

OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY.

SUMMER EXAMINATIONS

1998/1999

B.COMM. DEGREE

BUSINESS LOGISTICS

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Instructions: Time allowed: 2 hours
Answer 3 Questions

Q 1

- a) Why are logistics managers concerned about distribution channels? Is their interest different from that of marketing managers? If so, explain the difference. (50%)
- b) University of Ireland is considering the constructions of a new student centre and sports complex that will include a bookstore, post office, theatres, market, mini-supermarket, meetings rooms, swimming pool, and weight and exercise rooms. The university administration has hired a site selection specialist to identify the best potential sites on campus for the new facility. The site selection specialist has identified four sites on campus and has rated the important location factors for each site as follows:

Location Factors	Weight	South	West A	West B	East
Proximity to housing	0.27	70	90	65	85
Student traffic	0.22	75	80	60	85
Parking Availability	0.16	90	60	80	70
Plot size, terrain	0.12	80	70	90	75
Infrastructure	0.10	50	60	40	60
Off-campus accessibility	0.06	90	70	70	70
Proximity to dining facilities	0.05	60	80	70	90
Visitor traffic	0.04	70	80	65	55
Landscape/aesthetics	0.02	50	40	60	70

Recommend a site on these location factors and ratings. (50%)

Q 2

Global Logistics is an ever-increasing challenge for organisations, identify and discuss five areas within Logistics whereby you could strive to become competitive. (100%)

Q 3

- i) Information Systems are a powerful tool for managing, controlling and achieving customer service, Discuss the relevance of a Logistics Information System for increasing customer service levels. (60%)
- ii) Differentiate between a push and a pull Logistics system (10%)
- iii) How are suppliers affected by JIT (10%)
- iv) Suggest several ways that JIT requirements can be made easier for suppliers (10%)
- v) What are three typical benefits from implementing JIT (10%)

Q 4

- a) In a continuous, or fixed-order-quantity, system when inventory reaches a specific level, referred to as the reorder point, a fixed amount is ordered. The most widely used and traditional means for determining how much to order in a continuous system is the economic order quantity (EOQ) model. Identify a product of your choice and explain the usefulness of the basic EOQ model for your chosen product. (Hint, match the assumptions for the basic EOQ model with an appropriate product) (50%)

- b) A supplier offers the following quantity discounts:

Quantity	Price Per Unit
0 – 99	£100
100 – 149	£ 90
150 – 299	£ 85
300 -	£ 80

Ordering cost (set up cost) is £200 per order and holding cost per unit per annum is £5 per unit. Determine the optimal order quantity if annual demand is 180 units.

(50 %)

Q 5

- a) In order to effectively plan and control materials handling, the logistics manager should recognise some guidelines and principles. Discuss five of these guidelines/principles. (50%)
- b) Use the following sales data to demonstrate your understanding of the following terms as used in business forecasting:

	<i>Sales</i>
January	1700
February	1680
March	1840
April	1690
May	1740
June	1670
July	1640

- i) Three period moving average. (10%)
- ii) Five period weighted moving average – with weights as follows .1, .2, .2, .2, .3 (the .1 weight refers to the most distant period). (10%)
- iii) Simple exponential smoothing with $\alpha = 0.4$ (10%)

Contd....

- iv) Two forecasting models gave the following results:

Model 1

Mean Absolute Deviation (MAD)	120
Mean Square Error (MSE)	20,746.2

Model 2

Mean Absolute Deviation (MAD)	130
Mean Square Error (MSE)	19,471.3

What does this information suggest? (10%)

- v) Clearly explain the differences between qualitative and quantitative approaches to business forecasting. (10%)