

MODUL PRAKTIKUM AKUNTANSI MANAJERIAL II



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PROGRAM STUDI AKUNTANSI
FAKULTAS EKONOMI DAN ILMU SOSIAL
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KATA PENGANTAR

Puji dan syukur kami panjatkan kepada Tuhan Yang Maha Esa, karena telah memberi petunjuk bagi seluruh penulis untuk menyelesaikan buku “Modul Praktikum Akuntansi Manajerial II”.

Modul ini diperuntukan bagi para mahasiswa yang sedang menempuh mata kuliah Akuntansi Manajerial II. Dengan adanya buku ini, kami berharap supaya para mahasiswa dapat lebih memahami materi Akuntansi Manajerial II.

Kami sadar bahwa buku ini jauh dari kata sempurna, oleh karena itu kami sangat mengharapkan kritik dan saran dari para pengguna buku ini.

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BAGIAN I. COST-VOLUME-PROFIT ANALYSIS

1. Gentlement Corporation produces shoes. The following information is from the budget of Gentlement Corporation for 2017.

Expected sales (units) 5,000

Selling price (per shoe) \$ 75

Variable Cost (per Shoe)

• Direct material	\$ 12
• Direct manufacturing labor	\$ 8
• Other variable cost (manufacturing, marketing & General)	<u>\$ 5</u>
Total variable cost per Shoe	\$ 25

Fixed Cost

• Manufacturing	\$ 20,000
• Marketing & General	<u>\$ 130,000</u>
Total fixed cost	\$ 150,000

REQUIRED

- Calculate Break Even Point (BEP) in unit and \$?
- Calculate the degree of operating leverage ?
- Calculate the margin of safety (in unit and \$) ?
- If the target operating income of Gentlement Corporation for 2017 is \$ 250,000, calculate the number of shoes that must be sold by the company to achieve the target operating income ?.

- e) If, the management of the company plans to increase both selling price by \$ 15 per unit and direct material cost by \$ 12 by using a higher quality direct material. The higher selling price would cause demand to drop by 10 %. Do you agree with this plan ? Show your calculation to support your argument.
2. The Hoot Company manufactures and sells pens. Currently, 5,000,000 units are sold per year at \$0,50 per unit. Fixed costs are \$900,000 per year. Variable costs are \$0,30 per unit.

REQUIRED:

- a) Compute current annual operating income.
- b) Compute breakeven point in units.
- c) Compute breakeven point in revenues.
- d) If starting point is \$0 revenues at 0 units sold, prepare cost-volume graph for Hoot Company.
3. Lifetime Escapes generate average revenue of \$50,000 per person on its five-day package tours to wildlife parks in Kenya. The annual fixed cost total \$520,000 and variable costs per person are as follows:

Airfare	\$1,400
Hotel accommodations	1,100
Meals	300
Ground transportation	100

Park tickets and other costs	<u>800</u>
Total	3.700

REQUIRED:

- a) Calculate the number of package tours that must be sold to break even.
- b) Calculate the revenue needed to earn a target operating income of \$91,000.
- c) If fixed costs increase by \$32,000, what decrease in variable cost per person must be achieved to maintain the breakeven point calculated in requirement 1?

BAGIAN II. MASTER BUDGET AND RESPONSIBILITY ACCOUNTING

1. Nice Inc. manufactures and sells two shoes, regular shoe and premium shoe. Nice Inc. Accounts for direct material inventory and finished goods inventory using FIFO Assumption. The following data are available for 2017 budget:

Direct Material Information

	<u>Leather</u>	<u>Metal</u>
- Target ending inventory in units	410 pounds	70 pounds
- Beginning inventory in unit	250 pounds	60 pounds
- Beginning inventory in dollars	\$ 1,050	\$ 174

Input Prices

- Direct Materil	
o Leather	\$ 4,1 per pound
o Metal	\$ 3,1 per pound
- Direct manufacturing labor	\$ 14 per direct manufacturing labor-hour

Input Quantities per Unit of Output:

	<u>Regular Shoe</u>	<u>Premium Shoe</u>
- Direct Materil		
o Leather	3 pounds	5 pounds
o Metal	0.5 pounds	1 pound
- Direct manufacturing labor-hours (DMLH)	3 hours	5 hours
- Machine-hours (MH)	12 MH	20 MH

Sales & Finished Goods Inventory:

