



Christu Jyothi Institute of Technology & Science

Colombonagar, Yeshwanthapur, Jangaon

Department of Electronics & Communication Engineering

ECA Lesson plan

Program Name:	B.Tech in ECE	AY	2022-23
Course Name:	ELECTRONIC CIRCUIT ANALYSIS	Class / Sem	III-II
Faculty Name:	R. RAMESH	Regulation	R18

S. No	Lect No.	Topic	Teaching Aids	Reference
1		UNIT- I Multistage Amplifiers		
2	1	Classification of Amplifiers, Distortion in amplifiers,	TM1/TM2/TM7/ TM11	T1/R1
3	2	Different coupling schemes used in amplifiers,	TM1/TM2/TM11	T1/R1
4	3	Frequency response and Analysis of multistage amplifiers,	TM1/TM2/TM7	T1/R1
5	4	Cascode RC Coupled amplifiers,	TM1/TM2/TM7	T1/R1
6	5	Cascode amplifier,	TM1/TM2/TM7	T1/R1
7	6	Darlington pair.	TM1/TM2	T1/R1
8	7	Darlington pair.	TM1/TM2	T1/R1
9	8	Transistor at High Frequency: Hybrid - π model of Common Emitter transistor model,	TM1/TM2	T1/R1
10	9	Hybrid - model of Common Emitter transistor model,	TM1/TM2	T1/R1
11	10	Hybrid - model of Common Emitter transistor model,	TM1/TM2	T1/R1
12	11	f_{α} ,	TM1/TM2	T1/R1
13	12	f_{β}	TM1/TM2	T1/R1
14	13	unity gain bandwidth, Gain-bandwidth product.	TM1/TM22	T1/R1
15	14	unity gain bandwidth, Gain-bandwidth product.	TM1/TM2	T1/R1
16	15	Problems		
17	16	Slip Test		
18		UNIT II Feedback Amplifiers:		
19	17	Concepts of feedback – Classification of feedback amplifiers – General characteristics of Negative feedback amplifiers	TM1/TM2	T1/R1
20	18	Effect of Feedback on Amplifier characteristics and Simple problems.	TM1/TM2	T1/R1

21	19	Voltage series,	TM1/TM2	T1/R1
22	20	Voltage series,	TM1/TM2	T1/R1
23	21	Voltage shunt,	TM1/TM2	T1/R1
24	22	Current series	TM3	T1
25	23	Current shunt Feedback configurations –	TM1/TM7	T1/R1
26	24	Problems	TM1/TM7	T1/R1
27	25	Problems	TM1/TM7	T1/R1
28	26	Slip Test		
29		UNIT –III Oscillators:		
30	27	Condition for Oscillations,	TM3	T1
31	28	RC type Oscillators-RC phase shift	TM1/TM7	T1/R1
32	29	Wien-bridge Oscillators,	TM1/TM2/TM11	T1/R1
33.	30	LC type Oscillators –Generalized analysis of LC Oscillators,	TM1/TM2/TM7/ TM11	T1/R1
34.	31	LC type Oscillators –Generalized analysis of LC Oscillators,	TM1/TM2/TM7/ TM11	T1/R1
35.	32	Hartley Oscillators	TM1/TM2/TM7/ TM11	T1/R1
36.	33.	Colpitts Oscillators,	TM1/TM2/TM7/ TM11	T1/R1
37.	34.	Frequency and amplitude stability of Oscillators,	TM1/TM2/TM7/ TM11	T1/R1
38.	35.	Crystal Oscillator.	TM1/TM2/TM7/ TM11	T1/R1
39.	36.	Problems	TM1/TM22	T1/R1
40.	37.	Slip Test		
41.		UNIT –IV Large Signal Amplifiers:		
42.	38.	Class A Power Amplifier- Series fed	TM1/TM2/TM7/ TM11	T1/R1
43.	39.	Class A Power Amplifier- Series fed	TM1/TM2/TM7/ TM11	T1/R1
44.	40.	Transformer coupled , Conversion Efficiency,	TM3	T1
45.	41.	Class B Power Amplifier-	TM1/TM2/TM7	T1/R1
46.	42.	Push Pull and Complimentary Symmetry configurations, Conversion Efficiency,	TM1/TM2/TM7	T1/R1
47.	43.	Principle of operation of Class AB	TM1/TM2/TM7	T1/R1
48.	44.	and Class –C Amplifiers.	TM1/TM2/TM7	T1/R1
49.	45.	Tuned Amplifiers: Introduction, single Tuned Amplifiers.	TM1/TM2/TM7	T1/R1

