# GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN

## ACADEMIC YEAR-2021-22

| Discipline : ELECTRICAL ENGG. | | Semester: 4th Sem | | Name of the Teaching Faculty : Leena Marndi(Sr. Lect, in ETC) |
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| Subject : A.E.C&OPMP | | No. of Days / per week class allotted : 04 | | Semester From date : 10.03.2022 To Date : 10.06.2022 |
| **MONTH** | **Week** | **Day** | **Unit** | **Topics** |
| MARCH | 2ND | 4TH | I | P-N Junction Diode<br>,Working of Diode |
| | 3RD | 1ST | | V-I characteristic of PN junction Diode. |
| | | 2ND | | DC load line, Important terms such as Ideal Diode, Knee voltage |
| | | 3RD | | Junctions break down.<br>, Zener breakdown<br>, Avalanche breakdown |
| | | 4TH | | P-N Diode clipping Circuit. |
| | 4TH | 1ST | | P-N Diode clamping Circuit |
| | | 2ND | II | Thermistors, Sensors & barretters |
| | | 3RD | | Zener Diode |
| | | 4TH | | Tunnel Diode , PIN Diode |
| | 5TH | 1ST | | RIVISION |
| | | 2ND | III | Classification of rectifiers |
| | | 3RD | | Analysis of half wave, full wave centre tapped calculate:<br>,DC output current and voltage, RMS output current and voltage, |
| | | 4TH | | Rectifier efficiency<br>Ripple factor, Regulation, , Transformer utilization factor<br>Peak inverse voltage |
| APRIL | 2ND | 1ST | | DC output current and voltage , RMS output current and voltage |
| | | 2ND | | Rectifier efficiency<br>, Ripple factor , Regulation, Transformer utilization factor |

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| | | | | ,Peak inverse voltage |
| | | 3RD | | Analysis Bridge rectifiers<br>,DC output current and voltage, RMS output current and voltage, Rectifier efficiency<br>, Ripple factor, Regulation, Transformer utilization factor, Peak inverse voltage |
| | | 4TH | | Filters:<br>, Shunt capacitor filter<br>, Choke input filter<br>, π filte |
| | 3RD | 1ST | IV | TRANSISTORS:Principle of Bipolar junction transistor |
| | | 2ND | | Different modes of operation of transistor<br>, Current components in a transistor |
| | | 3RD | | Transistor as an amplifier |
| | 4TH | 1ST | | Transistor circuit configuration & its characteristics<br>CB Configuratio |
| | | 2ND | | CE Configuration,CC Configuration |
| | | 3RD | V | Transistor biasing , StabilizationStability factor |
| | | 4TH | | Different method of Transistors Biasing |
| | 5TH | 1ST | | Base resistor method,Collector to base bias |
| | | 2ND | | Self bias or voltage divider method |
| | | 3RD | | Practical circuit of transistor amplifier |
| | | 4TH | | DC load line and DC equivalent circuit, AC load line and AC equivalent circuit |
| MAY | 1ST | 1ST | | Calculation of gain ,Phase reversal |
| | | 3RD | | H-parameters of transistors , Simplified H-parameters of transistors |
| | | 4TH | | Generalised approximate model<br>Analysis of CB, CE, CC amplifier using generalised approximate model<br>Multi stage transistor amplifier |
| | 2ND | 1ST | | R.C. coupled amplifier<br>,Transformer coupled amplifier |
| | | 2ND | VI | Feed back in amplifier<br>,General theory of feed back<br>, Negative feedback circuit<br>, Advantage of negative feed back |
| | | 3RD | | Power amplifier and its classification<br>, Difference between voltage amplifier and power amplifier |
| | | 4TH | | Oscillators<br>, Types of oscillators<br>, Essentials of transistor oscillator |
| | 3RD | 2ND | | Principle of operation of tuned collector |
| | | 3RD | | Hartley, colpitt, |
| | | 4TH | | phase shift, wein bridge oscillator (no mathematical derivations) |

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| | 4TH | 1ST | VII | Classification of FET<br>,Advantages of FET over BJT<br>, Principle of operation of BJT |
| | | 2ND | | FET parameters (no mathematical derivation)<br>,1 DC drain resistance |
| | | 3RD | | AC drain resistance<br>, Trans-conductance |
| | | 4TH | | Biasing of FET |
| | 5TH | 2ND | | General circuit simple of OP-AMP and IC – CA – 741 OP AMP |
| JUNE | 1ST | 3RD | VIII | Operational amplifier stages<br>, Equivalent circuit of operational amplifier |
| | | 4TH | | Open loop OP-AMP configuration<br>, OPAMP with fed back |
| | $2^{ND}$ | 1ST | | Inverting OP-AMP |
| | | 2ND | | RIVISION |
| | | 3RD | VIII | Non inverting OP-AMP<br>, Voltage follower & buffer8.9 Differential amplifier<br>, Adder or summing amplifier<br>, Sub tractor |
| | | 4TH | | Integrator<br>. Differentiator<br>, Comparator |

Total class=49