

CHALMERS

Exam of Management of Physical Distribution, ITR585

Date:	17 March 2018
Time:	Afternoon
Location:	SB
Allowed aids:	Chalmers calculator, English – Swedish (or any other language) dictionary.
Presentation:	Do not answer more than one question on each page.
Credits:	6 main questions with a total of 62 points.
Review of results:	Check homepage for information
Examiner:	Dan Andersson (772 1339)

All the answers should be in English

Read each question carefully before answering

Just one answer on each page!

Question 1. Purchasing of distribution services 10 points

- a) What is the role of a “Request for Quotation” (RFQ) in the interaction between a shipper and a provider of distribution services? (2p)
- b) What can a transport purchaser do in order to minimise the environmental impact from purchased distribution services? (4p)
- c) Defining the service is often the most difficult and important step in the process when purchasing third-party logistics services including part of/or an entire distribution system. Explain different approaches to use when defining the distribution service that should be purchased and explain what a shipper should be aware of when defining a distribution service. (4p)

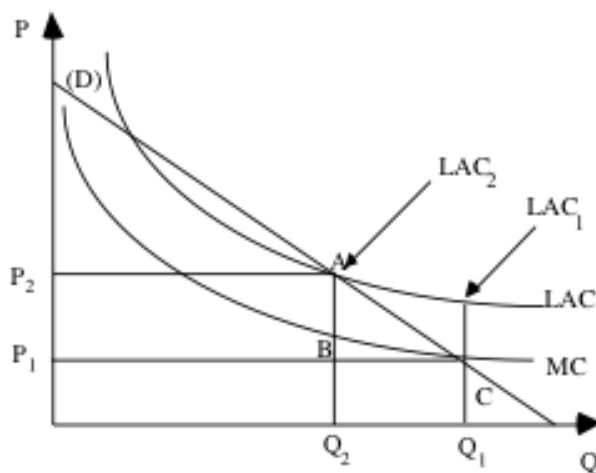
Question 2. Urban freight transport 8 points

- a) Explain what are the main obstacles impeding more urban deliveries from taking place during off hours? (4p)
- b) Describe how authorities in a municipality can influence (and not only by imposing restrictions) goods vehicle operations to increase the sustainability of urban distribution (4p)

Question 3.

Pricing and resource utilisation 13 points

- a. Why it is considered natural to recommend public companies to use a marginal cost pricing for transport services and why this method may not be suitable for private companies. (2p)
- b) In the figure below a situation with increasing economies of scale is illustrated, where both Q_1 or Q_2 can be considered as the optimal capacity. Motivate why Q_1 or Q_2 should be selected as the optimal capacity and explain what the effect will be if the capacity is set to either of them. (4p)



- c) The haulage company GP Transport AB provides a distribution service, which is priced at 140 SEK/shipment. When the company is providing their customers with 20 000 shipments/week this price covers the total costs without generating a profit. Since the company must generate a profit it has to change the price or reduce the cost. The traffic manager suggests that in order to make a profit the company should increase the price to 150 SEK/shipment. However, the marketing manager argues that this will not maximise the revenues and instead she suggests market segmentation and the use of two different prices. One group of customers should be offered a price of 180 SEK/shipment (A-class) and the other a price of 80 SEK/shipment (B-class). In an analysis of their how the demand would vary with the price it was concluded that if the price was to be set to the marginal cost of 40 SEK the demand is expected to become 40 000/shipments a week (if a linear demand is assumed).
Should the company implement any of the suggested price changes? Which solution is the best? (4p)
- d) What is the price policy that the marketing manager wanted to implement called and what is required in order for the company to implement it? (3p)

Question 4. Evaluation and distribution and cost 10 points

- a) Explain how a shipper in a structured way can evaluate different aspects of the load capacity utilisation (load factor). (3p)
- b) When evaluating an optimal size of the vehicles/vessels to be used for transporting consolidated goods and number of different costs needs to be considered. Explain what different costs a shipper (transport buyer) and haulier (transport company) takes into consideration and what potential differences in the preferred vehicle/vessel size this result in. (4p)
- c) It is often argued that distribution costs are influenced by economies of scale, but is this always true? How can you determine if there might be economies of scale in a distribution system, reasons for economies of scale. (3p)

Question 5. IT 8 points

- a) Describe and discuss the main benefits a shipper and a transport service provider get from an implementation of Smart Transportation Management (STM) in a distribution system (6p)
- b) It has been argued that the implementation of traceability in the food industry is facilitated by some well-established principles. Describe two important principles (guidelines) when implementing electronic chain traceability in a food supply chain. (2p)

Question 6. Shippers' distribution structures and different roles in distribution 13 points

- a) Explain the logic behind the following question, i.e. why is it relevant to ask the question and then you should also answer the question. Why is the production of services in a distribution system kept in-house if it is subject to economies of scale?(4p)
- b) Why and when should a company use the concept merge-in-transit? (4p)
- c) What are the main potential problems a company may suffer from after outsourcing its distribution system? (2p)
- d) Explain the relationship with the degree of centralisation of a distribution system and the transport cost. (3p)