50.	46.	Q-factor, frequency response of tuned amplifiers,	TM3	T1
51.	47.	Concept of stagger tuning and synchronous tuning	TM1/TM2/TM7	T1/R1
52.	48.	Problems	TM1/TM2/TM7	T1/R1
53.	49.	Slip Test		
54.		UNIT –V Multivibrators		
55.	50.	Analysis and Design of Bistable,	TM1/TM2/TM7	T1/R1
56.	51.	Analysis and Design of Bistable,	TM2/TM7	T1/R1
57.	52.	Monostable,	TM1/TM2/TM7	T1/R1
58.	53.	Monostable,	TM1/TM2/TM7	T1/R1
59.	54.	Astable Multivibrators	TM1/TM2/TM7	T1/R1
60.	55.	Astable Multivibrators	TM1/TM2/TM7	T1/R1
61.	56.	Schmitt trigger using Transistors	TM1/TM2/TM7	T1/R1
62.	57.	Schmitt trigger using Transistors	TM1/TM2/TM22	T1/R1
63.	58.	Time Base Generators: General features of a Time base Signal,	TM1/TM2/TM7	T1/R1
64.	59.	Methods of Generating Time Base Waveform,	TM1/TM2/TM7	T1/R1
65.	60.	concepts of Transistor Miller and Bootstrap Time Base Generator,	TM1/TM2/TM7	T1/R1
66.	61.	concepts of Transistor Miller and Bootstrap Time Base Generator,	TM1/TM2/TM7	T1/R1
67.	62.	Methods of Linearity improvement.	TM1/TM2/TM7	T1/R1
68.	63.	Problems	TM1/TM2/TM7	T1/R1
69.	64.	Problems		
70.	65.	Slip Test	TM1/TM2/TM7	T1/R1
71.	66.	GAPS		
72.	67.	Millers theorem	TM2/TM11	T1/R1
73.	68.	Transistor Switching times	TM2/TM11	T1/R1
74.	69.	Topic Beyond Syllabus		
75.	70.	Multi stage amplifiers	TM2/TM3	T1/R1
76.	71.	High frequency amplifiers	TM2/TM3	T1/R1

TM1: Chalk and talk	TM2: PPT	TM3:Seminar/Guest Lecture	TM4: Webinar
TM5: Lab Demos	TM6: Audio Visual Aids	TM7:Group Discussion	TM8: Field Visits
TM9: 3D models	TM10: Puzzle	TM11: Quiz	TM12: Industrial Visits
TM13: Case Study	TM14: Flash Cards	TM15:Text Book Assignment	TM16: Role Play
TM17: Surveys	TM18: Open Text Book Test	TM19: Cross Word Puzzles	TM20: Debates
TM21: Individual Projects	TM22:Think share		

TEXT BOOKS:

1. Integrated Electronics, Jacob Millman, Christos C Halkias, McGraw Hill Education.
2. Electronic Devices Conventional and current version -Thomas L. Floyd 2015, Pearson.

REFERENCE BOOKS:

1. Electronic Devices and Circuits, David A. Bell – 5th Edition, Oxford.
2. Electronic Devices and Circuits theory– Robert L. Boylestead, Louis Nashelsky, 11th Edition, 2009, Pearson
3. Antenna Engineering Handbook –John Leonidas Volakis, 3rd edition, 2007

Date

Signature of the faculty

Date

Signature of the HOD