

GOVERNMENT POLYTECHNIC ASTHAWAN, NALANDA

(Department of Electrical Engineering)

Semester:	5th Electrical
Subject:	Industrial Automation
Subject Code:	1620505
Lecturer /Week:	3
Name of the Faculty:	Chandan Kumar

Lesson Plan

WEEK	LECTURE NO. (1 Hr Each)	UNIT	TOPIC OF CLASS & DISCUSSION	TEACHING MODE
Week 1	1	Unit-1	Need of automation, Advantages of automation	Lecture/PPT/Pdf/Video
	2		Requirements of automation	Lecture/PPT/Pdf/Video
Week 2	3	Unit -2	Concept of control system, Basic block diagram of control system	Lecture/PPT/Pdf/Video
	4		Transfer function	Lecture/PPT/Pdf/Video
	5		Block diagram reduction Techniques.	Lecture/PPT/Pdf/Video
Week 3	6	Unit -3	Types of control system, Applications of control system	Lecture/PPT/Pdf/Video
	7		I/P devices- switches-push buttons, foot switch	Lecture/PPT/Pdf/Video
	8		selector switch, pilot switch, proximity Switch.	Lecture/PPT/Pdf/Video
Week 4	9	Unit -3	Sensors	Lecture/PPT/Pdf/Video
	10		Relays [Electro mechanical, reed]	Lecture/PPT/Pdf/Video
	11		Relays [Electro mechanical, reed] continue.....	Lecture/PPT/Pdf/Video
Week 5	12	Unit -3	Valves, pilot lamps, contactors	Lecture/PPT/Pdf/Video
	13		Potential meter- working uses as error detector	Lecture/PPT/Pdf/Video
	14		Servo motors - AC & DC working Principle	Lecture/PPT/Pdf/Video
Week 6	15	Unit -3	Servo motors - AC & DC working Principle continue...	Lecture/PPT/Pdf/Video
	16		Synchros- Transmitter	Lecture/PPT/Pdf/Video
	17		Synchros- control transformer	Lecture/PPT/Pdf/Video
Week 7	18	Unit -3	Tacho generator- working Principle	Lecture/PPT/Pdf/Video
	19		Stepper motor (Permanent magnet	Lecture/PPT/Pdf/Video
	20		Stepper motor Variable reluctance	Lecture/PPT/Pdf/Video
Week 8	21	Unit -3	Power & control circuits for different applications hoist, gantry, conveyor belt etc.	Lecture/PPT/Pdf/Video
	22		Power & control circuits for different applications hoist, gantry, conveyor belt etc. continue...	Lecture/PPT/Pdf/Video
	23		Electric & Electronic Controllers & Lead lag networks.	Lecture/PPT/Pdf/Video

	24	Unit-4	Electric & Electronic Controllers & Lead log networks. continue...	Lecture/PPT/Pdf/Video
Week 9	25		Digital controllers	Lecture/PPT/Pdf/Video
	26		Brief overview of microprocessor	Lecture/PPT/Pdf/Video
	27		Continue.....	Lecture/PPT/Pdf/Video
Week 10	28		microcontroller to be worked as controller	Lecture/PPT/Pdf/Video
	29		Continue.....	Lecture/PPT/Pdf/Video
	30		Continue.....	Lecture/PPT/Pdf/Video
Week 11	31		P, I P+I, P+D, P+I+D actions.	Lecture/PPT/Pdf/Video
	32		Continue.....	Lecture/PPT/Pdf/Video
	33		P+I+D action using hydraulic pneumatic & e	Lecture/PPT/Pdf/Video
Week 12	34		Continue.....	Lecture/PPT/Pdf/Video
	35		Tacho - generator	Lecture/PPT/Pdf/Video
	36	Continue.....	Lecture/PPT/Pdf/Video	
Week 13	37	Unit-5	Introduction	Lecture/PPT/Pdf/Video
	38		Continue....	Lecture/PPT/Pdf/Video
	39		Advantages & disadvantages	Lecture/PPT/Pdf/Video
Week 14	40		Continue....	Lecture/PPT/Pdf/Video
	41		PLC vs PC	Lecture/PPT/Pdf/Video
	42		Continue....	Lecture/PPT/Pdf/Video
Week 15	43		Continue....	Lecture/PPT/Pdf/Video
	44		Continue....	Lecture/PPT/Pdf/Video
	45		Block diagram of PLC	Lecture/PPT/Pdf/Video
Week 16	46		Continue....	Lecture/PPT/Pdf/Video
	47		Unit-6	Distribution control system (DCS)- brief intro
48	Continue....			Lecture/PPT/Pdf/Video