



EDO UNIVERSITY, IYAMHO, EDO STATE
FACULTY OF SCIENCE
DEPARTMENT OF PHYSICS
First Semester Examination, 2016/17 Session

Course Title: Experimental Physics I
Time allowed: 3hrs

Instruction: Answer all questions

Course Code: PHY 119
Date: 08/05/2017

QUESTION ONE

- 1a. Briefly explain the term error
- 1b. Enumerate 5 error in reading instrument
- 1c. The periodic time T of a simple pendulum of length L is given by:

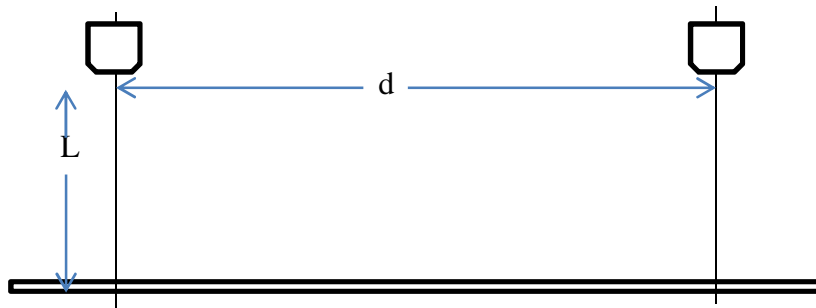
$$T = 2\pi \sqrt{\frac{L}{g}}$$

where g is acceleration due to gravity, Transform the equation into $y = mx + c$

- 1d. State Newton's Law of Cooling
- 1e. A 2Kg lump of cast iron at 90°C is put into a plastic bucket containing 20 Kg of water at 20°C . What is the final temperature of the water and iron assuming no heat lost to the environment?
Specific heat Capacity of water = 4200J/KgK , Specific heat Capacity of cast iron = 500J/KgK

QUESTION TWO

Apparatus: Two heavy stands and clamps, Two threaded cork, Metre rule, Brass rod, Stop watch



Procedure:

Set up the apparatus as shown above by suspending the metre rule by the thread of length $L=100\text{ cm}$ and a distance $d=90\text{ cm}$ (distance between the threads). Give the rule a small angular displacement about a centre axis and the periodic time of 10 complete oscillations. Repeat the experiment for different values of d from 80, 70, 60, 50 cm.

- 2a. Plot a graph of $T(\text{s})$ against $1/d (\text{m}^{-1})$
- 2b. State two precautions taken to ensure accurate results
- 2c. Measure the length L and the mass M of the metre rule.





2d. Determine the moment of Inertia.

GOOD LUCK
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Course Lecturer

