

# JEE2330 – Spring 2025

## Lab #7 Design Page

**Initial Design**

**Final Design**

**Design Rqmts**

**Transistor Characteristics:**

|                      |       |                        |
|----------------------|-------|------------------------|
| $\beta_{DC} =$ _____ | _____ | $175 \pm 25$           |
| $\beta_{AC} =$ _____ | _____ | $175 \pm 25$           |
| $r_{oc} =$ _____     | _____ | $> 25 \text{ k}\Omega$ |

**Circuit Components:**

|                  |       |  |
|------------------|-------|--|
| $R_B =$ _____    | _____ |  |
| $R_C =$ _____    | _____ |  |
| $V_{CC} =$ _____ | _____ |  |
| $C_1 =$ _____    | _____ |  |
| $C_2 =$ _____    | _____ |  |

**Operating Point Characteristics:**

|                   |       |  |
|-------------------|-------|--|
| $V_{CEQ} =$ _____ | _____ |  |
| $I_{CQ} =$ _____  | _____ |  |
| $I_{BQ} =$ _____  | _____ |  |
| $r_{\pi} =$ _____ | _____ |  |

**Voltage Amplifier Characteristics (No Load):**

$R_L = \infty$

**Measured**

|                   |       |                          |  |       |
|-------------------|-------|--------------------------|--|-------|
| $r_i =$ _____     | _____ | $\geq 1 \text{ k}\Omega$ |  | _____ |
| $r_o =$ _____     | _____ | $\leq 2 \text{ k}\Omega$ |  | _____ |
| $a_{vo} =$ _____  | _____ | $200 \pm 40$             |  | _____ |
| $V_{opp} =$ _____ | _____ | $\geq 10 \text{ V}$      |  | _____ |
| $f_{li} =$ _____  | _____ | $\leq 400 \text{ Hz}$    |  | _____ |

**Voltage Amplifier Characteristics ( $R_L = 2R_C$ ,  $C_2 = C_1$ , Final Design Q Point):**

|                   |       |  |  |       |
|-------------------|-------|--|--|-------|
| $a_v =$ _____     | _____ |  |  | _____ |
| $V_{opp} =$ _____ | _____ |  |  | _____ |

**Initial Design Approval:** \_\_\_\_\_