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Examination: 11066 „Management Accounting”

Wintersemester 2008/09

Examiner: Prof. Dr. Barbara Schöndube-Pirchegger

Examination questions: 6

Name: _____

Matriculation number: _____ Date: _____

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

Hint: A maximum of 120 points can be reached from solving the 6 problems below. Use the space /tables provided to enter your answers.

Problem 1 (30 points):

Faber Construction assembles residential houses. It uses a job-costing system with two direct-cost categories (direct materials and direct labor) and one indirect-cost pool (assembly support). Direct labor-hours is the allocation base for assembly support costs. In December 2007, Faber budgets 2008 assembly-support costs to be \$9,600,000 and 2008 direct labor-hours to be 200,000. At the end of 2008, Faber is comparing the costs of several jobs that were started and completed in 2008.

	Model 1	Model 2
Construction period	Feb-Sep 2008	May-June 2008
Direct materials	\$135,070	\$52,128
Direct labor	\$42,860	\$15,005
Direct labor-hours	1,280	366

Direct materials and direct labor are paid for on a contract basis. The costs of each are known when direct materials are used or when direct labor-hours are worked. The 2008 actual assembly-support costs were \$9,270,000, and the actual direct labor-hours were 180,000.

Required

1. Compute the budgeted indirect-cost rate and actual indirect-cost rate.

Budgeted indirect-cost rate: _____

Actual indirect-cost rate: _____

2. What are the job costs of Model 1 and Model 2 under normal costing and under actual costing?

	Model 1	Model 2
<i>Normal Costing</i>		
Total costs of job:		

<i>Actual Costing</i>	Model 1	Model 2
Total costs of job:		

3. Why might Faber Construction prefer normal costing over actual costing?

Problem 2 (25 points):

Anderson Company manufactures and sells three products: A, B, and C. The following data apply:

	<u>A</u>	<u>B</u>	<u>C</u>
<i>PER UNIT data:</i>			
Selling price	\$94	\$49	\$65
Direct materials	\$28	\$11	\$20
Direct labor	\$35	\$14	\$22
<i>Hours per 100-unit batch:</i>			
Setup hours	0.8	0.2	0.5
Inspection hours	15	10	12

Anderson has recently introduced an activity-based-costing system (ABC) to calculate the cost of its three products. The company identified the two activity-areas "setups" and "inspections" in order to be able to assign its expected total overhead of \$ 75,920 for next period in a more accurate way than under its traditional simple system with only one cost pool. Anderson estimates to use 96 setup hours and reckons to incur costs of \$45,120 for the setup activity. The estimate of the costs of the inspection activity is \$30,800. The inspection activity is anticipated to require 280 hours.

Required:

1. Determine the activity-cost-driver rates for setup costs and inspection costs.

Activity-cost-driver rate for setup costs: _____

Activity-cost-driver rate for inspection costs: _____

2. Compute estimated overhead costs per unit for each of the three products.

	<u>A</u>	<u>B</u>	<u>C</u>
Overhead cost per unit			

3. Compute estimated operating profit per unit.

	<u>A</u>	<u>B</u>	<u>C</u>
Operating profit per unit			

Problem 3 (30 points):

Hong Kong Statuary manufactures bust statues of famous historical figures. All statues are the same size. Each unit requires the same amount of resources. The following information is from the static budget for 2008:

Expected production and sales	4,500 units
Total fixed costs	\$950,000

Standard quantities and standard prices follow for direct materials and direct manufacturing labor.

	Standard quantity per unit	Standard price
Direct materials	8 pounds	\$10 per pound
Direct manufacturing labor	3 hours	\$30 per hour

During 2008, actual number of units produced and sold was 5,000. Actual cost of direct materials used was \$418,000, based on 38,000 pounds purchased at \$11 per pound. Direct manufacturing labor-hours actually used were 16,000, at the rate of \$28 per hour. Actual fixed costs were \$990,000. There were no beginning or ending inventories.

