GANDHI SCHOOL OF ENGINEERING

BHABANDHA,BERHAMPUR

PROPOSED WORK

4th SEM ETC SUBJECT- Th.1 ELECTRICAL MACHINE

Name of Faculty-ER. AMRESH CHOUDHRY

SL NO. CHAPTER	TOPICS	NO OF PERIODS ASSIGNED BY SCTE&VT	PLANNING DATES	REMARKS
1	**ELECTRICAL MATERIAL** 1.1 Properties & uses of different conducting material. 1.2 Properties & use of various insulating materials used electrical engineering. 1.3 Various magnetic materials & their uses.	03	10 MARCH 2022 To 13 MARCH 2022	
2	**DC GENERATOR** 2.1 Construction, Principle & application of DC Generator. 2.2 Classify DC generator including voltage equation. 2.3 Derive EMF equation & simple problems. 2.4 Parallel operation of DC generators.	07	13 MARCH 2022 To 21 MARCH 2022	
3	**DC MOTOR** 1. ELECTRICAL MATERIAL 2. 03 2. DC GENERATOR 3. 07 3. DC MOTOR 10 4. AC CIRCUITS 4. 08 5. TRANSFORMER 5. 10 6. INDUCTION MOTOR 6. 07 7. SINGLE PHASE INDUCTION MOTOR	10	21 MARCH 2022 To 10 APRIL 2022	

	7. 06 TOTAL 60 3.1 Principle of working of a DC motor. 3.2 Concept of development of torque & back EMF in DC motor including simple problems. 3.3 Derive equation relating to back EMF, Current, Speed and Torque equation 3.4 Classify DC motors & explain characteristics, application. 3.5 Three point & four point stator/static of DC motor by solid State converter. 3.6 Speed of DC motor by field control and armature control method. 3.7 Power stages of DC motor & derive Efficiency of a DC motor.			
4	**AC CIRCUITS** 4.1 Mathematical representation of phasors, significant of operator "J" 4.2 Addition, Subtraction, Multiplication and Division of phasor quantities. 4.3 AC series circuits containing resistance, capacitances, Conception of active, Reactive and apparent power and Q-factor of series circuits & solve related problems. 4.4 Find the relation of AC Parallel circuits containing Resistances, Inductance and Capacitances Q-factor of parallel circuits.	**08**	**10 APRIL 2022 To 19 APRIL 2022**	
5	**TRANSFORMER** 5.1 Ideal transformer. 5.2 Construction & working principle of transformer 5.3 Derive of EMF equation of transformer, voltage transformation ratio. 5.4 Discuss Flux, Current, EMF components of transformer and their phasor diagram under no	**10**	**19 APRIL 2022 To 05 MAY 2022**	

	load Condition. 5.5 Phasor representation of transformer flux, current EMF primary and secondary Voltages under load condition. 5.6 Types of losses in Single Phase (1-ø) Transformer. 5.7 Open circuit & short-circuit test (simple problems) 5.8 Parallel operation of Transformer. 5.9 Auto Transformer			
6	**INDUCTION MOTOR** 6.1 Construction feature, types of three-phase induction motor. 6.2 Principle of development of rotating magnetic field in the stator. 6.3 Establish relationship between synchronous speed, actual speed and slip of induction motor. 6.4 Establish relation between torque, rotor current and power factor. 6.5 Explain starting of an induction motor by using DOL and Star-Delta stator. State industrial use of induction motor.	**07**	**05 MAY 2022 To 13 MAY 2022**	
7	**SINGLE PHASE INDUCTION MOTOR** 7.1 Construction features and principle of operation of capacitor type and shaded pole type of single-phase induction motor. 7.2 Explain construction & operation of AC series motor. 7.3 Concept of alternator & its application.	**06**	**13 MAY 2022 To 27 MY 2022**	

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