



## EXAMINER'S REPORT

MAY 2007

### LOGISTICS MANAGEMENT

#### **General Comments**

The results this May were much better than last few years with almost 60% passing, although there were very few "As" and "Bs". The case and theory questions scored better marks while the quantitative questions were not done well however the questions were easy.

The way this module and exam is structured requires one to really get into the theory, the techniques and how to apply the ideas in practice. This follows a learning cycle. Ideally students should look at the cases early on to get an idea of the types of problems which occur. These are mixtures of marketing, logistics, strategy and management issues.

#### **Theory Questions & Case Study**

The case questions are geared at bringing one through a process of analysis, evaluation, diagnosis and prognosis. Most students tried all parts of the case section, and attempted all the sections. Consequently there were fewer than ever failures due to not attempting one or more sections. Many students did no quantitative evaluation in the case, which was regrettable. The examiner expected most students to be better prepared for the case as it was previously asked. The case is worth 40%, simply equivalent to two questions, which is justifiable to invest more time preparing and studying before the final exam.

For theory questions, try to be specific when discussing any topic and highlight the key issues. For example; in building customer relationships; the key issues will include:

- Importance of Customer retention
- Defining customer service
- Customer Management

There is no need to mention your company name in the context as an example rather than say retail or electronic business or company.

**Quantitative Questions**

Before going into specifics, I would like to emphasize that there is no need to do rough work first then write your answer out neatly. Save your time and do the work in the same sheet as you answer away.

**Question 4** (EOQ) was simple question however not many score highly in it. The following is a summary of the solution:

- Demand = 6 per day = 2190 per annum (6 x 365 days)
- Cost per order = €400
- Storage cost = €0.2 = €73 per annum (€0.2 x 365 days)
- Lead time = 7 days
- Purchase cost = €40 for < 500 at a time; €32 for > 500 at a time

$$EOQ = \sqrt{\frac{2 \cdot \text{€}400 \cdot 2190}{\text{€}73}} = 155$$

$$\text{orders per annum} = \frac{2190}{155} = 14$$

	<i>EOQ</i>	<i>500</i>
Order Quantity	155	500
<b>Ordering Cost</b>  No. of orders p.a. X Cost of ordering	14 x €400 €5600	4.4 x €400 €1,760
<b>Holding Cost</b>  (order quantity/2) X Unit holding cost	155/2 x €73 €5,657	500/2 x €73 €18250
<b>Purchasing Cost</b>  Demand X Unit price	2190 x €40 €87,600	2190 x €32 €70,080
Total Cost	€98,857	€90,090

Order Quantity : The hospital should place an order for **500 units**  
Time : **Every 83 days** (i.e. 365 days / 4.4 orders placed per annum)  
Re-Order Level: The order needs to be placed when 7 days demand still remains in stock,  
i.e. 42 units (7 days x 6 units demanded per day)

**Question 5** in Section contained a very easy formulation problem and unexpectedly not many even tried to solve it. The solution is not more than few lines and it is worth 20%.

Section D has two questions, the first was graphical solution. The linear programming was badly done. This is an important topic and is likely to continue appear on exams. The problem started with misreading the problem. Some students didn't distinguish between the objective function and the constraints before they solve it graphically.

The following is the formulation solution of the problem:

Objective: Minimise  $z = 80x + 60y$

Subject to:  $0.2x + 0.32y \leq 0.25$

$$x + y = 1$$

$$x \geq 0$$

$$y \geq 0$$

and the graphical solution will show that the solution is  $x=7/12$  and  $y=5/12$ .