1. **QUESTION ONE**

You are provided with the following

- One metre rule.

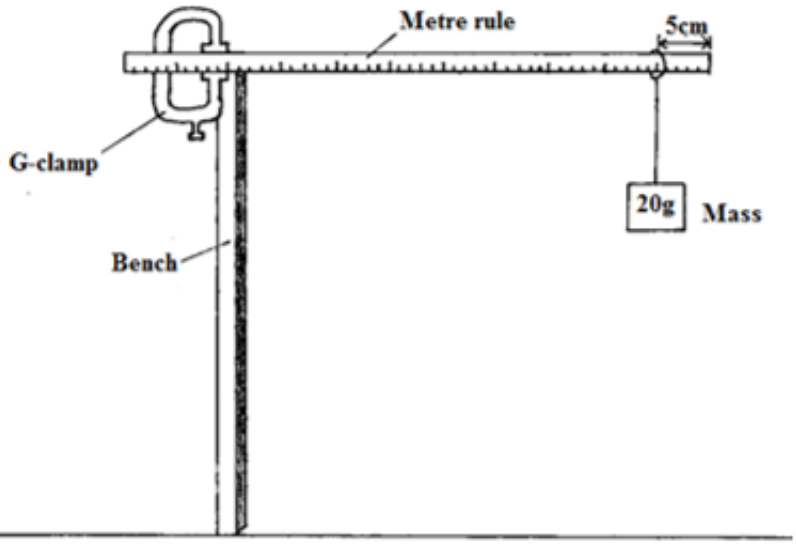
- A set of masses

- A piece of thread

- A stop watch

- A G- clamp (ordinary laboratory clamp)

. a) Set up the apparatus as shown in the figure below



b) Hang a mass of 20g on the thread (ensure the thread and the mass are firmly tied to the metre rule). Displace the mass slightly downwards to set the rule and the mass into oscillation.

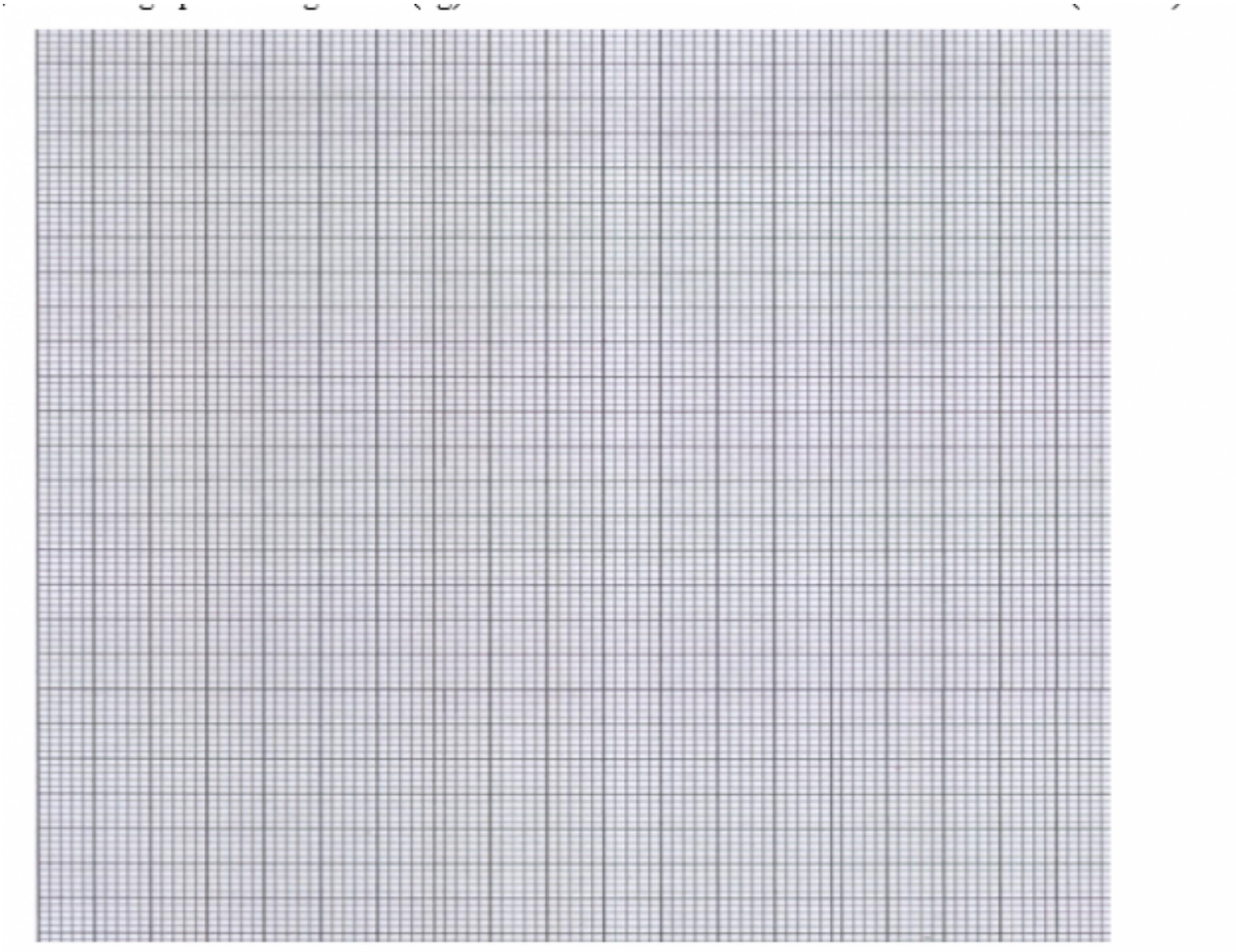
c) Measure the time for 10 oscillations of the rule and record the value in the table.

d) Repeat (c) for masses of 40g, 60g, 80g, 100g and 120g.

e) Calculate the period of oscillation for each mass and record in the table.

Mass (g)	Mass (m) kg	Time for 10 oscillation (s)	Period T(s),	$T^2(S^2)$
20				
40				
60				
80				
100				
120				

f) Plot the graph of T2 against m(kg)



g) Given that the equation of the graph is T2 =Pm+Q where P and Q are constants, determine

i) The value of P.

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ii) The value of Q

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2.