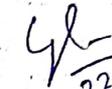


LESSON PLAN

Discipline: Mechanical	Semester: 4TH	Name of the Teaching faculty: GEETANJALI SETHI, Sr. Lecturer, Mechanical Engg.		
Subject: THEORY OF MACHINES AND MECHANISM	No of Days/ Week class alloted: 3	Semester from Date: 22/12/2025	To Date: 18 / 04 /2026	No of weeks: 15
Week	Class Day	Topics		
1st	1st	CH-1.0 -Simple mechanism: Link ,kinematic pair		
	2nd	types (Lower pair and higher pair)		
	3rd	kinematic chain, mechanism,		
2nd	4th	Inversion, four bar link mechanism and its inversion		
	5th	Cams and Followers: Concept; Definition and application of Cams and Followers		
	6th	Classification of Cams and Followers;		
3rd	7th	Different follower motions and their displacement diagrams like uniform velocity, SHM, uniform acceleration and Retardation		
	8th	Power Transmission: Types of Drives – Belt, Chain, Rope, Gear drives & their comparison;		
	9th	Belt Drives - flat belt, V- belt & its applications;		
4th	10th	Material for flat and V-belt; Angle of lap, Belt length. Slip and Creep;		
	11th	Determination of Velocity Ratio, Ratio of tight side and slack side tension;		
	12th	Centrifugal tension and Initial tension;		
5th	13th	Condition for maximum power transmission (Simple numericals);		
	14th	Chain Drives – Advantages & Disadvantages;		
	15th	Selection of Chain & Sprocket wheels; Methods of lubrication;		
6th	16th	Gear Drives – Spur gear terminology; Types of gears and gear trains, their selection for different applications;		
	17th	Train value & Velocity ratio for compound, reverted and simple epicyclic gear train; Methods of lubrication; Law of gearing		
	18th	Rope Drives – Types, applications, advantages & limitations of Steel ropes.		
7th	19th	Flywheel and Governors: Flywheel - Concept, function		
	20th	application of flywheel with the help of turning moment diagram for single cylinder 4-Stroke I.C. Engine (no Numericals);		
	21th	Coefficient of fluctuation of energy, Coefficient of fluctuation of speed and its significance;		
8th	22th	Governors - Types and explanation with neat sketches (Centrifugal,		
	23th	Watt and Porter		
	24th	Concept, function and applications & Terminology of Governors		
9th	25th	sensitivity, stability and isochronisms		
	26th	Simple numericals on Watt		
	27th	Porter Governor.		
10th	28th	Comparison between Flywheel and Governor		
	29th	Brakes, Dynamometers, Clutches & Bearings; Function of brakes and dynamometers; Types of brakes and Dynamometers; Comparison between brakes and dynamometers;		
	30th	Construction and working of i) shoe brake, ii) Band Brake		

11th	31th	Numerical problems to find braking force and braking torque for shoe & band brakes; Concept of Self Locking & Self energizing brakes
	32th	Construction and working of i) Rope Brake Dynamometer, ii) Hydraulic Dynamometer
	33th	Clutches- Uniform pressure and Uniform Wear theories;
12th	34th	Function of Clutch and its application; Construction and working of i) Single plate clutch, ii) Multiplate clutch,
	35th	iii) Centrifugal Clutch iv) Cone clutch and v) Diaphragm clutch
	36th	Simple numericals on single and Multiplate clutch
13th	37th	Bearings – i) Simple Pivot, ii) Collar Bearing, iii) Conical pivot.
	38th	Torque & power lost in friction (no derivation). Simple numericals
	39th	Balancing & Vibrations: Concept of balancing;
14th	40th	Balancing of single rotating mass;
	41th	Graphical method for balancing of several masses revolving in same plane;
	42th	Graphical method for balancing of several masses revolving in same plane;
15th	43th	Concept and terminology used in vibrations,
	44th	Causes of vibrations in machines; their harmful effects and remedies
	45th	Revision


 Faculty Signature 22.12.25