LITERATURE TEST

Production flow management (TEK605)

Saturday, 19 January 2019, 08:30-12:30

_____

Pen, eraser and English - Any language dictionary allowed.

Please write maximum 300 words per question   (i.e. for question 1a+1b+1c = 300 words)

Maximum result is 50 points.

30 points are needed for grade 4.

40 points are needed for grade 5.

You must answer in English.

Examiner: Lars Medbo

Teacher (questions):   Lars Medbo, 070 30 88 347

GOOD LUCK!

Maximum 300 words (1800 characters) per question

Question 1 (9 points)

Looking at in-plant material supply to an assembly line:

a) What does the just-in-time supermarket concept mean? What are typical reasons for implementing this concept? What are typical drawbacks of using this concept?

b) What are the most important decisions to make when designing and implementing a just-in-time supermarket concept?

c) How is kitting related to the just-in-time supermarket concept?

Question 2 (12 points) Maximum 500 words are allowed for this question

In the course we have discussed performance of production flows and practised different design alternatives at the Production flow workshop.

a) At the workshop (and lectures) we discussed and studied efficiency from two different perspectives. What were the two efficiency perspectives? Please explain what these efficiency perspectives mean, in what way is efficiency affected?

b) At the workshop we played four different rounds and tested different arrangements to improve the performance of the production flow: (1) origin, (2) kitting, (3) buffer, (4) modules (sub-assembly). Explain how the performance of the production flow, concerning the two efficiency perspectives, was affected by these arrangements? Observe that you should discuss all four rounds.

Question 3 (8 points)

What benefits and drawbacks are there with the two principles of order picking systems, picker-to-parts and parts-to-picker? Please relate to different situations (context, preconditions) and design alternatives of the two types of principles.

Maximum 300 words (1800 characters) per question

Question 4 (9 points)

In the course we have discussed design and performance of material supply systems in supply chains. We attempted to use the Material Flow Mapping method to describe, evaluate and develop supply chains.

a) What contextual conditions do you think has the most impact on the choice of design of a material supply system in a supply chain? Explain why and in what way the contextual conditions impact the choice. (Note: with "contextual conditions" we mean preconditions that you will have to act in relation to when you design and operate a materials supply system)

b) In what way does the context and the design affect the performance of a material supply systems in supply chains?

c) In what way will the context affect what is the most appropriate measurements to assess the performance of a material supply systems in supply chains?

Question 5 (6 points)

a) Choose two (2) types of picking information systems (including a method for presenting information and a method for confirmation of activities) to apply in warehouse order picking and describe them briefly.

b) Describe one (1) favorable and one (1) unfavorable context (e.g. product characteristics, number of items in the warehouse, type of business etc.) for each of the two (2) systems. The answer should include reflections about how applying the two (2) systems could impact the quality, productivity, and ergonomics of the order picking activities in the warehouse.

Question 6 (6 points)

Warehouse management and automatic identification
Warehouse management are heavily depending on information systems and information technologies for efficient operations.
a. Describe what core operations of warehouse operations a typical "Warehouse management systems" support.
b. Furthermore, automatic identification can have great impacts on processes linked to these core operations. Describe how automatic identification can be applied to support these operations and what operational benefits can be expected.

Maximum 300 words (1800 characters) per question
THE END !