

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER –IV-EXAMINATION – SUMMER-2022

Subject Code: 4549271**Date: 13-07-2022****Subject Name: Materials Management****Time: 10:30 AM TO 01:30 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** Definitions the following. **14**
- (a) RFID
 - (b) Order Picking
 - (c) MRP
 - (d) Lead time
 - (e) Goods receipt note
 - (f) Bottleneck
 - (g) Level output
- Q.2** (a) Codification is the primary step in material management. Explain system for the same. **07**
- (b) Write a note on: Gozinto matrix. **07**
- OR**
- (b) What are the objectives & merits of specification for materials in a large baking factory? Explain. **07**
- Q.3** (a) How are material handling equipment's classified? **07**
- (b) Describe theory of constraints. **07**
- OR**
- Q.3** (a) Which type of store layout can be recommended for cold storage? Justify your answer. **07**
- (b) Enumerate and explain various techniques of MRP. **07**
- Q.4** (a) Analyse and explain the purchasing cycle for a cotton T shirt manufacturing factory? **07**
- (b) Planning & controlling of material management is a simultaneous activity. Discuss the statement. **07**
- OR**
- Q.4** (a) Write a note on: Space utilization. **07**
- (b) "Does MRP affect purchasing". Explain the statement. **07**

Q.5 CASE STUDY:

Piper Jeans, a company renowned for its range of Jeans styles, offering a better fit than others, especially for its female customers. The company began to produce and sell denim jeans in the early 70s in the United Kingdom. Their range of basic styles was modified each season, in keeping with the fashion trends, but each style maintained its identity. Sales of Piper jeans was primarily through its 1,500 independent outlets throughout the United Kingdom. The company maintains contact with its independent retailers via a group of approximately 10 agents who are self-employed and work exclusively for Piper. Each agent is responsible for retailers in his area. Each agent takes orders from his retailers for a six-month period. The retailer can, if he wants, modify/cancel the order but within a week. After the orders have been transmitted to Piper, they cannot be changed. The orders are sent by Piper to their sourcing agent in Hong Kong. The sourcing agent handles all the details associated with materials, fabrication, manufacturing and shipping the completed jeans to Piper. Piper has a very strong designing team which designs the jeans and provides the complete specifications. They also ensure that the jeans are made exactly as per these specifications and the material used is of the highest quality. Of late there has been a slump in sales which has the Piper management worried. They have been told that they have become less of a trendsetter in recent times. An outside consultant was engaged, who outlined the following scenario to the management: Piper has been enjoying considerable financial success in the past – the retail price of its jeans was around \$80, much higher than its nearest rival, of USA. Sales last year was approximately \$320 million. Cost of sales was approximately 40%, operating expenses 28% and the rest was profits. The company had no long-term debt and enjoyed a healthy cash position. After extensive dialogue, the consultant said that the lead times were very high. Fashion industry is highly volatile, and the six-month order lead time was too long; this resulted in the retailers having considerable non-moving inventory. They wanted a system of exchange with Piper to liquidate their non-moving and slow-moving inventory. The sourcing agent said that lead time could be shortened considerably, possibly to as low as six weeks, but this would increase costs considerably. Currently, the agent collects orders over a period and every two weeks, puts these orders out on bid to potential suppliers. The suppliers are then selected, and manufacturing process begins. By shortening the lead time to six weeks, the price could go up by 30%. There would be a constant pressure on delivery schedules too and failures could be ruled out. The sourcing agent suggested to the consultant that Piper should build a finishing operation in UK. The basic jeans (where wash has not been applied) could be supplied from Hong Kong and the finishing operation could apply the different washes to the jeans to get different looks and send them directly to the retailer. The consultant found this to be an interesting idea. He felt that since the quantity of the basic jeans would be increased, he could probably get a 10% reduction in price. But Piper would have to invest \$1,600,000 worth of equipment. Even if the facility is in the basement of their headquarters, it would cost another \$480,000 for installations, etc. It would also cost \$800,000 each year to operate the equipment. Cost of labor in UK is twice that of Hong Kong. Moreover, they would have to keep in hand about six-month supply of inventory of basic jeans and the inventory carrying cost is presently pegged at about 30%.

- (a) Evaluate the case just as the consultant would have done. What is your recommendation? 07
- (b) Design a mechanism that can reduce the lead time. 07
- OR**
- Q.5 (a) Can you think of any other alternatives that Piper should consider? 07
- (b) Discuss how does material handling affects pricing? 07
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