Graduateship in Marketing - Stage 4

LOGISTICS MANAGEMENT

THURSDAY, MAY 21, 2009. TIME: 9.30 am - 12.30 pm

Please answer the question in Section A, and **ONE** question from each of Sections B, C and D.

(If more than the specified number of questions in Sections B, C and D are attempted, delete those questions you do not wish to have marked. Otherwise the examiner will mark the **FIRST** question in Sections B, C and D.)

Section A carries **40%** of the marks. All other questions carry equal marks.

Do NOT repeat questions in the answers, but show clearly the number of the question attempted on the appropriate page of the Answer Book.

(Note: Marks are awarded for the relevant use of contemporary Irish and/or international examples of marketing practice)

SECTION A (40%)

1.   **Case: Dell's Supply Chain Management Practices**

   (a)   Dell has pioneered a unique direct model of selling PCs by-passing the conventional model of selling them through the reseller channel. Explain how the direct model helped Dell to manage its supply chain efficiently.

   (b)   Examine the reasons that led Dell to lose its position as the No.1 PC manufacturer in the world. To what extent do you think that supply chain related issues were responsible for this debacle? Give reasons to justify your answer.

   (c)   Critically evaluate Dell's decision to enter into the retail business. Comment on the benefits and drawbacks of this strategic decision. What challenges would the company face in this segment? Explain.

SECTION B (20%)

2.   *"The whole issue of customer value is inevitably linked to price".*
      Martin Christopher 2003.
      Discuss the components of value and how to link customer value to supply chain strategy.

3.   Explain the three key components of customer service.   **P.T.O.**

4. Precision Tools Inc. sells pistons to Best Motor Co. as per the following price list:

Order Quantity	Price per unit €
1 – 299	2.50
300 – 619	2.30
620 +	2.00

The annual demand is estimated to be 15,000 pistons per year. The carrying costs are 25% of the unit price and the ordering costs are €6.5. Assume instantaneous delivery. Find:
(a) Economic order quantity
(b) Optimum total cost
(c) Time between orders

5. A caterer must prepare from five fruit drinks in stock 500 gallons of a punch containing at least 20 percent orange juice, 10 percent grapefruit juice, and 5 percent cranberry juice. If inventory data are as shown below, how much of each fruit drink should the caterer use to obtain the required composition at minimum total cost?

	Orange Juice %	Grapefruit Juice %	Cranberry Juice %	Supply gallon	Cost €/gallon
Drink A	40	40	0	200	1.5
Drink B	5	10	20	400	0.75
Drink C	100	0	0	100	2.00
Drink D	0	100	0	50	1.75
Drink E	0	0	0	800	0.25

Formulate a linear programme for this problem. Do not solve it.

SECTION D (20%)

6. A service manager has five customer service operatives on the road and accessible by mobile phone. He has just received requests for immediate service from five customers. Generally, each operative is likely to spend the same amount of time with each customer. Consequently, he decides whom he should allocate to each job on the basis of the estimated travel time to the location. He can calculate this using routing software and satellite-assisted positioning of the location of his operatives. The times for getting each operative to each job are estimated in minutes as follows:

Job	Aodh	Blanaid	Colm	Donal	Eoin
1	6	14	20	9	17
2	25	18	22	11	14
3	12	22	11	14	6
4	14	8	13	17	9
5	17	14	10	12	15

(a) Use an assignment algorithm to find the match of service operatives that minimises the total time to the five customers.

(b) Just after doing the allocation, news arrives from Eoin that his car will not start. Redo the assignment to see should he re-allocate the jobs for the four remaining operatives

7. A firm of wholesale domestic equipment suppliers, with 3 warehouses, received orders for a total of 100 deep freezers from 4 retail shops. In total in the 3 warehouses there are 110 freezers available and the management wish to minimise transport costs by despatching the freezers required from the appropriate warehouses. Details of availabilities, requirements, and transport costs are given in the following table:

		Required			
		Shop A	**Shop B**	**Shop C**	**Shop D**
	Freezers	25	25	42	8
Available Warehouse I	40	€3	€16	€9	€2
Warehouse II	20	€1	€9	€3	€8
Warehouse III	50	€4	€5	€2	€5

(a) Use a transportation algorithm to find a minimum cost plan for meeting the rationalization requirement by transfers between sources.

(b) State at which source there will be surplus freezers.

(c) State the reasons whether or not your solution is optimum.