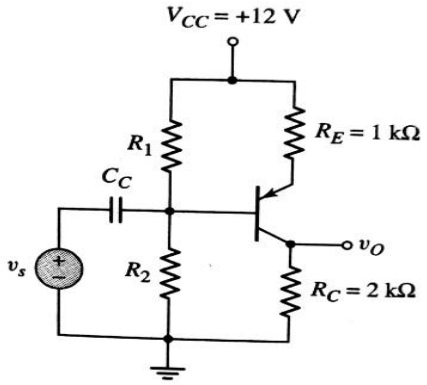
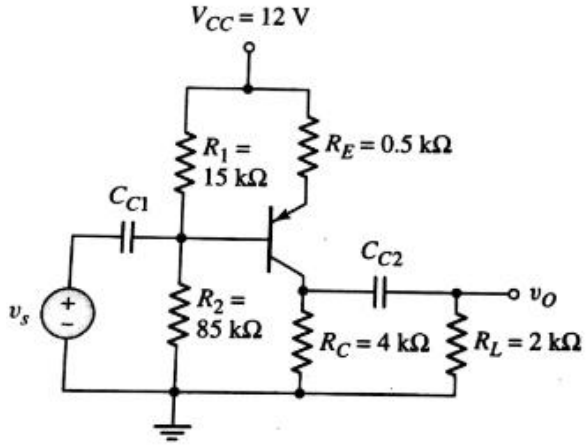
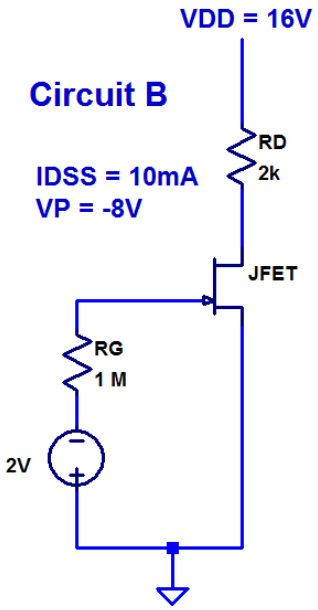
K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: **July – November 2019**

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

Q. No	Questions	Marks
Q.1	The transistor parameters for the circuit in figure 1 are $\beta = 100$ and $V_A = \infty$. a) Design the circuit such that it is bias stable and the Q point is in the center of load line. b) Determine small signal voltage gain of designed circuit.  **Figure 1** **OR**	15
	The transistor in the circuit shown in figure 2 has parameters $\beta = 100$, $V_{EB(ON)} = 0.7$V and $V_A = \infty$. a) Determine quiescent collector current and emitter – collector voltage. b) Find small signal voltage gain  **Figure 2**	

Q.2.	a) Draw circuit of Common source JFET amplifier. Hence, derive the expression of its voltage gain. b) N-channel JFET is a rarely operated with positive value of gate to source voltage. Justify	5 2
Q3.	Find I_D, V_{GS} and V_{DS} for circuit B 	8