EASTERN UNIVERSITY, SRI LANKA
FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2002/2003
APPLIED MECHANICS (AEN 1101)

Answer all questions
This question paper should be answered only in English
Time allowed: One hour

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1. (a) Define the following terms,

   (i) Ductility

   (ii) Elastic Limit

   (iii) Hooke's Law

   (iv) Factor of Safety

   (b) A mild steel rod 2 cm diameter and 3 m long carries an axial pull of 6 tonnes. If the Young's Modulus of mild steel is 2×10^6 kg/cm^2, calculate the elongation of the rod.

2. (a) Define the terms "Shear Force" and "Bending Moment" .

   (b) Draw the typical free body diagram for the following:

   (i) A cantilever beam with a point load at the open end.

   (ii) A simply supported beam with uniformly varying load throughout.

   (c) Construct Shear Force and Bending Moment diagram for a simply supported beam given below,