

GOVERNMENT POLYTECHNIC JAJPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

Website: <https://www.gpjajpur.org> E-mail: principalgpjajpur@yahoo.co.in Contact: 9437155107

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:	Semester from Date: To Date: No of weeks:
Week	Class Day	Topics
1st	1st (1p), Gr 1&2	Syllabus, Lesson Plan, Cos, Exam and Evaluation Scheme.
	2nd (3p), Gr 1	Determine end reactions in a simply supported beam using parallel force apparatus.
		i) Aim of the expt, Theory
		ii) Tools and Equipments required
	3rd (3p), Gr 2	iii) Demonstration
		Determine end reactions in a simply supported beam using parallel force apparatus.
		i) Aim of the expt, Theory
		ii) Tools and Equipments required
		iii) Demonstration
2nd		1st (1p), Gr 1&2
	2nd (3p), Gr 1	i) precautions
		ii) handling of the equipment
		Determine end reactions in a simply supported beam using parallel force apparatus.
	3rd (3p), Gr 2	i) Taking readings for calculation of end reactions by students
		ii) viva, records checking
		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
3rd		1st (1p), Gr 1&2
	2nd (3p), Gr 1	i) Aim of the expt, Theory
		Determination of Young's modulus using Searle's apparatus
		i) Tools and Equipments required
	3rd (3p), Gr 2	ii) Demonstration of experiment
		Determination of Young's modulus using Searle's apparatus
		i) Tools and Equipments required
		ii) Demonstration of experiment
		1st (1p), Gr 1&2
i) Taking readings for calculation of youngs modulus by students		
2nd (3p), Gr 1	Determination of Young's modulus using Searle's apparatus	

4th		i) Taking readings for calculation of young's modulus by students	
		ii) viva, record checking	
		Determination of torsional rigidity of the shaft using torsion testing machine	
		i) Aim of the expt, Theory	
	3rd (3p), Gr 2	Determination of Young's modulus using Searle's apparatus	
		i) Taking readings for calculation of young's modulus by students	
ii) viva, record checking			
Determination of torsional rigidity of the shaft using torsion testing machine			
5th	1st (1p), Gr 1&2	Determination of torsional rigidity of the shaft using torsion testing machine	
		i) Tools and Equipments required	
		ii) specimen preparation	
	2nd (3p), Gr 1	Determination of torsional rigidity of the shaft using torsion testing machine	
		i) Demonstration of experiment	
		ii) precautions and handling of machine tool	
		iii) taking readings for calculation of torsional rigidity by students	
	3rd (3p), Gr 2	Determination of torsional rigidity of the shaft using torsion testing machine	
		i) Demonstration of experiment	
		ii) precautions and handling of machine tool	
		iii) taking readings for calculation of torsional rigidity by students	
	6th	1st (1p), Gr 1&2	Determination of torsional rigidity of the shaft using torsion testing machine
i) Taking readings for torsional rigidity by students			
2nd (3p), Gr 1		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) from stress- strain curve using Universal Testing Machine	
3rd (3p), Gr 2		i) Aim of the expt, Theory	
		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	
7th		1st (1p), 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		
	2nd (3p), Gr 1	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			

	3rd (3p), 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
8th	1st (1p), 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
	2nd (3p), Gr 1	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
	3rd (3p), 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
	1st (1p), Gr 1&2	Determination of hardness number by Rockwell/Vickers hardness testing machine i) Aim of the expt, Theory ii) Tools and Equipments required
	2nd (3p), Gr 1	Determination of hardness number by Rockwell/Vickers hardness testing machine i) Demonstration of experiment ii) precautions and handling of machine tool iii) testing of standard specimen
	3rd (3p), Gr 2	Determination of hardness number by Rockwell/Vickers hardness testing machine i) Demonstration of experiment ii) precautions and handling of machine tool iii) testing of standard specimen
10th	1st (1p), Gr 1&2	Determination of hardness number by Rockwell/Vickers hardness testing machine i) result analysis ii) viva, records checking
	2nd (3p), Gr 1	Determination of toughness using Impact testing machine (Charpy/Izod) i) Aim of the expt, Theory ii) specimen preparation
	2nd (3p), Gr 2	Determination of toughness using Impact testing machine (Charpy/Izod) i) Aim of the expt, Theory ii) specimen preparation
	1st (1p), Gr 1&2	Determination of toughness using Impact testing machine (Charpy/Izod) i) specimen preparation
		Determination of toughness using Impact testing machine (Charpy/Izod)
		Determination of toughness using Impact testing machine (Charpy/Izod)

11th	2nd (3p), Gr 1	i) Demonstration of experiment
		ii) precautions and handling of machine tool
		iii) testing of standard specimen
	2nd (3p), Gr 2	Determination of toughness using Impact testing machine (Charpy/Izod)
		i) Demonstration of experiment
		ii) precautions and handling of machine tool
12th	1st (1p), Gr 1&2	iii) testing of standard specimen
		Determination of toughness using Impact testing machine (Charpy/Izod)
	2nd (3p), Gr 1	i) viva, records checking
		Determination of Flash point and fire point
		i) Aim of the expt, Theory
	2nd (3p), Gr 2	ii) apparatus and consumables required
		iii) Demonstration of experiment
		Determination of Flash point and fire point
	13th	1st (1p), Gr 1&2
ii) testing of specimen for flash point and fire point		
2nd (3p), Gr 1		iii) Demonstration of experiment
		Determination of Flash point and fire point
		i) testing of specimen for flash point and fire point
2nd (3p), Gr 2		ii) record checking
		iii) viva
		Determination of Flash point and fire point
14th		1st (1p), Gr 1&2
	ii) record checking	
	2nd (3p), Gr 1	iii) viva
		Joule's experiment
	2nd (3p), Gr 2	i) Aim of the expt, Theory
		Joule's experiment
15th	1st (1p), Gr 1&2	i) apparatus and experimental set up required
		ii) Demonstration of experiment
	2nd (3p), Gr 1	Joule's experiment
		i) apparatus and experimental set up required
	2nd (3p), Gr 2	ii) Demonstration of experiment
		Joule's experiment
15th	1st (1p), Gr 1&2	i) establishment of relation between work and heat through experiment
		Joule's experiment
	2nd (3p), Gr 1	i) viva, records checking
Any skipped experiments to be done by students		
2nd (3p), Gr 2	Joule's experiment	
	i) viva, records checking	
		Any skipped experiments to be done by students

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