DEPARTMENT OF ELECTRICAL ENGINEERING

GOVERNMENT POLYTECHNIC, BARGARH

LESSON PLAN

DCMT LAB

3rd SEMESTER

ELECTRICAL ENGINEERING

PREPARED BY

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LECTURER STAGE II (ELECTRICAL)

DEPARTMENT OF ELECTRICAL ENGINEERING

VISION:

To produce Electrical Engineer professionals who can contribute for socio-economic and technological development to meet global needs.

MISSION:

M1 - To strengthen academic infrastructure leading to quality professional by using modern technical tools and technologies.

M2 - To impart innovative knowledge among the students and make more industry-institution programs to make them successful professionals for serving the society.

M3 - To provide a learning environment to improve problem solving abilities, leadership abilities, ethical responsibilities and lifelong learning.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO1: Apply electrical engineering knowledge and practical skills to solve well-defined engineering problems using modern tools and techniques.

PEO2: Perform effectively in industry and society as competent junior engineer, supervisors, or entrepreneurs with ethical and sustainable engineering practices.

PEO3: Demonstrate teamwork, communication, leadership, and project management skills in professional engineering activities.

PEO4: Engage in lifelong learning and adapt to emerging technologies for career growth and higher education.

PROGRAM SPECIFIC OUTCOMES

The electrical diploma engineers will be able to:

PSO1:-Apply the fundamentals of mathematics, science and engineering knowledge to identify, formulate, design and investigate engineering problems of electric circuits, analog and digital electronics, control system, electrical machines and power system.

PSO2:- Apply the appropriate techniques and modern engineering hardware and software tools in electrical engineering to engage in life-long learning and to successfully adapt in multidisciplinary environments.

PSO3:-Work professionally in power systems engineering, Electrical machinery and electrical circuit.

Class No.	Experiment No.	Topics / Experiment to be Covered
1	—	Introduction to Laboratory, Safety Precautions, Syllabus Discussion and Familiarization with DC Machines & Transformers
2	1	Dismantle a DC Machine
3	2	Reverse the Direction of Rotation of the DC Shunt Motor
4	3	Control the Speed of DC Shunt Motor by Field Flux and Armature Voltage Control Methods
5	4	Perform Brake Test on DC Series Motor
6	**Viva-I**	Viva on DC Machines (Experiments 1–4)
7	5	Check the Functioning of Single-Phase Transformer
8	6	Determine Regulation and Efficiency of Single-Phase Transformer by Direct Loading
9	7	Perform Open Circuit and Short Circuit Tests on Single-Phase Transformer
10	8	Perform Parallel Operation of Two Single-Phase Transformers and Determine Load Sharing
11	9	Perform Polarity Test on a Single-Phase Transformer
12	10	Perform Phasing-Out Test on a Three-Phase Transformer
13	11	Connect the Auto-Transformer in Step-Up and Step-Down Modes and Note Input/output Readings
14	12	Test the Pulse Transformer
15	**Viva-II**	Viva on Transformers (Experiments 5–12)
16	—	Repeat Experiment on DC Machines
17	—	Repeat Experiment on Transformers
18	—	Completion of Pending Experiments
19	—	Record Verification
20	—	Mock Practical Examination
21	—	End Semester Practical Examination Preparation