

**DEPARTMENT OF MECHATRONICS ENGINEERING, ITT, CHOUDWAR****SUBJECT: INDUSTRIAL ETC LABS****SEMESTER: 5<sup>th</sup>****NAME OF FACULTY: Mr B. B. Pradhan****ACADEMIC YEAR.2022-2023****Semester From date: 15.09.2022 To date:22.12.2022****No. of weeks: 15**

Week	Period	LIST OF EXPERIMENTS
1st	1 <sup>st</sup> to 4th	Switching characteristics of Diode.
2nd	1 <sup>st</sup> to 4th	Switching characteristics of BJT
3rd	1 <sup>st</sup> to 4th	Switching characteristics of MOSFET a) Non-Isolated Gate Drive (b) Isolated Gate Drive
4th	1 <sup>st</sup> to 4th	Inductor Design, Calculation and Winding Exercises.
5 <sup>th</sup>	1 <sup>st</sup> to 4th	Inductor Switching Circuits (a) With Resistor (b) With Diode (c) With Zener
6 <sup>th</sup>	1 <sup>st</sup> to 4th	Switching Characteristics of SCR.
7 <sup>th</sup>	1 <sup>st</sup> to 4th	Triggering of SCR. (a) With Resistor. (b) With R and C
8 <sup>th</sup>	1 <sup>st</sup> to 4th	Case Study of Pulse Transformer driving of SCR.
9 <sup>th</sup>	1 <sup>st</sup> to 4th	Case Study of SCR Controlled Full Bridge Rectifier.
10th	1 <sup>st</sup> to 4th	Familiarization of PWM IC-SG 3525
11th	1 <sup>st</sup> to 4th	. Case Study of Buck Converter (a) Open Loop (b) Closed Loop
12th	1 <sup>st</sup> to 4th	Case Study of Boost Converter (a) Open Loop (b) Closed Loop
13th	1 <sup>st</sup> to 4th	Familiarization of TCA 785
14th	1 <sup>st</sup> to 4th	Case Study of SCR Controlled DC Drive.
15th	1 <sup>st</sup> to 4th	Familiarization of an UPS Control Circuit.