

Sample Quizzes

QUIZ #4

SCORE \_\_\_\_\_

Physics 132

25 points, 18 minutes

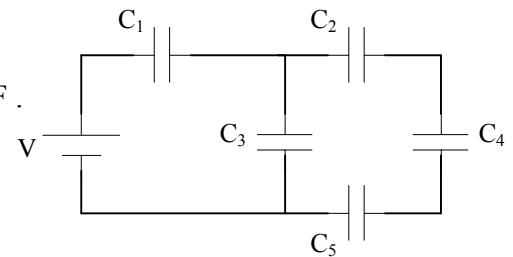
1) [20 points] For the circuit given in the figure to the right, take:

$V = 100 \text{ V}$ ,  $C_1 = 1 \mu\text{F}$ ,  $C_2 = 2 \mu\text{F}$ ,  $C_3 = 3 \mu\text{F}$ ,  $C_4 = 4 \mu\text{F}$ ,  $C_5 = 5 \mu\text{F}$ .

Find:  $C_e$ , the equivalent capacitance of the capacitor network.

$q_1$ , the charge on  $C_1$ .

$U_3$ , the energy stored in  $C_3$ .



2) [5 points] Suppose an additional capacitor,  $C_6 = 12 \text{ F}$ , was added to the circuit as shown.

Would  $q_1$  increase, remain the same, or decrease?

