Assignment 4

BRAC University

Semester: Spring 2023
Course No: CSE251 Full Marks: 100
Course Title: Electronic Devices and Circuits Deadline: **29 April 2023**

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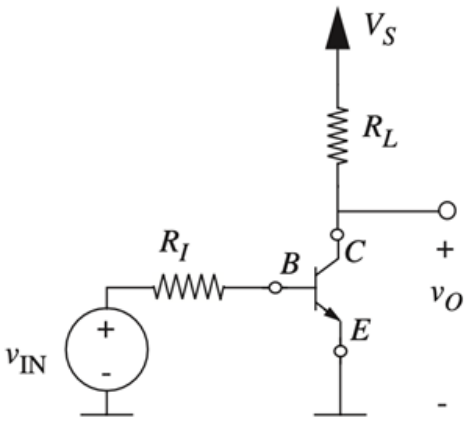
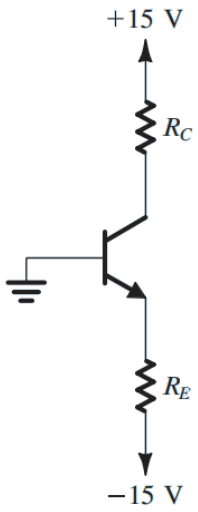
1. Choose an operating point for the amplifier below to maximize the input voltage swing.

Here $R_I = 100\ k\Omega, R_L = 10\ k\Omega, \beta = 100, V_S = 10\ V$



2. The transistor in the circuit of Fig. shown below has β = 100 and exhibits a v_{BE} of 0.7V at i_C = 1 mA. Design the circuit so that a current of 2 mA flows through the collector and a voltage of +5 V appears at the collector [Use the method of assumed state to solve].



3.

In the circuit shown in Fig. the voltage at the emitter was measured and found to be –0.7 V. If $\beta = 50$, find I_E, I_B, I_C, and V_C.