

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Mechanical Engineering

Semester: 3

Subject Code

Subject Name MANUFACTURING PRACTICE - I

LABORATORY EXPERIENCES:

Experience Number	DESCRIPTION OF LABORATORY EXPERIENCE
1	Prepare a pattern and core for given pattern drawing
2	Prepare a mould using prepared pattern and core
3	Prepare a job using arc welding. This includes cutting of raw material and preparation of pre-weld parts. Minimum 4 parts should be taken and should include tacks and continuous welding.
4	Prepare a job using gas cutting and gas welding. This includes cutting of raw material and preparation of pre-weld parts. Minimum 3 parts should be taken and should include tacks and continuous welding.
5	Prepare a job using resistance welding. This includes cutting of raw material and preparation of pre-weld parts.
6	Prepare a job using brazing. This includes cutting of raw material and preparation of pre-weld parts.
7	Prepare a job using forging process. This includes cutting of raw material and preparation of pre-forged parts.
8	Demonstration of spinning process with preparation of a job.
9	Demonstration of metal melting, metal pouring ,metal casting and casting finishing. Also demonstrate and prepare a report on casting defects.
10	Industrial visit –Foundry .
11	Industrial visit – Sheet metal/Press tool industry.
12	Industrial visit –Rolling mill / Hot-Cold material processes, allied manufacturing processes.

NOTES :

1. Term work report content of each experience should also include following.
 - a. Experience description / data and objectives.
 - b. Skill/s which is / are expected to be developed in student after completion of experience.
 - c. Drawing of experience / setup with labels/nomenclature to carry out the experience
 - d. The specifications of machines / equipments / devices / tools / instruments /items/elements which is / are used to carry out and to check experience.
 - e. Process parameters / setup settings' values applied to carry out experience.
 - f. Steps / Process description to execute experience.
 - g. Information on recent machines / equipments / devices / tools / instruments /items available in market to carry out the experience.
 - h. Special / Additional notes or remarks.
2. Term work report of student of regular mode should exclude Distance Learning manual, photocopies , printed content, etc. Focus should be on developing the term work as original efforts of students.
3. Term work content of industrial visit report should also include following.
 - a. Brief details of industry visited.
 - b. Type ,location, products, rough layout, human resource, etc of industry.
 - c. Details, description and broad specifications of machineries/processes observed.
 - d. Safety norms and precautions observed.
 - e. Student's own observation on Industrial environment, culture and attitude.
 - f. Any other details / observations asked by accompanying faculty.

Term work should also includes workshop log book and experience logbook duly certified by workshop instructors and subject teachers.

Reference Books :

Sr. No.	Name of Books	Authors
1.	Workshop Technology I & II	- J.A.Schey
2.	Workshop Technology I & II	- Raghuwanshi
3.	Workshop Technology I, II & III	- W.A.J. Chapman
4.	Manufacturing Processes	- M.L.Begman
5.	Production Technology	- R.K.Jain and S.C.Gupta
6.	Welding Engineering	- B.E.Rossi
7.	Audles Welding Guide	- F.D.Graham
8.	Foundry Engineering	- P.L.Jain
9.	Principle of Foundry	- Jain & Gupta
10.	Manufacturing Processes	- S.E.Rusinoft
11.	Production Technology	- H.H.Marshall