Course No: ENGI 1304 **Course Title: General Physics II** **Date: 12/03/2017** **No. of Questions: (4)** **Time: 1 hour** **Using Calculator (Yes)**	**University of Palestine**  **First midterm Exam** **2016/2017** **Total Grade: 30**	**Instructor Name: _____** **Student No.: _____** **Student Name: _____** **College Name: _____** **Dep. / Specialist: _____** **Using Dictionary (No)**

$g = 9.8\frac{m}{s^2}$, $e = 1.602 \times 10^{-19}\,C$, $m_e = 9.11 \times 10^{-31} kg$, $\varepsilon_0 = 8.85 \times 10^{-12}$, $k = 9 \times 10^9$

Question One: Choose the correct answer **5 Pts.**

1	2	3	4	5	Total

1) Which of the following in not a property of electric charges?

a) Charge is conserved.

b) Charge is quantized.

c) There are 3-kinds of charges, positive, negative and neutral.

d) Like charges repel each other and unlike charges attract each other.

2) Object "A" has a charge Q and object "B" has a charge 3Q. Which of the following is correct?

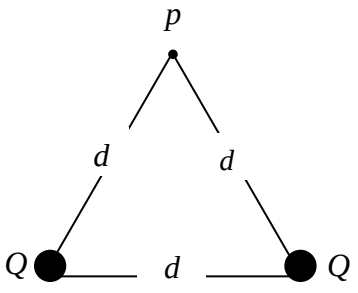
a) $\vec{F}_{AB} = 3\vec{F}_{BA}$ b) $\vec{F}_{AB} = -3\vec{F}_{BA}$ c) $\vec{F}_{AB} = \vec{F}_{BA}$ d) $\vec{F}_{AB} = -\vec{F}_{BA}$

3) The unit of permittivity constant ε_o is:

a) $C^2/N.m^2$ b) $N.m/C^2$ c) $N.m^2/C^2$ d) $N^2.m^2/C^2$

4) Two similar positive charges are arranged as shown. The direction of the electric field at point p is

a) up b) down c) left d) right



5) If the net electric flux through a closed surface is zero, which of the following statements is correct

a) There are no charges inside the surface.

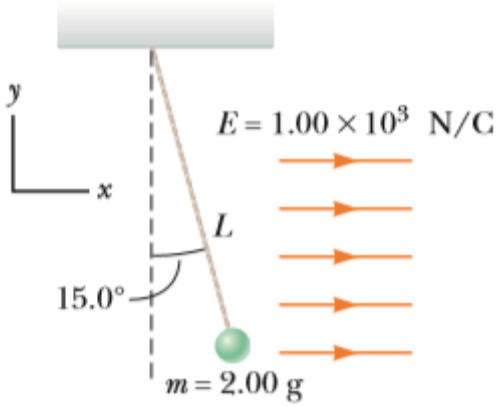
b) The electric filed inside the surface is zero.

c) The electric filed on the surface is constant.

d) The number of electric field lines entering must equal to the lines leaving the surface.

Question Two: 8

In the Figure, determine q value, where, E=1000 N/C, m=2gm, θ = 15°, L=20 cm.



Question Three: 10

A uniformly charged ring of radius 10.0 cm has a total charge of $75\mu C$.

Find the electric field on the axis of the ring at

a) 1.00 cm,
b) 30.0 cm,
c) 100 cm from the center of the ring.

Question Four: 7

What is the electric flux through a sphere that has a radius of 0.8 m and carries a charge of 3.00 μC at its center?

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End of Questions

Good Luck