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5014 Introduction to Management I (WT 2005/06) – Final Exam

Examiners: Prof. Dr. Raith, Prof. Dr. Erichson, Prof. Dr. Chwolka, Prof. Dr. Spengler, Prof. Dr. Burgard, Prof. Inderfurth, Prof. Luhmer, Prof. Dr. Wolff

You have 2 hours to solve this exam and be able to make a maximum of 50 points. There are a few pieces of advice we invite you to consider:

1. Use the theoretical tools and terminology you have learned in class and from the textbook.
2. Make sure there is a clear structure in your argument. (Use some time to sort your ideas before you start writing the version you want to submit.)
3. Use the time you have! If you are ready much earlier than we planned you should wonder if you forgot something.
4. Remember: people have to be able to decipher what you write.
5. Leave a margin for our comments, so we can give you a more detailed feedback than just the number of points.

The following aids can be used: non-programmable calculator

Please solve four (4) and only four (4) of the following six (6) problems (maximum of 12.5 points per problem).

Examination questions:

Question 1: Terminology

Define the following terms. Illustrate your definitions by examples.

a) Substitutes
b) Organizational Architecture
c) Opportunity Costs
d) Accounts Receivable, Accounts Payable
e) Cross-Price Elasticity

Question 2: Forms of Incorporation

Define the term limited liability. Who of the partners in a partnership under the Civil Code, a general commercial partnership, a silent partnership and a limited partnership is unlimitedly liable? What are the criteria for an unlimited liability?

Question 3: Marketing

Part 1. Product Life Cycle (PLC):

a) Explain the concept of Product Life Cycles. What are the different stages to consider?
b) Outline the different strategic aspects of the PLC. What is to consider with respect to the development of the sales and prices.
c) Evaluate the concept critically.

Part 2. Demand function (next page)

Part 2. Question 3:

Company ABC faces the demand for its product that can be described as $Q = 100 - 4P + 0.005\ I$, P is the unit price for the product, and I is the average annual income of the customers. Given the average annual income is 16,000€ and the product currently sold at € 5 per unit, answer the following questions:

a) What is the price elasticity of the company's product? Is the demand elastic for the product?
b) What is the income elasticity of the product? Is it a normal good?

Question 4: Accounting and Operational Financial Plan

Part 1. Accounting

To evaluate and compare the financial situation of companies Financial Ratios are important tools.

I. Define three Financial Ratios. What is the further interpretation of these ratios?
II. The table below provides the information on the financial situation of two companies, the GamePro AG and FunTimes AG. Compare the performance of these companies by applying the relevant Financial Ratios. Which company was the more efficient one?

	GamePro AG	FunTimes AG
Total liabilities	$ 107.076	$ 203.850
Total assets	$ 704.816	$ 750.989
Average total assets	$ 630.851,5	$ 540.220
Sales revenue	$ 864.116	$ 970.354
Net Income	$ 66.180	$ 98.230

Part 2. Operational Financial Plan

a) Finished goods inventory at Jan. 1st, 2005 was: 1000 units, value: $900 ('000s omitted with $ amounts, also in what follows). The cost during the first quarter of 2005 to produce 1500 units were as outlined in table 1:

Material cost	$900
direct labor cost	$400
production overhead	$200

Table 1

Material cost	$1300
direct labor cost	$700
variable production overhead	$175

Table 2

Nothing was sold during the 1st quarter. The production volume of the second quarter amounted to 2450 units, available at the end of the quarter. Table 2 shows the corresponding costs. 2000 units were sold during the second quarter.

Determine

I. the manufacturing cost of goods sold during the second quarter and
II. the value of the inventory per end of the 2nd quarter in total and per unit

using the weighted average method of inventory valuation.

b) Name and explain one of the two major pricing strategies.

(turn to next page)

Name:
Matrikel-Number:

Question 5: Personnel Planning
Six agents (A to F) are working in six different regions (I to VI). Each agent realises a specific turnover in the respective region (see following table).
You are welcome to answer question 5 on this problem sheet. In this case, make sure that you add your name and matrikel-number and submit it for your grading.

a) Assign the agents to the regions in a way that the total turnover (possibly) reaches its maximum. Use the principle "At each place the best employee"!

	I	II	III	IV	V	VI
A	41	50	62	61	58	56
B	69	45	62	53	67	47
C	53	44	67	59	60	53
D	68	63	43	57	62	51
E	57	59	41	65	59	61
F	64	48	52	58	44	64

Calculate the total turnover:

b) Assign the agents to the regions in a way that the total turnover (possibly) reaches its maximum. Use the principle "Each employee at the place, he fits best for"!

	I	II	III	IV	V	VI					
A	41	50	62	61	58	56					
B	69	45	62	53	67	47					
C	53	44	67	59	60	53					
D	68	63	43	57	62	51					
E	57	59	41	65	59	61					
F	64	48	52	58	44	64					

Calculate the total turnover:

c) What does the term Recruiting Potential refer to? Name and explain the main factors that influence the Recruiting Potential.

Question 6: Production and Cost
A production system is given where a product is made out of 3 input materials. As notation we use

Q : product quantity
I_1 : quantity of the first input
I_2 : quantity of the second input
I_3 : quantity of the third input.

The production function can be described by two production processes with fixed input-output coefficients resulting in the following relationships

for process 1 : $I_1 = 5 \cdot Q$, $I_2 = 2 \cdot Q$ and $I_3 = 6 \cdot Q$
for process 2 : $I_1 = 4 \cdot Q$, $I_2 = 3 \cdot Q$ and $I_3 = 5 \cdot Q$

Prices for the input materials are constant amounting to 2 $ per unit for the first, 5 $ per unit for the second, and 1 $ per unit for the third input.

The first input is limited by a maximum amount of 20 units, the second input by 12 units. The availability of the third input is not limited.

(a) Which is the optimal process for producing the first product unit?

(b) What is the maximum product quantity that can be produced and which process or combination of processes should be used to produce the output maximum?

(c) If additional units of the first input, exceeding the limit of 20 units, could be purchased at a higher price of 3 $ per unit, would it make sense to use this procurement opportunity given that the sales price per product unit is constant and equal to 33$? If yes, which quantity of the high-cost first input should additionally be procured for profit maximization?

Good Luck!