JIS COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

MANUFACTURING TECHNOLOGY LAB

Details of Laboratory:

Lab in-charge: Mrs. Thia Paul

Manufacturing Technology Laboratory is a well equipped laboratory which provides ideas on the practical knowledge of several steps of casting, pattern usage, mould creation, gating design, produce a casting and check casting defects. This laboratory is scheduled for 4th 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	Clay washer
2	Muller Machine
3	Rapid Moisture Tester
4	Pendulum type universal strength machine
5	Permeability meter
6	Sand Rammer
7.	Sieve Shaker Machine
8.	Electric Furnace

List of Experiments:

Sl.	Description
1	To Determine the percentage of clay contain in dry sand
2	To Determine the grain fineness number of dry and clay free sand.
3	To Determine the moisture content quickly in fresh sand and moulding sand
4	To Determine the compressive strength Splitting strength and shearing strength of green sand by pendulum type universal strength machine.
5	To Determine the permeability number of green sand, core sand, and Raw sand.
6	Mould preparation and casting of metals after preparation of suitable moulds.
7	Study on the properties of post casting, fettling, cleaning, deburingr and polishing operations.
8	Practicing smithy or forging of carbon steels and testing of its property changes
9	Laboratory experiments in fabrication processes to observe effects of varying process parameters in GMAW and SMAW and testing for joint defect.

Lab Occupancy

JIS College of Engineering
Lecture and Lab schedule for even semester 2017-2018 STREAM/BATCH: ME- 2A
B.Tech 2nd Year classes Room No. 317

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 492,Gr.ME2A(1)[TP+KB]		
TUE				B R E A K				
WED						ME 492,Gr.ME2A(2)[BJ]		
THU								
FRI								

Subjects: ME 401- Fluid Machinery, ME 402- Primary Manufacturing Process, ME 403- Engineering Materials, ME 404- Mechanisms ,M(ME)401- Numerical Methods, HU 401- Environmental Science, ME 491- Fluid Mechanics & Hydraulic Machines Lab, ME 492- Manufacturing Technology Lab, ME 493- Material Testing Lab, ME 494- Machine Drawing-II, M(ME) 491- Numerical Methods Lab HU481- Technical Report Writing & Language Practice

Faculty name: SG-Dr. Sandip Ghosh,AM-Mr.Abhishek Mondal, MRI- Mr. Munshi Rasidul Islam,SM-Mr. Subrata Majumder DS-Mr.Dipak Shaw, DM-Debashis Majumder,PR-Partha Roy,SSR-Subhomay Singha Roy, TP- Mrs.Thia Paul, DM1-Mr.Dhiraj Mondal, AG-Mrs.Adrija Guha

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

JIS College of Engineering
Lecture and Lab schedule for even semester 2017-2018 STREAM/BATCH: ME-2B
B.Tech- 2nd Year classes - Room No. 419

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				B R E A K				
TUE						ME 492,Gr.ME2B(1)[TP+KB]		
WED								
THU								
FRI					ME 492,Gr.ME2B(2)[TP]			

Subjects: ME 401- Fluid Machinery, ME 402- Primary Manufacturing Process, ME 403- Engineering Materials, ME 404- Mechanisms ,M(ME)401- Numerical Methods, HU 401- Environmental Science, ME 491- Fluid Mechanics & Hydraulic Machines Lab, ME 492- Manufacturing Technology Lab, ME 493- Material Testing Lab, ME 494- Machine Drawing-II, M(ME) 491- Numerical Methods Lab HU 481- Technical Report Writing & Language Practice

Faculty name: SG-Dr. Sandip Ghosh,PB-Mr.Palash Biswas,AP-Mr.Arijit Patra, TP-Mrs.Thia Paul, MRI- Mr. Munshi Rasidul Islam, DS- Mr. Dipak Shaw DM-Debashis Majumder, PR-Partha Roy,SSR-Subhomay Singha Roy,TS-Mr.Tanmoy Sarkar, TP- Mrs.Thia Paul, DM1-Mr.Dhiraj Mondal, Mrs.Adrija Guha

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

Name of the Course: Manufacturing Technology Lab

Course Code: ME 492

Prerequisites: Knowledge about Primary Manufacturing Processes

Course Objectives: To get the practical knowledge of several steps of casting, pattern usage, mould creation, gating design, produce a casting and check casting defects.

Course Outcomes:

Upon the completion of the course the student would be able to

ME492.1 Identify and create basic parts and assemblies using powered and non-powered machine shop equipment in conjunction with mechanical documentation

ME492.2. Ascertain product and process quality levels through the use of precision measurement tools and statistical quality control charts

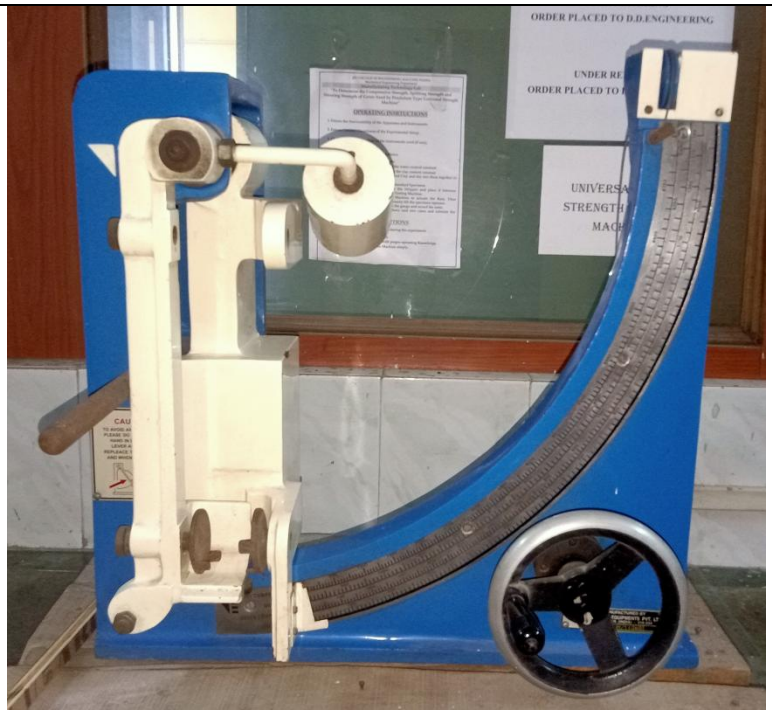
ME492.3. Apply basic welding and forming techniques along with modern improvements for sophisticated metal works

ME492.4. Demonstrate the basics of powder metallurgy for applied project works.

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	PSO1	PSO2	PSO3
ME492.1	1	-	2	1	-	1	-	-	-	-	-	-	1	1	1
ME492.2	1	3	3	2	-	1	-	-	-	1	-	-	2	2	2
ME492.3	-	2	3	2	-	2	-	-	-	1	-	1	3	2	2
ME492.4	-	2	3	3	-	2	-	-	2	1	2	1	2	1	3
Avg.	1	2.33	2.75	2	-	1.5	-	-	2	1	2	1	2	1.5	2

Apparatus Details:



UNIVERSAL SAND STRENGTH MACHINE

SIEVE SHAKER MACHINE

RAPID MOISTURE TESTER

CLAY WASHER APPARATUS

PERMEABILITY METER APPARATUS

SAND RAMMER APPARATUS

ELECTRIC FURNACE

MULLER MACHINE