GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN MECHANICAL ENGINEERING

SEMESTER- VI

Subject Name: **Power Plant Engineering Practice (Elective Practice -II)**
Subject Code: **2361920**

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	1	1. Appreciate main objectives of learning this subject: a. Strengthen the fundamentals of thermodynamics. b. Develop the ability to analyze the performance of power plant equipment for optimizing their efficiency. c. Understand governing control systems, waste control , economic operation ,pollution control and safety norms for all power plants. 2. Recall and strengthen know-how for thermodynamic units and cycles.	2
Study , demonstration(use of models, cut sections or movies may be used) and presentation. (Each experience may be assigned to two students and they may be asked to prepare and present (Power point) to batch.	2	High pressure boilers.	2
	3	Various furnaces in power plants.	2
	4	Basic elements of various power plants.	2
	5	Coal and ash handling system of modern thermal power station.	2
	6	Governing systems of steam turbine.	2
	7	Control systems of steam power plant.	2
	8	Diesel power plant.	2
	9	Gas-turbine power plant.	2
	10	Nuclear reactors.	2
	11	Nuclear power plant.	2
	12	Hydro - power plant.	2
Download, seminar presentation, (Copy downloaded content and	13	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-preferably from emerging/ recent trends).Present and discuss	4

seminar of whole batch In one /one set of CD/DVD)		the same in your batch.	
Industrial visits	14	Visit at least three related power plants. Visit to power plants in Gujarat can be arranged at the following power plants. i. Dhuvaran thermal/gas turbine power plant. ii. Torrent , Sabarmati power plant. iii. Gas turbine power plant Torrent, Vatva. iv. Ukai Hydro/thermal power plant. v. Kakrapar Nuclear power project. vi. Tarapur atomic power plant Boisar. vii. Bhabha atomic research centre Trombay. Visit to outside Gujarat power station or research centre can be done with prior permission of DTE if opportunity is given.	-
Assignments (Home Assignment)	15	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 PPE).	-
		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. Solving given tutorial.
   iii. Explaining working of specified power plant.
   .

Reference Books:

1	A course in power plant engineering	S.C.Arora ,S.Domkundwar Dhanpatrai & sons, N. Delhi.
2	Power plant engineering	H.B.Keswani STD Book House Delhi
3	Power plant engineering	P.C.Sharma.
4	Power plant engineering	Mahesh Verma Metro Book ,New Delhi
5	Power plant engineering	M.M.Wakil Mc Graw Hill Publication
6	Course material in power plant engineering	(D.L.Mode)-LRDC Gujarat.

Additional Reference Books:

1.	Power plant engineering	F.T.Morse Attiliated East West press,New Delhi.
2	Power plant Technology	G.D.Rai --
3	Nuclear Power plant	Lofftness D.Van Nostrand,Co.Inc N. York.