UNIVERSITY OF EDUCATION, WINNEBA
COLLEGE OF TECHNOLOGY EDUCATION, KUMASI
FACULTY OF TECHNICAL EDUCATION
DEPARTMENT OF CONSTRUCTION AND WOOD TECHNOLOGY EDUCATION
END OF SECOND SEMESTER SUPPLEMENTARY EXAMINATION- JANUARY,2020

PROGRAMME: BSC CONSTRUCTION TECHNOLOGY EDUCATION YEAR ONE

COURSE TITLE	STRENGTH OF MATERIALS
COURSE CODE	FTE 121 (CONSTRUCTION TECH. EDU.)
DURATION:	TWO HOURS
NAME OF LECTURERS	PAA-KOFI YALLEY
INSTRUCTIONS	1. Answer all questions 2. Do not give help 3. Do not accept help

Question one.

Sketch the stress-strain curve of a mild steel and indicate the following:

i. Te Elastic limit, yield point and ultimate stress

ii. Use the curve to determine the toughness and modulus of elasticity

Question two.

A steel beam spanning 12 m, supports reinforced concrete slab with uniformly distributed load of 24 kN/m and two point loads as shown in Figure 1.z

i. Determine the reactions

ii. Determine shear forces and bending moments along the beam.

iii. Sketch the bending moment and the shear force diagrams

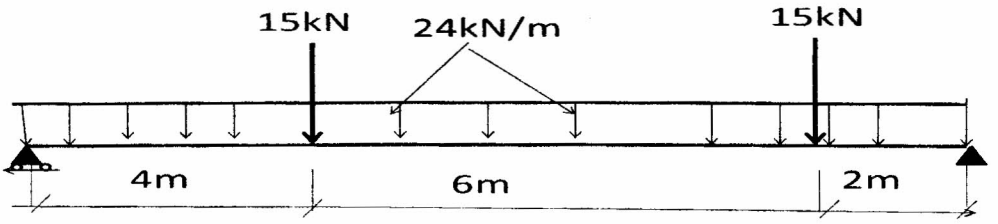

Figure 1

Question three.

A cantilevered steel beam spanning 10 m, supports uniformly distributed load of 30 kN/m at shown in the figure 2.

i. Determine the reactions.

ii. Determine shear forces and bending moments along the beam.

iii. Sketch the bending moment and the shear force diagrams

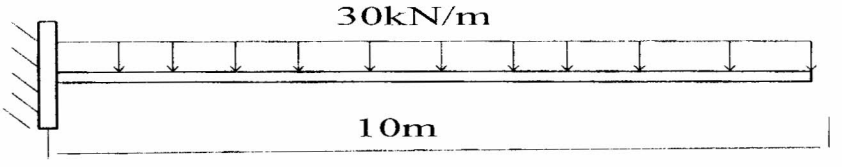

Figure 2