Course Code: 1940418 **Roll No:** **MLRS- R19**

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

II B.Tech II Sem Regular End Examination, August 2021

ELECTRONIC CIRCUIT ANALYSIS

(ECE)

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

Note: 1. Answer any FIVE questions.
2. Each question carries 14 marks and may have a, b as sub questions.

1	a)	Design a small-signal low-frequency model of two-stage CE-Amplifier.	7M	CO1	L6
	b)	Design a BJT Cascade Amplifier circuit diagram and then derive the expressions for A_I, A_V, R_i and R_o.	7M	CO1	L6
2	a)	Describe the effect of coupling and bypass capacitors on low-frequency response of BJT Amplifiers.	7M	CO1	L2
	b)	Classify Amplifiers based on different parameters. Also, correlate each one of them with the other type.	7M	CO1	L2
3	a)	Explain the method of analysis of feedback amplifier.	7M	CO2	L4
	b)	Calculate the voltage gain, input impedance and output impedance of a voltage series feedback amplifier having an open loop gain A=300, R_i=1.5KΩ, R_0=50KΩ and β=1/20.	7M	CO2	L3
4	a)	Show how bandwidth of an amplifier increases with negative feedback.	7M	CO2	L4
	b)	State the conditions for oscillations.	7M	CO3	L1
5	a)	Draw the circuit of Hartley oscillator and explain its working. Derive the expression for frequency of oscillation and condition for sustaining of oscillations.	7M	CO3	L4
	b)	Derive the expression for frequency of oscillation of BJT RC phase-shift oscillator with necessary explanation.	7M	CO3	L4
6	a)	Draw and explain the operation of Complementary symmetry class B Push-pull amplifier.	7M	CO4	L4
	b)	What is a tuned amplifier? Give any one practical application of it.	7M	CO4	L1
7	a)	Briefly discuss the distortion in power amplifiers.	7M	CO4	L2
	b)	Design Astable Multivibrator and explain its operation with help of circuit diagram and waveforms.	7M	CO5	L6
8	a)	Draw the circuit of Bi-stable Multivibrator and explain its operation.	7M	CO5	L2
	b)	Discuss the concepts of transistor Bootstrap Time Base Generator.	7M	CO5	L2

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