

PGDM (RM) (18-20)
Inventory & Logistics Management
RM- 308

Trimester – III, End-Term Examination: March 2019

Time allowed: 2 hrs 30 min
Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. In case of rough work please use answer sheet.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	$3*5 = 15$
B	2 out of 3 (Long Questions)	10 Marks each	$2*10 = 20$
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

SECTION A

- A1. Illustrate why inventory management in agile supply chain and risk hedging supply chain are considered challenging compared to inventory management in other types of supply chain. **[5 Marks]**
- A2. As a logistics service provider, discuss several factors that influence transportation cost in logistics. **[5 Marks]**
- A3. Different trends are reshaping Indian retail sector. As an inventory planner, explain different challenges associated with implementing a trend in inventory and logistics management. **[5 Marks]**
- A4. Illustrate how different types of firms vary with respect to inventory size, lead-time and customization. **[5 Marks]**
- A5. Compare and contrast the concept of shared and dedicated storage strategies in warehouse. **[5 Marks]**

SECTION B

B1. Illustrate the important logistics concerns during the introduction, growth, saturation-maturity and obsolescence stage of a product life cycle with the help of examples.

[10 Marks]

B2. Consider the following actual and forecast demand levels for Big Mac hamburgers at a local McDonald' s restaurant:

Day	Actual Demand
Monday	120
Tuesday	170
Wednesday	200
Thursday	190
Friday	240

A review of past sales, as shown above, indicates that an increasing trend is present. Smoothing constants are assigned the values of alpha (α) = 0.2 and trend constant (delta (δ)) = 0.4. McDonald initial forecast average for the Monday (F_1) was 110 units and the trend over that period (T_1) was 20 units.

i. Compute the forecast including trend for each period.

[6 Marks]

ii. Compute Tracking Signal for the first five days.

[4 Marks]

B3 As a logistics service provider, explain the characteristics (advantages/ disadvantages) of different warehousing alternatives. Describe the warehousing selection strategy of a firm.

[10 Marks]

SECTION C

Southeast Soda Pop, Inc., has a new fruit drink for which it has high hopes. As shown below, the demand for its product is highly seasonal. John Mittenthal, the production planner, has assembled the following cost data and demand forecast:

Month	1	2	3	4	5
Forecast (Cases)	6400	7000	1500	500	600

The company employs 10 workers who can each produce 200 cases of fruit drink per month. The case of regular production is \$ 8 per case, overtime cost is \$ 12 per case, and subcontracting cost is \$ 16 per case. Backorder cost is \$10 per case per month. Overtime is limited to regular production each period. Subcontracting is unlimited. Hiring and firing costs are \$500 per worker. Inventory holding costs are \$2 per case per month. Given the estimates of demand above, create an aggregate production plan for Southeast Soda Pop, Inc. using:

i. Chase demand strategy.

[6 Marks]

ii. A mixed strategy where the current workforce level is kept constant and supplemented with overtime and sub-contracting as needed.

[6 Marks]

iii. Explain several alternatives for adjusting capacity as well as alternative for managing demand.

[3 Marks]