	<u>Regular Shoe</u>	<u>Premium Shoe</u>
- Expected sales in unit	610	255
- Selling price per unit	\$ 200	\$ 325
- Target ending inventory in units	50	30
- Beginning inventory in units	30	45
- Beginning inventory in dollars	\$ 3,060	\$ 8,550-

Nice Inc. uses an activity-based costing system and classifies manufacturing overhead into 3 (three) activity pools: Setup, Processing, and Inspection. Activity rates for these activities are \$ 125 per set-up hours, \$ 5 per machine-hour, and \$ 20 per inspection hour. Other information follows:

Cost Driver Information:

	<u>Regular Shoe</u>	<u>Premium Shoe</u>
- Number of units per batch	30	15
- Set-up time per batch	1.2 hours	2 hours
- Inspection time per batch	0.5 hour	0.5 hour

REQUIRED:

Prepare for the year 2017

- a) Revenues budget.
 - b) Production budgets in units
 - c) Direct material usage budget and direct material purchase budget.
 - d) Direct manufacturing labor cost budget.
 - e) Manufacturing overhead cost budgets for each of the three activities.
 - f) Budgeted unit cost of ending finished goods inventory
 - g) Ending Inventories budget.
2. Authentic Furniture produces two types of desk, type Executive and Chairman. There is the complete data for the products: Unit costs data for direct-costs inputs pertaining to February 2014 and March 2014 are as follows:

	February 2014	March 2014 (budgeted)
Oak Top (per square foot)	\$23	\$25
Red Oak Top (per square foot)	\$28	\$30
Oak Legs (per leg)	\$16	\$17
Red Oak Legs (per leg)	\$22	\$23
Manufacturing labor costs per hour	\$30	\$35

The budgeted direct-costs inputs for each product in 2014 as follows:

	February 2014	March 2014
Oak Top (square foot)	16	0
Red Oak Top (square foot)	0	25
Oak Legs (leg)	4	0
Red Oak Legs (leg)	0	4
Manufacturing labor costs (hour)	3	5

Unit Data pertaining to the direct materials inventory 2014 as follows:

	Executive	Chairman
Actual Beginning Direct Material Inventory		
Oak Top (square foot)	320	0
Red Oak Top (square foot)	0	150
Oak Legs (leg)	100	0
Red Oak Legs (leg)	0	40
Target Ending Direct Material Inventory		
Oak Top (square foot)	192	0
Red Oak Top (square foot)	0	200
Oak Legs (leg)	80	0
Red Oak Legs (leg)	0	44

Manufacturing overhead (both variable and fixed) is allocated to each desk on the basis of budgeted direct manufacturing labor-hours per desk. The budgeted variable manufacturing overhead rate for March 2014 is \$40 per direct manufacturing labor-hour. The budgeted fixed manufacturing overhead for March 2014 is \$54,925. Other data:

	Executive	Chairman
Expected Sales in unit	740	390
Selling Price	\$1,030	\$1,650
Target ending inventory in units	30	15
Beginning inventory in units	20	10
Beginning inventory in dollars (cost)	\$10,480	\$4,850

REQUIRED:

Prepare the following budgets for March 2014

- a) Revenues Budget.
- b) Production budget in units.
- c) Direct Material Usage budget and direct material purchases budget.
- d) Direct manufacturing labor budget.
- e) Manufacturing overhead budget.

- f) Ending inventories budget.
- g) COGS budget.

3. Follete Inc. operates at capacity and makes plastic combs and hairbrushes. Although the combs and brushes are a matching set, they are sold individually and so the sales mix is not 1:1. Follete Inc. is planning its annual budget for fiscal year 2011. Information for 2011 follows:

Input Prices

Direct materials	
Plastic	\$ 0,20 per ounce
Bristles	\$ 0,05 per bunch
Direct manufacturing labor	\$ 12 per direct manufacturing labor-hour

Input Quantities per Unit of Output

	Combs	Brushes
Direct material		
Plastic	5 ounces	8 ounces
Bristles	-	16 bunches
Direct manufacturing labor	0,05 hours	0,2 hours
Machine-hours (MH)	0,025 MH	0,1 MH

Inventory Information, Direct Materials

	Plastic	Bristles
Beginning inventory	1.600 ounces	1.820 bunches
Target ending inventory	1.766 ounces	2.272 bunches
Cost of beginning inventory	\$ 304	\$946

Follete Inc. account for direct materials using a FIFO cost flow.

Sales and Inventory Information, Finished Goods

	Combs	Brushes
Expected sales in units	12.000	14.000
Selling price	\$ 6	\$ 20
Target ending inventory in units	1.200	1.400
Beginning inventory in units	600	1.200
Beginning inventory in dollars	\$1.800	\$18.120

Follete Inc. uses a FIFO cost flow assumption for finished goods inventory.

