SRM Institute of Science and Technology
College of Engineering and Technology

DEPARTMENT OF ECE

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

OFFLINE MODE

SET B

Academic Year: 2021-2022 (EVEN)

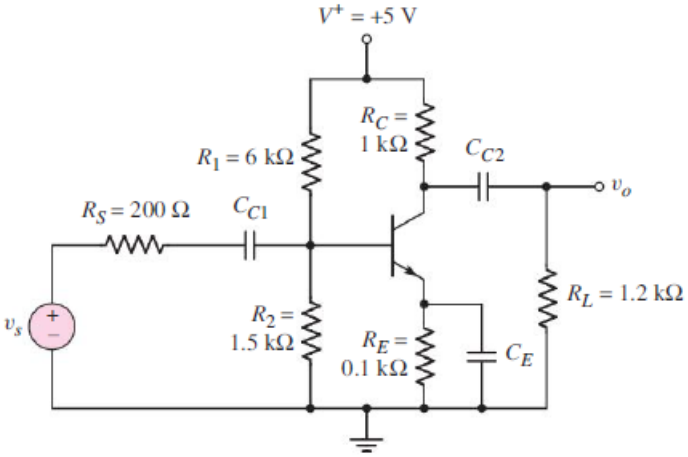
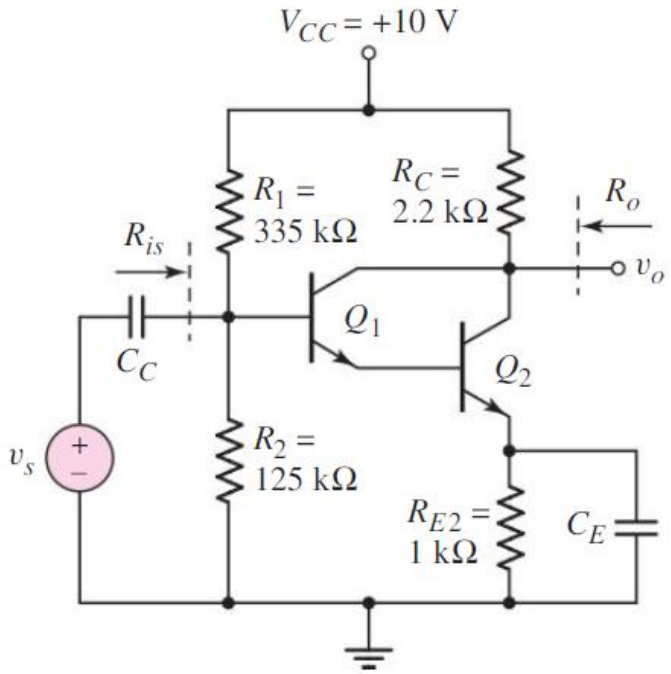
Test: CLAT- 1 **Date: 07-04-2022**
Course Code & Title: 18ECC201J – Analog Electronic Circuits **Duration:** 60 minutes
Year & Sem: II / IV **Max. Marks:** 25

Course Articulation Matrix:

	18ECC201J - Analog Electronic Circuits	Program Outcomes (POs)														
		Graduate Attributes												PSO		
COs	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
CO-1 :	Analyze bipolar amplifier circuits and their frequency response.	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO-2 :	Develop MOSFET amplifier circuits and their frequency response.	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO-3 :	Compile various negative feedback amplifier and oscillator circuits.	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-
CO-4 :	Demonstrate the different classes of power amplifiers according to their performance characteristics.	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO-5 :	Construct the basic circuit building blocks that are used in the design of IC amplifiers, namely current mirrors and sources.	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-
CO-6 :	Organize analog electronic circuits using discrete components to measure various analog circuits' performance.	-	-	3	-	-	-	-	-	2	-	-	-	3	1	-

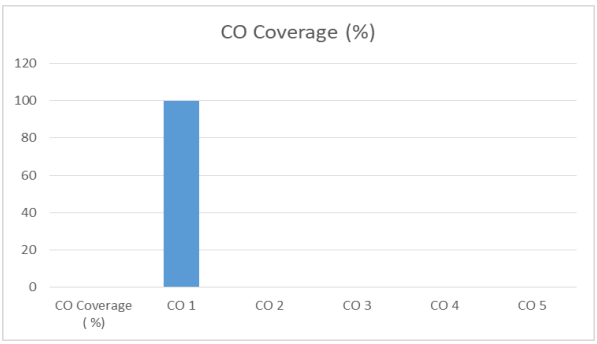
Part – A
(5 x 1 = 5 Marks)
Instructions: Answer any 5

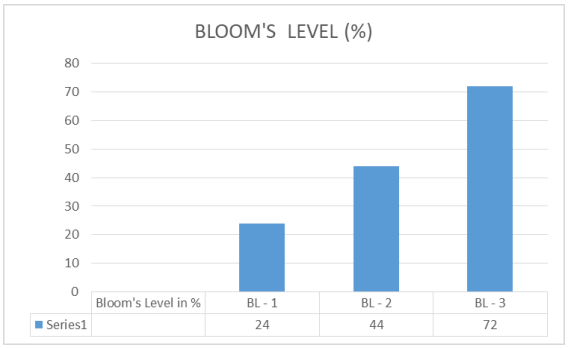
Q. No	Question	Marks	BL	CO	PO	PI Code
1	The negative sign in the formula of amplification factor in a transistor indicates_____ a. that I_E flows into transistor while I_C flows out it b. that I_C flows into transistor while I_E flows out it c. that I_B flows into transistor while I_C flows out it d. that I_C flows into transistor while I_B flows out it	1	1	1	1	
2	In CE configuration, if the I_C is 0.1mA, find the value of I_B when β is 50. a. 0.01 mA b. 0.25 mA c. 0.03 mA d. 0.02 mA	1	3	1	2	
3	_____ transistor amplifier configuration used for impedance matching a. CE b. CB c. CC d. Cascode	1	1	1	1	
4	The line drawn between _____ and _____ is called Q point. a. Saturation point and Cutoff point b. Saturation and Active c. Cutoff and Active d. Saturation and Saturation	1	2	1	1	
5	For AC analysis of BJT the _____ capacitances acts as open Circuit a. Coupling	1	3	1	2	

	b. Bypass c. Stray d. Emitter					
	Part – B **(2 x 10 = 20 Marks)** **Instructions: Answer any TWO**					
6.	For the circuit given below with transistor parameters β =180 and $r_0 = \infty$, a. Determine the Q point values. b. Find the small signal parameters and voltage gain incluing the source resistance (R_S). 	**5** **5**	**3** **2**	**1** **1**	**3** **2**	
7.a	Draw the Darlington amplifier and derive the expression for the current gain and input resistance.	**5**	**2**	**1**	**3**	
7.b	Determine the value of input resistance for the given circuit. 	**5**	**3**	**1**	**3**	
8.a.	Why common collector configuration is otherwise called as Emitter Follower?	**2**	**2**	**1**	**2**	

8.b.	Derive the output resistance for a common collector configuration with necessary diagram	**8**	**3**	**1**	**3**	

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions





Evaluation Sheet

Name of the Student:
Register No.:

		Part- A ALL FIVE (5x 1= 5 Marks)		
Q. No	CO	Marks Allotted	Marks Obtained	Total
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
Part- B Any TWO (2 x 10= 20 Marks)				
6	1	10		
7.a	1	5		
7.b	1	5		
8.a	1	2		
8.b	1	8		

Consolidated Marks:

CO	Max. Marks Allotted	Marks Scored
CO1	25	
Total	25	

Approved by the Course Coordinator