

PNS SCHOOL OF ENGG. & TECH., MARSHAGHAI
DEPARTMENT OF ELECTRICAL ENGG
LESSON PLAN
SUBJECT: POWER ELECTRONICS & PLC (5TH SEM)
NAME OF THE LECTURER: Er. CHACHA AMITAV TRIPATHY

| CHAPTER | MONTH | DATE | TOPIC TO BE COVERED |
|---|------------|----------|--|
| Construction & Working of Power Electronics Device | SEP | 16.06.22 | Constuction, operation V-I characterstics & application of Power diode |
| | | 19.09.22 | Constuction, operation V-I characterstics & application of SCR |
| | | 20.09.22 | Constuction, operation V-I characterstics & application of DIAC |
| | | 21.09.22 | Constuction, operation V-I characterstics & application of TRIAC |
| | | 23.09.22 | Constuction, operation V-I characterstics & application of MOSFET |
| | | 24.09.22 | Constuction, operation V-I characterstics & application of IGBT |
| | | 26.09.22 | Constuction, operation V-I characterstics & application of GTO |
| | | 27.09.22 | Two transistor analogy of SCR |
| | | 28.09.22 | Gate characteristic of scr, switching characteristic scr |
| | | 30.09.22 | Turn on methods of scr |
| | OCT | 10.10.22 | Turn off methods of scr |
| | | 11.10.22 | Voltage and Current rating of scr, Protection of scr Design of snubber circuit |
| | | 12.10.22 | Firing ckts |
| | | 14.10.22 | Firing ckts |
| Converter,AC regultor and Chopper | OCT | 15.10.22 | controlled Rectifiers techniques (Phase angle & Extinction angle) Single quadrant semi converter, Two quadrant full converter & Dual converter |
| | | 18.10.22 | Class Test |
| | | 19.10.22 | Working of single phase half wave converter with R & RL load |
| | | 21.10.22 | Need of freewheeling diode |
| | | 22.10.22 | Working of single phase full wave converter with R & RL load |
| | | 26.10.22 | Working of Three phase half wave controlled converter with R load |
| | | 28.10.22 | Working of Three phase full wave controlled converter with R load |
| | | 29.10.22 | Working of single phase ac regulator |
| | | 31.10.22 | Working of single phase step up and step down chopper |
| | NOV | 01.11.22 | control modes of chopper |
| | | 02.11.22 | Operation of chopper in four quadrant |
| Inveters and Cycloconverter | NOV | 04.11.22 | Classify inverters |
| | | 05.11.22 | Working of series inverter |
| | | 09.11.22 | Working of parallel inverter |
| | | 11.11.22 | Working of bridge inverter |
| | | 12.11.22 | Basic principle of cycloconverter |
| | | 14.11.22 | Internal Test |
| | | 15.11.22 | Working of single phase step up and step down cyclo converter |
| | | 18.11.22 | Application of cyclo converter |

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| Application of Power Electronic | NOV | 19.11.22 | Application of power electronics circuits |
| | | 21.11.22 | Class Test |
| | | 22.11.22 | Factor affecting speed of dc motor |
| | | 23.11.22 | Speed control of dc shunt motor using converter |
| | | 25.11.22 | Speed control of dc shunt motor using chopper |
| | | 26.11.22 | Factor affecting speed of ac motor |
| | | 28.11.22 | Speed control of Induction motor using ac regulator |
| | | 29.11.22 | Speed control of Induction motor using converters & inverters |
| | | 30.11.22 | Working of UPS with block diagram |
| | | DEC | 02.12.22 |
| 03.12.22 | Basic switched mode power supply(SMPS) working & application | | |
| Introduction to PLC | DEC | 05.12.22 | Introduction of PLC, Advantages of PLC |
| | | 06.12.22 | Different parts of PLC by drawing block diagram & purpose of each part of PLC, Application of plc |
| | | 07.12.22 | Ladder diagram |
| | | 09.12.22 | Normally open, Normally closed switch, Energized Output, |
| | | 10.12.22 | Ladder diagram for AND gate, OR gate, NOT, NAND, NOR, EX-OR gate |
| | | 12.12.22 | Timers ON, OFF & Retentive Timer |
| | | 13.12.22 | Counters CTU, CTD |
| | | 14.12.22 | Ladder diagram using Timer and Counter PLC instruction set |
| | | 16.12.22 | Class Test |
| | | 17.12.22 | Ladder diagram for DOL starter, Star Delta starter |
| | | 19.12.22 | Ladder diagram for stare case lightning, traffic light control, |
| | | 20.12.22 | Special controller systems- DCS & SCADA SYSTEM |
| | | 21.12.22 | Computer control- data acquisition direct digital control system |

Chaehe Amilav Tripathy

SIGNATURE OF LECTURER



SIGNATURE OF H.O.D.