Required

1. Calculate sales-volume variance and flexible-budget variance for total costs.

Sales volume variance for total costs: _____

Flexible-budget variance for total costs: _____

2. Compute price and efficiency variances for direct materials and direct manufacturing labor.

Direct materials

Price variance: _____

Efficiency variance: _____

Direct manufacturing labor

Price variance: _____

Efficiency variance: _____

Problem 4 (15 points):

Power Engines can produce three types of engines, X, Y, and Z. You are asked to determine the production programme for next month and you are provided with the following information:

Product	Engine X	Engine Y	Engine Z
Sales price per unit	\$ 980	\$ 1,850	\$ 530
Variable Cost per unit	\$ 740	\$ 1,900	\$ 410
Max. Demand	300 units	800 units	600 units
Capacity needed Machine 1	12 min	15 min	5 min
Capacity needed Machine 2	6 min	20 min	13 min

Machine 1 has a monthly capacity of 6,000 minutes. The capacity of machine 2 is 10,000 minutes. Additional capacity cannot be obtained in the short run.

Required:

1. Compute the contribution margin per unit for each of the three products.

	Engine X	Engine Y	Engine Z
Contribution margin per unit			

2. Determine the optimal short-term production programme.

	Engine X	Engine Y	Engine Z
Units to be produced			

Problem 5 (15 points):

Kevin Brickman, managing director of the South Consulting Group, is examining how variable overhead costs behave with changes in monthly professional labor-hours billed to clients. Monthly data for the most recent 7-months period are:

Month	Variable Overhead Costs	Professional Labor-Hours Billed to Clients
1	59,000	2,700
2	60,000	3,000
3	64,000	4,200
4	77,000	7,500
5	71,000	5,500
6	74,000	6,500
7	67,000	4,500

Required:

1. Use the high-low method to compute the cost function.

Cost function: _____

2. What will be the cost prediction for next month, if Brickman anticipates 5,500 labor-hours to be billed to clients?

Cost prediction: _____

3. Shortly explain advantages and disadvantages of the high-low method compared to the regression method.

Problem 6 (5 points):

Answer the following multiple choice questions by using the space provided below each question to enter the respective letter. Note that only one answer is correct. Each correct answer gives one point and each false answer will result in the deduction of one point. But the minimum possible number of points is zero.

1. A cost that is related to a particular cost object but cannot be traced to it in an economically feasible way is always considered as a(n)
 - a) direct cost
 - b) indirect cost
 - c) variable cost
 - d) fixed cost

answer: _____

2. The breakeven point is the sales level at which

- a) contribution margin is zero
- b) sales minus variable expenses equals fixed expenses
- c) variable cost is zero
- d) the total revenue line intersects the fixed cost line

answer: _____

3. Learning curves

- a) measure how labor-hours per unit rise as units of production increase.
- b) cause cost functions to be linear.
- c) result from the fact that workers become more familiar with their tasks and their efficiency improves as more units are produced.
- d) are used to predict how total labor-hours, or labor-costs will decline as more units are produced.

answer: _____

4. Which of the following statements concerning standard costing is incorrect?

- a) Costs of every product or service planned to be worked on during the period can be computed at the start of that period.
- b) Overhead costs are allocated on the basis of the standard overhead-cost rates times the standard quantities of the allocation bases allowed for the actual outputs produced.
- c) A production-volume variance cannot occur under standard costing.
- d) Direct costs are traced to output produced by multiplying the standard prices or rates by the standard quantities of inputs allowed for actual outputs produced.

answer: _____

5. Which of the following statements concerning absorption costing is incorrect?

- a) Absorption costing differs from variable costing in the treatment of fixed manufacturing overhead.
- b) Under absorption costing, fixed manufacturing overhead are expensed fully in the period in which they are incurred.
- c) If performance evaluation is based on absorption-costing operating income, managers might be induced to increase production and build up inventories.
- d) It is possible that the income under variable costing will be the same as under absorption costing.

answer: _____