

**Examination:** 11066 „Management Accounting”

**Winter Term 2012/13**

**Examiner:** Prof. Dr. Barbara Schöndube-Pirchegger

**Examination questions:** 4 (60 points)

**The following aids can be used:** a calculator in accordance with the instructions given by the Board of Examiners and a dictionary.

Hint: You can use the underlined spaces and tables to enter your solutions in problems 1, 3, and 4. Please provide all other solutions and explanations on the additional paper.

**Problem 1 (10 points): Break-Even-Analysis**

A brewery plans to produce a new beer named „Klein’s Bräu“. The marketing department suggests to sell the beer in “Klein bottles”. The variable production cost of one bottle is \$4. The one-time investment for the new production line is \$500,000. The inventor of the “Klein bottle” Felix Klein receives a royalty fee of \$2 per sold bottle. The advertising campaign of the new beer will cost \$1,000,000. No further costs are relevant.

**Required:**

a) Determine the cost function of the new beer:

$C(x)$ : \_\_\_\_\_ with  $x$  = Quantity of sold bottles of „Klein’s Bräu”

b) Calculate the Break-Even-Quantity of the project for a selling price of \$9 per bottle.

Break-Even-Quantity: \_\_\_\_\_

c) Determine the quantity of sold bottles if the brewery plans to make a profit of \$450,000 and the selling price is \$9 per bottle.

Quantity of bottles sold for a profit of \$450,000: \_\_\_\_\_

**Problem 2 (15 points):**

**Actual costing, normal costing, accounting for manufacturing overhead**

The John Doe company uses a job-costing-system with two direct cost categories (direct materials and direct manufacturing labor) and one manufacturing overhead cost pool. John Doe allocates manufacturing overhead costs using direct manufacturing labor costs. The following information is provided for 2012:

|                                  | <b>Budget for 2012</b> | <b>Actual Results for 2012</b> |
|----------------------------------|------------------------|--------------------------------|
| Direct material costs            | \$275,000              | \$245,000                      |
| Direct manufacturing labor costs | \$475,000              | \$425,000                      |
| Manufacturing overhead costs     | \$1,543,750            | \$1,466,250                    |

**Required:**

- a) Compute the actual and budgeted manufacturing overhead rates for 2012  
b) During October the job-cost record for job LM-427 contained the following information:

Direct materials used: \$25,000

Direct manufacturing labor costs \$40,000

Compute the cost of job LM-427 using 1) actual and 2) normal costing

- c) Compute the under- or overallocated manufacturing overhead under normal costing. Indicate whether there is under- or overallocation.



**Problem 3 (20 points): Overhead variances**

“Glass King” operates a mobile repair service for car windows. The customers phone orders and the service personnel of “Glass King” repair damaged car windows at customer’s homes. Customers are visited by car. “Glass King” operates a fleet of 45 cars. The variable and fixed overhead costs are allocated on the basis of repair hours. The following information relates to January 2013:

| Glass King (January 2013)         | Actual Results | Static Budget |
|-----------------------------------|----------------|---------------|
| Output (number of repairs)        | 6,800          | 7,500         |
| Hours per repair                  | 0.59           |               |
| Total repair hours                |                | 5,625         |
| Variable overhead per repair hour | \$4.75         |               |
| Variable overhead costs           |                | \$22,500      |
| Fixed overhead costs              | \$27,900       | \$25,000      |

**Required: Indicate for each variance if it is favorable (F) or unfavorable (U)**

- Compute the spending and efficiency variance of Glass King’s variable overhead in January 2013.
- Compute the spending variance and production-volume-variance for Glass King’s fixed overhead in January 2013.
- Give three examples for cost management of the overhead at the Glass King company. Explain if your given example refers to variable or fixed overhead and if the perspective is long or short term. (Hint: 3-6 short sentences are sufficient)

**Problem 4 (15 points): Optimal production program**

The Alphabet Company manufactures and sells the products A, B, C and D. The production process requires a raw material „R“, which is limited to **3,500 kg** per month. The **price** for 1 kg of the raw material is **\$2**. The following table contains additional information about the production process and sales conditions per month:

| Produkt                                  | A     | B    | C      | D      |
|--|-------|------|--------|--------|
| Sales price per unit                     | \$100 | \$75 | \$50   | \$30   |
| Max. sales in units per month            | 200   | 500  | 1,400  | 250    |
| Direct manufacturing labor cost per unit | \$38  | \$30 | \$20   | \$15   |
| Required quantity of „R“ per unit        | 4 kg  | 2 kg | 1.5 kg | 2.5 kg |

**Required:**

- Determine the contribution margin per unit (CM), the relative contribution margin (Relative CM) and the optimal sales quantities of the products for one month.

| Product             | A | B | C | D |
|---------------------|---|---|---|---|
| CM                  |   |   |   |   |
| Relative CM         |   |   |   |   |
| Production Quantity |   |   |   |   |

- A new supplier offers four additional kilograms of „R“ for a price of \$8 per kilogram. Do you accept the offer in the given situation? Give a short explanation of your answer.