Examination: Management Accounting *(5075)*   April 2003
Examiner: Luhmer

Candidate: Last name: First name:

Matriculation Number:

For use of examiner only ➔	1	2	3	4	5	6	Σ	Grade

The following aids can be used: calculator, English language dictionary

Hint: A total of 120 points can be achieved. Achievable points are indicated after each problem statement. You are advised to base your time allocation on these points.

Please enter your answers below the respective question in these sheets and return for grading. Only answers in these sheets will be considered. Use back side of paper for calculations. All of the following 6 problems are to be solved.

Problems:

1. Gilley Incorporated reported the following information:
   On January 31, 20x3:
   Job #101 was the only job in process with accumulated costs of $3,000.
   During February the following costs were added to production:
   Job #101 $10,000
   Job #102 $ 8,000
   Job #103 $ 7,000
   On February 28, 20x3:
   Job #101 was completed and sold for $18,000.
   Job #102 was completed but not sold.
   Job #103 remains in production.

a.   What is work-in-process inventory on February 28, 20x3?   (3)

b.   What is finished goods inventory on February 28, 20x3?   (3)

c.   What is cost of goods manufactured for February?   (3)

d.   What is cost of goods sold for February?   (3)

e.   What is gross margin for February?   (3)

2. YuRus Manufacturing Company produces two products, X and Y. The following information is presented for both products:

	X	**Y**
Selling price per unit	$36	$24
Variable cost per unit	28	12

Total fixed costs are $234,000.

Required:

a. Calculate the contribution margin for each product.   (2)

b. Calculate breakeven point in units of both X and Y if the sales mix is 3 units of X for every unit of Y.   (6)

c. Calculate breakeven volume in total dollars if the sales mix is 2 units of X for every 3 units of Y.   (7)

3. Brilliant Accents Company manufactures and sells three styles of kitchen faucets: Brass, Chrome, and White. Production takes 25, 25, and 10 machine hours to manufacture 1000-unit batches of brass, chrome and white faucets, respectively. The following additional data apply:

	BRASS	CHROME	WHITE
Projected sales in units	#30,000	#50,000	#40,000

PER UNIT data:

	BRASS	CHROME	WHITE
Selling price	$40	$20	$30
Direct materials	$ 8	$ 4	$ 8
Direct labor	$15	$ 3	$ 9
Overhead cost based on direct labor hours (traditional system)	$12	$ 3	$ 9

Hours per 1000-unit batch:

	BRASS	CHROME	WHITE
Direct labor hours	40	10	30
Machine hours	25	25	10
Setup hours	1.0	0.5	1.0
Inspection hours	30	20	20

Total overhead costs and activity levels for the year are estimated as follows:

Activity	Overhead costs	Activity levels
Direct labor hours		2,900 hours
Machine hours		2,400 hours
Setups	$465,500	95 setup hours
Inspections	$405,000	2,700 inspection hours
	$870,500	

Required:

a. Using the traditional system, determine the operating profit per unit for each style of faucet. (6)

b. Determine the activity-cost-driver rate for setup costs and inspection costs. (4)

c. Using the ABC system, for each style of faucet, compute the estimated overhead costs per unit and the estimated operating profit per unit. (18)

d. Explain the differences between the profits obtained from the traditional system and the ABC system. Which system provides a better estimate of profitability? Why? (4)

4. Littrell Company produces chairs and has determined the following direct cost categories and budgeted amounts:

Category	Standard Inputs for 1 output	Standard Cost per input
Direct Materials	1.00	$7.50
Direct Labor	0.30	9.00
Direct Marketing	0.50	3.00

Actual performance for the company is shown below:

Actual output: (in units)	<u>4,000</u>
Direct Materials:	
Materials costs	$30,225
Input purchased and used	3,900
Actual price per input	$7.75
Direct Manufacturing Labor:	
Labor costs	$11,470
Labor-hours of input	1,240
Actual price per hour	$9.25
Direct Marketing Labor:	
Labor costs	$5,880
Labor-hours of input	2,100
Actual price per hour	$2.80

Required:

a. What is the combined total of the flexible-budget variances? (6)

b. What is the price variance of the direct materials? (3)

c. What is the price variance of the direct manufacturing labor and the direct marketing labor, respectively? (3)

d. What is the efficiency variance for direct materials? (2)

e. What are the efficiency variances for direct manufacturing labor and direct marketing labor, respectively? (4)

5. Speedy Dress Manufacturing has two workstations, cutting and finishing. The cutting station is limited by the speed of operating the cutting machine. Finishing is limited by the speed of the workers. Finishing normally waits for work from cutting. Each department works an eight-hour day. If cutting begins work two hours earlier than finishing each day, the two departments generally finish their work at about the same time. Not only does this eliminate the bottleneck, but also it increases finished units produced each day by 160 units. All units produced can be sold even though the change increases inventory stock by 20% from 400 units. The cost of operating the cutting department two more hours each day is $1,600. The contribution margin of the finished products is $6 each. Inventory carrying costs are $0.40 per unit per day.

a.. What is the total production per day if the change is made? (10)

b. What is the change in the daily contribution margin if the change is made? (10)

6. Norton's Mufflers manufactures three different product lines, Model X, Model Y, and Model Z. Considerable market demand exists for all models. The following per unit data apply:

	Model X	Model Y	Model Z
Selling price	$80	$90	$100
Direct materials	30	30	30
Direct labor ($10 per hour)	15	15	20
Variable support costs ($5 per machine-hour)	5	10	10
Fixed support costs	20	20	20

a. For each model, compute the contribution margin per unit. (6)

b. For each model, compute the contribution margin per machine-hour. (6)

c. If there is excess capacity, which model is the most profitable to produce? Why? (2)

d. How would the profit maximizing production program be affected by a machine breakdown? Explain! (6)