



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management

June 2013

Graduate Diploma in Materials Management

PAPER No. 11

LOGISTICS & SUPPLY CHAIN MANAGEMENT

Date : 14.06.2013

Max. Marks :100

Time : 10.00 a.m. to 1.00 p.m.

Duration : 3 Hrs.

Instructions

1. **PART A** is compulsory. Answer all questions. Total marks = 32
  2. From **PART B**, answer any three questions. Each question carries 16 marks . Total marks = 48
  3. **PART C** is **Case Study** and is compulsory. Answer the questions reflecting through understanding of the case. Total marks = 20
  4. Please read instructions on the answer sheet carefully.
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**PART A**

**Q1. State TRUE or FALSE - 1 Mark each (8 Marks)**

1. Minimization of travel distance is one of the factors in the design of storage systems
2. Under JIT concept small quantities have to be delivered more frequently
3. Transportation is an independent activity and is not part of supply chain
4. Containers are the best way of storage for temporary storage of material
5. The purpose of value chain mapping is to increase the value at each step
6. E-market place helps the buyers to buy and sell all round the year (24 X 7 X 365)
7. Route planning is essential for transportation of perishable products
8. Outbound logistics addresses the transportation on goods from vendors

**Q2. Fill in the Blanks - 1 Mark each (8 Marks)**

1. In the incoterm FOB \_\_\_\_\_ pays the loading charges
2. Packing is essential to \_\_\_\_\_ the handling / storage of materials
3. One of the main factors in the design of warehouse is the \_\_\_\_\_
4. The distribution channel helps in creating \_\_\_\_\_ utilities of the product
5. In the supply chain \_\_\_\_\_ flows in the opposite direction to material flow
6. Packing must be \_\_\_\_\_ to prevent losses and reduce transportation cost
7. \_\_\_\_\_ ensures cost savings on freight
8. A \_\_\_\_\_ is constructed by bringing together a number of individual items

**Q3. A. Expand the following abbreviations (1/2 mark each) - 4 Marks**

1. FCA    2. RFID    3. HAWB    4. ASRS    5. UPC    6. 3PL    7. MAWB    8. OBL

**B. Write in brief on any 2 of the following - (2 marks each) - 4 marks**

1. What is a value added service?
2. Define what we mean by warehousing
3. Name the methods available for automatic identification
4. Name the various types of inventory carried by industries

**Q4. Match the following in column A with those in column B - 1 Mark each (8 Marks)**

<b>Column A</b>	<b>Column B</b>
1. Storage system facilitates	A. Reduction in paper work
2. Bar codes eliminates	B. Eliminates in between storage
3. Transportation through air	C. Reduces lead time on supplier
4. Reverse logistics provides	D. Non-value adding activity
5. Cross docking activity	E. Quick and easy access to goods
6. Packing makes it easier	F. Excise duty not paid
7. Material movement	G. In material handling
8. Bonded warehouse	H. For the return of defectives

**PART - B**

**Write any three (3) of the following questions – 16 marks each (48 Marks)**

Q5. Write briefly on the six objectives of logistics management.

Q6. What are the principles of material handling? Write briefly on each.

Q7. What are design considerations for packaging? Write briefly on each of them.

Q8. Write briefly on the characteristics required of an information system in logistics management.

Q9. Define reverse logistics. Bring out the challenges in reverse logistics

## **PART – C**

**20 marks**

M/s Alfa One Ltd., Vishakapatnam

“Nothing seems to be moving in the right direction in this Company,” grumbled Mr Jhunjunwalla, the CMD of M/s Alfa One Ltd., Vizag. He continued, “You perhaps have no idea that my reputation is at stake and one wrong move, I will be in deep trouble! This will certainly affect my own survival in this Organization!!”

Mr. Pinto, the Supply Chain Head had no answer! He himself did not know how to come out of the troubled waters, especially when he had realized that his Supplier really could not be blamed for the whole mess!!!

### **The Company**

Today, M/s Alpha One Ltd., is a well established Company in the Country. Way back in 1957, this was started as a small organization for producing implements & equipments required by engineering companies. To begin with, the Company had introduced small products and assemblies. These were initially available in small capacities.

