

PSIET, KARANDA, DHENKANAL

LESSON PLAN Session(2022-2023)

Discipline : Electrical Engineering	Semester : 4 th Summer/2023	Name of the Faculty : Satyabrata Samal, Lecturer
Subject : Analog Electronics & OPAMP	No. of Days/Week: 04	Start Date : 15/02/2023 End Date : 23/05/2023

Week	Class Day	Theory Topics
1st	1st	Introduction. Construction & working principle of pn-junction.
	2nd	VI-characteristic of pn-junction diode
	3rd	Temperature dependence of pn-junction, Junction break down : avalanche & zener break down voltage
	4th	DC load line, Important terms like ideal diode, knee voltage
2nd	1st	Clipper, types of clipper, applications
	2nd	Description of clippers(positive, negative,bias, combination)
	3rd	Clamper , types of clamper, applications
	4th	Description of clampers(positive and negative)
3rd	1st	Description on Thermistors, Sensors, Barretters
	2nd	Zener diode
	3rd	Tunnel diode
	4th	PIN diode
4th	1st	Rectifier definition and classification, Analysis of half wave rectifier

	2nd	Power amplifier and classification, difference between voltage and power amplifier
	3rd	Transformer coupled class A, class A push-pull
	4th	Class-B push-pull amplifier
11th	1st	Oscillators, types of oscillators, essentials of oscillators
	2nd	Principle of operation of tuned collector, Hartley, Colpitt Oscillator
	3rd	Principle of operation of phase shift, Wein bridge oscillators
	4th	Classification, advantages of FET
12th	1st	Principle of operation of FET
	2nd	DC drain resistance, AC drain resistance, trans-conductance, Biasing of FET
	3rd	Review, Practice
	4th	Quiz
13th	1st	General circuit and fundamentals on OPAMP, IC 741 OPAMP, equivalent circuit of OPAMP
	2nd	Open loop OPAMP configuration, OPAMP with feed back
	3rd	Inverting OPAMP
	4th	Non inverting OPAMP
14th	1st	Voltage follower, Buffer amplifier
	2nd	Revision
	3rd	Differential amplifier, adder amplifier
	4th	Subtractor
15th	1st	Integrator, differentiator
	2nd	Comparator
	3rd	Revision (Q/A Discussion)
	4th	Revision(Q/A Discussion)

Satyabrata Samal

Signature of the faculty

15/2/23

Signature of the Principal