Combs are manufactured in batches of 200, and brushes are manufactured in batches of 100. It takes 20 minutes to set up for a batch of combs, and one hour to set up for a batch of brushes. Follete Inc. uses activity-based costing and has classified all overhead costs as shown in the following table:

Cost Type	Budgeted Variable	Budgeted Fixed	Cost Driver/Allocating Base
Manufacturing:			
Materials handling	\$11.490	\$15.000	Number of ounces of plastic used
Setup	6.830	11.100	Setup-hours
Processing	7.760	20.000	Machine-hours
Inspection	7.000	1.040	Number of units produced
Nonmanufacturing:			
Marketing	14.100	60.000	Sales revenue
Distribution	0	780	Number of deliveries

Delivery trucks transport units sold in delivery sizes of 1.000 combs or 1.000 brushes.

REQUIRED:

Do the following for the year 2011:

- a) Prepare the revenue budget.
- b) Use the revenue budget to
 - Find the budgeted allocation rate for marketing costs.
 - Find the budgeted number of deliveries and allocating rate for distribution costs.
- c) Prepare the production budget in units.
- d) Use the production budget to

- Find the budgeted number of setups, setup-hours, and allocation rate for setup costs.
 - Find the budgeted total machine-hours and the allocation rate for processing costs.
 - Find the budgeted total unit produced and the allocation rate for inspection costs.
- e) Prepare the direct material usage budget and the direct material purchases budgets in both units and dollars; round to whole dollars.
- f) Use the direct material usage budget to find the budgeted allocation rate for materials handling costs.
- g) Prepare the direct manufacturing labor costs budget.
- h) Prepare the manufacturing overhead cost budget for material handling, setup, and processing.
- i) Prepare the budgeted unit cost of ending finished goods inventory and ending inventories budget.
- j) Prepare the cost of goods sold budget.
- k) Prepare the nonmanufacturing overhead cost budget for marketing and distribution.
- l) Prepare a budgeted income statement (ignore income taxes).

**BAGIAN III. FLEXIBLE BUDGETS,
DIRECT-COST VARIANCES, AND
MANAGEMENT CONTROL**

1. The Giant Company produces lamps. The company's operating budget for January 2017 included these data:

- Number of bags produced and sold = 20,000
- Selling price per bag = \$ 25
- Variable cost per bag = \$ 13
- Fixed costs for the month = \$ 150,000

The actual results for January 2017 were as follows:

- Number of bags produced and sold = 18,000
- Average selling price per bag = \$ 28
- Variable cost per bag = \$ 15
- Fixed costs for the month = \$ 160,000

REQUIRED:

- a) Prepare a static-budget-based variance analysis for January 2017 performance.
- b) Prepare a flexible-budget-based variance analysis for January 2017 performance.

2. The Miracle Corporation produces bags. Standards per finished unit for direct material dan direct manufacturing labor were as follows:

- Direct material:
10 pounds at \$ 5 per pound = \$ 50
- Direct manufacturing labor:
0.8 hour at \$ 25 per hour = \$ 20

The number of finished units budgeted for January 2017 was 10,000 units, and 9,000 units were actually produced. Actual results in January 2017 were as follows :

- Direct material : 85.500 pounds = \$ 513,000
- Direct manufacturing labor: 8.100 hours = \$ 186,300

Assume that there was no beginning and ending inventory either direct materials and finished units.

REQUIRED

Compute the January 2017 price and efficiency variances for direct materials and direct manufacturing labor.

3. Bank Management Printers, Inc., produces luxury check-books with three and stubs per page. Each checkbook is designed for an individual customer and is ordered through the customer’s bank. The company’s operating budget for September 2016 included these data:

Number of checkbooks	15.000
Selling price per book	\$40
Variable cost per book	\$16
Fixed costs for the month	\$290.000

The actual result for September 2016 were as follows :

Number of checkbooks produced and sold	12.000
----------------------------------------	--------

Actual selling price per book	\$42
Variable cost per book	\$14
Fixed costs for the month	\$300.000

The executive vice president of the company observed that the operating income for September was much lower than anticipated, despite a higher-than-budgeted selling price and a lower-than-budgeted variable cost per unit. As the company's management accountant, you have been asked to provide explanation for the disappointing September results.

Bank Management develops its flexible budget on the basis of budgeted per-output-unit revenue and per-output-unit variable cost without detailed analysis of budgeted inputs.

