

# ME 326 Mechanical Engineering Lab - IV

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## Thermal Science

- Heat Exchanger
- Free and Forced Convection
- Heat Conduction
- IC Engine

## Instrumentation and Control

- Pneumatic and Electro-Pneumatic Trainer
- Hydraulic Trainer and 8085 Microprocessor
- Control and Instrumentation principle
- DC Modular Servo System.

## Tribology

- Air Bearing
- Bearing Apparatus
- Pin On Disc
- Bending (3-point bending)

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## Thermal Science

Dr. Amaresh Dalal

Mr. Nip Borah, Dr. Rituraj Saikia, Mr. Jyotirmoy Kakati, Mr. Chandan Banikya, Mr. Joykrishna Saikia

Student TAs: Santanu De, Niraj Kr Prasad, Rupresha Deb, Animesh Akhuli

## Instrumentation and Control

Dr. Srinivasan G

Mr. Monuranjan Dowarah

Student TAs: MD SHAHZAD ADIL, KAILASH BAILWAL, JEDHE YASHWANT VILAS, ALOK KUMAR

## Tribology

Dr. Pranab K Mondal

Mr. Pranjol Paul, Mr. Saifuddin Ahmed

Students TA: Prateechee Padma Behera Bhavesh Dhapola, JAGPREET SINGH, TAT SURAJ ARUN

# ME 326 Mechanical Engineering Lab - IV

**Group A:** 180103002 – 180103033 (30 Students)

**Group B:** 180103034 – 180103067 (30 Students)

**Group C:** 180103068 – 180103102 (32 Students)

# ME 326 Mechanical Engineering Lab - IV

Date	Time	Thermal Science Dr. Amaresh Dalal	Instrumentation and Control Dr. Srinivasan G	Tribology Dr. Pranab K Mondal
22/01/2021	8:00 - 11:00 AM	Group A	Group B	Group C
29/01/2021				
05/02/2021				
12/02/2021				
19/02/2021	8:00 - 11:00 AM	Group B	Group C	Group A
26/02/2021				
05/03/2021				
12/03/2021				
19/3/2021	8:00 - 12:00 AM	Group C	Group A	Group B
26/03/2021				
09/04/2021				
16/04/2021				
23/04/2021		Examination 8 – 8:50 AM	Examination 9 – 9:50 AM	Examination 10 – 10:50 AM

# ME 326 Mechanical Engineering Lab - IV

## Grading Policy:

**Lab Reports: 40%**

**Viva: 10%**

**Quiz: 50%**

# ME 326 Mechanical Engineering Lab - IV

**Posting of Lab Video as Assignment: Friday**

 **(after one week of video posting)**

**Doubt Clearing Session: 9 – 9:30 AM on Friday**

**Submission Deadline of Report: 11 AM on Friday**

 **Own handwritten lab report with plots.**

**Viva (9 – 11 AM) at the end of 4 experiments in each lab component.**

**Online Examination in limited time on 23<sup>rd</sup> April.**

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## Thermal Science

### ➤ Heat Exchanger

- To determine the overall heat transfer coefficient 'U' in the parallel flow and counter-flow heat exchanger
- To plot the temperature profile on the cold water and hot water circuit.

### ➤ Free and Forced Convection

- To determine the effectiveness and heat transfer coefficient in free and forced convection for a flat heated surface.

### ➤ Heat Conduction

- To determine the linear and the radial temperature distribution in a plane wall and a composite wall.
- To find the thermal conductivity of the material for which the temperature distribution is measured.

### ➤ IC Engine

- To plot the various performance curves



*Thank You*