King Abdulaziz University	Faculty of Science	Department of Physics
PHYSICS 202 BA	FALL 2010	Quiz#2

Name:..... Number:.....

Encircle the correct answers for the following questions

1. The electric field at a distance 3 cm from a cylindrical wire is 3600 N/C. **The linear charge density** of the wire is:

(a) 6 nC/m **(b)** 12 nC/m **(c)** 3 nC/m **(d)** 9 nC/m **(e)** 1 nC/m

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2. Two charges 25.9 μC and -8.2 μC are confined in a spherical surface of radius 5 cm. **The net electric flux** though the surface is (in SI units):

(a) 2.0×10^{6} **(b)** 4.14×10^{3} **(c)** 17.7×10^{6} **(d)** 17.7×10^{3} **(e)** zero

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3. An 8-m plate is immersed in a uniform electric field of 2000 N/C. If the plane of the plate makes an angle of 75^{0} with the electric field, **the electric flux** is (in SI units):

(a) 2.0×10^{6} **(b)** 4.14×10^{3} **(c)** 17.7×10^{6} **(d)** 17.7×10^{3} **(e)** zero

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4. The electric potential at the center of a conducting sphere of radius 5 cm is 360 V. The magnitude of **the electric field** at the center of the sphere is:

(a) 7200 N/C **(b)** 72 N/C **(c)** 18 N/C **(d)** 1800 N/C **(e)** zero

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5. The electric potential at 2 mm away along the axis of an electric dipole is 4500 V. **The dipole moment** is:

(a) 1 nC.m **(b)** 2 pC.m **(c)** 1 pC.m **(d)** 2 nC.m **(e)** 3 nC.m

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Constants: $k=9.0\times10^{9}\ N.m^{2}/C^{2}$, $\varepsilon=8.85\times10^{-12}\ C^{2}/N.m^{2}$