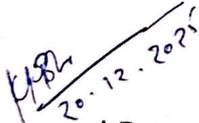


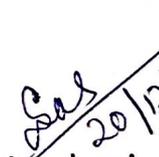
ACADEMIC SESSION: 2025-26

Discipline: Electrical engineering	Semester: 4th	Name of the Teaching Faculty: Sri Kiran Kumar Bhol (Lect. Stage II)
Subject: AC machine and special electrical machines	No. of days / week class allotted	Semester From date: 22/12/2025 to 18/04/2026 Nos. of Weeks per semester: 15
Week	Class Day	Theory Topics
1 ST	1 st	Introduction to AC Machines & Induction Motor
	2 nd	Rotating Magnetic Field (RMF)
	3 rd	Synchronous Speed, Rotor Speed, Slip
2 ND	1 st	Construction of Squirrel Cage IM
	2 nd	Construction of Slip Ring IM
	3 rd	Comparison: Squirrel Cage vs Slip Ring
3 RD	1 st	Rotor Frequency & Induced EMF
	2 nd	Rotor Power Factor
	3 rd	Torque-Slip Characteristics
4 TH	1 st	Starting, Full Load & Max Torque
	2 nd	Induction Motor as Transformer
	3 rd	Phasor Diagram of IM
5 TH	1 st	Power Flow Diagram
	2 nd	Four Quadrant Operation
	3 rd	Starters – Need & Types
6 TH	1 st	Stator Resistance & Auto Transformer Starter
	2 nd	Star-Delta & Rotor Resistance Starter
	3 rd	Soft Starter
7 TH	1 st	Speed Control – Stator Voltage & Pole Changing
	2 nd	Speed Control – Rotor Resistance & VVVF
	3 rd	Motor Selection as per Load Torque
8 TH	1 st	Maintenance of 3-Phase IM
	2 nd	Introduction to Single Phase IM
	3 rd	Double Field Revolving Theory
9 TH	1 st	Self-Starting Methods
	2 nd	Resistance Start IM
	3 rd	Capacitor Start IM

10 TH	1 st	Capacitor Start Capacitor Run IM
	2 nd	Shaded Pole Motor
	3 rd	Repulsion & Universal Motor
11 TH	1 st	Hysteresis & Serles Motor
	2 nd	Torque-Speed Characteristics
	3 rd	Motor Selection & Maintenance
12 th	1 st	Introduction to Alternator
	2 nd	Construction of Alternator
	3 rd	Rotor Types & Windings
13 th	1 st	EMF Equation of Alternator
	2 nd	Alternator Loading
	3 rd	Voltage Regulation
14 th	1 st	Armature Reaction & Maintenance
	2 nd	Principle of Synchronous Motor
	3 rd	Torque, V-Curves & Hunting
15 th	1 st	Starting Methods & Applications
	2 nd	FHP Motors – Stepper, BLDC, PMSM
	3 rd	Servo Motors, Applications & Revision


 Prepared By
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 Lect. II (Electrical Engg.)


 Head of the Department
 Electrical Engg.
 GP Sonapur


 Academic
 coordinator
 GP Sonapur