BHAI GURDAS INSTITUTE OF ENGINEERING & TECHNOLOGY

Department Of Electrical Engineering

LESSON PLAN

Subject Name: - BASICS OF ELECTRICAL ENGG. **Subject Code: - BTEE-101-18**

Year: - 2022-23 **Semester: - 2ND**

Lecture	Unit	Date/ Week	Topic	Teaching Aids	Reference
Lecture :1	UNIT-I	WEEK-1	Electrical circuit elements (R, L and C)	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :2			Voltage and current sources	Presentation	
Lecture :3			Kirchhoff's current and voltage laws	Chalk Board	
Lecture :4			Numerical problems	Chalk Board	
Lecture :5		WEEK-2	Numerical problems	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :6			Analysis of simple circuits with dc excitation, Nodal & Mesh Analysis	Chalk Board	
Lecture :7			Thevenin's Theorem	Chalk Board	
Lecture :8			Numerical problems	Chalk Board	
Lecture :9		WEEK-3	Numerical problems	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :10			Norton's Theorems	Chalk Board	
Lecture :11			Numerical problems	Chalk Board	
Lecture :12			Superposition Theorem	Chalk Board	
Lecture :13		WEEK-4	Numerical problems	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :14			Time-domain analysis of first-order RL	Chalk Board	
Lecture :15			Time-domain analysis of first-order RC circuits	Chalk Board	
Lecture :16	UNIT-II	WEEK-5	Representation of sinusoidal waveforms, peak and rms values	Presentation	**Basics of electrical engg** by J.B GUPTA
Lecture :17			Phasor representation, real power, reactive power, apparent power,	Presentation	

			power factor		
Lecture :18			Analysis of single-phase ac circuits consisting of R, L, C.	Presentation	
Lecture :19			RLC combinations series circuit	Chalk Board	
Lecture :20		WEEK-6	RL combinations series circuit	Presentation	
Lecture :21			R, L, C combinations series resonance circuit	Chalk Board	
Lecture :22			RC combinations series resonance circuit	Chalk Board	
Lecture :23			RLC combinations parallel resonance circuit	Chalk Board	
Lecture :24		WEEK-7	Numerical problems	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :25			R, L, C combinations parallel resonance circuit	Chalk Board	
Lecture :26			RL & RC combinations parallel resonance circuit	Presentation	
Lecture :27			Three-phase balanced circuits	Chalk Board	
Lecture :28		WEEK-8	Voltage and current relations in star connections	Chalk Board	
Lecture :29			Voltage and current relations in delta connections	Presentation	
Lecture :30			Magnetic materials, BH characteristics	Presentation	
Lecture :31			Ideal and practical transformer, equivalent circuit, losses in transformers	Chalk Board	
Lecture :32	UNIT-III	WEEK-9	Regulation and efficiency. Auto-transformer and three-phase transformer connections	Chalk Board	
Lecture :33			Generation of rotating magnetic fields	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :34			Construction and working of a three-phase	Chalk Board	

			induction motor, Significance of torque-slip characteristic		
Lecture :35			Loss components and efficiency, starting and speed control of induction motor.	Chalk Board	
Lecture :36		WEEK-10	Single-phase induction motor	Presentation	**Basics of electrical engg** by J.B GUPTA
Lecture :37			Construction, working, torque-speed characteristic of separately excited dc motor	Chalk Board	
Lecture :38			Numerical problems	Chalk Board	
Lecture :39			Numerical problems	Chalk Board	
Lecture :40		WEEK-11	Speed control of separately excited dc motor	Chalk Board	**Basics of electrical engg** by J.B GUPTA
Lecture :41			Synchronous generators	Presentation	**Basics of electrical engg** by J.B GUPTA
Lecture :42			Construction and working of synchronous generators	Presentation	
Lecture :43			Construction and working of synchronous generators	Chalk Board	
Lecture :44	UNIT-IV	WEEK-12	Types of Wires and Cables,	Presentation	**Basics of electrical engg** by J.B GUPTA
Lecture :45			Earthing , Types of Batteries	Chalk Board	
Lecture :46			Important Characteristics for Batteries	Chalk Board	
Lecture :47			Elementary calculations for energy consumption Power factor improvement and battery backup	Chalk Board	
Lecture :48		WEEK-13	Elementary calculations for energy consumption Power factor improvement and battery backup	Chalk Board	