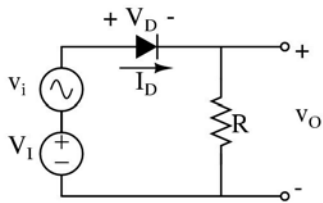


MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

6.101 Introductory Analog Electronics Laboratory
Spring 2003
Problem Set #1

Remember to use standard 5% resistor values. Assume $V_T = 26\text{mV}$.

- 1.1) Neamen 1.20 page 43, but change $I_D = 200\mu\text{A}$
- 1.2) Neamen 1.27 page 44
- 1.3) Neamen 1.30 page 45
- 1.4) In the circuit below, $V_I = 5\text{V}$, $v_i = 0.2\sin(\omega t)\text{ V}$, $V_D = 0.7\text{V}$, and $I_D = 1\text{mA}$. Find R , V_O , r_d , i_d , and v_o .



- 1.5) Neamen 2.7 page 87,
 - b) What type of rectifier is this with respect to each rail (V^+ , V^-) ?
 - c) Sketch the waveform across V_i assuming a transformer turns ratio of 1:1.
- 1.6) Neamen 2.10 page 87