

SYNERGY POLYTECHNIC, BBSR

The Lesson Plan		
Discipline:EE	Semester:4TH	Name of the Teaching Faculty: SATYABRAT PRADHAN
Subject: Analog Electronics	No of Days/per week class allotted:4	Semester from Date: 04/02/2023 to Date: No of Weeks:
Week	Class Day	Theory/Practical Topics
1st	1st	P-N JUNCTION DIODE: 1. P-N Junction Diode 2. Working of Diode
	2nd	V-I characteristic of PN junction Diode. DC load line
	3rd	Important terms such as Ideal Diode, Knee voltage
	4th	Junctions break down. Zener breakdown Avalanche breakdown
2nd	1st	P-N Diode clipping Circuit
	2nd	P-N Diode clamping Circuit
	3rd	SPECIAL SEMICONDUCTOR DEVICES: Thermistors, Sensors & barretters
	4th	SPECIAL SEMICONDUCTOR DEVICES: 2 Thermistors, Sensors & barretters
3rd	1st	Zener Diode , Tunnel Diode
	2nd	PIN Diode
	3rd	3. RECTIFIER CIRCUITS & FILTERS:
	4th	Analysis of full wave centre tapped rectifiers and calculate: a) DC output current and voltage b) RMS output current and voltage c) Rectifier efficiency, Regulation d) Ripple factor Regulation e) Transformer utilization factor f) Peak inverse voltage
4th	1st	Analysis of Bridge rectifiers and calculate: DC output current and voltage RMS output current and voltage Rectifier efficiency Ripple factor Regulation Transformer utilization factor Peak inverse voltage
	2nd	Analysis of Bridge rectifiers
	3rd	Filters: Shunt capacitor filter
	4th	Choke input filter , π filter
5th	1st	MONTHLY TEST-I, Assignment 1 submission
	2nd	4. TRANSISTORS: Principle of Bipolar junction transistor
	3rd	Different modes of operation of transistor
	4th	Current components in a transistor
6TH	1st	Transistor as an amplifier
	2nd	Transistor circuit configuration & its characteristics CB Configuration
	3rd	CE Configuration , CC Configuration
	4th	5. TRANSISTOR CIRCUITS: Transistor biasing
7TH	1st	Stabilization , Stability factor
	2nd	Different method of Transistors Biasing , Base resistor
	3rd	Collector to base bias
	4th	Self bias or voltage divider method
	5th	Self bias or voltage divider method

Satya Pradhan
Sign of Faculty

D.H.K.
HOB PH 23

Satya Pradhan
27/1/23
Principal



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Week	Class Day	Theory/Practical Topics
8TH	1st	Assignment-2 submission,MONTHLY TEST-II
	2nd	6. TRANSISTOR AMPLIFIERS & OSCILLATORS: Practical circuit of transistor amplifier
	3rd	DC load line and DC equivalent circuit
	4th	AC load line and AC equivalent circuit
9TH	1st	Calculation of gain , Phase reversal
	2nd	H-parameters of transistors
	3rd	Simplified H-parameters of transistors
	4th	Generalised approximate model
10TH	1st	Analysis of CB, CE, CC amplifier using generalised approximate model
	2nd	Multi stage transistor amplifier
	3rd	R.C. coupled amplifier
	4th	Transformer coupled amplifier
11TH	1st	Feed back in amplifier
	2nd	General theory of feed back
	3rd	Negative feedback circuit, Advantage of negative feed back
	4th	Power amplifier and its classification, Difference between voltage amplifier and power amplifier
12TH	1st	Transformer coupled class A power amplifier
	2nd	Class A push – pull amplifier
	3rd	Class B push – pull amplifier
	4th	QUIZ TEST-1
13TH	1st	Oscillators
	2nd	Types of oscillators, Essentials of transistor oscillator
	3rd	Principle of operation of tuned collector, Hartley
	4th	colpitt, phase shift, weinbridge oscillator (no mathematical derivations)
12TH	1st	MONTHLY TEST-II,Assignment-3 submission
	2nd	7. FIELD EFFECT TRANSISTOR: Classification of FET
	3rd	Advantages of FET over BJT
	4th	Principle of operation of BJT
14TH	1st	FET parameters (no mathematical derivation)
	2nd	DC drain resistance AC drain resistance Trans-conductance
	3rd	Biasing of FET
	4th	8. OPERATIONAL AMPLIFIERS:General circuit simple of OP-AMP and IC – CA – 741 Operational amplifier stages
15TH	1st	Equivalent circuit of operational amplifier
	2nd	Open loop OP-AMP configuration
	3rd	OPAMP with fed back 8.6 Inverting OP-AMP
	4th	Non inverting OP-AMP 8.8 Voltage follower & buffer
	3rd	Differential amplifier , Adder or summing amplifier , Sub tractor
	4th	Integrator ,Differentiator , Comparator

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