

VPM's
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Programme: PGDM (2017-19)
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Subject	Operations Management -I		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages	3	Date	27.09.2017

Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.

Q1) 20 Marks (Compulsory)

WEGMANS FOOD MARKETS

Wegmans Food Markets, Inc., is one of the premier grocery chains in the United States. Headquartered in Rochester, NY, Wegmans operates over 70 stores. The company employs over 23,000 people, and has annual sales of over Rs. 2.0 billion. Wegmans has a strong reputation for offering its customers high product quality and excellent service. Through a combination of market research, trial and error, and listening to its customers, Wegmans has evolved into a very successful organization. In fact, Wegmans is so good at what it does that grocery chains all over the country send representatives to Wegmans for a firsthand look at operations.

SUPERSTORES

Many of the company's stores are giant 100,000 square foot superstores, double or triple the size of average supermarkets. A superstore typically employs from 500 to 600 people. Individual stores differ somewhat in terms of actual size and some special features. Aside from the features normally found in supermarkets, they generally have a large bakery Section (each store bakes its own bread, rolls, cakes, pies, and pastries), and extra large produce sections. They also offer film processing a complete pharmacy, a card shop and video rentals. In-store floral shops range in size up to 800 square feet of space, and offer a wide variety of fresh-cut flowers, flower arrangements, varies and plants. In-store card shops covers over 1000 square feet of floor of floor space. The bulk foods department provides customers with the opportunity to select what quantities they desire from a vast array of foodstuffs and some nonfood items. Each store is a little different. Among the special features in some stores are a dry cleaning department, a wokery, and a salad bar. Some feature a Market Cafe that has different food stations, each devoted to preparing and serving a certain type of food. For example, one station has pizza and other Italian specialties, and another oriental food. There are also being a sandwich bar, a salad bar and a dessert station. Customers often wander among stations as they decide what to order. In several affluent locations, customers can stop in on their way home from work and choose from a selection of freshly prepared dinner entrees. Some stores have a coffee shop section with tables and chairs where shoppers can enjoy regular or specialty coffees and variety of tempting pastries.

PRODUCE DEPARTMENT

The company prides itself on fresh produce. Produce is replenished as often as 12 times a day. The larger stores have produce sections that are four to five times the size of a produce section of an average supermarket. Wegmans offers locally grown produce a season. Wegmans uses a 'farm to market' system whereby some local growers deliver their produce directly to individual stores, bypassing the main warehouse. That reduces the company's inventory holding costs and gets the produce into the stores as quickly as possible. Growers may use specially designed containers that go right onto the store floor instead of large bins. This avoids the bruising that often occurs when fruits and vegetables are transferred from bins to display shelves and the need to devote labor to transfer the produce to shelves.

MEAT DEPARTMENT

In addition to large display cases of both fresh and frozen meat products, many stores have a full-service butcher shop that offers a variety of fresh meat products and where butchers are available to provide customized cuts of meat for customers.

ORDERING

Each department handles its own ordering. Although sales records are available from records of items scanned at the checkouts, they are not used directly for replenishing

stock. Other factors, such as pricing, special promotions, local circumstances must all be taken into account. However, for seasonal periods, such as holidays, managers often check scanner records to learn what past demand was during a comparable period. The superstores typically receive one truckload of goods per day from the main warehouse. During peak periods, a store may receive two truckloads from the main warehouse. The short lead-time greatly reduces the length of the time an item might be out of stock, unless the main warehouse is also out of stock. The company exercises strict control over suppliers, insisting on product quality and on-time deliveries.

EMPLOYEES

The company recognizes the value of good employees. It typically invests an average of Rs.7000 to train each new employee. In addition to learning about stores operations, new employees learn the importance of good customer service and how to provide it. The employees are helpful, cheerfully answering customer questions or handling complaints. Employees are motivated through a combination of compensation, profit sharing, and benefits.

