



PGDM Program  
TERM – III (Batch: 2023-25)  
END-TERM EXAMINATIONS, April 2024

Course Name	Supply Chain Management	Course Code	SCM
Duration	2.5 Hours	Max. Marks	40

**Instructions:**

- Each question carries 8 marks
- You are required to answer any **three** questions from section A and any **two** questions from section B.
- Clearly state your assumptions for any question that you are not able to comprehend and solve it accordingly.

**Section A**

Q1. Why has the online channel been more successful in the computer hardware industry compared with the grocery industry? In the future, how valuable is the online channel likely to be for both the industry? (4 marks+4 marks)

Q2. What is the relationship between transportation cost and number of facilities? Explain clearly with the help of a diagram. Compare between the different transportation costs associated with:

- Manufacturer storage with direct shipping model
- Distributor storage with last-mile delivery
- Retail storage with customer pick-up

(4 marks+4 marks)

Q3. What are the determinants of service quality? Take the example of a hospital (Medica, Delhi) and describe the different parameters on which the service quality of the hospital can be measured. (4 marks+4 marks)

Q4. What are the different costs of Quality? Describe the concept of TQM with the help of different tools of TQM. (3 marks+5 marks)

*Quality*





**Section B**

Q5. Harley purchases components from three suppliers A, B and C. The per unit price and the monthly demand of the suppliers is described in the table below. Currently, Harley purchases a separate truckload from each supplier. As a part of its JIT drive, Harley has decided to aggregate the purchases from the three suppliers. The trucking company charges a fixed cost of \$400 for the truck with additional charges of \$100, \$50 and \$150 from the three suppliers respectively. Assume an annual holding cost of 20 percent per year. Compare the cost of the new strategy with Harley's current strategy of ordering separately from each supplier. What is the cycle inventory of each component at Harley? (8 marks)

Suppliers	Price per unit (\$)	Monthly demand
Supplier A	5	20000
Supplier B	4	2500
Supplier C	5	900

Q6. Demand for fasteners at W.W. Grainfer is 20,000 boxes per month. The holding cost at Grainfer is 20 percent per year. Each order incurs a fixed cost of \$ (10k+400). The supplier offers an all unit discounting price scheme with a price of \$5 per box for orders under 30000 and a price of \$4.90 for all orders of 30000 or more. How many orders should Grainfer order per replenishment? (8 marks)

(Take the value of k as the last digit of your enrollment number. For example, if your enrollment number is 202310118, take the value of k as 8 and thus the fixed cost is \$(80+400) = \$480)

Q7. Ziva is a collection of luxury silver ornaments. It has low demand, high product value and quick desired response. It also knows that the customers are willing to put up effort to buy the product. What delivery network should be used based on the product characteristics? Describe the cost and the service-based factors of the chosen delivery network. Use the table provided below for your reference. (8 marks)





## DELHI SCHOOL OF BUSINESS

By Vivekananda Institute of Professional Studies - TC

	Retail Storage with Customer Pickup	Manufacturer storage with direct shipping	Manufacturer storage with in-transit merge	Distributor storage with carrier delivery	Distributor storage with Last-Mile delivery	Distributor storage with customer pick-up
High-demand product	+2	-2	-1	0	+1	-1
Medium-demand product	+1	-1	0	+1	0	0
Low-demand product	-1	+1	0	+1	-1	+1
High product value	-1	+2	+1	+1	0	+2
Quick desired response	+2	-2	-2	-1	+1	-2
High product variety	-1	+2	0	+1	0	+2
High customer effort	+2	-1	-2	-2	-2	+1

Key: +2 = very suitable; +1 = somewhat suitable; 0 = neutral; -1 = somewhat unsuitable; -2 very unsuitable

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