

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2024-2025

Semester: 4th Discipline: Mechanical Engg.

Subject: TOM

Name of the Teaching Faculty: Soumya Prakash Rath

Subject: TOM No. of Days/per week class allotted: 04

Semester From Date: 04/02/2025 To Date: 17/05/2025 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
1	01	Introduction of m/c and Simple mechanism.
	02	Kinematic links and types kinematic Pairs and types.
	03	Kinematic chain and its types Types of joints in a chain.
	04	Mechanism Kutzbach criterion for plane mechanism.
2	01	Inversion of mechanism four-bar-link mechanism.
	02	Mechanism of higher pairs and lower pair.
	03	Cam and follower Types of follower.
	04	Previous year question discussion.
03	01	Friction and types of friction Law's of friction.
	02	Angle of friction, Angle of repose. Coefficient of friction.
	03	Screw friction, Description helix helix angle, pitch, Lead
	04	Friction in Screw Jack Friction between screw and nut.

S. J. Pushpath
Signature of the Faculty

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Week	Class Day	Theory /Practical Topics
4	01	Torque required to lift/lower the load by the Screw Jack.
	02	Efficiency of Screw Jack. Problem Solving
	03	Friction in Journal Bearing friction circle
	04	Description of Roller, needle Roller Ball Bearing.
5	01	Torque transmitted by the flat pivot and conical pivot bearing.
	02	Single and multiple type flat collar bearing.
	03	Working of clutches and frictional brakes.
	04	Working of Absorption type dynamometer
6	01	Power transmission by belt drives gear and chain drives.
	02	Velocity ratio of belt drive slip and Creep of belt.
	03	Length of belt, Ratio of driving tension
	04	Centrifugal tension and max ^m tension in belt.


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TOM

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Week	Class Day	Theory / Practical Topics
7	01	Power transmission by the belt. Condition for max ^m power.
	02	Determination of belt thickness of width for open belt drive.
	03	Solving problems.
	04	V-belt and flat belt drive.
8	01	V-belt and flat belt drive Comparison.
	02	Ratio of driving tension for V-belt.
	03	Gear drives and its terminology.
	04	Gear train and its types. (Simple, Comp. Reverted and Epicyclics.)
9	01	Function of centrifugal Governor.
	02	Classification of Governor.
	03	Working of watt Governor, drive (h) height of watt Governor.
	04	Working of porter Governor Derive N

S. J. ...
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Week	Class Day	Theory /Practical Topics
10	01	Working of Poole Governor. Derive N.
	02	Working of Hartnell Governor. Derive N.
	03	Sensitivity and stability of Governor.
	04	Isochronous Governor and hunting.
11	01	Solving previous year questions.
	02	Function of flywheel, (Comparison b/w flywheel and Governor)
	03	Fluctuation of energy and co-efficient of fluctuation of speed.
	04	Solving MCQ.
12	01	Concept of static and dynamic balancing.
	02	Balancing of several masses rotating in same planes.
	03	Balancing of several masses rotating in different planes.
	04	Balancing of several masses rotating in same plane.

Srinivas Motu
Signature of the Faculty

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Week	Class Day	Theory /Practical Topics
13	01	Principle of balancing of reciprocating masses.
	02	Primary and secondary unbalance of forces of reciprocating masses.
	03	Causes and effect of unbalancing.
	04	Diff. bet ⁿ static and Dynamic balancing.
14	01	Introduction to vibration and machine parts.
	02	Amplitude, time period, frequency and cycle.
	03	Classification and vibration.
	04	Discussion of natural forced and Damped vibration
15	01	Longitudinal and Transverse vibration.
	02	Logarithmic decrement, Damping factor, whirling of shaft.
	03	Causes and Remedies of vibration.
	04	Solving Numerical, Previous year questions discussion.

Sayamish Mishra
Signature of the Faculty