

Name:
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UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

Online End Semester Examination – Dec, 2020

Program: BBA (Logistics Management)
Subject/Course: Logistics in Manufacturing Sector
Course Code: LSCM 2011

Semester: III
Max. Marks: 100
Duration: 03 Hours

SECTION A

- 1. Each Question will carry 5 Marks**
- 2. Instruction: Complete the statement / Select the correct answer(s)**

Q.No		COs
1	Select all the correct options; a. Job Shop - High volume and low variety b. Batch - Moderate volume and very high variety c. Repetitive - High volume and low variety d. Continuous - Very high volume and very low variety	CO 1
2	Six factory manufacturing outputs are _____, _____, _____, _____, _____ and _____.	CO 1
3	The six manufacturing levers or subsystems of a production systems are _____, _____, _____, _____, _____ and _____.	CO 2
4	Select all the correct statements; a. The objective of lean logistics strategy is to make the operations efficient. b. The objective of agile logistics strategy is make operations flexible to meet demand. c. For lean logistics strategy performance is measured by the service level. d. For agile logistics strategy performance is measured by the lead time and service level.	CO 3
5	Four main type of intermediaries in a distribution channel are _____, _____, _____ and _____.	CO 4
6	A warehouse activity profile is made up primarily of an order activity profile and an item activity profile. The order activity profile includes _____, _____, _____, and _____.	CO 3

SECTION B

- 1. Each Question will carry 10 Marks**
- 2. Instruction: Write short / brief notes**

7	Discuss the evolution of Indian manufacturing sector.	CO 4
8	Explain what do you understand by production system, various types of production systems and the advantages and disadvantages of these types of production systems.	CO 2
9	Describe about the various components of outbound logistics.	CO 2

10	ABC Ltd. is engaged in sale of footballs. Its cost per order is \$400 and its carrying cost per unit per annum is \$10. The annual demand for the company's product is 20,000 units. Calculate the economic order quantity i.e. the optimal order size, total orders required during a year, total carrying cost and total ordering cost for the year.	CO 3
11	Discuss about warehouse activity profiling.	CO 1
SECTION C 1. Each Question will carry 20 Marks 2. Instruction: Write long answer.		
12	<p>Consumer products giant P&G has its share of supply chain scope. In 2012 the company realised \$84 billion in sales and 25 of its brands generated \$1 billion or more revenue. In order to realise this revenue, the company procures inputs worth over \$51 billion from over 75,000 suppliers, operates 140 plants around the world and over 250 shipping locations, and transports products for over 1.5 billion kilometres per year to reach 4.6 billion consumers daily.</p> <p>Needless to say, this scale and scope of the supply chain does not come without risks, and supply chain disruptions can happen anywhere, any time. For example, in the last week of September 2012, an explosion at a Japanese chemical plant threatened to cause a global nappy shortage. The plant in the coastal city of Himeji, operated by Nippon Shokubai Co., is one of the world's largest producers of acrylic acid, a primary ingredient used in disposable nappies. Powerful blasts rocked the facility as firefighters tried to control a blaze at one of the tanks containing the chemical. One firefighter died and 34 employees and first responders were injured in the blast.</p> <p>Acrylic acid is a key component of superabsorbent polymers, or SAP, which absorb large amounts of liquid. Nippon Shokubai makes roughly 20 per cent of the world's SAP and maintains a 10 per cent global market share of acrylic acid. The plant had been ramping up production to meet increasing global demand, especially from China, according to Japanese media reports. Prior to the accident, the plant manufactured 460,000 tonnes of acrylic acid annually and P&G relied on Nippon Shokubai Co. for products sold in Asia.</p> <p>In the face of this disaster, P&G supply chain teams had to move quickly and consider their options. There were two alternative suppliers, but these did not have sufficient idle capacity to compensate for the productivity lost from the Nippon Shokubai plant. Supply chain leadership connected to Nippon Shokubai immediately offered its assistance. The company's Chief Procurement Officer flew to Japan to work with the P&G crisis team to consider options and solutions. As an emergency response, a Nippon Shokubai plant in the USA, which previously had been shut down, was restarted with P&G assistance and shipments were rerouted. Adjustments were required to the supply chain plan, including the delay of some new product introductions. But, in the end, zero shipments to customers were missed and no nappy scarcity was experienced at the retail level, whilst relationships between P&G and Nippon Shokubai improved and strengthened.</p> <p>12 (a) What are the key lessons from this case for dealing effectively with disruptions to the supply chain?</p>	CO 4

OR

- 12 (b)** i) Explain the quantity discount models in inventory management.
- ii) Company ABC uses 500 units of product X in a year. Product X are priced as follows: 1 to 99, \$36 each; 100 to 199, \$32 each; 200 to 399, \$ 30 each; and 400 or more, \$28 each. It costs approximately \$30 to prepare an order and receive it, and carrying costs are 20 % of purchase price per unit on an annual basis. Determine the optimal order quantity and the total annual cost.

ANSWERS