

**UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA****Academic Lesson Plan for 1<sup>st</sup> Semester – 2023 (Winter)**

Name of the teaching faculty: Sri Umesh Chandra sethi

PTGF Lecturer (Electrical)

Dept.: Department of Mathematics &amp; Science

Semester : 1st

Subject : Theory 4B : Basic Electronics Engg.

No of Periods per week: 2,

End semester Exam.: 40Marks,

Total Marks: 50 Marks

Total Periods: 30,

Class test: 10 Marks,

| Week | Period | Unit/Chapter                     | Topics to be Covered   |
|------|--------|----------------------------------|--|
| 1ST  | 1ST    | Unit-1<br>Electronic<br>Devices  | Basic Concept of Electronics and its application   |
|      | 2ND    |                                  | Basic Concept of Electron Emission & its types.  |
| 2ND  | 1ST    |                                  | Classification of material according to electrical conductivity (Conductor, Semiconductor & Insulator) with respect to energy band diagram only.                         |
|      | 2ND    |                                  | Difference between Intrinsic & Extrinsic Semiconductor   |
| 3RD  | 1ST    |                                  | Difference between vacuum tube & semiconductor   |
|      | 2ND    |                                  | Principle of working and use of PN junction diode, Zener diode and Light Emitting Diode (LED)  |
| 4TH  | 1ST    | Unit-2<br>Electronic<br>Circuits | Integrated circuits (I.C) & its advantages   |
|      | 2ND    |                                  | Rectifier & its uses. Principles of working of different types of Rectifiers with their merits and demerits  |
| 5TH  | 1ST    |                                  | Functions of filters and classification of simple Filter circuit (Capacitor, choke input and $\pi$ )   |
|      | 2ND    |                                  | Working of D.C power supply system (unregulated) with help of block diagrams only  |
| 6TH  | 1ST    |                                  | Transistor, Different types of Transistor Configuration and state output and input current gain relationship in CE, CB and CC configuration (No mathematical derivation) |
|      | 2ND    |                                  | Need of biasing and explain different types of biasing with circuit diagram. (only CE  |

|      |     |   |   |
|------|-----|---|---|
|      |     |   | configuration)  |
| 7TH  | 1ST |   | Amplifiers(concept), working principles of single phase CE amplifier  |
|      | 2ND |   | Frequency response and gain verses bandwidth relation.  |
| 8TH  | 1ST |   | Electronic Oscillator and its classification  |
|      | 2ND |   | Working of Basic Oscillator with different elements through simple Block Diagram  |
| 9TH  | 1ST | Unit-3<br>Communication System                  | Basic communication system (concept & explanation with help of Block diagram)   |
|      | 2ND |   | Concept of Modulation and Demodulation, Difference between them   |
| 10TH | 1ST |   | Different types of Modulation (AM, FM & PM) based on signal, carrier wave and modulated wave (only concept, No mathematical Derivation) |
|      | 2ND |   | Concept of Transducer and sensor with their difference  |
| 11TH | 1ST | Unit-4<br>Transducers And Measuring Instruments | Concept of Transducer and sensor with their difference  |
|      | 2ND |   | Different type of Transducers & concept of active and passive transducer  |
| 12TH | 1ST |   | Working principle of photo emissive, photoconductive, photovoltaic transducer and its application                                       |
|      | 2ND |   | Multimeter and its applications   |
| 13TH | 1ST |   | Analog and Digital Multimeter and their difference  |
|      | 2ND |   | Working principle of Multimeter with Basic Block diagram  |
| 14TH | 1ST |   | CRO, working principle of CRO with simple Block diagram   |
|      | 2ND |   | Revision of unit-1&unit-2   |
| 15TH | 1ST |   | Revision of unit-3&unit-4   |
|      | 2ND |   | Previous year question discussion   |

