

PNS SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING

Branch: Electrical Engg.	Semester: 3rd	Name of the Lecturer: J Pratul Kumar Nanda
Subject:DMT (TH-4)	Class allotted in a week: 4	Duration of Semester:14.07.2025 - 15.11.2025
week	Class Day	Theory/ Practical Topic:
1st	1	DC GENERATORS: Construction,parts,materials & their functions
	2	Principles of operations of DC generators
	3	Fleming's right hand rule
	4	Derive the emf equation of DC generator
2nd	1	Schematic diagram of different types of Dc generators.
	2	Armature reaction
	3	Commutation of Dc generators.
	4	Application of Dc generators.
3rd	1	Solve Numerical Problems.
	2	DC Motors: Types of DC motors.
	3	Fleming's left hand rule
	4	Principle of operation of Back EMF & it's significance.
4th	1	Voltage equation of Dc motor.
	2	Torque & speed , Armature Torque ,Shaft torque, BHP of dc motors.
	3	Brake test, losses,Efficiency of DC motors.
	4	Necessity of starters, 2-point & 3 point starter.
5th	1	Speed control of dc shunt & series motor , flux & Armature control.
	2	Construction & working of Brushless DC motor.
	3	Solve Numerical Problems.
	4	SINGLE PHASE TRANSFORMER :Types of transformers:shell & core type.
6th	1	Construction,parts,functions of 1-phase transformer
	2	Materials used forparts:CRGO,CRNGO,HRGO, amorphous cores
	3	Principle of operation of Transformer.
	4	EMF equation of transformer ,Derivation,Voltage transformation ratio.
7th	1	Significance of Transformer ratings.

	2	Transformer No-load & on -load phasor diagram, Leakage Reactance.
	3	Equivalent circuit of transformer: equivalent resistance and reactance.
	4	Voltage regulation & efficiency : Direct loading, OC/SC method , All day efficiency.
8th	1	Solve Numerical Problems.
	2	THREE PHASE TRANSFORMER : Bank of three single phase transformers,
	3	Y-Y, Delta-Delta, Delta -Y, Y-Delta connection.
	4	Single unit of three phase transformer.
9th	1	Construction & cooling of Distribution & Power Transformer
	2	Criteria for selection of distribution transformer and power transformer.
	3	Need of parallel operation of 3 phase transformer.
	4	Conditions for parallel operation.
10th	1	Polarity tests on mutually inductive coils and single phase transformers.
	2	Polarity tests , phasing out test on 3 phase transformer.
	3	Solve Numerical Problems.
	4	Special Purpose Of Transformer : Single phase autotransformers Construction
11th	1	Working & applications
	2	Three phase autotransformers - Construction , Working & applications
	3	Working & applications
	4	Isolation transformer: constructional Features & applications.
12th	1	Working & applications
	2	Revisions
	3	Revisions
	4	Revisions



Signature of Lecturer



Signature of HOD



Signature of Principal