QUALITY

Quality and Customer satisfaction are utmost in the minds of Wegmans management and its employees. Private label food items as well as name brands are regularly evaluated in test kitchens, along with the potential new products. Managers are responsible for checking and maintaining products and service quality in their departments. Moreover, employees are encouraged to report problems to their managers. If a customer is dissatisfied with an item and returns it, or even a portion of the item, the customer is offered a choice of a replacement or a refund. If the item is a Wegmans brand food item, it is then sent to the test kitchen to determine the cause of the problem. If the cause can be determined, corrective action is taken.

Questions

1. How do customers judge the quality of a supermarket? (10 Marks)
2. Indicate how and why each of these factors is important to the successful operation of a supermarket: (a) Customer satisfaction. (b) Forecasting. (c) Location (d) Inventory management. (e) Layout of the store.....(10 Marks)

Attempt Any FOUR from the Remaining SIX Questions... Each Question carries 10 marks

Q2)

- a) Explain production System with a diagram (5 Marks)
- b) Draw a fish bone diagram for an institute facing a problem of poor attendance in a class (5 Marks)

Q3)

- a) The Warren W. Fisher Computer Corporation purchases 8000 transistors each year as components in minicomputers. The unit cost of each transistor is \$10, and the cost of carrying one transistor in inventory for a year is \$3. Ordering cost is \$30 per order. (5 Marks)
 - i. What are the optimal order quantity
 - ii. What are the expected numbers of orders placed each year?
 - iii. What is the expected time between orders?

Assume that fisher operates on a 200 day working year.
- b) Explain MRP System(5 Marks)

Q4)

- a) Wohl’s Discount store stocks race cars. Recently, the store has been given a quantity discount schedule for these cars. This quantity schedule was given.

Discount No.	Discount Quantity	Discount (%)	Discount Price(P)
1	0 To 999	0	\$5.00
2	1000 To 1999	4	\$4.80
3	2000 & Over	5	\$4.75

Thus, the normal cost for the toy race cars is \$5.00. For orders between 1000 & 1999 units the unit cost drops to \$4.80, for orders of 2000 or more units, the unit cost is only \$4.75. furthermore, ordering cost is \$49.00 per order, annual demand is 5000 race cars & inventory carrying charge , as a percent of cost I is 20% or.2 . What order quantity will minimize the total inventory cost? (5 Marks)

b) Explain EOQ Model with diagram(5 Marks)

Q5)

a) Each unit of A is composed of one unit of B, two units of C, and one unit of D. C is composed of two units of D and three units of E. Items A, C, D, and E have on-hand inventories of 20, 10, 20, and 10 units. Develop a product structure tree & calculate Material Requirement to manufacture 50 units of A after consuming on hand inventory. (5 Marks)

b) Explain the steps of method study(5 Marks)

Q6)

a) Explain Project management Process(5 Marks)

b) Draw Project Network Diagram & Find Critical Path for the same. (5 Marks)

Activity	Predecessor	Time(Days)
A	-	5
B	A	4
C	A	3
D	A	2
E	B	8
F	C	7
G	D	6
H	E,F,G	4

Q7)

a) What is the difference between Goods & Services? (5 Marks)

b) Answer following MCQs(5 Marks)

1. **A control chart displays**

- a) Whether workers are motivated
- b) Top management takes interest in quality
- c) Inspectors are doing their job
- d) Process variability
- e) Process capability

2. **Seven tools include**

- a) Team meetings
- b) Management meeting regularly with workers
- c) Workers' toolkit
- d) Histogram
- e) All above

3. **Fishbone diagrams are drawn**

- a) To find customer needs
- b) To find the cost of quality
- c) To brainstorm causes of an effect
- d) To screen workers' suggestions
- To explain what the process does

4. **Pareto chart shows**

- a) That the process is in control
- b) The vital few from the trivial many
- c) Process capability
- d) A line drawn as production proceeds
- e) Fraction defective

5.is the scientific technique for planning the ordering and usage of materials at various levels of production and for monitoring the stocks during these transaction

- a. MPS
- b. MRP
- c. BOM