consider the gravitational acceleration as 9.81ms^{-2})

02. (i) Illustrate the types of stresses acting on a metal bar.

(ii) Define the following mechanical properties of materials.

(a) Elasticity

(b) Brittleness

(c) Ductility

(d) Malleability

(e) Stiffness

(iii) A steel wire of cross sectional area 3×10^{-6} m^2 can withstand a maximum strain of 10^{-3}. Young's modulus of elasticity of steel is 2×10^{11} Nm^{-2}. What is the maximum mass that the wire can hold?
