EE311 Exam 1 – Solutions

These solutions are provided purely for your benefit. It is our hope that you will use these solutions as reference material to check your work as you rework any problems that you didn't answer correctly on the actual exam.

---

1. a. high
   b. high
   c. 5V
   d. 1
   e. decrease
   f. 50_E3 rad/s

2. a. $V_1 = 0.2V$
      $I_2 = 50uA$
      $V_O = -1.8V$
   b. R_{IN} at $V_2 = 9KOhm$
   c. R_{IN} at $V_1 = 4KOhm$

3. $A \to \infty$ $A = 90$
     $V_A =$ 0V $V_A = -0.1V$
     $V_N =$ 0.2V $V_N =$ 0.2V
     $V_i =$ 0.2V $V_i =$ 0.3V

4. a. $f_b = 6Hz$
      $f_{3db} = 20KHz$
   b. $|A| = 5$
      $|G| = 5$

5. $V_N = -0.45mV$
     $R = 9.5KOhm$