GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN MECHANICAL ENGINEERING

SEMESTER- VI

Subject Name: **Advance Machine Design Practice (Elective Practice -I)**
Subject Code: **2361912**

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. Strengthen the fundamentals of theory of machine, strength of material and machine design. b. Design for simple parameters. c. Select appropriate machine elements. d. Prepare simple design using C++. e. Read/interpret/refer design data book.	2
Design and reports	02	Welded joint, spur gear, plate clutch, cone clutch, shoe brake and connecting rod.	14
C++ programmes	03	Prepare at least four C++ programmes based on simple design parameters.	8
Download, seminar presentation, (Copy downloaded content and seminar of whole batch In one /one set of CD/DVD)	04	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.	4
Industrial Visit	05	Visit at least two industries having CAD facilities and get familiarity with design softwares, simulation and optimization.	-

Assignments (Home Assignment)	06	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 AMD).	-
		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. Design data book by K.Mahadevan & B.Reddy (CBS Publication) is also permitted in practice examination.
c. 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 simple C++ programmes for given parameters.
    iii. Simple design-anyone from experience number 02.

f. Design data book by K.Mahadevan & B.Reddy (CBS Publication) is also permitted in practice examination.

Reference Books:

1.	Machine design	Khurmi and Gupta.
2.	Design data book	PSG College & Technology, Coimbtore.
3.	Handbook of machine design	G.N.Maitra & L.G.Prasad
4.	Turbo C++	Robert Lafore
5.	Design fundamentals	R.G.Scott
6.	Design data book	Mahadevan and Reddy
7.	Mechanical Engineering Design	J.E.Shigle, R.Mische

Additional Reference Books:

1.	Machine design	TVS Mucthy, N.Shanmugam
2.	Theory of elasticity	S.Timoshanko
3.	Fundamentals of finite element method	Grandin
4.	Graphic diagrams	Herdeg
5.	Production, treatment and finishes	John D.Deadle, McMillan
6.	Design Management	Farr Michael
7.	Computer Aided Design and Mfg.	Anderson, Wolfe & Bedworth