



JIS COLLEGE OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING

Refrigeration & Air Conditioning Laboratory

Details of Laboratory:

Lab in-charge: Dr. Sandip Ghosh

Refrigeration & Air Conditioning Lab gives idea on hands on practice with refrigerating circuits and develop air-conditioning systems. 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	Anemometer
2	Thermometer
3	Window air conditioner
4	Vapor Compression refrigeration system
5	Thermoelectric refrigeration system

List of Experiments:

Sl.	Description
1	Study of a Domestic Refrigerator
2	Determination t of COP of a Window Air-Conditioner
3	Determination t of COP of a Vapour Compression Refrigeration System
4	Determination t of COP of a Thermoelectric Refrigeration System

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

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						ME 505A(RSS)RCMS401 ME505B() [RCMS402]	HU(ME), 501(AG)	MENTORS MEET
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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Name of the Course: Refrigeration & Air Conditioning Lab

Course Code: ME 594A

Prerequisite: Applied Thermodynamics, Refrigeration & Air Conditioning Theory

Course Objective: To gain hands on practice with refrigerating circuits and develop air-conditioning systems.

Course Outcomes:

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

ME594A.1. Demonstrate a domestic refrigerator and identify its important components.

ME594A.2. Analyze the performance parameters of a vapor compression based refrigeration system

ME594A.3. Observe the components of a basic air conditioning setup and operate it to analyze its performance index.

ME594A.4. Recognize the components of a thermoelectric refrigeration setup and measure its coefficient of performance useful in future project applications.

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
ME594 A.1	1	-	-	-	-	1	-	-	3	2	-	-	-	-	1
ME594 A.2	1	-	2	-	-	-	-	-	3	2	1	-	1	1	1
ME594 A.3	1	-	2	-	1	1	1	-	3	2	1	1	1	1	2
ME594 A.4	1	-	1	-	1	-	2	-	2	2	-	-	2	-	3
Avg.	1	-	1.66	-	1	1	1.5	-	2.75	2	1	1	1.33	1	1.75

Apparatus Details:



Window Air-Conditioner



Vapour Compression Refrigeration System



Thermoelectric Refrigeration System