

Bhoj Reddy Engineering College for Women, Hyderabad.

Department of Electronics and Communication Engineering

Lesson Plan for the academic year 2015-16, II Semester

Name of the faculty: **K. Anjaneyulu**
Subject: Electronic Circuit Analysis (ECA)
Branch & section: ECE - C
No. of lectures per week: 4+1(Tutorial)

Department: ECE
Class: II B. Tech
Semester: II

Lecture Number	Expected Date	Topic to be covered
UNIT I : SINGLE STAGE & MULTISTAGE AMPLIFIERS		
1.	8/12/15	Classification of amplifiers
2.	9/12/15	Distortion in amplifiers
3.	10/12/15	Introduction to h-parameter model
4.	12/12/15	CE,CC, CB approximate h-parameter model analysis
5.	7/12/15,9/12/15, 11/12/15	Tutorial: G1, G2, G3 Problems on simplified model
6.	15/12/15	CE amplifier analysis with Re
7.	16/12/15	Miller's Theorem and its dual
8.	17/12/15	Design of single stage RC coupled amplifier using BJT
9.	19/12/15	Analysis of Cascaded RC Coupled BJT amplifiers
10.	14/12/15,16/12/15, 18/12/15	Tutorial: G1, G2, G3 Problems on Cascaded amplifiers
11.	21/12/15	Cascaded RC Coupled BJT amplifiers(contd....)
12.	23/12/15	Cascode Amplifiers
13.	21/12/15 , 22/12/15, -/-/-	Tutorial: G2, G1 Problems
14.	28/12/15	Darlington Pair
15.	30/12/15	Direct Coupled Amplifier
16.	1/1/15	RC Coupled Amplifier
17.	2/1/16	Transformer Coupled Amplifier
18.	28/12/15,30/12/15, 1/1/16	Tutorial: G1, G2,G3 Problems on Cascode and Darlington Pair
UNIT II : BJT AMPLIFIERS & MOS AMPLIFIERS		
19.	4/1/16	Logarithms, Decibels
20.	6/1/16	Frequency response of BJT Amplifier
21.	8/1/16	BJT Amplifier analysis at low & high frequencies
22.	9/1/16	BJT Amplifier analysis at low & high frequencies
23.	4/1/16,6/1/16, 8/1/16	Tutorial: G1, G2, G3 Problems on high frequency analysis
24.	11/1/16	Effect of bypass capacitor
25.	13/1/16	Effect of coupling capacitors
26.	16/1/16	CE hybrid pi transistor model
27.	11/1/16,13/1/16, 15/1/16	Tutorial: G1, G2, G3 Problems
28.	18/1/16	CE short circuit current gain, current gain with resistive load
29.	20/1/16	Single stage CE amplifier response, Gain BW product
30.	22/1/16	Emitter follower at high frequencies
31.	23/1/16	MOS basic concepts

32.	18/1/16,20/1/15, 22/1/16	Tutorial: G1, G2, G3 Problems
33.	25/1/16	MOS small signal model
34.	27/1/16	CS amplifier with resistive load
UNIT III : FEEDBACK AMPLIFIERS & OSCILLATORS		
35.	29/1/16	Feedback concept, Classification of Feedback amplifiers, Negative feedback amplifier characteristics
36.	25/1/16, 27/1/16, 29/1/16	Tutorial: G1, G2, G3 Differences of all feedback Amplifiers
37.	22/2/16	Voltage series feedback amplifiers analysis Voltage shunt feedback amplifiers analysis Current series feedback amplifiers analysis Current shunt feedback amplifiers analysis
38.	24/2/16	Classification of oscillators, Conditions for Oscillations
39.	26/2/16	RC phase shift oscillator
40.	27/2/16	Wien Bridge oscillator
41.	22/2/16, 24/2/16, 26/2/16	Tutorial: G1, G2, G3 Problems on Oscillators
42.	29/2/16	Generalized analysis of LC oscillators
43.	1/3/16	Hartley oscillator, Colpitts oscillator
44.	2/3/16	Crystal oscillator, Stability of oscillators
45.	4/3/16	Problems
46.	29/2/15,2/3/16, 4/3/16	Tutorial: G1,G2, G3 Theoretical Analysis of all power amplifiers
UNIT IV : LARGE SIGNAL AMPLIFIERS		
47.	5/3/16	Classification of Amplifiers
48.	9/3/16	Transformer coupled Class A Amplifier
49.	11/3/16	Class A amplifier, Efficiency of Class A amplifier
50.	07/3/16, 9/3/16, -/-/-	Tutorial: G1, G2 Problems
51.	12/3/16	Class B amplifier, Efficiency of Class B amplifier
52.	14/3/16	Push pull class B amplifier
53.	16/3/16	Complementary symmetry class B amplifier
54.	18/3/16	Distortion in power amplifiers
55.	14/3/16,16/3/16, 18/3/16	Tutorial: G1,G2, G3 Problems
56.	19/3/16	Thermal stability and Heat sinks
UNIT V : TUNED AMPLIFIERS		
57.	21/3/16	Introduction, Q factor, Small signal tuned amplifiers
58.	22/3/16	Single tuned amplifiers (Contd...)
59.	26/3/16	Double tuned amplifiers
60.	21/3/16,23/3/16, 25/3/16	Tutorial: G1,G2,G3 Circuit analysis and problems
61.	28/3/16	Double tuned amplifiers
62.	30/3/16	Double tuned amplifiers (Contd...)
63.	1/4/16	Stagger Tuned Amplifiers
64.	2/4/16	Effect of cascading on Bandwidth
65.	28/3/16, 30/3/16, 1/4/16	Tutorial: G1, G2, G3 Circuit analysis and problems
66.	4/4/16	Stagger Tuned Amplifier
67.	6/4/16	Stability of tuned amplifiers
68.	4/4/16,6/4/16, -/-/-	Tutorial: G1, G2 Review of syllabus

69.	9/4/16	Problems Stagger tuned amplifier
70.	11/4/16	Problems on Tuned amplifiers
71.	13/4/16,	Previous question papers discussion
72.	16/4/16	Previous question papers discussion
73.	11/4/16, 13/4/16, 15/4/16	Tutorial: G1,G2, G3 Previous question papers discussion

Text Books:

1. Integrated Electronics - Jacob Millman and C Halkias, 1991 Ed., 2008, TMH.
2. Electronic Devices and Circuits, B.P. Singh, Rekha Singh, Pearson, 2013
3. Design of Analog CMOS Integrated Circuits-Behzad Razavi 2008, TMH

Reference Books:

1. Electronic Circuit Analysis - Rashid Cengage Learning, 2013.
2. Electronic Circuit Analysis - K. Lal Kishore, 2004, BSP.
3. Electronic Devices and Circuit Theory - Robert L. Boylestad, Louis, Nashelsky, 9th Ed, 2008, PE.

Name: **K. Anjaneyulu**

Signature of the faculty with date

HoD Signature