EXAM 1 PHYS 2140 SUMMER 2015

class15	
Rnumber	**Exam1**
R00151631	100
R00542746	34
R00645753	100
R00755805	84
R00762970	68
R00766893	68
R00867387	84
R00867424	84
R00920841	100
R00945392	68
R01025253	100
R01045676	100
R01074223	36
R01074436	52
R01075399	84
R01077981	68
R01080567	84
R01084235	84
R01085510	84
R01085771	100
R01109294	68
R01113113	84
R01128456	52
R01148464	84
R01148668	84
R01165984	68
R01174627	52
R01175146	84
R01175785	
R01176443	84
R01178396	68
R01182017	84
R01189420	68
R01290875	84
R01309869	84

R01314078	84
R01314409	84
R01344090	84
R01345745	84
R01348865	52
R01382754	52

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In one mole or 18 grams of water, the total negative charge of all the electrons is: a. zero because its electrically neutral. b. less than one C c. almost 100,000 C. d. almost one million C. e. none of these	Consider a small, conducting sphere of 0.0010 kg mass. Extra electrons are placed on this sphere and on an identical sphere 3.0 m below it so the repulsion between these extra electrons provides a force equal to the weight of the top sphere. How many electrons must be added to each sphere? a. 5.0 x 10-25 b. 3.1 x 10-6 c. 2.0 x 1013 d. 3.9 x 1013 e. none of these	If the symbols] and [are used to represent a pair of charged plates, in the sketch below, +] [- the field between the two plates would be directed: a. upward. b. to the left. c. to the right. d. zero, so its direction is without meaning. e. none of these

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~~4) A conducting sphere of radius 1 cm has a charge of 1 C deposited on it. The magnitude of the electric field in N/C just outside the surface of the sphere is:~~ ~~1. 0~~ ~~2. 10^{12}~~ ~~3. 000~~ ~~4. 4500~~ ~~5. 10^{12}~~	**5)** Charge is distributed uniformly along a metal surface. The electric field 2 cm from the surface is 20 N/C. The electric field 4 cm from the surface is: 1. 120 N/C 2. 80 N/C 3. 40 N/C 4. 10 N/C 5. None of the above	**6)** A 3.5-cm radius hemisphere contains a total charge of 8.85×10^{-7} C. The flux through the rounded portion of the surface is 9×10^4 N · m^2 /C. The flux through the flat base is: 1. 1×10^4 N · m^2 /C 2. -2.3×10^4 N · m^2 /C 3. -9.8×10^4 N · m^2 /C 4. $+9.8 \times 10^4$ N · m^2 /C 5. None of the above