

**GOVERNMENT POLYTECHNIC JAJPUR**

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**DEPARTMENT OF MECHANICAL ENGINEERING**

**LESSON PLAN (2023- 24)**

Discipline: Mechanical	Semester: 3RD	Name of the Teaching faculty: KEDARNATH JENA
Subject: ME LAB 1 (Pr.-2)	No of Days/Week class allotted: 4P	Semester from Date: 01.08.2023 To Date: 31.11.2023 No of weeks: 15
Week	Class Day	Topics
1st	1st (2p), Gr 1&2	Syllabus, Lesson Plan, Cos, Exam and Evaluation Scheme.
	2nd (2p), Gr 1&2	Determine end reactions in a simply supported beam using parallel force apparatus.
		i) Aim of the expt, Theory
		ii) Tools and Equipments required
2nd	1st (2p), Gr 1&2	iii) Demonstration
		Determine end reactions in a simply supported beam using parallel force apparatus.
		i) precautions
	2nd (2p), Gr 1&2	ii) handling of the equipment
		Determine end reactions in a simply supported beam using parallel force apparatus.
3rd	1st (2p), Gr 1&2	i) Taking readings for calculation of end reactions by students
		ii) viva, records checking
	2nd (3p), Gr 1	Determination of Young's modulus using Searle's apparatus
		i) Aim of the expt, Theory
		Determination of Young's modulus using Searle's apparatus
4th	1st (2p), Gr 1&2	i) Tools and Equipments required
		ii) Demonstration of experiment
	2nd (2p), Gr 1&2	Determination of Young's modulus using Searle's apparatus
		i) Taking readings for calculation of end reactions by students
		ii) viva, record checking
		Determination of torsional rigidity of the shaft using torsion testing machine
5th	1st (2p), Gr 1&2	i) Aim of the expt, Theory
		Determination of torsional rigidity of the shaft using torsion testing machine
		i) Tools and Equipments required
	2nd (2p), Gr 1&2	ii) specimen preparation
		Determination of torsional rigidity of the shaft using torsion testing machine
		i) Demonstration of experiment
	2nd (2p), Gr 1&2	ii) precautions and handling of machine tool
		iii) taking readings for calculation of torsional rigidity by students

6th	1st (2p), Gr 1&2	Determination of torsional rigidity of the shaft using torsion testing machine i) Taking readings for calculation of end reactions by students
	2nd (2p), Gr 1&2	Determination of torsional rigidity of the shaft using torsion testing machine i) Taking readings for calculation of end reactions by students
		ii) viva, records checking
		Determination of salient points (Young's modulus, yield point, fracture point) i) Aim of the expt, Theory
7th	1st (2p), Gr 1&2	Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine i) Tools and Equipments required
		ii) specimen preparation
		Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine i) Demonstration of experiment
	2nd (2p), Gr 1&2	ii) precautions and handling of machine tool
		iii) testing of standard specimen in UTM by students
		Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine i) testing of standard specimen in UTM by students
8th	1st (2p), Gr 1&2	Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine i) testing of standard specimen in UTM by students
		Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine i) testing of standard specimen in UTM by students
	2nd (2p), Gr 1&2	ii) viva, records checking
		Determination of hardness number by Rockwell/Vickers hardness testing machine i) Aim of the expt, Theory
9th	1st (2p), Gr 1&2	ii) Tools and Equipments required
		Determination of hardness number by Rockwell/Vickers hardness testing machine i) Demonstration of experiment
		ii) precautions and handling of machine tool
	2nd (2p), Gr 1&2	iii) testing of standard specimen
		Determination of hardness number by Rockwell/Vickers hardness testing machine i) result analysis
		ii) viva, records checking
10th	1st (2p), Gr 1&2	Determination of toughness using Impact testing machine (Charpy/Izod) i) Aim of the expt, Theory
		ii) specimen preparation
	2nd (2p), Gr 1&2	Determination of toughness using Impact testing machine (Charpy/Izod) i) specimen preparation
11th	1st (2p), Gr 1&2	Determination of toughness using Impact testing machine (Charpy/Izod) i) Demonstration of experiment
		ii) precautions and handling of machine tool
		iii) testing of standard specimen
	2nd (2p), Gr 1&2	Determination of toughness using Impact testing machine (Charpy/Izod) i) viva, records checking

12th	2nd (2p), Gr 1&2	Determination of Flash point and fire point
		i) Aim of the expt, Theory
		ii) apparatus and consumables required
		iii) Demonstration of experiment
13th	1st (2p), Gr 1&2	Determination of Flash point and fire point
	2nd (2p), Gr 1&2	i) testing of specimen for flash point and fire point
		Determination of Flash point and fire point
		i) testing of specimen for flash point and fire point
		ii) record checking
		iii) viva
14th	1st (2p), Gr 1&2	Joule's experiment
	2nd (2p), Gr 1&2	i) Aim of the expt, Theory
		Joule's experiment
		i) apparatus and experimental set up required
		ii) Demonstration of experiment
		Joule's experiment
15th	1st (2p), Gr 1&2	i) establishment of relation between work and heat through experiment
	2nd (2p), Gr 1&2	Joule's experiment
		i) viva, records checking
		Any skiped experiments to be done by students

Sign. Of Faculty

*WNC*  
31/07/23