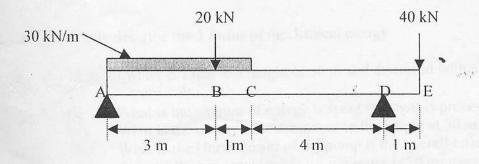
EASTERN UNIVERSITY, SRI LANKA FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2002/2003 APPLIED MECHANICS (AEN 1101)

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

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 $2x10^6$ kg/cm², 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,



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