

Course No: *Engi1304*
Course Title: *Physics II*
Date: *11/03/2018*
No. of Questions: (3)
Time: *1:00 hours*
Using Calculator: (*Yes*)

University of Palestine



First Med Exam-2S
2017-2018
Total Grade: 15

Instructor Name:
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary: (*No*)

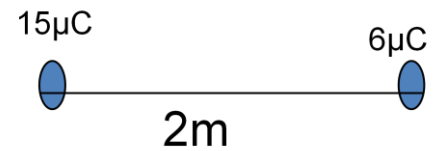
رقم الشعبة:	الرقم الجامعي:	اسم الطالب:
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Constant: $k = 9 \times 10^9$, $\epsilon_0 = 8.85 \times 10^{-12}$, $m_e = 9.11 \times 10^{-31} \text{ kg}$, $q_e = 1.6 \times 10^{-19} \text{ C}$.

Question 1: (6)

A- An electron in electric field (E) is affected by an electric force equals to its weight.
Find the electric field (E).

B- Two fixed charges, $15\mu\text{C}$ and $6\mu\text{C}$ are separated by 2m as shown in figure, where may a third positive charge be located so that no electric force acts on it?



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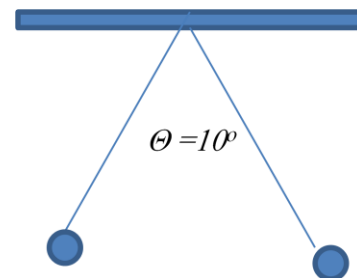


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Question 2: (4)

Two identical small positive charged spheres, each has a mass of 2×10^{-2} kg, hang in equilibrium as shown in Figure. The length of each string is 0.15 m, and the angle between the strings is $\theta = 10^\circ$. Find the magnitude of the charge on each sphere.



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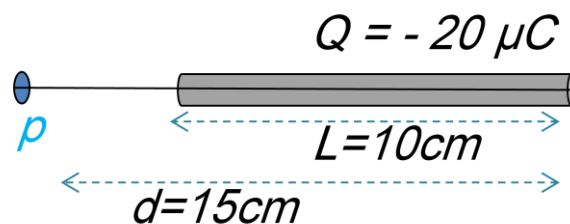


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Question 3: (5)

A rod of length $L=10\text{cm}$ has a uniform negative charge per unit length λ and a total charge $Q = -20\mu\text{C}$. Calculate the electric field magnitude and direction at a point P that is located along the left side of the rod and a distance $d=15\text{cm}$ from the right side of the rod.



End of Questions

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