REQUIRED

- a) Prepare a static-budget-based variance analysis of the September performance.
 - b) Prepare a flexible-budget-based variance analysis of the September performance.
 - c) Why might Bank Management find the flexible-budget-based variance analysis more informative than the static-budget-based variance analysis? Explain your answer.
4. O'Shea Company manufactures ceramic vases. It uses its standard costing system when developing its flexible-budget amounts. In

April 2012, 2,000 finished units were produced. The following information relates to its two direct manufacturing cost categories: direct material and direct manufacturing labor.

Direct material uses were 4,400 kilograms (kg). The standard direct materials input allow for one output unit is 2 kg at \$15 per kg. O'Shea purchased 5,000 kg of materials at \$16.5 per kg, a total of \$82,500. Actual direct manufacturing labor-hours were 3,250, at a total cost of \$66,300. Standard manufacturing labor time allowed is 1.5 hours per output unit, and the standard direct manufacturing labor cost is \$20 per hour.

REQUIRED:

Calculate the direct materials price variance and efficiency, and the direct manufacturing labor price variance and efficiency variance.

**BAGIAN IV. FLEXIBLE BUDGETS,
OVERHEAD COST VARIANCES, AND
MANAGEMENT CONTROL**

1. Esquire Clothing is a manufacturer of designer suits. The cost of each suit is the sum of three variable costs (direct material costs, direct manufacturing labor costs, and manufacturing overhead costs) and one fixed-cost category (manufacturing overhead costs). Variable manufacturing overhead cost is allocated to each suit on the basis of budgeted direct manufacturing labor hours per suit. For June 2016 each suit is budgeted to take four labor-hours. Budgeted variable manufacturing overhead cost per labor-hour is \$24. The budgeted number of suits to be manufactured in June 2016 is 1,040. Actual variable manufacturing costs June 2016 were \$104,328 for 1,080 suits started and completed. There were no beginning or ending inventories of suits. Actual direct manufacturing labor-hours for June were 4,536.

REQUIRED:

- a) Compute the flexible-budget variance, the spending variance, and the efficiency variance for variable manufacturing overhead.
- b) If Esquire Clothing allocates fixed manufacturing overhead to each suit using budgeted direct manufacturing labor-hours per suit. Data pertaining to fixed manufacturing overhead costs for June 2016 are budgeted, \$ 124,800 and actual, \$ 127,832.
 - Compute the spending variance for fixed manufacturing overhead.
 - Compute the production-volume variance for June 2016.

BAGIAN V. DECISION MAKING AND RELEVANT INFORMATION

1. Innova Co. manufactures small engines. The company currently manufactures all the parts used in these engines, but is considering a proposal from external supplier who wishes to supply the starter assemblies used in these engine. The starter assemblies are currently manufactured in Division 1 of Electra Co.

The costs relating to the starter assemblies for the past 12 months (2016) were as follows:

- Direct Material	\$ 400,000
- Direct manufacturing labor	\$ 300,000
- Manufacturing overhead	<u>\$ 800,000</u>
Total	\$ 1,500,000

Over the past year (2016), Innova Co. manufactured 150,000 starter assemblies. The average cost for each starter assembly is \$ 10 (\$1,500,000 : 150,000).

Further analysis of manufacturing overhead revealed the following information. Of the total manufacturing overhead, only 25 % is considered variable. Of the fixed portion, \$ 300,000 is an allocation of general overhead that will remain unchanged for the company as a whole if production of the starter assemblies is discontinued. A further \$ 200,000 of the fixed overhead is avoidable if production of the starter assemblies is discontinued. The balance of fixed overhead, \$ 100,000, is the salary of the division 1 manager. If Innova Co. discontinues production of the starter assemblies, the

division manager 1 will be transferred to division 2 at the same salary.

Innova Co. plans to manufacture 150,000 starter assemblies for 2017. Electra Co., a reliable supplier, has offered to supply 150,000 starter assemblies at \$ 8.

REQUIRED:

Should Innova Co. accept the offer of Electra Co. ? Show your calculation.

2. Roberto buys T-Shirts in bulk, applies its own trendsetting silk-screen designs, and then sells the T-Shirts to a number of retailers. Roberto wants to be known for its trendsetting designs, and it wants every teenager to be seen in a distinctive Roberto T-Shirts. Roberto presents the following data for its first two years of operations, 2008 and 2009.

