Zewail City of Science and Technology

PEU Program, Fall 2018-19

PEU 450: Computational Physics

Homework 6

Due date: Friday, Oct 25th



- 1. (10 points) **Problem 3.3**.
- 2. (10 points) **Problem 3.7**.
- 3. (10 points) **Problem 3.8**. If the term  $\theta^3$  is added in the equation of motion of the pendulum, the new period T reads

$$T = T_0 \left( 1 - \frac{A^n}{8} \right)^{-\frac{1}{2}},\tag{1}$$

where  $T_0 = \sqrt{l/g}$ . Find the power n by fitting your numerical data with this equation.