Code No.: EC404PC	R20	H.T.No.			8	R						

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–II–Semester End Examinations (Supply) -June- 2025
ELECTRONIC CIRCUIT ANALYSIS
(ECE)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	Why is a CE amplifier widely used? List out its main limitations.	[2M]
	b)	List out the features of Darlington pair.	[2M]
	c)	Draw the circuit of Voltage Shunt feedback amplifier.	[2M]
	d)	Define feedback factor of a feedback amplifier.	[2M]
	e)	What are the Classifications of oscillators?	[2M]
	f)	Draw the circuit of Hartley oscillator.	[2M]
	g)	List out the applications of tuned amplifier.	[2M]
	h)	Define conversion efficiency of power amplifier.	[2M]
	i)	What are the different names of Monostable multivibrator?	[2M]
	j)	Difference between Miller sweep & Bootstrap sweep circuit.	[2M]

PART-B **(50 Marks)**

2.	Derive the expression for current gain, voltage gain, input resistance, output resistance of CE amplifier with emitter resistance using simplified h-parameter model.	[10M]
	OR	
3.	Explain the three types of coupling methods used in multistage amplifiers.	[10M]
4.	Draw the circuit for Current Series amplifier & derive the expressions for voltage gain, input resistance & output resistance for the circuit.	[10M]
	OR	
5.	A Voltage Series amplifier with internal amplifier has gain -200, input resistance is 5Kohms, output resistance is 20Kohms & bandwidth 50kohms and having feedback factor is -0.02. Find (i) voltage gain with feedback (ii) input resistance with feedback (iii) output resistance with feedback	[10M]
6.	Derive the expression for the frequency of Colpitts oscillator.	[10M]
	OR	
7.	Explain the principle of Wein bridge oscillators & derive the expression of the frequency of oscillations.	[10M]
8.	With a neat diagram, Explain the principle of operation of Class-B Push pull amplifier and find its efficiency.	[10M]
	OR	
9.	Derive the expression for conversion efficiency for a Transformer coupled Class-A power amplifier.	[10M]
10.	Explain the working principle of Schmitt trigger circuit.	[10M]
	OR	
11.	Draw and explain the circuit of Astable Multivibrator with necessary waveform.	[10M]

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