NARSIMHA REDDY ENGINEERING COLLEGE
UGC AUTONOMOUS INSTITUTION
Maisammaguda (V), Kompally - 500100, Secunderabad, Telangana State, India
UGC - Autonomous Institute
Accredited by NBA & NAAC with 'A' Grade
Approved by AICTE
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UNIT–IV

S.No		Questions	BT	CO	PO
Part–A(ShortAnswer Questions)					
1		Define small-signal analysis and explain its purpose.	2	4	1
2		State the conditions required for a transistor to operate under small-signal mode.	3	4	1,2
3		What is trans conductance (gmg_mgm)? Give its formula.	2	4	1,2
4		Mention important characteristics of CEamplifier?	2	4	1,2,3
5		Draw the small-signal hybrid-π model of a BJT..	3	4	1,2
6		Draw the CE amplifier circuits and its H Parameter equivalent circuit	3	4	1,2
7		Write the CE amplifier current gain ,voltage Gain, Input impedance, output impedance in terms of H parameters	2	4	1,2
8		What is the Amplifier? List the classification of Amplifier?	2	4	1,2
9		Draw the CB Amplifier & Its Hybrid equivalent circuit	3	4	1,2
10		Draw the CC Amplifier & Its Hybrid equivalent circuit	3	4	1,2
Part–B(LongAnswerQuestions)					
11	a)	Explain two-port network h-parameter models. Draw CE, CB, and CC h-models and discuss their utility.	2	4	1
12	a)	Discuss the low frequency response of BJT amplifier and the effect of coupling and bypass capacitors.	2	4	1,2
	b)	What is transistor amplifying action?	3	4	1,2
13		Compare CE, CB, and CC amplifiers based on: Voltage gain, current gain, impedance levels, phase shift, applications.	2	4	1,2,3
14		Explain the h-parameter equivalent circuit for a typical common emitter amplifier and derive expression for Ai and Av.	2	4	1,2
15		Explain the Approximation of CE model with Neat Sketch	2	4	1,2
16		Explain the Small signal Analysis of single stage CE Amplifier with fixed Bias and derive the input impedence, output impedance current gain	2	4	1,2
17		Explain the Small signal Analysis of single stage CE Amplifier with unbiased emitter resistor and derive the input impedence, output impedance current gain	2	4	1,2
18		Explain the Small signal Analysis of single stage CB Amplifier with unbiased emitter resistor and derive the input impedence, output impedance current gain	2	4	1,2
19		A CE amplifier is drawn by a voltage source of internal resistance RS = 800 ohms and load impedance is a resistance RL = 1000 ohms. The h-parameters are hie = 1.0 K ohms, hre = 2 ×10-4, hfe = 50 and hoe = 25 μ A/V. compute AI, RI, AV, Ro using exact analysis.	3	4	1,2