

GOVERNMENT POLYTECHNIC, SAMBALPUR, RENGALI

DEPARTMENT OF E&TC ENGINEERING

LESSON PLAN(SUMMER-2023)

SUBJECT- BASIC ELECTRONICS ENGINEERING (TH-4 b)

SEMESTER-2ND

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 February,2023 | | 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 | 1st week of March,2023 | | 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 |

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| | | 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 | 2nd week of April, 2023 | | 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 | 4 th May week of ,2023 | | 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 |