

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2019

Course: Introduction to Supply Chain Management

Semester: III

Program: MBA (All Branches)

Time: 03 Hours

Course code: TMLS 8203

Max. Marks: 100

Instructions: Use of calculator is allowed

	Marks	CO
--	--------------	-----------

SECTION A (Fill in the blanks)

Q 1	<p>a) _____ consists of all parties involved directly or indirectly in fulfilling a customer request.</p> <p>b) SCM involves the management of flow between and among stages in a supply chain to maximize total Supply Chain _____.</p> <p>c) Supply Chain is a loop which starts as well as ends with the _____.</p> <p>d) Supply chain strategy or design decides how to _____ SC over the next several years.</p> <p>e) _____ includes financial as well as non-financial measures.</p> <p>f) All processes involved in replenishing retailer inventories (retailer is now the customer) constitutes _____.</p> <p>g) _____ includes all processes necessary to ensure that materials are available for manufacturing to occur according to schedule.</p> <p>h) Push processes execution are initiated in _____ of customer orders.</p> <p>i) _____ is defined as planning, implementing and controlling the physical flow of materials & finished goods from point of origin to point of use to meet the customer's need at a profit.</p> <p>j) _____ is the maximum load that can be handled by a plant in a given time period in terms of input or output.</p>	2*10 = 20	CO1, CO2, CO3, CO4, CO5
-----	---	------------------	--------------------------------

SECTION B (Write short notes on any four)

Q 2	SC Profitability	5	CO1
Q 3	Qualitative Demand Forecasting	5	CO2
Q 4	Warehousing Functions	5	CO3
Q 5	SRM	5	CO4
Q 6	Green Supply Chain	5	CO5

SECTION-C (Answer any two questions)

Q 7	Define and differentiate Logistics and Supply Chain Management, using diagrams and figures. Give an overview of process views of a Supply Chain.	15	CO1
-----	--	----	-----

Q 8	Use the sales data given below to determine: (a) the least squares trend line and (b) the predicted value for 2020 sales.							15	CO2	
	Year	2013	2014	2015	2016	2017	2018			2019*
	Sales ('000 units)	500	550	610	650	695	760			820

*Estimated on the basis of sales till 31 October 2019

Q 9	Following table shows the details of ten items in a factory. Categorize them into A, B and C categories according to their usage values.		15	CO4	
	Item ID	Unit Price (Rs.)			No. of units/year
	A	5			1,000
	B	10			10
	C	7			5
	D	750			100
	E	5			2,000
	F	1			150
	G	8			1,500
	H	6			10,000
	I	30			20
J	4	9,000			

SECTION-D

Q 10	<p>Read the attached caselet titled as: HOME FURNITURE: Supply Chain Then, answer the following questions</p> <p>(a) What are the key cost components, which differ in both supply chains of DHD? (b) 'DHD success is based on the ability to compete on supply chains.' Elucidate. (c) Identify a popular brand food restaurant business with the scope of efficient and responsive supply chain and explain its supply chain configuration.</p>	10*3= 30	CO1, CO3, CO5
------	--	-------------	---------------------

HOME FURNITURE SUPPLY CHAIN

We are looking at the supply chain of home furniture marketed by Delight Home Depot (DHD) and specifically, simple mica topped dining tables and chairs sold at leading private stores. Typically, timber is procured from local wood forests which may be at a distance of 700 km on an average from an urban centre like Chennai. The wood gets processed and shaped in the manufacturing station. DHD stores and dealers would be selling mass customized tables and sets of chairs, which would be based on standard or what is referred to as popular demand. And then the firm would have a catalogue of multiple variants to suit customer choices: these would be customizable to each customer's preferences and tastes and delivered to promise. The variants are critical for DHD to attract customers and grow in the fragmented industry. Also a customer prefers to buy from such private brands instead of getting a dining table set made to order. This could be prohibitively expensive, and demands enormous effort in pooling and organizing resources.

To understand the differences in responsiveness and efficiency more, one may probe the making of home furniture—the product category here being dining table sets. Generally, the popular version with standard mica top would be shipped to distribution centres and then to stores. The focus of the nodal organization, namely DHD, would be to achieve efficiency in cost so that there is price competitiveness. All its activities from purchase of timber, inbound transportation, yard management of timber stock, purchase of all process materials, including chemicals, to finishing mica sheets, processing timber into dining tables and chairs, to outbound, to distribution centres and stores, and delivery are all cost focused. There would be clearly defined policies and procedures for sourcing material, movement engagement, and conversion costs. Often

delivery cost is always borne by the customer wherein delivery services are organized through stores. While analysing economics of manufacturing and selling popular dining table and set of four chairs, the following data were collected.

Component	In Rs
Material cost	4,000
Transportation at various stages	800
Conversion cost	1,600
Marketing cost	800
Overheads	800
Cost of product	8,000
Margin	2,000
Market price	10,000

DHD works for target cost and plays around margins to give price attractiveness in this popular version as the product volume is critical. Any deviation from target costs in any of the heads would lead the economics astray. For example, if a customer who is far away from store or distribution centre wants to buy a popular version, DHD would find it difficult to serve the customer as the outbound transportation cost would go up, which would cut on price advantage. Hence, the market for such a product exists within fairly rigid physical boundaries, as not only transportation but also post-sale service overheads get affected by distance, even if it is for one time. Hence, such a supply chain is driven by cost efficiency rather than responsiveness.

On the other hand, one may look at the responsive supply chain in the DHD market for dining sets. This product category would also include items in a catalogue. Ideally, customers look at these promotion materials and arrive at a demand. The product is either assembled at distribution centres or finished in special batches at conversion units and

delivered to customers. Thus, it differs from the cost-efficient supply chain of the popular version. The following data as of August 2008 gives an understanding of the market:

Component	In Rs
Material cost	4,000
Design offering	2,400
Transportation at various stages	1,200
Conversion cost	1,600
Marketing cost	1,600
Overheads	1,200
Cost of product	12,000
Margin	4,000
Market price	16,000

It may be observed that costs are higher except for material and conversion. There is a new head of cost called 'design offering' which includes the creativity of designs and the making of promotions pieces and material. The responsiveness of supply chain of such pieces is limited to defined creativity, hence DHD can create a price band which works out for the customer. Also since this kind of product category can be easily engineered and adopted by competi-

tion, even such markets are fragmented. One main advantage in competition here is that DHD gives customers a choice and there are a group of customers who would be willing to exercise such options.

In a standardized market like this where there are national and international brands selling variants, private brands like DHD can be competitive only if they combine efficiency and responsiveness in the supply chain. It may be observed that the popular category where the margins are less compared to the customized product segment will have larger share of volume of business. In such situations, the ability of DHD to be creative in the customized product segment and improve on margin would be key to success. Unless DHD provides reasonable variants for customer choice, and at the same time, price variants are affordable, the strategy would not work. In such a market, it is the production economics of private brands, including the location of conversion, distribution centre and store facilities, and marketing capability in convincing customers of variants that are important. There is scope for DHD to apply cost principles such as activity-based costing in order to improve business efficiencies.