Indian Institute of Information Technology, Sri City, Chittoor
(An Institute of National Importance under an Act of Parliament)

BEC Tutorial 3

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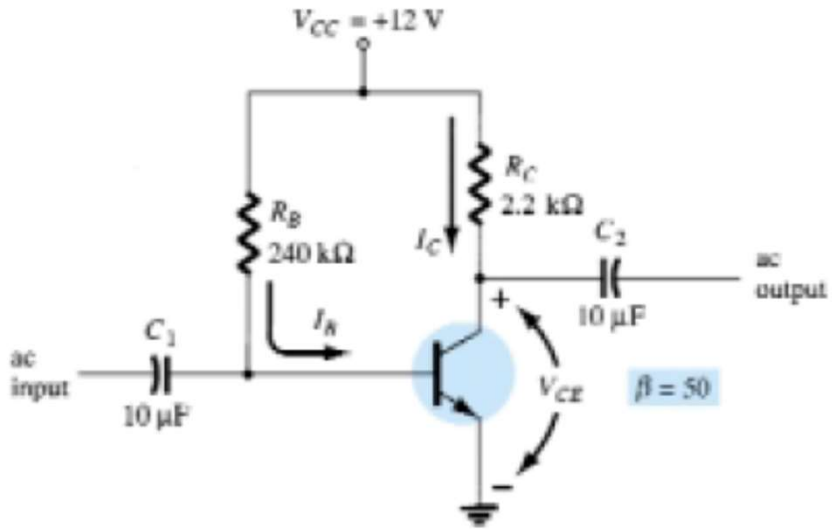
Rectifier problem

- A full-wave bridge-rectifier circuit with a 1-k load operates from a 120-V (rms) 60-Hz household supply through a 12-to-1 step-down transformer having a single secondary winding. It uses four diodes, each of which can be modeled to have a 0.7-V drop for any current. What is the peak value of the rectified voltage across the load? For what fraction of a cycle does each diode conduct? What is the average voltage across the load? What is the average current through the load?

Transistor

- Determine the following for the fixed-bias configuration .
- (a) I_B and I_C.
- (b) V_{CE}.
- (c) V_B and V_C.
- (d) V_{BC}.



Transistor

- For the circuit shown here, find V_B, V_E, and V_C
- for R_B = 100 k, 10 k, and 1 k. Let β=100.