	<u>2008</u>	<u>2009</u>
Number of T-Shirts purchased	200.000	250.000
Number of T-Shirts discarded	2.000	3.300
Number of T-Shirts Sold (row 1 – row 2)	198.000	246.700
Average selling price	\$25	\$26
Average cost per T-Shirts	\$10	\$8,50

Administrative capacity (number of customers)	4.000	3.750
Administrative costs	\$1.200.000	\$1.162.500
Administrative costs per customer (row 8 : row 7)	\$300	\$310

Administrative costs depend on the number of customers that Roberto has created capacity to support, not on the actual number of customers served. Roberto had 3.600 customers in 2008 and 3.500 customers in 2009.

REQUIRED:

- a) Calculate Roberto operating income in both 2008 and 2009.
 - b) Calculate the growth, price-recovery, and productivity components that explain the change in operating income from 2008 to 2009.
3. The Award Plus Company manufactures medals for winners of athletic events and other contests. Its manufacture plant has the capacity to produce 10.000 medals each month. Current production and sale are 7.500 medals per month. The company normally charges \$300 per medal. Cost information for the current activity level is as follows:

Variable costs that vary with number of units produced	
Direct material	\$525.000
Direct manufacturing labor	600.000
Variable costs (for setups, materials handling, quality control, and so on) that vary with number of batches, 150 batches x \$1.000 batch	150.000
Fixed manufacturing costs	550.000
Fixed marketing costs	<u>350.000</u>
Total Costs	\$ <u>2.175.000</u>

Award Plus has just received a special one-time-only order for 2.500 medals at \$200 per medal. Accepting the special order would not affect the company's regular business. Award Plus makes medals for its existing customers in batch sizes of 50 medals (150 batches x 50 medals per batch = 7.500 medals). The special order requires Award Plus to make the medals in 25 batches of 100 each.

REQUIRED:

Should Award Plus accept this special order? Show your calculation.

4. Alfa Beta Corporation manufactures a machine sparepart. The corporation plans to replace its old machine with new machine. Data related to the old machine and the new machine are as Follows:

	Old Machine	New Machine
Annual revenues	\$ 1,000,000	\$ 1,000,000
Original cost	\$ 300,000	\$ 150,000
Useful life	5 Years	4 Years
Current age	1 Years	0 Year

Remaining useful life	4 Years	4 Years
Accumulated depreciation	\$ 60,000	Not acquired yet
Current book value	\$ 240,000	Not acquired yet
Current disposal value	\$ 125,000	Not acquired yet
Terminal disposal value (3 Years from now)	\$ 0	\$ 0
Annual operating cost (related to the machine)	\$ 75,000	\$ 60,000
Annual operating cost (not related to the machine)	\$ 800,000	\$ 800,000

REQUIRED

Should Alfa Beta Corporation replace its machine ? Show your calculation

5. Meredith Corporation makes a special-purpose machine, D4H, used in the textile industry. Meredith has designed the H4D machine for 2009 to be distinct from its competitors. It has been generally

regarded as a superior machine. Meredith presents the following data for 2008 and 2009.

	2008	2009
1. Units of D4H produced and sold	200	210
2. Selling price	\$40.000	\$42.000
3. Direct material (kilograms)	300.000	310.000
4. Direct material cost per kilogram	\$8	\$8,50
5. Manufacturing capacity in units of D4H	250	250
6. Total conversion costs	\$2.000.000	\$2.025.000
7. Conversion cost per unit of capacity	\$8.000	\$8.100
8. Selling and customer-service capacity	100 customers	95 customers
9. Total selling and customer-service cost	\$1.000.000	\$940.500
10. Selling and customer-service capacity cost per customer	\$10.000	\$9.900
11. Design staff	12	12
12. Total design costs	\$1.200.000	\$1.212.000
13. Design cost per employee	\$100.000	\$101.000

Meredith produces no defective machines, but it want to reduce direct material usage per D4H machine in 2009. Conversion costs in each year depend on production capacity defined in terms of D4H units that can be produced, not the actual unit produced. Selling and customer-service costs depend on the number of customers that Meredith can support, not the actual number of customers it serves. Meredith has 75 customers in 2008 and 80 customers in 2009. At the start of each year, management uses its discretion to determine the number of design staff for the year. The design staff and its costs have no direct relationship with the quantity of D4H produced or the number of customers to whom D4H is sold.

REQUIRED:

- a) Calculate the operating income of Meredith Corporation in 2008 and 2009.
- b) Calculate the growth, price-recovery, and productivity components that explain the change in operating income from 2008 to 2009.
- c) Comment on your answer in requirement 2. What do these components indicate?

