

GOVERNMENT POLYTECHNIC JAJPUR

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DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

Discipline: Mechanical	Semester: 3RD	Name of the Teaching faculty: Manas Kumar Mishra
Subject: ME LAB 1	No of Days/Week class allotted: 2	Semester from Date: 15/09/22 To Date: 22/12/22 No of weeks: 16
Week	Class Day	Topics
1st	1st (2p) Gr 1 & Gr 2	Syllabus, Lesson Plan, Cos, Exam and Evaluation Scheme.
		Determine end reactions in a simply supported beam using parallel force apparatus.
		i) Aim of the expt, Theory
		ii) Tools and Equipments required
	2nd (2p) Gr 1 & Gr 2	iii) Demonstration
		iv) precautions
2nd	1st (2p) Gr 1 & Gr 2	Determine end reactions in a simply supported beam using parallel force apparatus.
		i) Taking readings for calculation of end reactions by students
	2nd (2p) Gr 1 & Gr 2	Determine end reactions in a simply supported beam using parallel force apparatus.
		i) Taking readings for calculation of end reactions by students
		ii) viva, records checking
		Determination of Young's modulus using Searle's apparatus
3rd	1st (2p) Gr 1 & Gr 2	Determination of Young's modulus using Searle's apparatus
		i) Tools and Equipments required
	2nd (2p) Gr 1 & Gr 2	ii) Demonstration of experiment
		Determination of Young's modulus using Searle's apparatus
4th	1st (2p) Gr 1 & Gr 2	i) Taking readings for calculation of Young's modulus by students
		ii) viva, record checking
	2nd (2p) Gr 1 & Gr 2	Determination of torsional rigidity of the shaft using torsion testing machine
		i) Aim of the expt, Theory
		ii) Tools and Equipments required
		iii) specimen preparation
		Determination of torsional rigidity of the shaft using torsion testing machine

5th	1st (2p) Gr 1 & Gr 2	i) Demonstration of experiment	
		ii) precautions and handling of machine tool	
		iii) taking readings for calculation of torsional rigidity by students	
2nd (2p) Gr 1 & Gr 2	Determination of torsional rigidity of the shaft using torsion testing machine		
	i) Taking readings for calculation of end reactions by students		
6th	1st (2p) Gr 1 & Gr 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		
	2nd (2p) Gr 1 & Gr 2	Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine	
		i) Aim of the expt, Theory	
		i) Tools and Equipments required	
ii) specimen preparation			
7th	1st (2p) Gr 1 & Gr 2	Determination of salient points (Young's modulus, yield point, fracture point) from stress- strain curve using Universal Testing Machine	
		i) Demonstration of experiment	
		ii) precautions and handling of machine tool	
		iii) testing of standard specimen in UTM by students	
	2nd (2p) Gr 1 & Gr 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	
8th	1st (2p) Gr 1 & Gr 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	
		ii) viva, records checking	
	2nd (2p) Gr 1 & Gr 2	Determination of hardness number by Rockwell/Vickers hardness testing machine	
		i) Aim of the expt, Theory	
		ii) Tools and Equipments required	
9th	1st (2p) Gr 1 & Gr 2	Determination of hardness number by Rockwell/Vickers hardness testing machine	
		i) Demonstration of experiment	
		ii) testing of standard specimen by students	
	2nd (2p) Gr 1 & Gr 2	Determination of hardness number by Rockwell/Vickers hardness testing machine	
		i) testing of standard specimen by students	
		Determination of hardness number by Rockwell/Vickers hardness testing machine	
10th	1st (2p) Gr 1 & Gr 2	Determination of hardness number by Rockwell/Vickers hardness testing machine	
		i) testing of standard specimen by students	
		ii) viva, records checking	
	Determination of toughness using Impact testing machine (Charpy/Izod)		

	2nd (2p) Gr 1 & Gr 2	i) Aim of the expt, Theory ii) specimen preparation
11th	1st (2p) Gr 1 & Gr 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 & Gr 2	Determination of toughness using Impact testing machine (Charpy/Izod) i) testing of standard specimen by students
12th	1st (2p) Gr 1 & Gr 2	Determination of toughness using Impact testing machine (Charpy/Izod) i) testing of standard specimen by students ii) viva, records checking
	2nd (2p) Gr 1 & Gr 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 & Gr 2	Determination of Flash point and fire point i) precaution ii) testing of specimen for flash point and fire point
	2nd (2p) Gr 1 & Gr 2	Determination of Flash point and fire point i) testing of specimen for flash point and fire point
14th	1st (2p) Gr 1 & Gr 2	Determination of Flash point and fire point i) record checking ii) viva
		Joule's experiment i) Aim of the expt, Theory
15th	2nd (2p) Gr 1 & Gr 2	Joule's experiment i) apparatus and experimental set up required ii) Demonstration of experiment
	1st (2p) Gr 1 & Gr 2	Joule's experiment i) establishment of relation between work and heat through experiment
16th	2nd (2p) Gr 1 & Gr 2	Joule's experiment i) viva, records checking
		Any skipped experiments to be done by students

signature of faculty