JIS COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

Dynamics of Machines Laboratory

Details of Laboratory:

Lab in-charge: Mr. Palash Biswas

Dynamics of Machines Laboratory is a well equipped laboratory which provides ideas on practical observation of the dynamic behaviors of machines and their components. This laboratory is scheduled for 5th semester Mechanical engineering students. Apart from curriculum, some additional experimental setups are there which helps the students to enhance their knowledge. Students also get opportunity to implement their ideas through various application oriented micro projects.

Major Equipments:

1	Vibratory System
2	Static balancing
3	dynamic balancing
4	Governor
5	Gyroscope
6	Forced convection apparatus

List of Experiments:

Sl.	Description
1	Studying and designing different mechanisms for performing specific tasks in a machine tool, and for common engineering applications.
2	Studying vibratory systems of single and more than one degree of freedom in linear and rotary systems.
3	Static and dynamic balancing of rotating masses.
4	Balancing of reciprocating masses.
5.	Experiments on working of governor, operation and analysis.
6.	Experiments on working of gyroscope, operation and analysis.
7.	Designing cam.
8.	Studying operation of cams and its analysis.

Lab Occupancy

JIS College of Engineering
Lecture and Lab schedule for odd semester 2017-2018 STREAM/BATCH: ME-3A
B.Tech 3rdYear classes Room No 401(CMS) – Traditional

DAYS	10 am to 11 am	11 am to 12 am	12 pm to 1pm	1 to 2pm	2 to 3pm	3 to 4 pm	4 to 5 pm	5 to 6 pm
MON						**ME 592,Gr.ME3A(1)[PB+AM]**		
						ME 591Gr.ME3A(2)[SS+UR]		
TUE						ME 593 **Gr.ME3A(1)[AP]**		
						ME581,Gr.ME3A(2)[MRI]		
WED						ME 593 **Gr.ME3A(2)[SKB]**		
						ME581,Gr.ME3A(1)[AM]		
THU						**ME505A(RSS)RCMS401 ME505B(SH)[R-CMS402]**	**ME 502(PB)**	**MENTORS MEET**
FRI	**ME 592,Gr.ME3A(2)[PB+AM]**				**ME594A [ALL ME3A](RSS)**			**Speakers Corner**
	ME 591Gr.ME3A (1)[SS+UR]				**ME 594B[ALL ME3A][SH]**			

Subject: ME 501- Fluid Machinery , ME 502- Dynamics of Machines, ME 503- Design of Machine Elements-I, ME 504- Metrology & Measurement, HU(ME), 501- Values & Ethics , ME505A - Refrigeration & Air Conditioning, **ME 505B** - Mechatronics, ME 591- Fluid Mechanics & Hydraulic Machines Lab, **ME 592**- Dynamics of Machines Lab, ME 593- Metrology & Measurement Lab, ME 594 A- Refrigeration & Air Conditioning Lab, ME 594 B- Mechatronics Lab, ME581- Seminar

Faculty name: SS-Mr. Sujay Saha, UR- Mr. Uttam Roy, AM-Mr. Abhishek Mondal RSS-Mr. Rabi Sankar Singh, PB- Mr. Palash Biswas, MRI- Mr.Munshi Rasidul Islam, SKB- Mr.Shishir Kumar Biswas, AS-Mr. Anirban Sarkar, AK- Mr. Arnab Kundu, Mr.Subhasish Halder, KB-Mr. Kunal Banerjee

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Routine Coordinator
(Prof. P. Biswas)

HOD
(Prof. (Dr.) S. Ghosh)

Principal
(Prof. (Dr.) M. R. Dave)

JIS College of Engineering
Lecture and Lab schedule for odd semester 2017-2018 STREAM/BATCH: ME-3B
B.Tech 3rdYear classes Room No 402(CMS) – Traditional

DAYS	10 am to 11 am	11 am to 12 am	12 pm to 1pm	1 to 2pm	2 to 3pm	3 to 4 pm	4 to 5 pm	5 to 6 pm
MON						**ME594A [ALL ME3B](RSS)**		
						ME 594B[ALL ME3B][SH]		
TUE						**ME 592,Gr.ME3B(1)[KB+AS]**		
						ME 591Gr.ME3B(2)[AK+DM]		
WED						**ME 592,Gr.ME3B(2)[KB+AS]**		
						ME 591Gr.ME3B(1)[AK+DM]		
THU								
FRI	ME 593 **Gr.ME3B(1)[AP]**				ME 593 **Gr.ME3B(2)[SKB]**			**Speakers Corner**
	ME581,Gr.ME3B(2)[AM]				ME581,Gr.ME3B(1)[MRI]			

Subject: ME 501- Fluid Machinery , ME 502- Dynamics of Machines, ME 503- Design of Machine Elements-I, ME 504- Metrology & Measurement, HU(ME), 501- Values & Ethics , ME505A - Refrigeration & Air Conditioning, **ME 505B** - Mechatronics, ME 591- Fluid Mechanics & Hydraulic Machines Lab, **ME 592**- Dynamics of Machines Lab, ME 593- Metrology & Measurement Lab, ME 594 A- Refrigeration & Air Conditioning Lab, ME 594 B- Mechatronics Lab, ME581- Seminar

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Routine Coordinator	**HOD**	**Principal**
(Prof. P. Biswas)	**(Prof. (Dr.) S. Ghosh)**	**(Prof. (Dr.) M. R. Dave)**

Name of the Course: Dynamics of Machines Lab

Course Code: ME 592

Prerequisite: Theory of machines, Dynamics of Machine Theory

Course Objective: To practically observe the dynamic behaviors of machines and their components

Course Outcomes:

After taking this course the students should be able to:

ME592.1 Select several type of vibrating systems by using measuring instruments regarding vibration of continuous systems and random vibrations.

ME592.2 Demonstrate methods of balancing of rigid rotors, reciprocating machines, flywheels, planar linkages and instruments.

ME592.3 Define the working principle of gyroscope and governors to apply in future projects

ME592.4 Get practical knowledge on Cam dynamics used in various industrial applications.

Course Articulation Matrix:

CO Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
ME592.1	2	3	2	1	-	-	-	-	3	1	1	1	3	-	3
ME592.2	2	1	2	-	-	-	-	-	3	1	-	-	-	2	-
ME592.3	2	1	3	-	1	-	-	-	2	1	1		1	-	2
ME592.4	2	1	3	-		-	-	-	2	1	-	1	-	-	2
Avg.	2	1.5	2.5	1	1	-	-	-	2.5	1	1	1	2	2	2.33

Apparatus Details:

GYROSCOPE

GOVERNOR

CAM APPARATUS

STATIC & DYNAMIC BALANCING

VIBRATION APPARATUS