**BAGIAN VI. STRATEGY, BALANCE
SCORECARD, AND STRATEGIC
PROFITABILITY ANALYSIS**

1. Balance scorecard measures an organization's performance from 4 (four) perspectives. Explain these perspectives ?
2. Explain the difference between product differentiation strategy and cost leadership strategy ?

BAGIAN VII. PRICING DECISIONS AND COST MANAGEMENT

1. Amazing Co. manufactures and sells dolls. In 2016, it reported the following:

Unit produced and sold	3,200
Investment	\$ 2,400,000
Markup percentage on full cost	8 %
Rate of return on investment	12 %
Variable cost per unit	\$ 500

REQUIRED:

- a) What was the operating income of Amazing Co. in 2016 ?
 What was the full cost per unit ? What was the selling price per unit ? What was the percentage markup on variable cost ?
- b) Amazing Co. is considering increasing the annual spending on advertising by \$175,000. The company believes the investment will increase the unit sales of 10%. Should the company make the investment ? Show your calculation !!
2. Scoopy is small distributor of marble tiles. Scoopy identifies its three major activities and cost pools as ordering, receiving and storage, and shipping, and it reports the following details for 2011:

Activity	Cost Driver	Quantity of Cost Driver	Cost per Unit of Cost Driver
¹ Placing and paying for orders of marble tiles	Number of orders	500	\$ 50 per order
² Receiving and storage	Loads moved	4.000	\$ 30 per load
³ Shipping of marble tiles to retailers	Number of Shipments	1.500	\$ 40 per shipment

For 2011, Scoopy buys 250.000 marble tiles at an average cost of \$3 per tile and sells them to retailers at an average price of \$4 per tile. Assume Scoopy has no fixed cost and no inventories.

REQUIRED:

- a) Calculate Scoopy's operating income for 2011.
 - b) For 2012, retailers are demanding a 5% discount off the 2011 price. Scoopy's suppliers are only willing to give 4% discount. Scoopy expects to sell the same quantity of marbel tiles in 2012 as in 2011. If all other costs and csots-driver information remain the same, calculate Scoopy operating income for 2012.
 - c) Suppose further that Scoopy decides to make changes in its ordering and receiving-and- storing practices. By placing long-run orders with its key suppliers, Scoopy expected to reduce the number of orders to 200 and the cost per order to \$25 per order. By redesigning the layout of the warehouse and reconfiguring the crates in which the marbel tiles are moved, Scoopy expects to reduce the number of loads moved to 3.125 and the cost per load moved to \$28. Will Scoopy achieve its target operating income of \$0,30 per tile in 2012? Show your calculations.
3. Intential Inc., manufactures game system. Intential has decided to create and market a new system with wireless controls and excellent video graphics. Intential's managers are thinking of calling this system the Yew. Based on past experience they expect the total life

cycle of the Yew to be four years, with the design phase taking about a year. They budget the following costs for the year:

		Total fixed costs Over four years	Variable cost per unit
Year 1	R&D costs	\$ 6.590.000	-
	Design costs	1.450.000	-
Year 2-3	Production	19.560.000	\$50 per unit
	Marketing & distribution	5.242.000	10 per unit
	Customer service	2.900.000	-

REQUIRED:

- a) Suppose the manager at Intencital price the Yew game system at \$110 per unit. How many units do they need to sell to break even?
- b) The managers at Intencital are thinking of two alternative pricing strategies.
 - Sell the Yew at \$110 each from the outset. At this price they expect to sell 1.500.000 units over its life-cycle.
 - Boost the selling price of the Yew in Year 2 when it first comes out to \$240 per unit. At this price they expect to sell 100.000 units in Year 2. In Year 3 and 4 drop the price to \$110 per unit. The managers expect to sell 1.200.000 units in Years 3 and 4.

Which pricing strategy would you recommend? Explain.

