



GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

SESSION PLAN

4TH SEMESTER, BRANCH-MECHANICAL(GROUP 1)

TH 1 - THEORY OF MACHINES

Name of the Faculty – ER. DATI JAYARAM						
Topics to be taken						
SL NO & CHAPTER	No. of Periods assigned by SCTE & VT	Details of the topics	PLANNED DATE	Details of the topics	ACTUAL DATE	Remarks
1. Simple mechanism	8	1.1 Link ,kinematic chain, mechanism, machine 1.2 Inversion, four bar link mechanism and its inversion 1.3 Lower pair and higher pair 1.4 Cam and followers	13/02/2023 TO 21/02/2023	1.1 Link ,kinematic chain, mechanism, machine 1.2 Inversion, four bar link mechanism and its inversion 1.3 Lower pair and higher pair 1.4 Cam and followers	13.02.2023 14.02.2023 16.02.2023 17.02.2023 20.02.2023 21.02.2023	

<p style="text-align: center;">2. Friction</p>	<p style="text-align: center;">12</p>	<p>2.1 Friction between nut and screw for square thread, screw jack</p> <p>2.2 Bearing and its classification, Description of roller, needle roller& ball bearings.</p> <p>2.3 Torque transmission in flat pivot& conical pivot bearings.</p> <p>2.4 Flat collar bearing of single and multiple types.</p> <p>2.5 Torque transmission for single and multiple clutches</p> <p>2.6 Working of simple frictional brakes.</p> <p>2.7 Working of Absorption type of dynamometer</p>	<p style="text-align: center;">23/02/2023 TO 13/03/2023</p>	<p>2.1 Friction between nut and screw for square thread, screw jack</p> <p>2.2 Bearing and its classification, Description of roller, needle roller& ball bearings.</p> <p>2.3 Torque transmission in flat pivot& conical pivot bearings.</p> <p>2.4 Flat collar bearing of single and multiple types.</p> <p>2.5 Torque transmission for single and multiple clutches</p> <p>2.6 Working of simple frictional brakes.</p> <p>2.7 Working of Absorption type of dynamometer</p>	<p>23.02.2023 24.02.2023</p> <p>27.02.2023 28.02.2023</p> <p>2.03.2023</p> <p>3.03.2023</p> <p>6.03.2023</p> <p>9.03.2023</p> <p>10.03.2023 13.03.2023</p>	
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<p style="text-align: center;">3. Power Transmission</p>	<p style="text-align: center;">12</p>	<p>3.1 Concept of power transmission 3.2 Type of drives, belt, gear and chain drive. 3.3 Computation of velocity ratio, length of belts (open and cross)with and without slip. 3.4 Ratio of belt tensions, centrifugal tension and initial tension. 3.5 Power transmitted by the belt. 3.6 Determine belt thickness and width for given permissible stress for open and crossed belt considering centrifugal tension. 3.7 V-belts and V-belts pulleys. 3.8 Concept of crowning of pulleys. 3.9 Gear drives and its terminology. 3.10 Gear trains, working principle of simple, compound, reverted and epicyclic gear trains.</p>	<p style="text-align: center;">14/03/2023 TO 31/03/2023</p>	<p>3.1 Concept of power transmission 3.2 Type of drives, belt, gear and chain drive. 3.3 Computation of velocity ratio, length of belts (open and cross)with and without slip. 3.4 Ratio of belt tensions, centrifugal tension and initial tension. 3.5 Power transmitted by the belt. 3.6 Determine belt thickness and width for given permissible stress for open and crossed belt considering centrifugal tension. 3.7 V-belts and V-belts pulleys. 3.8 Concept of crowning of pulleys. 3.9 Gear drives and its terminology. 3.10 Gear trains, working principle of simple, compound, reverted and epicyclic gear trains.</p>	<p>14.03.2023 16.03.2023 17.03.2023 20.03.2023 21.03.2023 23.03.2023 24.03.2023 27.03.2023 28.03.2023 31.03.2023</p>	
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<p>4. Governors and Flywheel</p>	<p>12</p>	<p>4.1 Function of governor 4.2 Classification of governor 4.3 Working of Watt, Porter, Proel and Hartnell governors. 4.4 Conceptual explanation of sensitivity, stability and isochronisms. 4.5 Function of flywheel. 4.6 Comparison between flywheel &governor. 4.7 Fluctuation of energy and coefficient of fluctuation of speed.</p>	<p>3/04/20203 TO 21/04/2023</p>	<p>4.1 Function of governor 4.2 Classification of governor 4.3 Working of Watt, Porter, Proel and Hartnell governors. 4.4 Conceptual explanation of sensitivity, stability and isochronisms. 4.5 Function of flywheel. 4.6 Comparison between flywheel &governor. 4.7 Fluctuation of energy and coefficient of fluctuation of speed.</p>	<p>3.04.2023 4.04.2023 6.04.2023 10.04.2023 11.04.2023 13.04.2023 17.04.2023 18.04.2023 20.04.2023 21.04.2023</p>	
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<p>5. Balancing of Machine</p>	<p>8</p>	<p>5.1 Concept of static and dynamic balancing. 5.2 Static balancing of rotating parts. 5.3 Principles of balancing of reciprocating parts. 5.4 Causes and effect of unbalance. 5.5 Difference between static and dynamic balancing</p>	<p>24/04/2023 TO 8/05/2023</p>	<p>5.1 Concept of static and dynamic balancing. 5.2 Static balancing of rotating parts. 5.3 Principles of balancing of reciprocating parts. 5.4 Causes and effect of unbalance. 5.5 Difference between static and dynamic balancing</p>	<p>24.04.2023 25.04.2023 27.04.2023 28.04.2023 1.05.2023 2.05.2023 4.05.2023 8.05.2023</p>	
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6. Vibration of machine parts	8	<p>6.1 Introduction to Vibration and related terms (Amplitude, time period and frequency, cycle)</p> <p>6.2 Classification of vibration.</p> <p>6.3 Basic concept of natural, forced & damped vibration</p> <p>6.4 Torsional and Longitudinal vibration.</p> <p>6.5 Causes & remedies of vibration.</p>	<p>9/05/2023 TO 23/05/2023</p>	<p>6.1 Introduction to Vibration and related terms (Amplitude, time period and frequency, cycle)</p> <p>6.2 Classification of vibration.</p> <p>6.3 Basic concept of natural, forced & damped vibration</p> <p>6.4 Torsional and Longitudinal vibration.</p> <p>6.5 Causes & remedies of vibration.</p>	<p>9.05.2023 11.05.2023</p> <p>12.05.2023 15.05.2023</p> <p>16.05.2023 18.05.2023</p> <p>22.05.2023</p>	
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S. Jayaram

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H.O.D
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BHABANDHA, BERHAMPUR

SESSION PLAN

4TH SEMESTER, BRANCH-MECHANICAL(GROUP 2)

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