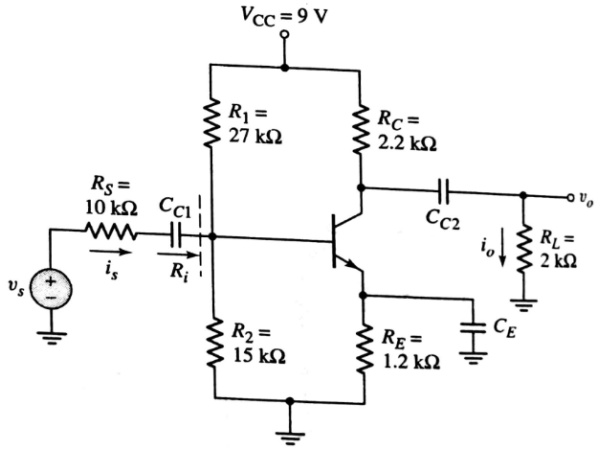
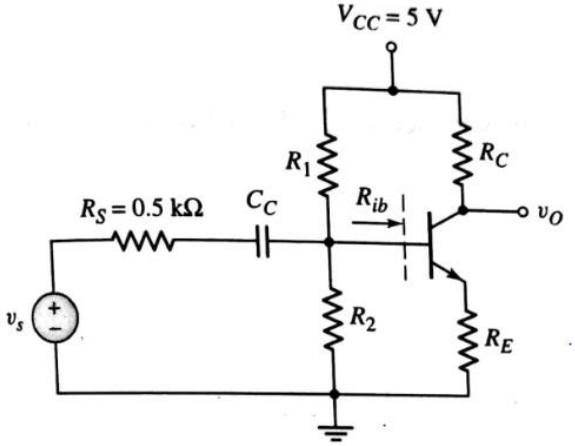
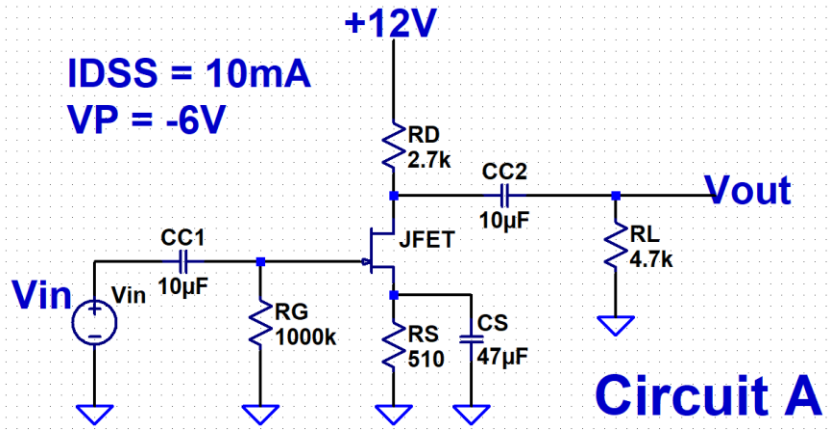
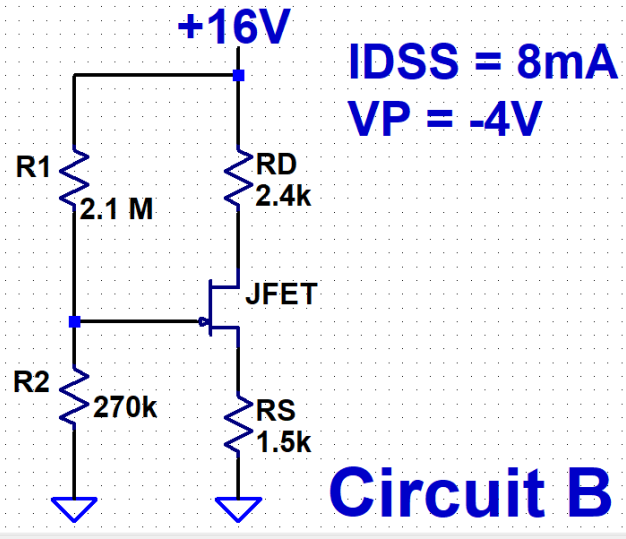
K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: **July – November 2019**

Max. Marks: 30 **Duration: 1hr.15 min.**
Class: SY B. Tech **Semester: III**
Branch: ETRX **Test 2**
Full name of the course : Basic Electronic Circuits **Course Code:2UEXC302**

Q. No	Questions	Marks
Q.1	Consider the circuit shown in figure 1. Transistor parameters are $\beta = 100$, $V_A = 100$ V. Determine 1. Ri 2. Av = Vo/Vs with load resistor 3. Av= Vo/Vs without load resistor 4. Ro  Figure 1	15
	OR	
	Consider the circuit shown in figure 2. Transistor parameters are $\beta = 100$, $V_{BE(ON)} = 0.7$V, $V_A = \infty$. Design bias stable circuit such that $I_{CQ} = 0.5$ mA, $V_{CEQ} = 2.5$V and Av = - 8.  Figure 2	

Q2.	a) Find hybrid pi parameter gm for circuit A shown below:  b) JFET is a voltage controlled device. Justify	4 3
Q3.	Find I_D, V_{GS} and V_{DS} for circuit B either by analytical or graphical method.  	8