



BIJU PATTANAİK INSTITUTE OF TECHNOLOGY
GOVERNMENT POLYTECHNIC, PURI
ସରକାରୀ ବହୁବୃତ୍ତି ଅନୁଷ୍ଠାନ, ପୁରୀ

LESSON PLAN

ON

ELECTRICAL MACHINE LAB -II

5TH SEMESTER

PREPARED BY

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GOVERNMENT POLYTECHNIC, PURI.





GOVERNMENT POLYTECHNIC, PURIDEPARTMENT OF ELECTRICAL ENGINEERING

Discipline: ELECTRICAL ENGG.	Semester: 5th	Name of the Teaching Faculty: Nsham Ranjan Dshah CPTGIF (Electrical)	
Subject: ELECTRICAL MACHINE LAB-II	No. of days/per week class allotted: 06	Semester-5 th	From date: 15/09/2022 To Date: 22/12/2022
PRE-REQUISITE	Basic knowledge about network solving and engineering mathematics.		
COURSE OUTCOMES	<ol style="list-style-type: none"> 1. Develop the practical ability to start, run & reverse induction motors with different starters such as D.O.L, star-delta, Rotor Resistance and Auto-Transformers. 2. Practically comprehend the voltage-regulation required and calculate efficiency of different A.C generators. 3. Develop the practical ability to start, run & reverse the direction of single-phase induction motor. 4. Gain practical acquaintance with measurement of power & energy of 3-phase and single-phase loads with two-wattmeter, three-wattmeter and energy-meter respectively. 5. Develop practical understanding of the working of O.C.B, induction type O.C/reverse power relay, Buchholz's relay and earth fault relay. 		
Week	Class Day	Theory/Practical Topics	DELIVERY METHOD
1 ST	1 ST	Study of (Manual and Semi automatic) Direct on Line starter, Star-Delta starter, connection and running a 3-phase Induction motor and measurement of starting current.	Whiteboard
	2 ND	Study of (Manual and Semi automatic) Direct on Line starter, Star-Delta starter, connection and running a 3-phase Induction motor and measurement of starting current.	Whiteboard
2 ND	1 ST	Study of (Manual and Semi automatic) Auto transformer starter and rotor resistance starter connection and running a 3-phase induction motor and measurement of starting current	Whiteboard
	2 ND	Study of (Manual and Semi automatic) Auto transformer starter and rotor resistance starter connection and running a 3-phase induction motor and measurement of starting current	Whiteboard
3 RD	1 ST	Study and Practice of connection & Reverse the direction of rotation of Three Phase Induction motor	Whiteboard
	2 ND	Study and Practice of connection & Reverse the direction of rotation of Three Phase Induction motor	Whiteboard
4 TH	1 ST	Study and Practice of connection & Reverse the direction of rotation of Single Phase Induction motor	Whiteboard
	2 ND	Study and Practice of connection & Reverse the direction of rotation of Single Phase Induction motor	Whiteboard
5 TH	1 ST	Heat run test of 3-phase transformer	Whiteboard
	2 ND	Heat run test of 3-phase transformer	Whiteboard
6 TH	1 ST	OC and SC test of alternator and determination of regulation by synchronous impedance method	Whiteboard
	2 ND	OC and SC test of alternator and determination of	Whiteboard



		regulation by synchronous impedance method	
	1 ST	Determination of regulation of alternator by direct loading	Whiteboard
7 TH	2 ND	Determination of regulation of alternator by direct loading	Whiteboard
	1 ST	Parallel operation of two alternators and study load sharing	Whiteboard
8 TH	2 ND	Parallel operation of two alternators and study load sharing	Whiteboard
	1 ST	Measurement of power of a 3-phase Load using two wattmeter method and verification of the result using one 3-phase wattmeter	Whiteboard
9 TH	2 ND	Measurement of power of a 3-phase Load using two wattmeter method and verification of the result using one 3-phase wattmeter	Whiteboard
	1 ST	Connection of 3-phase energy meter to a 3-phase load	Whiteboard
10 TH	2 ND	Connection of 3-phase energy meter to a 3-phase load	Whiteboard
	1 ST	Study of an O.C.B.	Whiteboard
11 TH	2 ND	Study of an O.C.B.	Whiteboard
	1 ST	Study of induction type over current / reverse power relay.	Whiteboard
12 TH	2 ND	Study of induction type over current / reverse power relay.	Whiteboard
	1 ST	Study of Buchholz's relay.	Whiteboard
13 TH	2 ND	Study of Buchholz's relay.	Whiteboard
	1 ST	Study of Buchholz's relay.	Whiteboard
14 TH	2 ND	Study of Buchholz's relay.	Lecture notes
	1 ST	Study of Buchholz's relay.	
15 TH	2 ND	Study of Buchholz's relay.	

LEARNING RESOURCES:

01. Electrical Technology-II, B.L. Theraja and A.K. Theraja SChand Publisher
02. Electrical Technology, J. B. Gupta, S.K. Kataria and Sons
03. Electric Machine, Ashfaq Husain, Dhanpat Rai and Sons
04. Electrical Machines, D P Kothari, I J Nagrath, Mc Graw Hill

WEBSITE RESOURCES:

01. https://www.youtube.com/watch?v=G8pM3CkWm5M&list=RDCMUCgp23vdLNaUitOkCxxVnRrg&start_radio=1&rv=G8pM3CkWm5M (NPTEL)
02. <https://www.youtube.com/playlist?list=PLp6ek2hDcoNCANsWM2mw3qi0387BhflyV> (NPTEL)

Sign. of Faculty concerned

Principal
G.P.Puri

Sign. of HOD/c

