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

Course Title: Experimental Physics I | Course Code: PHY 119
Time allowed: 3hrs | Instruction: Answer all questions | 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:

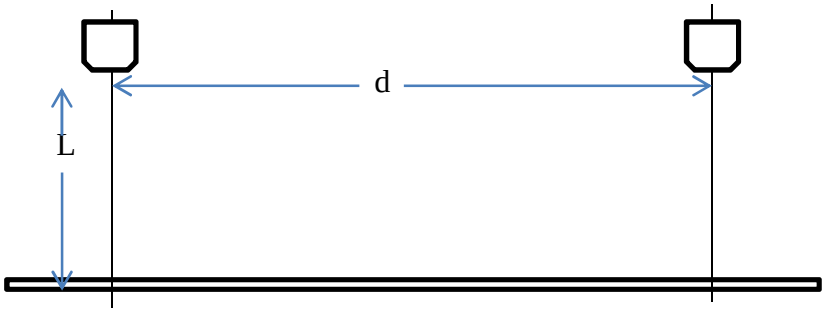
$$T = 2\pi\sqrt{\frac{L}{g}}$$

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 ^{O}C is put into a plastic bucket containing 20 Kg of water at 20 ^{O}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 **s**uspending the metre rule by the thread of length L=100 cm and a distance d= 90 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(s) against 1/d (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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