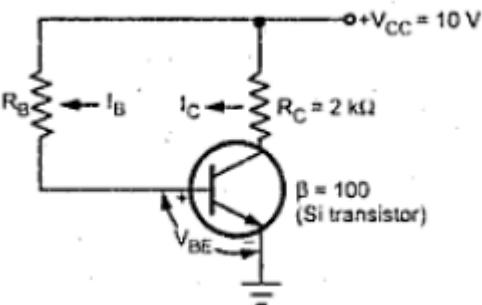
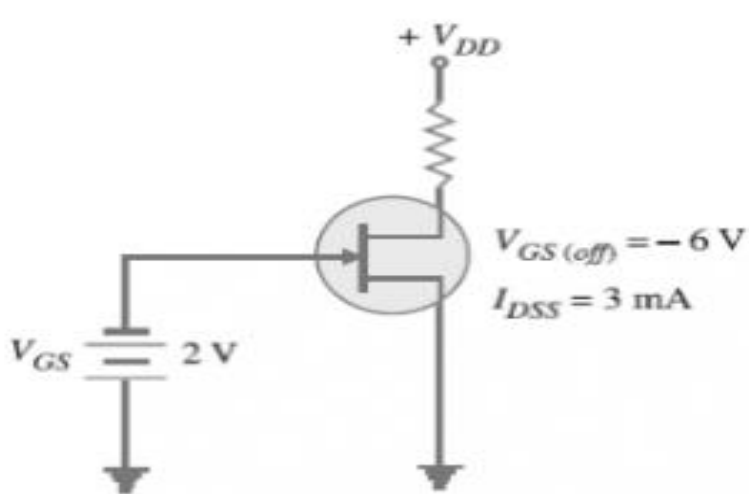
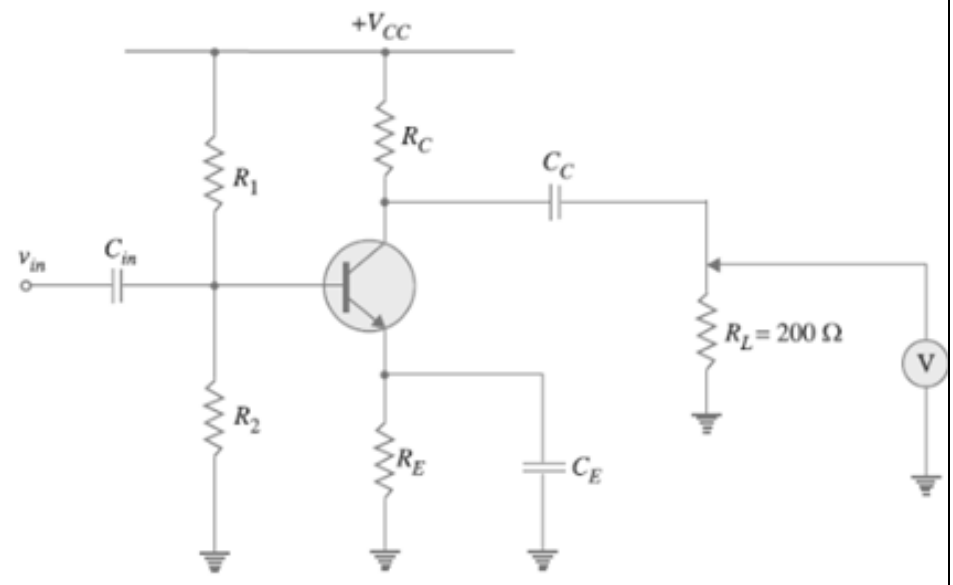


DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Winter Examination – 2023 Course: B. Tech. Branch: E&TC Semester: III Subject Code & Name BTEXC302& Electronic Devices & Circuits Max Marks: 60 Date:11/03/2023 Duration: 2:00 To 5:00 PM			
Instructions to the Students: 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. 3. Use of non-programmable scientific calculators is allowed. 4. Assume suitable data wherever necessary and mention it clearly.			
		Level/(CO)	Marks
Q. 1	Solve Any Two of the following.		12
A)	Derive the relation between α & β with respect to BJT.	C01	6
B)	In the circuit shown below, for $R_B=300K\Omega$ and $R_C=150K\Omega$ calculate I_B, I_C and V_{CE}? 	C03	6
C)	Draw neat diagram of RC Coupled amplifier and explain in detail.	C03	6
Q.2	Solve Any Two of the following.		12
A)	Explain E-MOSFET in detail.	C03	6
B)	What is CMOS inverter? Explain its transfer characteristics.	C01	6
C)	Determine the value of drain current for the circuit shown in Fig.	C03	6

			
Q. 3	Solve Any Two of the following.		12
A)	Explain class c power amplifier in detail.	C02	6
B)	Determine the a.c. load power for the circuit shown in fig	C03	6
			
C)	Derive Expression for Maximum Efficiency of Class B Power Amplifier.	C02	6
Q.4	Solve Any Two of the following.		12
A)	What are the four different types of feedback amplifier? Explain in detail.	C04	6
B)	The overall gain of a multistage amplifier is 140. When negative voltage feedback is applied, the gain is reduced to 17.5. Find the fraction of the output that is feedback to the input.	C04	6
C)	Explain the principle of positive feedback.	C04	6

Q. 5	Solve Any Two of the following.		12
A)	Draw a neat diagram of clapp oscillator & explain in detail.	C01	6
B)	1 mH inductor is available. Choose the capacitor values in a Colpitts oscillator so that $f = 1$ MHz and feedback factor equal to 0.25	C04	6
C)	i)State Barkhausen criterion for sustained oscillation. ii)Differentiate oscillator from amplifier.	C04	6
	*** End ***		

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