

GOVERNMENT POLYTECHNIC, SAMBALPUR, RENGALI

DEPARTMENT OF E&TC ENGINEERING

LESSON PLAN(WINTER-2021)

SUBJECT- BASIC ELECTRONICS ENGINEERING (TH-4 b)

SEMESTER-1ST

NAME OF THE FACULTY- SRI Saroj Kanta Ray

TOTAL NO. OF PERIODS-30(2/W)

UNIT	DATE	PERIOD	TOPICS TO BE COVERED
1	1st week of November,2021		ELECTRONIC DEVICES
		1	Basic Concept of Electronics
		2	Electron Emission & different types.
		3	Classification of material according to electrical conductivity (Conductor, Semiconductor & Insulator) with respect to energy band diagram only.
		4	Intrinsic & Extrinsic Semiconductor., Difference between vacuum tube & semiconductor.
		5	Principle of working and use of PN junction diode, Zener diode and Light Emitting Diode (LED)
		6	Principle of working and use of Liquid Crystal Diode (LCD) & Bipolar junction Transistor(BJT).
		7	Basic concept of manufacturing integrated circuits (I.C) & its uses.
		8	Previous year question and assignment discussion
2	1 st week of December,2021		ELECTRONIC CIRCUITS
		1	Define Rectifier & its use, Principles of working of different types of Rectifiers and their merits and demerits
		2	Functions of filters and classification of filter characteristics
		3	D.C power supply system with help of block diagrams only
		4	Different types of Transistor Configuration and state output and input current gain relationship in CE, CB and CC configuration.
		5	Need of biasing and different types of biasing with circuit diagram. (CE configuration)
		6	Amplifiers and how amplification of signal is achieved by the help of transistor

		7	Working of a single phase RC coupled Amplifier and discuss its frequency response and gain verses bandwidth relationship.
		8	Basic function of Oscillation, Essentials of Transistor oscillators and its classifications
		9	Previous year question discussion
		10	Numerical problems and assignment discussion
3	4 th week of December, 2021		COMMUNICATION SYSTEM
		1	Basic communication system with help of Block diagram, Modulation, Need of Modulation
		2	Different types of Modulation (AM, FM & PM), Amplitude Modulation & Frequency Modulation (Signal, Carrier Wave & Modulated Wave) (No Mathematical Derivation.), Demodulation
		3	Working of Super heterodyne Radio Receiver, Block diagram of Radio Transmitter & Receiver
		4	Previous year questions, numericals and assignment discussion
4	2 nd week of January, 2022		TRANSDUCERS AND MEASURING INSTRUMENTS
		1	Concept of Transducer and Primary sensor
		2	Different type of Transducers & concept of active and passive transducer.
		3	Mechanical primary transducers, devices, springs and Bourden tube diaphragm.
		4	Working principle and application of LVDT.
		5	Working principle of photo emissive, photoconductive, photovoltaic transducer and its application
		6	Multimeter, types and applications, CRO , Block diagram of CRO and applications of CRO
		7	Basic concept of automatic control system.
		8	Previous year questions, numericals and assignment discussion