GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN MECHANICAL ENGINEERING

SEMESTER- VI

Subject Name: **Foundary Technology Practice (Elective Practice -II)**
Subject Code: **2361928**

NOTE:- Following are the minimum experiences required, but the college can do more experiences if possible.

LABORATORY EXPERIENCES :			
Experience Type	**Experience Number**	**Description of Laboratory Experience**	**Hrs.**
Preparatory	01	1. Appreciate main objectives of learning this subject: a. Read and interpret given pattern and casting drawings. b. Develop the skill to design and prepare pattern and mould for given simple casting. c. Familiarize with various molding materials and processes. 2. Recall and strengthen know-how for orthographic projections , various pattern allowances and various casting methods.	2
Demonstration and study	02	Interpretation of various industrial casting and pattern drawings.	2
	03	Casting defects – types , causes and remedies.	2
Performance	04	Determine green strength , dry strength, permeability , clay content and moisture content of given molding sand sample.	4
	05	Prepare the mould using given single piece pattern.	2
	06	Prepare the mould using given two piece pattern.	4
	07	Measure the mould hardness with hardness tester.	2
	08	To determine the grain size and distribution of sand by Taylor sieve analysis.	2
Reports	09	Prepare a report on any one given advance casting process. Specifically include working principle, specifications of equipments used and applications with process parameters. Separate process will be	2

		assigned to each student by teacher.	
Download and seminar presentation, (Copy downloaded content and seminar of whole batch In one /one set of CD/DVD)	10	a) Prepare and present seminar individually in your batch. (Seminar topic has to be given by teacher). b) Download individually visual aids, movies, content and other related content for the given case/situation. (Case/situation has to be given by teacher)Present and discuss the same in your batch. c) Each student should prepare and present one case which focus on advance welding and cutting process.	6
Industrial visit	11	Visit at least two related foundries.	-
Assignments (Home Assignment)	12	Solve the given tutorials and assignments. One assignment must be on preparation of chart / diagram / poster / graph / drawing / etc on half imperial size of drawing sheet.(For subject FOUN.TECH.).	-
		Total	**28**

Notes:

A. FOR STUDENTS.

a. It is advised that student download this copy of syllabus and plan to achieve the objectives of learning this subject.
b. Attach copy of syllabus as part of term work.

B. FOR STUDENTS AND SUBJECT TEACHER/S.

a. Term work report content of each experience should also include following.
    i. Experience description / data and objectives.
    ii. Skill/s which is / are expected to be developed in student after completion of experience.
    iii. Steps / procedure to execute experience.
b. Term work report of student of regular mode should exclude Distance Learning manual, photocopies, printed content(except visual aids), etc. Focus should be on developing the term work as original efforts of students.
c. Term work content of industrial visit report should also include following.
    i. Brief details of industry visited.
    ii. Type ,location, products, rough layout, human resource, etc of industry.
    iii. Details, description and broad specifications of machineries/ processes observed.
    iv. Safety norms and precautions observed.

v. Student's own observation on Industrial environment, productivity concepts, quality consciousness and quality standards, cost effectiveness ,culture and attitude.
vi. Any other details / observations asked by accompanying faculty.

d. Term work should also include experience logbook duly certified by subject teachers.
e. Term work is to be defended (along with term work) with practical examination by external and internal examiners .Practical examination will include followings:
   i. Viva.
   ii. Interpretation of given pattern and castings drawing.
   iii. Preparing mould for given simple pattern.

Reference Books:

1. Principles of Metal casting	Heine, Loper Resenthal Tata McGraw Hill publishing Co.Ltd.
2. Principal of Foundry Technology	P.L.Jain Tata McGraw Hill
3. Fundamentals of metal Casting Technology	P. C. Mukharjee Tata McGraw Hill
4. Foundry Engineering	Banza, Agarwal Manghanani Khanna Publishing Ltd.
5. Foundry Technology	M.Lal Dhimpat Rai & Sons.

Additional Reference Books:

1. Foundry Engineering	Taylor Fleming Woolf Wiley Eastern Ltd.
2. Foundry Practice	Salmon Simons ELBS & ISSU pitmun.
3. Manufacturing Technology	Malik Ghosh Affiliated East-west Press Pvt.Ltd.