

Government Polytechnic Asthawan ,Nalanda (Bihar)

(Department of MECHANICAL ENGINEERING)

Lecture Plan:- Theory

Name of the Faculty :- **DILIP KUMAR**

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Semester/Branch:- 3th / Mechanical Engg .

Subject Name (Subject Code):- Electrical Engineering (1625305)

Lecture/Week :- 2 Periods/Week = 2hrs per week .

Units	Week	Lecture Day	Topics	Mode of Teaching
Unit 1	1	1.	Introduction to Electrical power supply system Generation, Transmission, Distribution & Utilization.	Pdf , Lecture , Video
		2.	AC supply & DC supply	Pdf , Lecture , Video
Unit 2	2	1.	Assignment of Electrical power supply system	Pdf /Google form
		2.	AC Fundamentals: cycle, frequency, phase, period .	Pdf , Lecture , Video
	3	1.	max, average, r.m.s. value. Concept of current,	Pdf , Lecture , Video
		2.	voltage, power & energy in R, L, & C circuits	Pdf , Lecture , Video
4	1.	Assignment of AC Fundamentals	Pdf /Google form	
	2.	Three phase supply: Star & Delta circuit .	Pdf , Lecture , Video	
Unit 3	5	1.	3-phase: Star ckt Line & Phase relationship, power equation	Pdf , Lecture , Video
		2.	3-phase: Delta circuit Line & Phase relationship, power equation	Pdf , Lecture , Video
	6	1.	Assignment of Three phase supply	Pdf /Google form
Unit 4	6	2	Measuring Instruments: Introduction to construction, operation and use of AC & DC ammeter, voltmeter .	Pdf , Lecture , Video
		7	1.	Introduction to construction, operation and use of Electrodynamic Wattmeter.
	2.		Introduction to construction, operation and use of energy meter	Pdf , Lecture , Video
	8	1	Digital multimeter, Clip on meter	Pdf , Lecture , Video
		2	Assignment of Measuring Instruments	Pdf /Google form
Unit 5	9	1.	DC Motor of Construction & Principle	Pdf , Lecture , Video
		2	Working,Emf & Back Emf Equation of DC Motor.	Pdf , Lecture , Video
	10	1	Types of DC Motor	Pdf , Lecture , Video

Unit 5		2	Speed torque characteristics of DC Motor.	Pdf , Lecture , Video
	11	1	Specifications & ratings of DC Motor.	Pdf , Lecture , Video
		2	Applications, Efficiency & Losses of DC Motor.	Pdf /Google form
	12	1	Assignment of DC Motor	Pdf /Google form
2		A. C .Machines:X-mer:Construction and principle of operation.	Pdf , Lecture , Video	
Unit 6	13	1	EMF equation and transformation ratio.	Pdf , Lecture , Video
		2	Load test, efficiency	Pdf , Lecture , Video
	14	1	Regulation, Specifications & rating	Pdf , Lecture , Video
		2	Auto transformer, Construction & Applications	Pdf , Lecture , Video
	15	1	3 phase transformer concept only & Applications.	Pdf /Google form
		2	AC motor: Construction and principle. operation of 3 phase Induction motor. , reversal of rotation, starters,	Pdf , Lecture , Video
	16	1	Speed torque characteristics, slip, speed control (VFD),.	Pdf , Lecture , Video
		2	Reversal of rotation, starters.	Pdf , Lecture , Video
	17	1	Single phase Motor, Motor specification & ratings	Pdf , Lecture , Video
		2	Universal motor, stepper motor.	Pdf , Lecture , Video
	18	1	Servo motor, Applications of these motors, Testing of motors.	Pdf /Google form
		2	Alternator: Construction, principle of operation & applications.,	Pdf , Lecture , Video
	19	1	Self and separate excitation. Synchronous Motor:- Construction	Pdf , Lecture , Video
		2	Principle of operation, methods of starting & applications	Pdf , Lecture , Video

Unit 6	20	1	Assignment of A .C Machines	Pdf /Google form
Unit 7		2	Utilisation of Electrical Energy: Industrial applications: Classification of drives	Pdf , Lecture , Video
		21	1	Factors for selection of motor for different drives, Enclosures & Mountings

		2	Electric heating : Working principle & types selection of system, specifications & rating	Pdf , Lecture , Video
	22	1	Electric welding: Working principle & types selection of system, specifications & rating	Pdf , Lecture , Video
		2	Electrometallurgical : Concept & principle used in electroplating & Application.	Pdf , Lecture , Video
	23	1	Electro Agro Systems: Electrical machines used in electro-agro systems (irrigation pumps)	Pdf , Lecture , Video
		2	Assignment of Utilisation of Electrical Energy.	Pdf /Google form
Unit 8	24	1	Electric wiring & Illumination: Simple Electric Installations with 2 Sockets,2 fans, 2 lamps, fuses.	Pdf , Lecture , Video
		2	Introduction to different accessories like, ELCB, wires & cables	Pdf , Lecture , Video
	25	1	Mccb	Pdf , Lecture , Video
		2	Different types of lamps their specifications	Pdf , Lecture , Video
	26	1	Assignment of Electric wiring & Illumination	Pdf /Google form
2		Electric safety & types safety tools,fire extinguishing methods adopted in electrical engineering.	Pdf , Lecture , Video	
Unit 9	27	1	Tariff, types of tariff	Pdf , Lecture , Video
		2	Power conservation, energy conservation & audit	Pdf /Google form
	28	1	necessity of Earthing, first aid measures	Pdf , Lecture , Video
		2	Power factor, improvement only methods.	Pdf , Lecture , Video
	29	1	Assignment of Electric safety	Pdf /Google form
	Total	57		