

**UNIVERSITY OF MUMBAI**

No. UG/96 of 2018-19

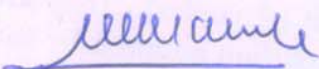
**CIRCULAR:-**

Attention of the Principals of the affiliated Colleges and Directors of the recognized Institutions in Science & Technology Faculty is invited to Bachelor of Engineering (B.E.) degree course.

They are hereby informed that the recommendations made by the Board of Studies in Mechanical Engineering at its meeting held on 25<sup>th</sup> April, 2018 have been accepted by the Academic Council at its meeting held on 5<sup>th</sup> May, 2018 **vide** item No. 4.75 and that in accordance therewith, the Amendment of curriculum of Manufacturing Sciences Lab at Sem. – V of T.E. in Mechanical Engineering Program has been brought into force with effect from the academic year 2018-19, accordingly. (The same is available on the University's website [www.mu.ac.in](http://www.mu.ac.in)).

MUMBAI – 400 032

To <sup>July</sup> 2018  
<sup>2<sup>nd</sup> August,</sup>

  
(Dr. Dinesh Kamble)  
I/c REGISTRAR

The Principals of the affiliated Colleges & Directors of the recognized Institutions in Science & Technology Faculty. (Circular No. UG/334 of 2017-18 dated 9<sup>th</sup> January, 2018.)

**A.C./4.75/05/05/2018**

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No. UG/ 96 -A of 2018

MUMBAI-400 032

<sup>2<sup>nd</sup> August</sup>  
<sup>July, 2018</sup>

Copy forwarded with Compliments for information to:-

- 1) The I/c Dean, Faculty of Science & Technology,
- 2) The Chairman, Board of Studies in Mechanical Engineering,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Co-Ordinator, University Computerization Centre,

  
(Dr. Dinesh Kamble)  
I/c REGISTRAR

Course Code	Course/ Subject Name	Credits
MEL 505	Manufacturing Sciences Lab	1

**Objectives:**

1. To acquaint with the concepts pertaining to planning and sequencing of operations.
2. To prepare for designing of simple productive and cost effective jigs and fixtures.
3. To acquaint with the various press working operations for mass production of sheet metal components and sheet metal working techniques for design of press tools.
4. To familiarize with methods of force measurement during machining.
5. To familiarize with methods of temperature measurement during machining.
6. To familiarize with the design procedures for cutting tools.

**Outcomes:** The students will be able to...

1. Identify and select location and clamping faces/points on jobs.
2. Design and develop simple productive and cost effective jigs and fixtures.
3. Identify press tool requirements to build concepts pertaining to design of press tools.
4. Select a proper force measurement method for the required machining operation.
5. Select a proper temperature measurement method for the required machining operation.
6. Design multi point cutting tool.

**Term Work:** (Comprises part A and B)

**A) List of Design Exercises:**

Sr. No.	Title of Design Problem	Laboratory Sessions
1	Design of a Simple Progressive Die	2
2	Design of a Drill Jig or Milling Fixture	3
3	Design of a Multipoint Cutting Tool (Broach or Milling Cutter : Any one)	2

**B) Assignment:** On following topics:

1. Sheet metal working
2. Tool dynamometry and metal cutting
3. Tool life and economics of machining
4. Indexing jigs and fixtures
5. Temperature measurement in metal cutting and cutting fluids

**Project Based Learning may be incorporated by judiciously reducing number of assignments**

**Term Work:**

Term work consists of design exercises and assignments.

The distribution of marks for term work shall be as follows:

- Design and Assignments : 20 marks.
- Attendance : 05 marks.