



12 Pages

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

1	Student Number	
2	Title of Examination Paper	MECHANICAL ENGINEERING
3	Module Code	SGEE4017
4	Date and Time of Examination	20th May 2025 09:30
5	Examination Venue	CSG
6	Seat Number	32
7	Number of Answer Books handed in	

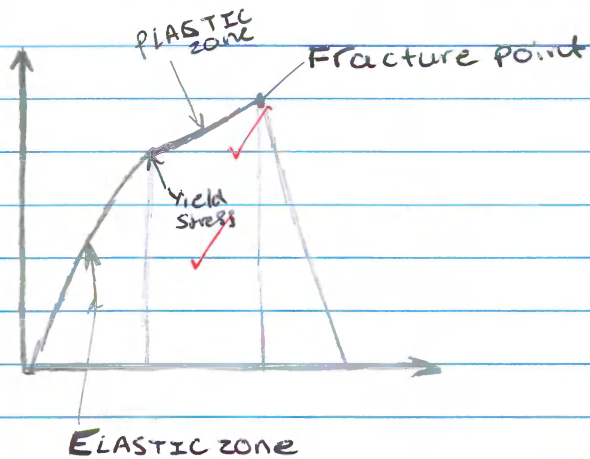
List the numbers of the questions you have attempted	Office Use
A1	9
B1	0
B3	5
B4	7
Total	21%

(Gweler yr ochr arall am y fersiwn Cymraeg)

FORENAME(S): NOAH

SECTION A

1)



(4)

2)

$$P = \frac{WD}{t}$$

$$WD = P \times t$$

$$WD = 10,000 \times 0.4$$

$$WD = 4000 \times W$$

(4)

3)

$$PE = mgh$$

$$\text{Potential Energy} = 1000 \times 15 \times 100$$

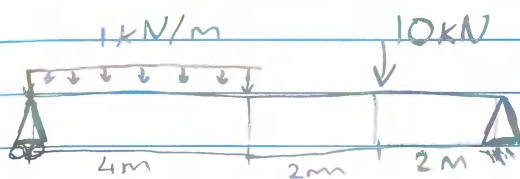
$$PE = 1,500,000 \text{ J}$$

(1)

9

SECTION B

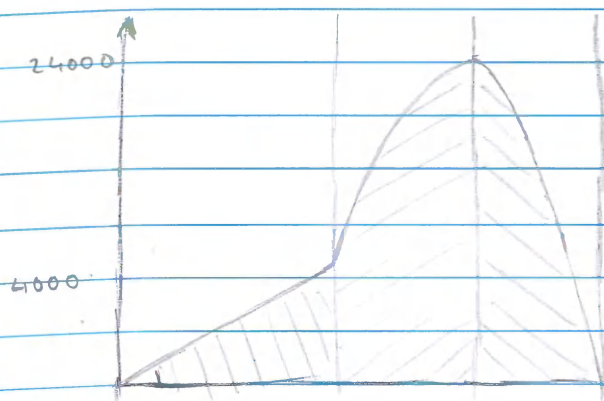
Q1)



$$(1000 \times 4) + (10000 \times 2) = 24000 \text{ N}$$

~~4000 + 10000 = 14000 N~~

~~10000 + 10000 = 20000 N~~



Q3)

a)

~~1. An object that is not in motion requires a stronger external force to put it into motion~~

1.) An object that is not in motion requires a stronger external force to put it into motion

2.) $F = ma$

b)

Work refers to the amount of force needed to move

Power refers to the amount of work done with a time

Potential Energy is how much energy may be needed

Kinetic Energy is how much energy is being used

Question 4)

starts 0 increased by 2.5 m/s^2 for 6.2 secs

$$2.5 \times 6.2 = 15.5 \text{ m/s}^2$$

Velocity after 6.2 seconds
is 15.5 m/s^2

distance covered = 55.6 m