Somewhere in 70s, the Company became quite popular among all its Customers mainly due to its focus on quality and commitment to good service. Alfa One never compromised on quality, though their products were a bit costly. The Company introduced many innovative Products and Products of higher capacities. The sales and reputation of Alfa One grew steadily. Amidst all this, the Company had a major constraint and that was the import of the right quality Fuel Injector Pumps at the right cost.

Mr Jhunjunwalla had taken over as the CMD of the Organization in 1998 and ever since that time, the Company’s performance had been soaring. The turnover had quadrupled within 3 years and this was considered to be a tremendous feat in the Industry. The Company had boomed into a reputed manufacturer of quality machines, equipment and commercial/industrial vehicles. In spite of all this achievement, the Company had a nagging problem of shortage of Fuel Injector Pumps.

### **The Background**

In the year 2002, the Company received an order for the supply of commercial/industrial vehicles to Russia and the lead time given was very tight. An immediate action was essential to arrange the Injector Pump in time, especially because only 18 months were available for production of the vehicles. The Supply Chain Department had immediately swung into action and as per the practice, had floated a Global Tender. Eight Suppliers world-wide had responded to this Tender, quoting three months’ delivery period, after the

opening of the Letter of Credit (LC). An analysis of the Bids showed that a German Firm was the cheapest and most ideal. This was because there was a Freight Forwarder who had a ship sailing from German Port once a month and that touched Vizag where Alfa One was located. The ship always left in the first week every month and was in Vizag in the third week of the following month. This had made the transport costs the lowest. Other suppliers either had to ship the consignments to Kolkata or transport their supplies to the Port from where a direct ship was available to Vizag. Either of these two alternatives made the ultimate supplies costlier. Further, transshipment would also possibly result in damages and delays in transit. Alfa One had sought quotations for free delivery at Vizag Port so as to be able to compare the different quotations on a like-to-like basis. Mr Pinto selected the German Company for supplying the Fuel Injector Pumps.

### **The Problem**

The Almighty, however, was not kind to Mr Pinto in more than one way! Alfa One had got the Inquiry from the Russian firm for supply of 225 assorted vehicles, with very favourable terms, but was demanding that the supplies be completed by 26<sup>th</sup> December 2002. A quick calculation showed that this would be possible only if the production was taken on war footing by 15<sup>th</sup> September, the latest. Mr Pinto said to himself, "This means that the imported Pumps must reach the Factory by 1<sup>st</sup> September 2002". An e-mail was sent to the German Supplier seeking confirmation of loading consignment into the ship leaving Germany in July 2002 and thus, reaching Vizag by the third week of August. The Supplier confirmed that this would require a very tight schedule but at the same time hoped that they may be able to achieve it provided the LC was opened within seven days of the receipt of their mail.

Mr Pinto and his team lived a most hectic week that followed. An LC was opened favouring the German Company. The Supplier was informed about this and was also advised that a repeat order is likely to be placed if this order was executed in time. The delivery schedule was confirmed to the Russian Buyer, with a request for a firm order along with 20% advance payment. The Russian order along with the advance payment and confirmation from the German Firm came within days of each other. The Supply Chain Department and the Management of Alfa One were in high spirit during the weeks that followed!!

Their dreams, however, were shattered in the last week of June when a fax was received from Germany. The German Supplier informed that due to unforeseen circumstances (perhaps weather), the departure of the ship had been advanced by one week and regretted that there was no way to manufacture all the Pumps and make the consignment ready for shipment by that time. They wanted to know whether the Pumps can be sent by the next ship that would reach Vizag by 3<sup>rd</sup> week of September 2002. They also wanted to know whether they can ship the consignment by a Vessel that was expected to reach Kolkata Port sometime between 18<sup>th</sup> & 21<sup>st</sup> August. The Germany Company, at the same time, was not keen on bearing the transportation cost between Kolkata and Vizag, since the Purchase Order had called for delivery at Vizag Port.

Questions:

1. What in your opinion, should be the response of Alfa one to this crisis?
2. What action the supply chain department must take in the future to avoid such occurrences?
3. Should the company take delivery of the material at Kolkata port? In what way will this be advantageous for the company
4. What are the possible long term options for the company with respect to fuel pumps
5. Comment on the method of selection of vendor for the supply of the fuel injector pumps