Part 1. Half-wave rectifier
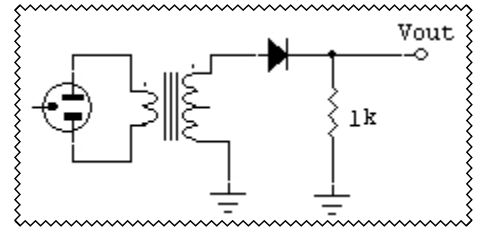
1. Assemble the circuit in Fig. 1

Fig. 1

2. Measure V_{SEC} with the voltmeter in A.C.: V_{SEC} = _____

3. Calculate V_P: V_P = _____

4. Calculate V_L: V_L = _____

5. Calculate V_{DC}: V_{DC} = _____

6. Measure V_{OUT} with the voltmeter in D.C.: V_{DC} = _____

7. How do the calculated and measured values of V_{DC} compare?

8. Connect channel 1 of the oscilloscope to V_{OUT}. Sketch the output in Fig. 2 and indicate V_P and the period of the waveform.
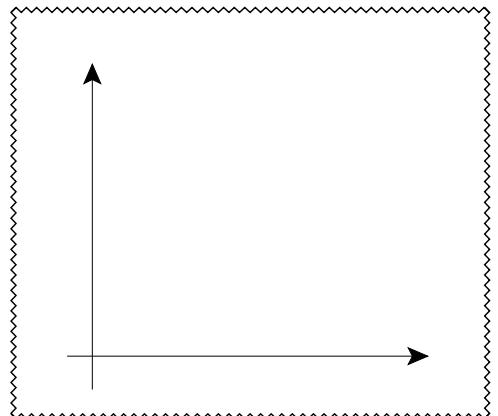

Fig.2

Part 2 Full Wave Rectifier
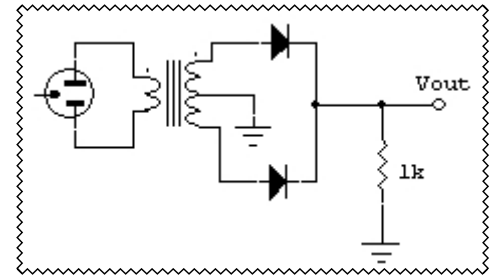
1. Assemble the circuit in Fig. 3

Fig. 3

2. Measure V_{SEC} with the voltmeter in A.C.:

V_{SEC} = _____

3. Calculate V_{CT}: V_{CT} = _____

   Measure V_{CT}: V_{CT} = _____   Do these voltages match?

4. Calculate V_P: V_P = _____

5. Calculate V_L: V_L = _____

6. Calculate V_{DC}: V_{DC} = _____

7. Measure V_{OUT} with the voltmeter in D.C.:
   V_{DC} = _____

8. Connect to oscilloscope to V_{OUT}. Sketch the output in Fig. 4 and indicate V_P and the period of the waveform.
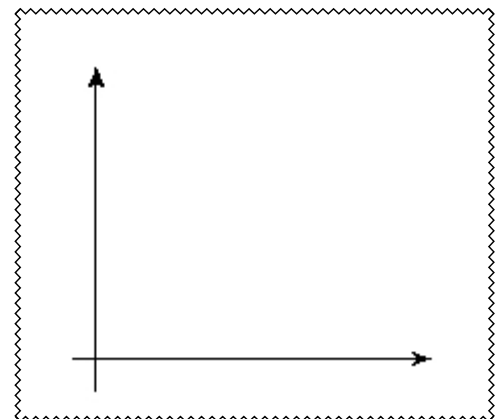

Fig. 4

9. What are the differences between the half-wave and full-wave rectifier circuits?