



End Semester/Reappear (Semester III) Examination December, 2024

Programme: B. Tech CSE

Course: Analog Electronic Circuits

Course Code: 3ECS201

Enrolment no. _____

Full Marks: 70

Time: 3 Hrs.

Q. No.	Questions	CO	Bloom Taxonomy Category	Marks	
Section I					
1	Short Answer type questions				
a	Why transistor is called current controlled device? or	CO1	Apply	4 x 5 = 20	
	Briefly explain the working mechanism of a bipolar junction transistor for its normal operation.	CO1	Apply		
b	Describe working of a MOSFET as a switch. or	CO2	Understand		
	Describe a clamping and clipping circuit.	CO2	Understand		
c	Define a power amplifier. Also, describe its different types with feature. or	CO3	Understand		
	What do you mean by ADC? Explain in brief.	CO3	Understand		
d	Draw and describe the working of a direct Coupled multistage amplifier. or	CO2	Understand		
	Draw the circuit of an Inverting op-amp. Deduce its gain also.	CO2	Remember		
Section II					
Long Answer type questions					
2	Describe BJT in common Base configuration and draw its input and output characteristics. or	CO1	Understand	3 x 10 = 30	
	Write down the comparison among common base, common emitter and common collector BJTs.	CO1	Analyze		
3	Define: (a) CMRR (b) Slew Rate (c) Bandwidth (d) Gain (e) Output offset voltage or	CO3	Understand		
	Write down the difference between BJT and MOSFET.	CO3	Understand		
4	What is non-inverting Operational amplifier? Draw its circuit and derive its gain. or	CO2	Apply		
	What are the advantages of the differential amplifier? Also mention its applications.	CO2	Apply		
Section III					
Application based questions					
5	Design and describe the working of (a) Square wave generator (b) Triangular wave generator or	CO3	Create	1 x 20 = 20	
	Define Oscillators and give its types. Also draw and discuss the Wein Bridge oscillator.	CO3	Create		

COURSE OUTCOME

At the end of the course the candidate will able to

CO1: The ability to understand the characteristics of transistors

CO2: Design and analyse various rectifier and amplifier circuits.

CO3: Design sinusoidal and non-sinusoidal oscillators