GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Mechatronics 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 resourse, 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