

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA SEMESTER- III - EXAMINATION-SUMMER-2024**

**Subject Code: 4539273****Date: 02/05/2024****Subject Name: Production Planning and Control****Time: 02:30 PM TO 05:30 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

- |            |  | <b>Marks</b> |
|------------|--|--------------|
| <b>Q.1</b> | Explain the following<br>(a) What is Little's law?<br>(b) What is Poka-yoke?<br>(c) What is MRP II?<br>(d) What are the various types of management activities?<br>(e) What is disaggregation?<br>(f) What is effective capacity?<br>(g) List the causal methods of quantitative forecasting.  | <b>14</b>    |
| <b>Q.2</b> | (a) Describe each of the following plans in terms of their purpose, planning horizon, level of detail, and planning cycle:<br>a. Strategic business plan.<br>b. Production plan.<br>c. Master production schedule.<br>d. Material requirements plan.<br>(b) What is a planning horizon? What decides its minimum time? Why would it be longer? | <b>07</b>    |
| <b>OR</b>  |  |              |
|            | (b) At what level should master production scheduling take place?<br>a. In a make-to-stock environment?<br>b. In a make-to-order environment?<br>c. In an assemble-to-order environment?   | <b>07</b>    |
|            | What is a final assembly schedule (FAS)? What is its purpose?  |              |
| <b>Q.3</b> | (a) What are different types of Forecasting techniques?<br>(b) What kind of production environment would you expect to see if a company uses a chase strategy? What if it uses a level strategy?   | <b>07</b>    |
| <b>OR</b>  |  |              |
| <b>Q.3</b> | (a) Describe how the objectives of marketing, production, and finance are in conflict over customer service, disruption to production, and inventories.<br>(b) A computer carrying case and a backpack are familiar items to a student of manufacturing planning and control. Discuss the manufacturing  | <b>07</b>    |

planning and control activities involved in producing a variety of these products. What information from other departments is necessary for manufacturing planning and control to perform its function?

- Q.4** (a) List and explain the eight wastes according to lean philosophy. **07**  
(b) Classify and explain various types of Hazards. **07**

**OR**

- Q.4** (a) Explain the levels of PPE as classified by EPA. **07**  
(b) Describe the steps in the capacity planning process. **07**

**Q.5** **CASE STUDY:**

An automobile manufacturer is conducting a product recall after it was discovered that a possible defect in the steering mechanism could cause loss of control in certain cars. The recall covers a span of three model years. The company sent out letters to car owners promising to repair the defect at no cost at any dealership.

The company's policy is to pay the dealer a fixed amount for each repair. The repair is somewhat complicated, and the company expected learning to be a factor. In order to set a reasonable rate for repairs, company engineers conducted a number of repairs themselves. It was then decided that a rate of \$88 per repair would be appropriate, based on a flat hourly rate of \$22 per hour and a 90 percent learning rate. Shortly after dealers began making repairs, the company received word that several dealers were encountering resistance from workers who felt the flat rate was much too low and who were threatening to refuse to work on those jobs.

One of the dealers collected the following data on job times and sent that information to the company: Three mechanics each completed two repairs. Average time for the first unit was

9.6 hours, and average time for the second unit was 7.2 hours.

Given these data, the dealer has suggested a rate of \$110 per repair. You have been asked to investigate the situation and to prepare a report.

- (a) Prepare a list of questions you will need answered in order to analyze this situation. **07**  
(b) Summarize the case briefly **07**

**OR**

- Q.5** (a) Prepare a list of observations regarding the information provided in the case **07**  
(b) What preliminary thoughts do you have on solutions or partial solutions to the points you have raised? **07**

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