**BAGIAN VIII. COST ALLOCATION,
CUSTOMER PROFITABILITY ANALYSIS,
AND SALES-VARIANCE ANALYSIS**

1. Spectra Corporation manufactures premium bags. Its plant has a production capacity of 50,000 bags per year. Giant Company as a single distributor accounts for all existing sales. Expected result for the coming year (2017) are as follows:

	<u>Total</u>	<u>Per Unit</u>
Unit Sold	40,000	
Revenue	\$ 1,000,000	\$ 25
Manufacturing Costs/Costs of Goods Sold		
Variable Manufacturing Costs	\$ 620,000	\$ 15,5
Fixed Manufacturing Costs	\$ 100,000	\$ 2,5
Total Manufacturing Costs/Cost of Goods Sold	\$ 720,000	\$ 18,0
Non Manufacturing Costs		
Variable Non Manufacturing Costs	\$ 160,000	\$ 4,0
Fixed Non Manufacturing Costs	\$ 40,000	\$ 1,0
Total Non Manufacturing Costs	\$ 200,000	\$ 5,0
Full Costs of The Product	\$ 920,000	\$ 23,0
Operating Income		
	\$ 80,000	\$ 2,0

In December 2017, Cheaper Company has ordered to buy 4,000 bags from Spectra Corporation at \$ 22 per bag.

REQUIRED

Should the offer of Cheaper Company be accepted by Spectra Corporation ???? Show your calculations ???

BAGIAN IX. BALANCE SCORECARD :
QUALITY AND TIME

1. The Seaworld Corporation uses an injection molding machine to make a plastic product, Z39, after receiving firm orders from its customers. Seaworld estimates that it will receive 50 orders for Z39 during the coming year. Each order of Z39 will take 80 hours of machine time. The annual machine capacity is 5.000 hours.

REQUIRED:

- a) Calculate (a) the average amount of time that an order for Z39 will wait in line before it is processed and (b) the average manufacturing cycle time per order for Z39.
 - b) Seaworld is considering introducing a new product, Y28. The company expects it will receive 25 orders of Y28 in the coming year. Each order of Y28 will take 20 hour of machine time. Assuming the demand for Z39 will not be affected by the introduction of Y28, calculate (a) the average waiting time for an order received and (b) the average manufacturing cycle time per order for each product, if Seaworld introduces Y28.
2. The Grober Corporation makes wire harnesses for the aircraft industry. Grober is uncertain about when and how many customers orders will be received. The company makes harnesses only after receiving firm order from its customers. Grober has recently purchased a new machine to make two types of wire harnesses, one for Boeing airplanes (B6) and the order for Airbus Industries airplanes

(A2). The annual capacity of the new machine is 8.000 hours. The following information is available for next year:

Inventory Carrying Order Customer per Hour	Annual Average Number of Orders	Manufacturing Time Required	Selling Price per Order		Variable Cost per Order	Cost per Order
			If Average Manufacturing			
			<u>Lead Time per Order Is</u>			
			Less Than 200 Hours	More Than 200 Hours		
B6	150	40 hours	\$20.000	\$19.400	\$15.000	\$ 0,6
A2	20	50 hour	18.500	18.100	14.000	

REQUIRED:

- a) Calculate the average manufacturing lead times per order (a) if Grober manufactures only B6 and (b) if Grober manufactures both B6 and A2.
- b) Even though A2 has a positive contribution margin, Grober's manager are evaluating whether Grober should (a) make and sell only B6 or (b) make and sell both B6 and A2. Which alternative will maximize Grober's operating income? Show your calculations.

BAGIAN X. CAPITAL BUDGETING AND COST ANALYSIS

1. The following table shows two schedules of prospective operating cashflow, each of which requires the same net initial investment Of \$ 10,000 now:

	<u>Annual Cash Inflows</u>	
<u>Year</u>	<u>Plan A</u>	<u>Plan B</u>
1	\$ 3,000	\$ 1,000
2	5,000	2,000
3	2,000	3,000
4	3,000	4,000
5	2,000	5,000
Total	\$ 15,000	\$ 15,000

The required rate of return (RRR) is 8 % compounded annually. All cash inflows occur at the end of each year.

REQUIRED:

- a) In term of net present value (NPV) which plan is more desirable ??? Show your calculation ???
 - b) In term of discounted payback period, which plan is more desirable ?? Show your calculation
2. River Company runs hardware stores in a tri-state area. River’s management estimates that if it invests \$250.000 in new computer system, it can save \$67.000 in annual cash operating costs. The system has an expected useful life of eight years and no terminal disposal value. The required rate of return is 8%. Ignore income tax

issues in your answers. Assume all cash flows occur at year-end except for initial investment amounts.

REQUIRED:

Calculate the following for the new computer system:

- a) Net present value.
 - b) Payback period.
 - c) Internal rate of return. (Table on pages 4)
 - d) Accrual accounting rate of return based on net initial investment (assume straight-line depreciation).
3. Aini Hospital, a non-profit organization, estimates that it can save \$28,000 a year in cash operating costs for the next 10 years if it buys a special-purpose eye testing machine at a cost of \$110,000. No terminal disposal value is expected. Aini Hospital's required rate of return is 14%. Assume all cash flows occur at year-end except for initial investment amounts. Aini Hospital uses straight-line depreciation.

