CDL State Institute of Engineering and Technology Panniwala Mota(Sirsa)
Mechanical Engineering Department

DYNAMICS OF MACHINE (LAB)

General Course Information

Course Code: PCC-ME305-P Course Category: Professional Core Course Course Credits: 1.0 Mode: Practical Contact Hours: 02 hours per week	**Course Assessment Methods (internal: 30; external: 70):** Internal practical evaluation is to be done by the course coordinator. The end semester practical examination will be conducted jointly by external and internal examiners

Course Outcomes

Sr. No.	Course Outcome	RBT Level
CO1	Students will be able to define the various mechanical systems like flywheel, transmission drives, governor, gyroscope, brake, dynamometer, balancing.	L1
CO2	Students will be able to describe different mechanical systems through models and experimental setups.	L2
CO3	Students will be able to solve different kind of problems related to force analysis in different mechanical systems experimentally.	L3
CO4	Students will be able to analyse dynamically and determine the parameters involved in the various mechanical systems experimentally.	L4
CO5	Students will be able to select and design appropriate mechanical system required for a particular application.	L5

Experiments in DOM Lab

1. To perform experiment on Watt Governor, to Prepare Performance Characteristic Curves, and to find stability and sensitivity.
2. To Perform Experiment on Porter Governor, to Prepare Performance Characteristic Curves, and to Find Stability and Sensitivity.
3. To Perform Experiment on Proell Governor, to Prepare Performance Characteristic Curves, and to Find Stability and Sensitivity.
4. To Perform Experiment on Hartnell Governor, to Prepare Performance Characteristic Curves, and to Find Stability and Sensitivity.
5. To Study Gyroscopic Effects Through Models.
6. To Determine Gyroscopic Couple on Motorized Gyroscope.
7. To Perform the Experiment for Static Balancing on Static Balancing Machine.
8. To Perform the Experiment for Dynamic Balancing on Dynamic Balancing Machine.
9. To study the working of multiplate clutch.

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10. To Find BHP of an Engine Using Rope Brake Dynamometer.

Course Articulation Matrix (CO to PO/PSO Mapping)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	1	--	--	--	--	--	--	--	3	3	--	--
CO2	3	2	1	1	--	--	--	--	--	2	--	3	3	--	--
CO3	3	3	2	1	1	--	--	--	1	2	--	3	3	--	--
CO4	3	3	2	2	1	--	--	1	2	2	--	3	3	1	1
CO5	3	2	3	2	2	--	--	1	2	2	--	3	3	2	3

1 : (Slight/Low), 2:(Moderate/Medium), 3 :(Substantial/High)

Sr. No.	Name of equipment	Qty	
1.	Watt Governor Set up	01	Built In house: Combined Universal Governor set up.
2.	Porter Governor		
3.	Proell Governor		
4.	Hartnell Governor		
5.	Hartnell Governor		
6.	Motorized Gyroscope Apparatus	01	Built In house
7.	Static and Dynamic Balancing Machine	01	Built In house
8.	Multiplate clutch model	01	Built In house
9.	Rope Brake Dynamometer Setup	01	Built In house

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DOM Lab

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Universal Governor Apparatus

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Gyroscope Apparatus

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Static & Dynamic Balancing Apparatus

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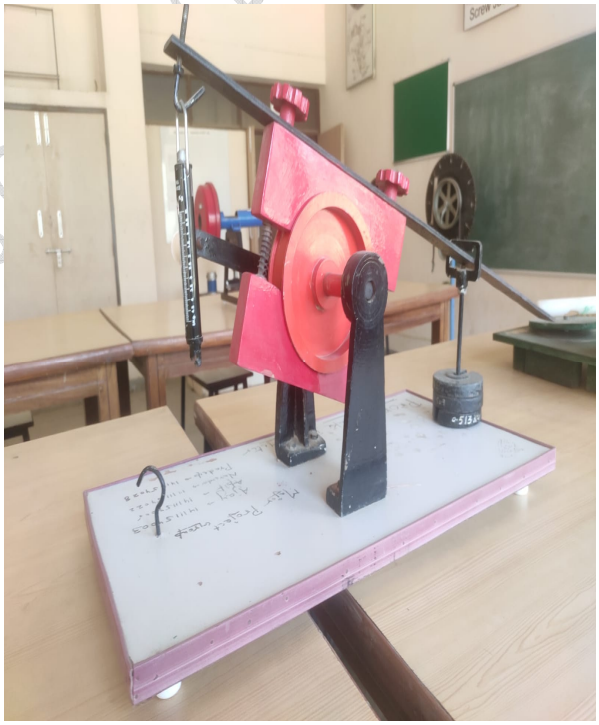
Cut Out working model of Differential



Prony brake instrument

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Rope Brake Dynamometer Inclined Plane Apparatus

Clutch Model

Dr. Vikas