



JIS COLLEGE OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING

Mechatronics Laboratory

Details of Laboratory:

Lab in-charge: Mr. Subhasish Halder

Mechatronics Laboratory is a well equipped laboratory which provides ideas on modern control system using mechanical actuators. 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	Electro Hydraulics Trainer
2	PLC Based Pneumatic Trainer
3	8085 - Microprocessor
4	Analog-Digital Training Kit
5	Thermoelectric refrigeration system

List of Experiments:

Sl.	Description
1	To build a hydraulic circuit for a AUTO RETURN OF A DOUBLE ACTING CYLINDER.
2	To build a hydraulic circuit for a SPEED CONTROL OF A DOUBLE ACTING CYLINDER.
3	To build a pneumatic circuit for a CUTTING DEVICE.
4	To build a pneumatic circuit for a Stamping Device.

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								
FRI					ME594A [ALL ME3A](RSS)			Speakers Corner
	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

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

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, Mr. Arijit Patra

Routine Coordinator
(Prof. P. Biswas)

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

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

Name of the Course: Mechatronics lab

Course Code: ME 594B

Prerequisite: Fluid Mechanics, Basic Electronics, Mechatronics Theory

Course Objective: To expose students to modern control system using mechanical actuators.

Course Outcomes:

On successful completion of the course, the student will be able to

ME594B.1. Describe and demonstrate Mechatronics systems and overview of control systems & actuators.

ME594B.2. Distinguish between various sensors, transducers and actuators and their applications.

ME594B.3. To understand the basic concept of microprocessor and perform simple operations on it. Identify various signal conditioning units, amplifiers, logic gates and their role in programmable logic controllers

ME594B.4. Determine various signal conditioning units, amplifiers, logic gates and their role in programmable logic controllers

Course Articulation Matrix:

CO Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
ME594B.1	1	-	2	-	1	-	-	-	2	1	2	-	-	-	-
ME594B.2	1		2	-	1	-	-	-	-	1	3	1	2	-	1
ME594B.3	1	-	2	-	2	-	-	-	-	1	2	-	-	-	-
ME594B.4	2	-	3	-	1	-	-	-	-	1	3	-	1	-	1
Avrg.	1.25	-	2.25	-	1	-	-	-	2	1	2.5	1	1.5	-	1

Apparatus Details:



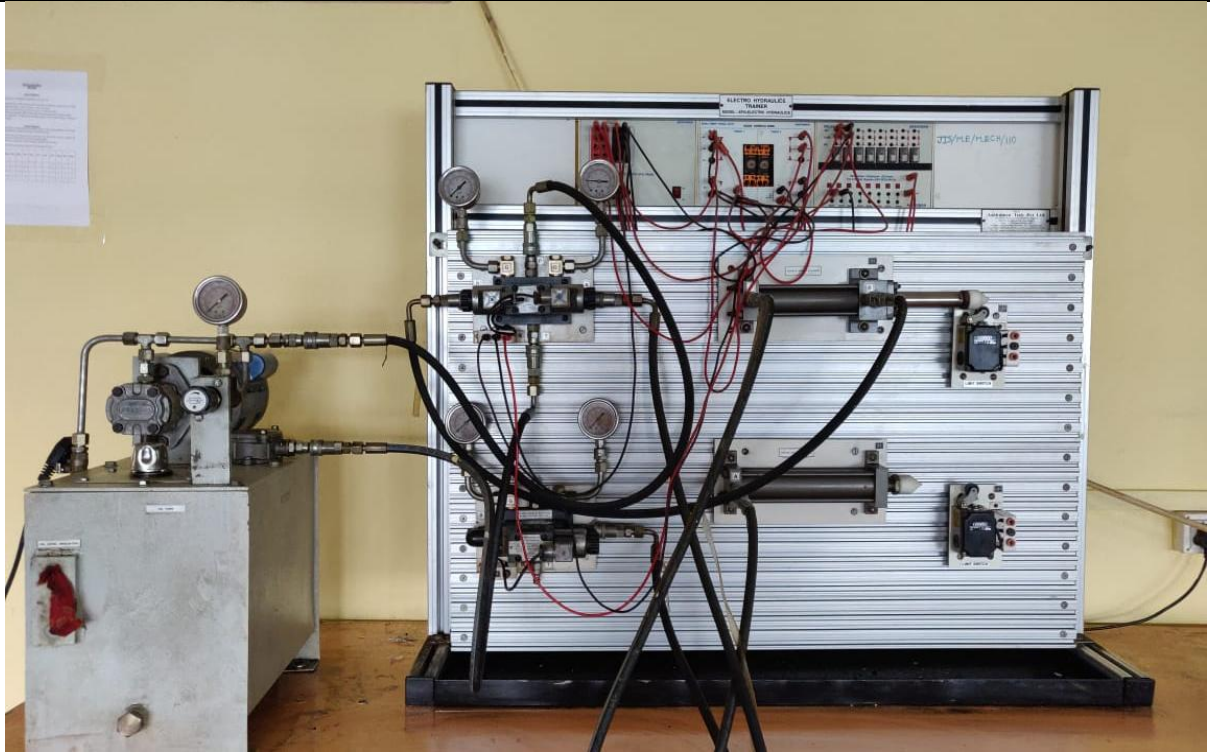
8085 - MICROPROCESSOR



ANALOG-DIGITAL TRAINING KIT



PLC BASED PNEUMATIC TRAINER



Electro hydraulic trainer