

**GOVT. POLYTECHNIC BOLANGIR**  
**LESSON PLAN**

<b>Discipline : ELECTRICAL ENGG.</b>	<b>Semester: 5th Sem</b>	<b>Name of the Teaching Faculty : RAKESH PATNAIK</b>
<b>Subject : power electronics</b>	<b>No. of Days / per week class allotted : 04</b>	<b>Semester From date : 01.09.2020 To Date : 31.12.2020 No. of Weesks : 15</b>
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>
<b>1ST SEPT</b>	1st	<b>Chapter 1 ( power electronics device construction)</b> 1.1.scr,disc,triace,mosfet,igbt,gto construction
	2nd	1.2. two transistor analogy of scr
	3rd	1.3. gate characteristic of scr 1.4.switching characteristic scr
	4th	1.5. turn on methods of scr
<b>2ND SEPT</b>	1st	1.6. turn off methods of scr
	2nd	1.7.voltage and current rating of scr
	3rd	1.8. protection of scr
	4th	1.9. firing ckts
<b>3RD SEPT</b>	1st	<b>Chapter 2 ( converter,ac regulatorand hopper )</b> 2.1. rectifiers
	2nd	2.2. working of single phase half wave converter
	3rd	2.3. freewheeling diode
	4th	2.4. fully controlled converter
<b>4TH SEPT</b>	1st	2.5. three phase half wave controlled converter
	2nd	2.6. three phase fully controlled converter
	3rd	2.7. ac regulator
	4th	2.8. step up and step down chopper
<b>1ST OCT</b>	1st	<b>Chapter 3 (inverters and cycloconverter)</b> <b>3.1.classify inverter</b>
	2nd	3.2. working of series inverter
	3rd	3.3. working of parallel inverter
	4th	3.4working of bridge inverter
<b>2ND OCT</b>	1st	3.5.basic of cycloconverter
	2nd	3.6.step up and step down cyclo converter
	3rd	3.7. application of cyclo converter

	4th	3.step up cyclonoverter working detail
<b>3RD OCT</b>	1st	<b>Chapter 4 ( application of power electronic ckt)</b>
	2nd	4.2. factor affecting speed of dc motor
	3rd	4.3. speed control of dc shunt motor using converter
	4th	4.4. speed control of shunt motor using chopper
<b>1ST NOV</b>	1st	4.5. factor affecting speed of ac motor
	2nd	4.6. speed control of Induction motor using ac regulator
	3rd	4.7. speed control using v/f control
	4th	4.8. working of ups, 4.9.battery charging ckt
<b>2ND NOV</b>	1st	4.10.switched mode power supply
	2nd	4.11. Sodium vapor lamps.
	3rd	4.13. Neon lamps
	4th	4.14. High lumen output & low consumption fluorescent lamps.
<b>3RD NOV</b>	1st	<b>Chapter 5 ( introduction to plc)</b>
	2nd	5.2. advantages of plc
	3rd	5.3. different parts of plc
	4th	5.4. application of plc
<b>4TH NOV</b>	1st	5.5. ladder diagram
	2nd	5.6 no,nc switch
	3rd	5.7ladder diagram AND gate,OR gate,NOT gate
	4th	5.8.ladder for NAND,NOR,EX-OR
<b>1ST DEC</b>	1st	5.9.Timers
	2nd	5.10.Counters
	3rd	5.11.ladder diagram using timer and counter
	4th	5.12.plc instruction set
<b>2ND DEC</b>	1st	5.13.dol starter
	2nd	5.13.1.star delta starter
	3rd	5.13.2. stare case lightning
	4th	5.13.3. traffic light control.
<b>3RD DEC</b>	1st	5.13.4.temperature controller
	2nd	5.14.special controller
	3rd	5.14.1.DCS
	4th	5.14.2.SCADA SYSTEM

<b>4TH DEC</b>	1st	5.15.computer control
	2nd	5.15.1.data acquisition
	3rd	5.15.2..direct digital control system
	4th	5.15.3.basic diagram of digital control