Code No: P21ECT03

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
II B.TECH I SEMESTER END REGULAR EXAMINATIONS, JAN - 2023
ELECTRONIC CIRCUIT ANALYSIS
(ECE Branch)

Time: 3 hours Max. Marks: 70

Answer all the questions from each UNIT (5X14=70M)

Q.No.		Questions	Marks	CO	KL
		UNIT-I			
1.	a)	Obtain the expressions for current gain, voltage gain, input impedance and output impedance of CB amplifier using simplified hybrid model.	[7M]	1	3
	b)	Determine the voltage gain and current gain of CE and CC amplifiers.	[7M]	1	3
		OR			
2.	a)	Obtain the expression for current gain, voltage gain, input impedance and output impedance For Common Emitter Amplifier with Emitter Resistor.	[7M]	1	3
	b)	What are h-parameters? Why they called so? Define them and what are the benefits of h-parameters.	[7M]	1	1
		UNIT-II			
3.	a)	Describe different methods used for coupling multistage amplifiers with their frequency response.	[7M]	2	2
	b)	Draw the circuit for CASCODE Amplifier. Explain its working, obtain overall values of the circuit in terms of h-parameters.	[7M]	2	2
		OR			
4.	a)	Analyze Two stage RC coupled amplifier with neat diagrams.	[10M]	2	4
	b)	Discuss the need of cascading amplifiers	[4M]	2	2
		UNIT-III			
5.	a)	Draw the block diagrams of four types of negative feedback amplifier circuits and explain the advantages and disadvantages with necessary derivations.	[7M]	3	2
	b)	Derive the expression for frequency of oscillation of BJT RC phase-shift oscillator with necessary explanation.	[7M]	3	3
		OR			
6.	a)	With neat diagram, explain Hartley Oscillator and derive the expression for frequency of oscillation.	[7M]	3	3
	b)	Determine the input and output resistances of Current Shunt feedback amplifier.	[7M]	3	3
		UNIT-IV			
7.	a)	Explain the operation of a class A push-pull power amplifier and list out its advantages and disadvantages.	[7M]	4	2
	b)	What is Heat-sink? Explain the different types of Heat sinks.	[7M]	4	2
		OR			
8.	a)	Show that in the case of Series fed class A power amplifier, maximum Theoretical Efficiency is 25%.	[7M]	4	2

	b)	Derive the expression for conversion efficiency of a Class B Power amplifier.	[7M]	4	3
UNIT-V					
9.	a)	Discuss Double Tuned Amplifier with neat diagram and derive the expression for its bandwidth.	[7M]	5	3
	b)	Compare Single Tuned and Double Tuned Amplifier.	[7M]	5	2
OR					
10.	a)	Explain the Small signal tuned amplifier with necessary derivations.	[7M]	5	2
	b)	Explain about the stability of Tuned amplifiers	[7M]	5	2

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