



LESSON PLAN

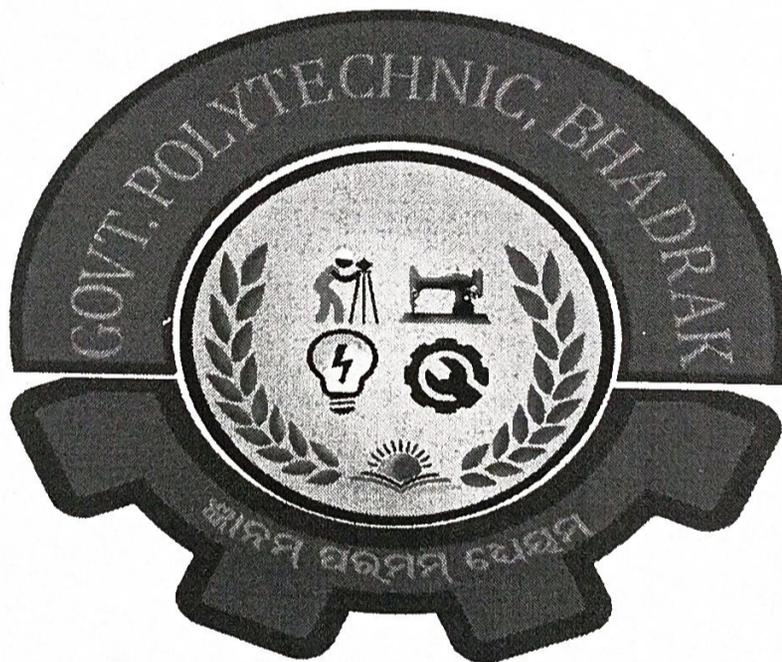
**SUB: AC MACHINES AND SPECIAL
ELECTRICAL MACHINES LABORATORY**

BRANCH:- ELECTRICAL ENGG.

SEMESTER: 4th

SESSION:2025-2026

NAME OF FACULTY: NIBEDITA HO



**GOVERNMENT POLYTECHNIC,
BHADRAK**

Hod Electrical
19-12-25

**HOD (ELECT.)
G.P.BHADRAK**

Academic Co-ordinator

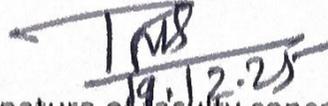
Academic Co-ordinator

Principal
Govt. Polytechnic, Bhadrak

**Principal
Govt. Polytechnic
Bhadrak**

Discipline: Electrical Engg.	Semester: 4 th	Name of the Teaching Faculty : Nibedita Ho Lect. (Stage-II) in Electrical Engg.
Subject: AC Machines and Special Electrical Machines Lab	No. of Days/per week class allotted:4	Semester from date: 22.12.2025 to 18.04.2026 No. of Weeks:15
Week	Group	Experiment/Practical
1 st	E ₁	Identify the different parts (along with function and materials) for the given single phase and three phase induction motor.
	E ₂	Identify the different parts (along with function and materials) for the given single phase and three phase induction motor.
2 nd	E ₁	Connect and run the three phase squirrel cage induction motors (in both directions) using the DOL, star - delta, auto-transformer starters (any two)
	E ₂	Connect and run the three phase squirrel cage induction motors (in both directions) using the DOL, star - delta, auto-transformer starters (any two)
3 rd	E ₁	Connect and run the three phase squirrel cage induction motors (in both directions) using the DOL, star - delta, auto-transformer starters (any two)
	E ₂	Connect and run the three phase squirrel cage induction motors (in both directions) using the DOL, star - delta, auto-transformer starters (any two)
4 th	E ₁	Perform the direct load test on the three phase squirrel cage induction motor and plot the i) efficiency versus output, ii) power factor versus output, iii) power factor versus motor current and iv) torque - slip/speed characteristics
	E ₂	Perform the direct load test on the three phase squirrel cage induction motor and plot the i) efficiency versus output, ii) power factor versus output, iii) power factor versus motor current and iv) torque - slip/speed characteristics
5 th	E ₁	Perform the direct load test on the three phase squirrel cage induction motor and plot the i) efficiency versus output, ii) power factor versus output, iii) power factor versus motor current and iv) torque - slip/speed characteristics
	E ₂	Perform the direct load test on the three phase squirrel cage induction motor and plot the i) efficiency versus output, ii) power factor versus output, iii) power factor versus motor current and iv) torque - slip/speed characteristics
6 th	E ₁	Conduct the No-load and Blocked-rotor tests on given 3-φ squirrel cage induction motor and determine the equivalent circuit parameters.
	E ₂	Conduct the No-load and Blocked-rotor tests on given 3-φ squirrel cage induction motor and determine the equivalent circuit parameters.
7 th	E ₁	Control the speed of the given three phase squirrel cage/slip ring induction motor using the applicable methods : i) auto-transformer , ii) VVVF.
	E ₂	Control the speed of the given three phase squirrel cage/slip ring induction motor using the applicable methods : i) auto-transformer , ii) VVVF.
8 th	E ₁	Conduct the direct load test to determine the efficiency and speed regulation for different loads on the given single phase induction motor; plot the efficiency and speed regulation curves with respect to the output power.
	E ₂	Conduct the direct load test to determine the efficiency and speed regulation for different loads on the given single phase induction motor; plot the efficiency

		and speed regulation curves with respect to the output power.
9 th	E ₁	Perform the direct loading test on the given three-phase alternator and determine the regulation and efficiency.
	E ₂	Perform the direct loading test on the given three-phase alternator and determine the regulation and efficiency.
10 th	E ₁	Determine the regulation and efficiency of the given three phase alternator from OC and SC tests (Synchronous Impedance method)
	E ₂	Determine the regulation and efficiency of the given three phase alternator from OC and SC tests (Synchronous Impedance method)
11 th	E ₁	Conduct the test on load or no load to plot the 'V' curves and inverted 'V' curves (at no-load) of 3-f synchronous motor.
	E ₂	Conduct the test on load or no load to plot the 'V' curves and inverted 'V' curves (at no-load) of 3-f synchronous motor.
12 th	E ₁	Dismantling and reassembling of single-phase motors used for ceiling fans, universal motor for mixer.
	E ₂	Dismantling and reassembling of single-phase motors used for ceiling fans, universal motor for mixer.
13 th	E ₁	Control the speed and reverse the direction of stepper motor
	E ₂	Control the speed and reverse the direction of stepper motor
14 th	E ₁	Control the speed and reverse the direction of the AC servomotor
	E ₂	Control the speed and reverse the direction of the AC servomotor
15 th	E ₁	Control the speed and reverse the direction of the DC servomotor
	E ₂	Control the speed and reverse the direction of the DC servomotor


 Signature of faculty concerned

Lect. in Elect. Engg.
 Govt. Poly. Bhadrak