

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subject code: 710803N**Date: 03-12-2014****Subject Name: Computer Aided Production Management****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) “Forecasting is an important component of planning” – Justify it by giving suitable example from engineering industry. **07**
- (b) Explain advantages and applications of Computer Aided Forecasting stating illustrations. Explain the significance of reliability of forecast and how is it measured? **07**

- Q.2** (a) Why group technology is more important in the present manufacturing scenario? **07**
- (b) Explain the need of a structure and types of structure used in coding systems stating illustrations. **07**

OR

- (b) The demands for the product P for the last ten year are **07**

Year	1	2	3	4	5	6	7	8	9	10
Demand	133	151	144	163	151	184	166	198	179	192

Use the method of regression analysis for forecast the demands from 4th to 11th years. Compute MAD and Bias.

- Q.3** (a) What are the objectives of production flow analysis? Discuss various steps involved in production flow analysis. **07**
- (b) Explain the Computerized Relative Allocation of Facilities Technique (CRAFT). State the basic data required and procedures of CRAFT. **07**

OR

- Q.3** (a) Explain the Automated Layout Design Program (ALDEP). State the basic data required, and steps of ALDEP **07**
- (b) State and explain the basics of MRP. Explain inputs to MRP System and show the sample of MRP output. **07**

- Q.4** (a) Draw the structure of a computer aided process planning system. What is the need of such system in the manufacturing industry? **07**
- (b) A foreman wants to process four different jobs on three machines. The sequence of operations for all the four jobs is shaping-drilling-tapping. The process period is given below **07**

Job	Processing Time (min)		
	Shaping	Drilling	Tapping
1	11	3	15
2	16	8	4
3	8	7	13
4	20	5	8

Find the sequence in which the job should be processed so as to minimize total time of completion of four jobs.

OR

- Q.4** (a) Explain in detail the methodology followed for developing a retrieval type of computer aided process planning system **07**
- Q.4** (b) Discuss the phases of shop floor control system. **07**
- Q.5** (a) What is ERP? Discuss its benefits in large scale industry **07**
- (b) Discuss the important benefits of computer aided quality control. **07**
- OR**
- Q.5** (a) Explain the application of Simulation in machine shop stating objectives and benefits. **07**
- (b) Explain the non contact type computer aided inspection method **07**
