

Badriprasad Institute of Technology, Sambalpur**Lesson plan for Theory -5,Power Electronics & PLC****Semester & Branch : 5th Sem , Electrical Engineering****Total Periods-60****Name of the faculty : Ashis Dash****No of periods /week-4**

WEEK	CLASS DAY	THEORY
1ST	1ST	introduction,application of scr
	2ND	VI characteristics of scr
	3RD	protection,turn on,turn off of scr.
	4TH	two transistor analogy of scr,Phase controlled rectifier
2ND	1ST	application,principle of converters
	2ND	single phase half wave converter with R-load
	3RD	single phase half wave converter with RL-load
	4TH	single phase half wave converter with RL-load&FWD
3RD	1ST	INVERTER(CONCEPTS)
	2ND	Principle of operation of inverters
	3RD	Parallel Inverter
	4TH	single phase half bridge inverter
4TH	1ST	CSI and VSI
	2ND	single phase current source inverter with ideal switches
	3RD	single phase capacitor commutated CSI with R-load.
	4TH	single phase auto sequential commutated inverter
5TH	1ST	Principle of Operation and types
	2ND	types of chopper in brief
	3RD	types of chopper in brief
	4TH	CYCLOCONVERTER CONCEPTS
6TH	1ST	bridge type step up cyclo-converter
	2ND	midpoint type step down cycloconverter
	3RD	THYRISTOR APPLICATION
	4TH	list the factors affecting the speed of dc motors
7TH	1ST	speed control for dc shunt motor using converter
	2ND	speed control for dc shunt motor using chopper
	3RD	list the factors affecting speed of the ac motors
	4TH	speed control of induction motors by using ac voltage regulator.
8TH	1ST	speed control of induction motors by using inverters
	2ND	speed control of induction motors by using inverters (continued)
	3RD	working of UPS with block diagram
	4TH	battery charger circuit using scr
9TH	1ST	introduction of programmable logic controller
	2ND	advantages of PLC
	3RD	different parts of PLC by drawing the block diagram
	4TH	application of PLC
10TH	1ST	Description of contacts and coils in the Normally closed state.
	2ND	Description of contacts and coils in the energized output.
	3RD	Description of contacts and coils in the latched output
	4TH	Description of contacts and coils in the branching
11TH	1ST	Ladder diagram for combination circuit using NAND,NOR,AND,OR,NOT GATE
	2ND	Timers:(a)T ON (b) T OFF (c)Retentive timer.
	3RD	Counters-CTU,CTD.
	4TH	Ladder diagram using timers and counters.

Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory -5,Power Electronics & PLC

Semester & Branch : 5th Sem , Electrical Engineering

Total Periods-60

Name of the faculty : Ashis Dash

No of periods /week-4

12TH	1ST	class test in semester pattern (80 marks)
	2ND	class test in semester pattern (80 marks)
	3RD	class test in semester pattern (80 marks)
	4TH	objective type test(20marks)[thyristor]
13TH	1ST	objective type test(20marks)[phase controlled rectifier]
	2ND	objective type test(20marks)[inverter]
	3RD	objective type test(20marks)[chopper]
	4TH	objective type test(20marks)[cycloconverter]
14TH	1ST	objective type test(20marks)[cycloconverter]
	2ND	objective type test(20marks)[cycloconverter]
	3RD	objective type test(20marks)[cycloconverter]
	4TH	objective type test(20marks)[PLC]
15TH	1ST	objective type test(20marks)[thyristor applications]
	2ND	doubt solving class on phase controlled rectifier
	3RD	doubt solving class on thyristor protection
	4TH	class test in semester pattern (80 marks)

(SIGNATURE OF FACULTY)

(SIGNATURE OF HOD)