REQUIRED:

Calculate the following for the special-purpose eye-testing machine:

- a) Net present value.
- b) Payback period.
- c) Internal rate of return. (Table on pages 5)

d) Accrual accounting rate of return based on net initial investment

**BAGIAN XI. MANAGEMENT CONTROL
SYSTEM, TRANSFER PRICING, AND
MULTINATIONAL CONSIDERATIONS**

1. Teach Friendly Computer, Inc., with headquarters in San Francisco, manufactures and sells a desktop computer. Tech Friendly has three divisions, each of which is located in different country:

- China division – manufactures memory devices and keyboards.
- Indonesia division – assembles desktop computers using locally manufactured parts, along with memory devices and keyboards from the China division.
- U.S. division – packages and distributes desktop computers.

Each division is run as a profit center. The costs for the work done in each division for a single desktop computer are as follows:

China division: Variable cost: 900 yuan
 Fixed cost: 1.980 yuan

Indonesia division: Variable cost: Rp. 350.000
 Fixed cost: Rp. 470.000

U.S. division: Variable cost: \$250
 Fixed cost: \$325

Each desktop computer is sold to retail outlets in the United States for \$7.600. Assume that the current foreign exchange rates are as follows:

$$9 \text{ yuan} = \$1 \text{ U.S.}$$

$$\text{Rp}1.000 = \$1 \text{ U.S.}$$

Both the China and the Indonesia divisions sell part of their production under a private label. The China division sells the comparable memory/keyboard package used in each Tech Friendly

desktop computer to a Chinese manufacturer for 4.500 yuan. The Indonesia division sells the comparable desktop computer to a Indonesian distributor for Rp1.340.000.

Other data:

- Chinese income tax rate on the China division's operating income: 40%.
- Indonesia income tax rate on the Indonesia division's operating income: 20%.
- U.S. income tax rate on the U.S. division's operating income: 30%.

REQUIRED:

- a) Calculate the after tax operating income per unit earned by each division under the following transfer pricing method: (income tax are not included in the computation on the cost-based transfer prices)
 - Market price,
 - 200% of full cost, and
 - 350% of variable cost
- b) Which transfer pricing methods will maximize the after-tax operating income per unit of Teach Friendly Computer?

**BAGIAN XII. PERFORMANCE
MEASUREMENT, COMPENSATION, AND
MULTINATIONAL CONSIDERATION**

1. Nature's Elixir Corporation operates three divisions that process and bottle natural fruit juices. The historical-cost accounting system reports the following information for 2011:

	Passion Division	Kiwi Division	Mango Division	Total
Revenue	\$1,000,000	\$1,400,000	\$2,200,000	\$4,600,000
Variable Cost	600,000	760,000	1,200,000	2,560,000
Fixed Cost	<u>140,000</u>	<u>200,000</u>	<u>240,000</u>	<u>580,000</u>
Total Cost	<u>740,000</u>	<u>960,000</u>	<u>1,440,000</u>	<u>3,140,000</u>
Operating Income	<u>\$ 260,000</u>	<u>\$440,000</u>	<u>\$ 760,000</u>	1,460,000
Cost on long-term debt at 8%				<u>120,000</u>
Income before income taxes				1,340,000
Income taxes at 25%				<u>335,000</u>
Net Income				<u>\$ 1,005,000</u>
Net book value at the end of 2011:				
Current assets	\$400,000	\$ 500,000	\$ 600,000	\$ 1,500,000
Long term assets	<u>280,000</u>	<u>1,800,000</u>	<u>2,640,000</u>	<u>4,720,000</u>
Total Assets	<u>\$680,000</u>	<u>\$2,300,000</u>	<u>\$3,240,000</u>	<u>\$ 6,220,000</u>
Current liabilities	200,000	500,000	520,000	1,220,000
Long-term debt				1,500,000
Stockholders' Equity				<u>3,500,000</u>
Total liabilities and stockholder's equity				<u>\$ 6,220,000</u>

REQUIRED:

- Compute return on investment of each division.
- If required rate of return of 10%. Compute residual income of each division.
- If Interest rate of 8%, equity capital is 12%, and long term debt with market value and book value at the end of 2011 is same. Compute economic value added of each division.
- Compute return on sales of each division.

