

## Capacitors (and Resistors) in Series and parallel)

Reminder: You will receive no credit for items you complete after the assignment is due. Close Grading Policy [x]

Read the following sections 24.1, 24.3 26.2 in your textbook and do the prep assignment below

1. What is a capacitor?
2. Capacitors store?
3. What is the capacitance of the capacitor?
4. Show the formula for the amount of charge  $Q$  while a given voltage  $V$ , is applied to the capacitor of capacitance  $C$ ?
5. What is a series circuit?
6. What is a parallel circuit?
7. What is the formula for the total Capacitance of two capacitors,  $C_1$  and  $C_2$  in a series circuit?
8. The formula for the total capacitance of the same two in question 7 in a parallel circuit is?
9. The formulas for the total resistance of two resistors  $R_1$  and  $R_2$  in a series and parallel circuit are?

Problems:

ADD THE FOLLOWING QUESTIONS (PROBLEMS) TO YOUR LAB REPORT AT THE END: SHOW YOUR CALCULATIONS CLEARLY (formulas used and your math). WARNING.DO NOT COPY FROM ANOTHER THERE IS A FINAL EXAM AND IF YOU WANT TO PASS IT YOU MUST LEARN THE MATERIAL.

P1. Two capacitors of capacitance 10uf and 30uf are in parallel with each other, calculate the total capacitance of this arrangement?

P2. Same two capacitors in P1 are in a series circuit their combined capacitance is?

P3. Three resistors rated at 10, 20 and 30 ohms are in parallel their combined resistance is?

P4. Same resistors in P3 are now in Parallel together, their combined resistance is?