GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN MECHANICAL ENGINEERING

SEMESTER- VI

Subject Name: **Advance Industrial Engineering Practice**
(Elective Practice –II)
Subject Code: **2361924**

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. Develop the ability to prepare the process plan of given component. b. Interpret and analyse control charts. c. Appreciate the need to be quality conscious. 2. Recall and strengthen know-how for orthographic projections , various machining processes and various mathematical & statistical fundamentals.	2
Performance	02	Physically collect an assembly having 6-8 components , prepare orthographic drawings and prepare process planning of components .	6
	03	Interpretation and analysis of control charts (variables and attributes) for given industrial data.	6
	04	Quality Function Deployment-building of planning and deployment matrix for given data.	4
Reports	05	Prepare report based on visit/case study of ISO 9000 industry. Include requirements to get ISO-9000, various documentations , etc.	4
Download and seminar presentation, (Copy downloaded content and seminar of whole batch In one /one	06	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 improvement of productivity or utilization of resources or implementation of JIT/TQM/TQC/ISO-9000 .	6

set of CD/DVD)			
Assignments (Home Assignment)	07	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 AIE).	-
		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 termwork 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. Preparing process plan for given component.
    iii. Interpretation of given control charts.
    iv. Solving /analysing given problems/cases.

Reference Books:

1	Industrial engineering and management	Dr. O. P. Khanna, Dhanapatrai & sons, Delhi.
2	TQM and ISO 14000	Dr. K.C.Arora, S.K. Kataria & Sons. (Topic 3)
3	ISO 9000 Path to TQM	R.Subburaj, Allied publuication (Topic 3)
4	Total quality management	Feigenbaum
5	Statistical quality control	E.L.Grant (McGH publication
6	Total quality control essentials	Servsingh soin (McGH Newyork)
7	Quality function deployment	Ronald G. Ray (TMH publishers 1996)
8	Production and operation management	Chase/Aquilano- (Irwin publisher

Additional Reference Books:

1	Statistical quality control	R. C. Gupta, Khanna publications 1993
2	Manufacturing planning & control systems	Thomas E. Wollmann, William L. Bery D. Clay Whybark, Galgotia publi. Pvt.Ltd., Delhi.
3	Just in time manufacturing	M G Korganker Makmilan India Ltd.
4	ISO 9000 family standards.	
5	Statistical quality control	A. Zaide (PHI Publisher)
6	Quality function deployment	A Kao Vogi (Productivity press Cambridge 1990)
7	Quality function deployment	Bossert J.I. (ASQC quality press, Wisconsin USA 1991)
8	JIT – Approach, Concepts & implementation	AICTE
9	Quality control using advance SQC techniques and modern machines for inspections	AICTE
10	Quality management	AICTE