

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA IN MECHANICAL ENGINEERING**  
**SEMESTER- VI**

Subject Name: **Production Management and Information Systems  
Practice (Elective Practice-I)**

Subject Code: **2361914**

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

<b>LABORATORY EXPERIENCES :</b>			
<b>Experience Type</b>	<b>Experience Number</b>	<b>Description of Laboratory Experience</b>	<b>Hrs.</b>
Preparatory	01	1. Appreciate main objectives of learning this subject: a. Develop the ability to analyze the objectives and constraints for given situation / task. b. Develop the ability to plan available resources optimally. c. Appreciate the need of higher mental ability and skill level to work with complex systems. d. Integrate use of information technology. 2. Recall and strengthen know-how for various mathematical, statistical and managerial fundamentals.	2
Problem solving (Each student should be given different data / values for same kind of problem/s)	02	Demand forecasting problem solutions (One from time series analysis, one from least square and one from exponential smoothing).	4
	03	Aggregate production planning preparation based on given suitable data.	2
	04	Capacity requirement planning preparation based on given suitable data.	2
	05	Solve sequencing problem for given situation using Johnson and Jackson method.	2
Study and preparation	06	Study (any one from Fox pro or MS Access or Oracle)database software . Develop at least two specific mechanical engineering information system using database software.	8
	07	Study MS Project and prepare Gantt chart & milestone chart for given suitable data.	4

Download and seminar presentation, (Copy downloaded content and seminar of whole batch In one /one set of CD/DVD)	08	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 and present the same for the given case/situation. (Case/situation has to be given by teacher)Present and discuss the same in your batch.	4
Assignments (Home Assignment)	09	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 PMIS).	-
		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 should also include experience logbook duly certified by subject teachers.
- d. 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 problems.
  - iii. Developing simple information system and preparing database using selected software for given case.

## Reference Books:

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|-------------------------------------------------|----------------------------------------------------------------------|
| 1. Computer database organization               | Jame's Martin, by PHI publication                                    |
| 2. Production and operations management         | Everette, Adam, Jr. and<br>Ronald J. Ebert, (PHI publication)        |
| 3. Production and operations management         | Chase/Aquiline, Irwin publication                                    |
| 4. Management information system                | S.Sadagopan (PHI publication)                                        |
| 5. Production and operations management         | S.N.Charry (TMGH publication)                                        |
| 6. Modern production & operations<br>management | Elwood S. Buffa and Rakesh<br>K. Sarin(John willy& sons publication) |
| 7. Operations research                          | S.D.Sharma                                                           |

## Additional Reference Books:

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|----------------------------------------------------------------|------------------------------------------|
| 1. New information technology                                  | Edited Alan Burns, Ellis<br>Harword ltd. |
| 2. Managing product and operations                             | Martin K. Star (PHI publication)         |
| 3. Production and operations management                        | Ray Wild Cassel.                         |
| 4. Books on database software taken for study<br>and practice. |                                          |
| 5. Production and operations management                        | N.G.Nair, TMGH publication.              |