

# Experiment 5: Diode Rectifier Circuits

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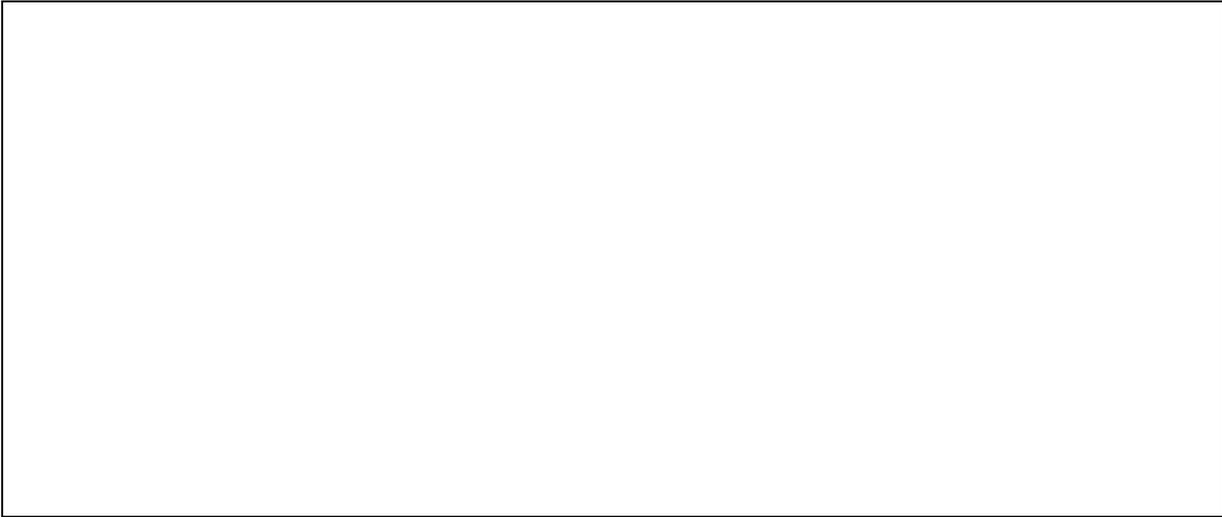
## Post-Lab Report

### A. Rectifier Design Characteristics

- How is the current rating of the transformer secondary calculated?

- Compare the three circuits for each of the characteristics 1 to 6 listed in the theory section. What is the regulation mainly due to?

- Under what conditions would each of the circuits be most advantageous?

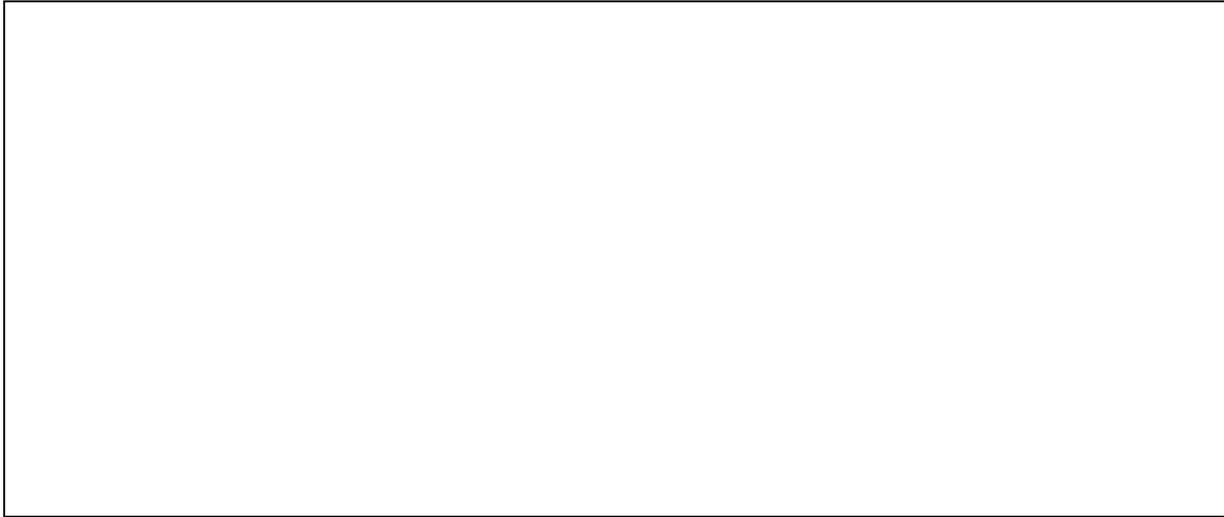


### **B. Full Wave Rectifier with Capacitor (Fig.4)**

- Does  $V_{DC}$  increase appreciably with C for all values of C?



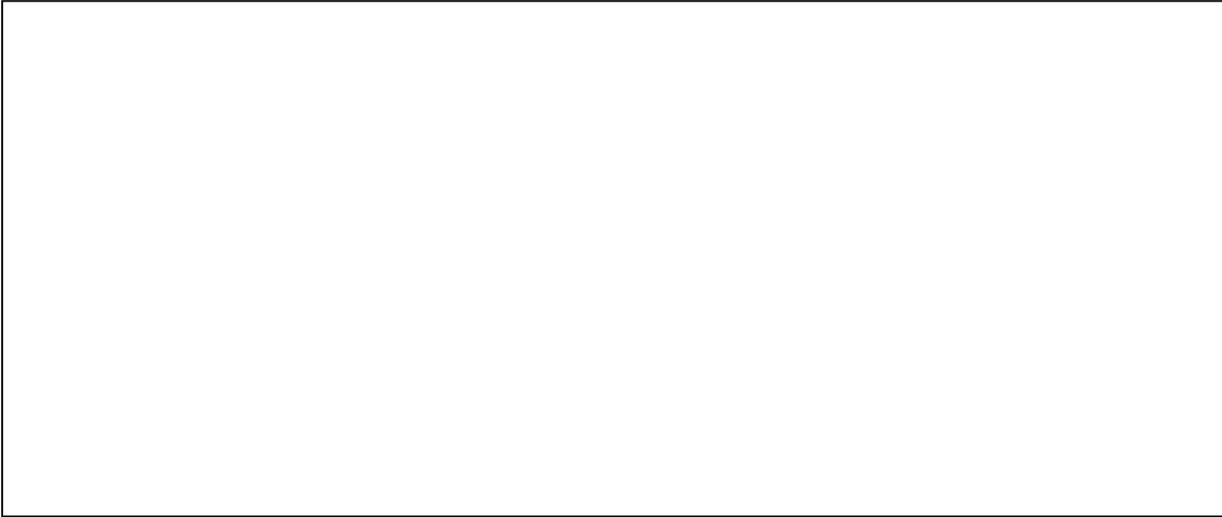
- Does  $V_r$  decrease appreciably with  $C$  for the values of  $C$  used in the experiment?



- Under what conditions are the approximate relations in the Theory section adequate for calculating  $V_r$  and  $V_{DC}$ ?



- How does the presence of the capacitor affect the regulation of the circuit?

A large, empty rectangular box with a thin black border, intended for the student to write their answer to the question above.

- What additional current rating of diodes must be considered for the capacitor filter?

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- For a certain required ripple voltage and DC voltage/current at the load: what should be the RMS voltage rating of the secondary of the transformer? what should be the value of the capacitor?

