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General Physics-II, Quiz 9
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St. ID:_____ Name:_____

Chapter 26-27, Serway; ABSOLUTELY NO CHEATING!
Please write down the answers on the blank space or on the back of this paper. Answer should be in english. [ ] indicates the question points.

1. Two capacitors, C_1 = 5.00 mF and C_2 = 12.0 mF, are connected in parallel, and the resulting combination is connected to a 9.00 V battery. Find (a) the equivalent capacitance of the combination and the potential difference across each capacitor. (b) What will be the results if they (C_1 &C_2) are connected in series? [25+25= 50]

2. If you want to fabricate a uniform wire from 1.00 g of copper and the wire is to have a resistance of R = 0.500 Ω and all the copper is to be used, what must be (a) the length and (b) the diameter of this wire ? (c) If the magnitude of the drift velocity of free electrons in this copper wire is 7.84 x 10^{-4} m/s, what is the electric field in the conductor? [20+10+20=50]