Princess Sumaya جامعـــة
University الأميـــرة سميّـــة
for Technology للتكنولوجيا

PHYSICS LAB

(20147)

Experiment No. 6

Simple Harmonic Motion I
Single Spring

Name: …….	**Reg.No. ( )**
Partner name:……..	**Class ( )**
Date / / 20	**Mark ( )**

Simple Harmonic Motion Single spring

1. Objectives:

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_____

2. Apparatus:

_____

_____

3. Data:

a) Complete the following table for the hard spring:

Original Length of the spring L_0 = _____cm.

No.	Mass M (gm)	Length of the spring L (cm)	Elongation of the spring $x = L - L_0$ (cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			

b) Plot a graph of M against x on a graph paper. From the graph, find the spring constant k_1 for the hard spring.

_____

_____

_____

c) Complete the following table for the light spring:

Original Length of the spring L_0 = _____cm.

No.	Mass M (gm)	Length of the spring L (cm)	Elongation of the spring $x = L - L_0$ (cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			

d)) Plot a graph of M against x on a graph paper. From the graph, find the spring constant k_2 for the light spring.

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e) From the obtained results for the values of k_1 and k_2, are they equal? Explain.

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4. Questions:

1. A spring with force constant 475 N / m stretches 4.5 cm when an object attached to the end of the spring. Find the mass of the object.

2. A spring of k = 11.75 N/m is hanged vertically and a 0.5-kg mass is suspended on it. Calculated the elongation of the spring (x).