

Course No: Eng1307
Course Title: Physics II
Date: 29/3/2015
No. of Questions: (4)
Time: 1:30hours
Using Calculator: (Yes)

University of Palestine



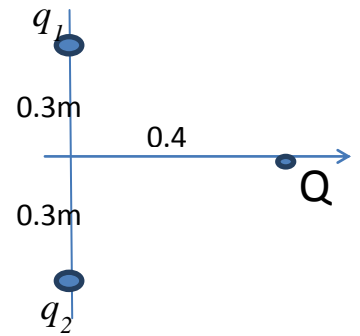
Midterm Exam
2014/2015
Total Grade:20

Instructor Name: Dr. Loai Afana
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary: (No)

Question 1:

(5/20)

Two equal positive charges $q = +2 \times 10^{-6} \text{C}$ interact with a third charge $Q = +4 \times 10^{-6} \text{C}$. Find the magnitude and direction of the resultant force on Q .



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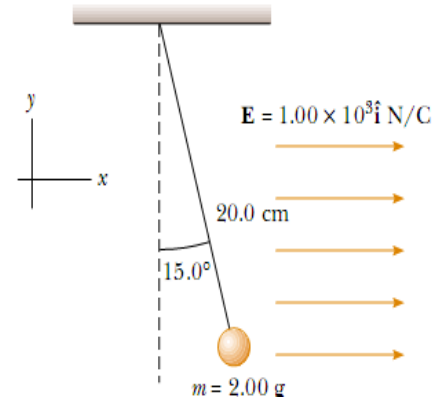
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Question:2

(5/20)

A small 2.00g ball is suspended by a long string in a uniform electric field $E=1 \times 10^3 \text{ N/C}$ as shown in Figure. If the ball is in equilibrium when the string makes a 15.0° angle with the vertical, what is the net charge on the ball?



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Question 3:

(5/20)

A uniform electric field $E= 4 \times 10^3$ N/C exists in the region between two oppositely charged parallel plates. An electron is released from rest at the surface of the negatively charged plate and strikes the surface of the opposite plate 2×10^{-8} s later.

- 1- Find the acceleration.
- 2- Find the distance between the two plates.

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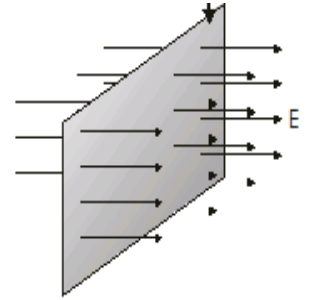
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Question 4:

(5/20)

A square metal plate of sides 50cm is placed in electric field of 8×10^4 N/C directed perpendicular to the plate. Find the charge density (σ) of the plate.



End of Questions

Useful Constant: $k = 9 \times 10^9$, $\epsilon_0 = 8.85 \times 10^{-12}$, $m_e = 9.11 \times 10^{-31} \text{kg}$, $q_e = 1.6 \times 10^{-19} \text{C}$.