

<b>Tentin päivämäärä / Date of exam: 4.4.2013</b>
<b>The code and the name of the course and number of the exam:</b> 721172P Management Accounting
<b>Examiner(s): Janne Järvinen</b>
<b>The devices allowed in the exam:</b> <input checked="" type="checkbox"/> Calculator (not graphic, programmable) <input type="checkbox"/> Dictionary <input type="checkbox"/> Other material, specified below
<b>Please answer the questions</b> in Finnish <input checked="" type="checkbox"/> in English
<b>Paper with exam questions must be returned:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

This exam has five questions and a maximum of 30 points.

In the first question there is only one correct answer (out of four) per subquestion. The correct answer yields one point, a wrong answer -0.5 points, and no answer 0 points. The minimum number of points from the entire question 1 is zero. Please use complete sentences when answering the essay questions 2 and 3 (no bullets, lists etc.). Calculations (questions 4 and 5) should be presented so that it is possible to see clearly how you came up with the answer. However, do not write on this question sheet, but use the exam paper instead.

*Good luck with the test!*

1) This is a multiple choice question where you should pick (the most) correct answer (answers on the exam sheet, not this paper).

#### 1.1 Cost-Volume-Profit analysis

- a) Requires overhead costs to be allocated accurately.
- b) Assumes linear cost behaviour within the relevant range.
- c) Is more suitable for use in the manufacturing industry than in merchandising.
- d) Is recommended as a tool for long run profitability analyses.

#### 1.2 Regarding the differences between job-order costing and process costing:

- a) Many cost items that are regarded as indirect in job-order costing are treated as direct costs in process costing.
- b) Generally job-order costing is simpler and less costly to operate than process costing.
- c) Process costing allocates costs to individual products and is therefore used commonly in assembly industries.
- d) Job-order costing allocates costs evenly to products.

### 1.3 Decision making under uncertainty Päättöksenteosta epävarmuuden vallitessa

- a) Maximax criterion means that the decision maker assumes the worst possible outcome to be maximized.
- b) Regret criterion is based on minimizing the difference between the achieved outcome and the best possible outcome.
- c) The before mentioned criteria (maximax and regret) can only be used if it is possible to predict the probabilities of desired outcomes.
- d) Portfolio analysis assumes that under uncertainty each outcome should be valued separately

### 1.4. Relating to cost concepts:

- a) Variable costs exist primarily in the short time horizon.
- b) Sunk costs are not taken into account when preparing investment calculations.
- c) Inventory costs are a typical example of capital costs.
- d) For opportunity costs one can typically find a corresponding expense in financial accounts.
- e) Uponnutta kustannusta ei oteta mukaan investointilaskelmiin.

### 1.5 Regarding joint costs

- a) Joint costs can easily be allocated to product by cause and effect criteria.
- b) Allocating joint costs by sales probably works for inventory valuation purposes, but assumes that the sales value can be determined at split-off point.
- c) Net realizable value (NRV) assumes that the gross margin of final products is the same.
- d) Joint costs are regarded as relevant costs in product discontinuation decisions.

### 1.6 Cost-based pricing

- a) If all prices are set above unit costs, the company is sure to make profits.
- b) Price setter has often a market monopoly.
- c) Cost-based pricing will always require that the company has a cost accounting system that allocates overhead costs.
- d) In the short run pricing situation the relevant cost of accepting an order is the incremental cost of that decision.

## 2) Regarding the evaluation of mutually exclusive investment projects:

- a) Illustrate the basic principles of net present value (NPV) and internal rate of return (IRR). Why is NPV a theoretically superior method?
- b) What is the fundamental difference between the payback method and the net present value method?
- c) How does one handle depreciations of the original investment cost when calculating net present value and internal rate of return?

- 3) Regarding cost centres as a part of traditional two-stage costing:
- Illustrate the allocation procedure when two-stage costing is based on bookkeeping-based historical costs.
  - How does simple allocation differ from the fixed charge method (internal invoicing) in interdepartmental allocations?
  - What are the methods for interdepartmental allocation (in addition to the ones mentioned in b.)?

4)

- A Ltd. uses a predetermined overhead recovery rate based on machine hours. Budgeted factory overhead for a year amounted to €720 000, but actual factory overhead incurred was €738 000. During the year, the company absorbed €714 000 of factory overhead on 119 000 actual machine hours.

What was A Ltd.'s budgeted level of machine hours for the year? (2p)

- S plc produces and sells three products, X, Y and Z. It has contracts to supply products X and Y, which will utilize all of the specific materials that are available to make these two products during the next period. The revenue these contracts will generate and the contribution margins of products X and Y are as follows:

	Product X	Product Y
Revenue	€10 million	€20 million
Contribution margin	15 %	10 %

Product Z has a contribution margin of 25 %.

The total fixed costs of S plc are €5,5 million during the next period and management have budgeted to earn a profit of €1 million.

Calculate the revenue that needs to be generated by Product Z for S plc to achieve the budgeted profit. (4p)

(Calculations must be done so that it is possible to see how the result was reached!)

5) Company X produces three products: A, B and C. The manufacturing is executed with the same machinery and same methods. From the period in question, the following costs have incurred:

Salaries, indirect	500000
Depreciation and interests (machinery)	200000
Property	100000
Indirect materials	50000
Total	850000

Following information has been collected of the 1. stage cost drivers (resource cost drivers):

	ACTIVITY				
	Machining	Settings	Purchasing	Logistics	Total
DLH	4000	2000	1000	3000	10000
MH	10000	7000	0	1000	18000
Area	100	80	50	50	280
Materials reporting	50 %	0 %	0 %	50 %	100 %

The firm has collected from the production period information concerning production volume and direct costs as follows:

Product	Unit	Labor costs per unit	Material costs per unit
A	400	20	50
B	300	80	50
C	100	120	150

The firm has following information concerning the 2. stage cost drivers (activity cost drivers) in the production period:

Product	Number of settings	Number of material purchases	Number of material transfers	Machine hours
A	2	1	3	100
B	8	5	10	4500
C	4	3	1	100

a) Calculate the activity costs (3p)

You can replicate the following table to your answering paper:

	Machining	Settings	Purchasing	Logistics	Total
total					
cost per unit					

- b) Allocate the activity costs for products with activity-based costing (overcapacity is ignored) and then calculate the product costs per unit (3p)

You can replicate the following tables to your answering paper:

Activity	Machining	Settings	Purchasing	Logistics	Total	Indirect cost per unit
driver						
A						
B						
C						
Total						

PRODUCT COSTS	A	B	C
total			

