

GOVERNMENT POLYTECHNIC, BARGRAH

DEPARTMENT OF ELECTRICAL ENGINEERING



LESION PLAN

MECHANICAL ENGINEERING LAB

PREPARED BY:

CHITTA RANJAN MEHER

LECTURE IN MECHANICA ENGINEERING (PTGF)



GOVERNMENT POLYTECHNIC, BARGARH

VISION

To be a reputed polytechnic institute imparting quality technical education to produce diploma engineers with dynamic personalities and innovative competencies in the state of Odisha.

MISSION

M1:- To offer the best and advanced lab facilities adhering to the curriculum to make future engineers.

M2:- To engage highly qualified and competent faculties to make the student acquire the skillful knowledge required.

M3:- To develop an excellent teaching learning environment leading to create the best institute.

DEPT OF ELECTRICAL ENGINEERING, G.P. BARGARH

VISION

To produce Electrical Engineering 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 OBJECTIVE (PEO)

PEO1:- To obtain basic and advanced knowledge in Electrical Engineering for employment in public/private sector organizations.

PEO2:- To encourage the students for higher studies by acquiring knowledge in the basic and emerging areas of Electrical Engineering.

PEO3:- To become entrepreneurs to showcase innovative ideas.

PEO4:- To have a well-rounded education that includes excellent communication skills, working effectively on team-based projects, ethical and social responsibilities.

Pr1. MECHANICAL ENGINEERING LABORATORY

Name of the Course: Diploma in Electrical Engineering

Course code:	Semester	3rd
Total Period:	45	Examination : 3 hrs
Lab. periods:	3 P / week	Sessional: 25
Maximum marks:	75	End Semester 50
		Examination ::

1. APPLIED MECHANICS & MATERIAL TESTING

- 1.1 Determination of M.A., V.R. and efficiency of Screw Jack
- 1.2 Determination of friction co-efficient of bearing
- 1.3 Determination of Young's modulus by Searle's Apparatus
- 1.4 Determination of M.A., V.R. and efficiency of wheel train
- 1.5 Determination of Bending stress in beam using strain gauge
- 1.6 Study of Universal Testing Machine and determination of tensile stress and Young's module of M.S specification.

2. HYDRAULICS & HYDRAULIC MACHINE LAB

- 2.1 Study of pressure measuring devices such as (a) Piezo-meter (b) Simple manometer
- 2.2 Study of venturi-meter
- 2.3 Verification of Bernouli's Theorem
- 2.4 Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.

3. HEAT ENGINE LAB

- 3.1 Study of Cochran Boiler
- 3.2 Study and demonstration of Stream Engine
- 3.3 Study and demonstration of Diesel Engine

AFTER COMPLETION OF THE COURSE THE STUDENTS WILL BE ABLE TO

C20 1.1	Demonstrate the Universal Testing Machine and solve the M.A & V.R & Efficiency of different simple machines.
C20 1.2	Demonstrate the Hydraulic Machines .pressure measuring device & verification of Bernoulli's Theorem.
C20 1.3	Demonstration of different types of heat engine & Boiler.

SESSION :2023-2024 COURSE CODE:PR1 SEMSETER :3 RD PERIOD/WEEK:3 TOTAL PERIOD :30		NAME OF THE FACULTY:MRS CHITTA RANJAN MEHER COURSE NAME :MECHANICAL ENGG LAB DATE:01.08.2023 TO 30.11.2023
SL NO	DATE	
1	05.08.2023	Introduction of MEL lab
2	08.08.2023	Introduction of MEL lab
3	12.08.2023	Determination of M.A.,V.R. and efficiency of Screw Jack
4	19.08.2023	Determination of M.A.,V.R. and efficiency of Screw Jack
5	22.08.2023	Determination of friction co-efficient of bearing
6	26.08.2023	Determination of friction co-efficient of bearing
7	29.08.2023	Determination of Young's modulus by Searle's Apparatus
8	02.09.2023	Determination of Young's modulus by Searle's Apparatus
9	05.09.2023	Determination of M.A.,V.R. and efficiency of wheel train
10	09.09.2023	Determination of M.A.,V.R. and efficiency of wheel train
11	12.09.2023	Determination of Bending stress in beam using strain gauge
12	16.09.2023	Determination of Bending stress in beam using strain gauge
13	23.09.2023	Study of Universal Testing Machine and determination of tensile stress and Young's module of M.S specification.
14	26.09.2023	Study of Universal Testing Machine and determination of tensile stress and Young's module of M.S specification.
15	30.09.2023	Study of Universal Testing Machine and determination of tensile stress and Young's module of M.S specification.
16	03.10.2023	Study of Universal Testing Machine and determination of tensile stress and Young's module of M.S specification.
17	07.10.2023	Study of pressure measuring devices such as (a) Piezo-meter (b) Simple manometer
18	10.10.2023	Study of pressure measuring devices such as (a) Piezo-meter (b) Simple manometer
19	14.10.2023	Study of pressure measuring devices such as (a) Piezo-meter (b) Simple manometer
20	17.10.2023	Study of pressure measuring devices such as (a) Piezo-meter (b) Simple manometer
21	28.10.2023	Study of venturi-meter
22	31.10.2023	Study of venturi-meter
23	04.11.2023	Verification of Bernouli's Theorem
24	07.11.2023	Verification of Bernouli's Theorem
25	11.11.2023	Verification of Bernouli's Theorem

26	14.11.2023	Verification of Bernouli's Theorem
27	18.11.2023	Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.
28	22.11.2023	Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.
29	25.11.2023	Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.
30	28.11.2023	Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.
31	Extra class	Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.
32	Extra class	Model study of Centrifugal pumps, Francis, Turbine, Kaplan turbine and Pelton wheel.
33	Extra class	Study of Cochran Boiler
34	Extra class	Study of Cochran Boiler
35	Extra class	Study and demonstration of Stream Engine
36	Extra class	Study and demonstration of Stream Engine
37	Extra class	Study and demonstration of Diesel Engine
38	Extra class	Study and demonstration of Diesel Engine
39	Extra class	Study and demonstration of Petrol Engine
40	Extra class	Study and demonstration of Petrol Engine
41	Extra class	Revision of experiment
42	Extra class	Revision of experiment
43	Extra class	Revision of experiment
44	Extra class	Revision of experiment
45	Extra class	Revision of experiment

Chitta ranjan Meher

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DEPARTMENT OF MECHANICAL ENGG