



VOTRE LIEN AVEC CE QUI COMPTE — CONNECTS YOU TO WHAT MATTERS

**ADM2341 Managerial Accounting Fall 2017
Midterm Exam
Duration: 180 minutes**

	√ Check
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NAME.....

STUDENT #.....

SEAT #.....

TOTAL...../80 POINTS

INSTRUCTIONS:

1. *You may separate the pages but ensure that you put them back together and staple them before handing in.*
2. *Please limit your answer to the space provided. Please indicate if you use the back of a page.*
3. *The use of standard abbreviations (O/H for Overhead and CM% for Contribution Margin Percentage) is quite acceptable.*
4. *Budget your time wisely.*
5. *Please do not ask the invigilators questions. Make reasonable assumptions where necessary.*
6. *Language dictionaries and calculators are allowed.*

You must sign the following Statement of Academic Integrity. The School of Management does not condone academic fraud, an act by a student that may result in a false academic evaluation of that student or of another student. Without limiting the generality of this definition, academic fraud occurs when a student commits any of the following offences: plagiarism or cheating of any kind, use of books, notes, mathematical tables, dictionaries or other study aid unless an explicit written note to the contrary appears on the exam, to have in his/her possession cameras, radios (radios with headsets), tape recorders, pagers, cell phones, or any other communication device which has not been previously authorized in writing.

Statement to be signed by the student:

I have read the text on academic integrity and I pledge not to have committed or attempted to commit academic fraud in this examination.

Signed: _____

Note: an examination without this signed statement will not be graded and will receive an exam grade of zero.

QUESTION 1- (20 points)

Choose the best answer for each of the following statements. Please fill in the table at the end of page 5 to summarize your answers.

The following multiple choice items are worth 1 point each.

1. Management accounting
 - A) helps creditors evaluate the company's performance.
 - B) helps managers make decisions.
 - C) is useful for external and internal users.
 - D) creates technical reports that require external audit for verification.
 - E) is the same as financial accounting.

2. Which one of the following items is typically an example of an indirect cost incurred by a furniture company?
 - A) refundable sales tax on direct materials.
 - B) direct manufacturing labour.
 - C) manufacturing plant electricity.
 - D) wood used for furniture manufacture.

3. Prime costs can include
 - A) conversion costs.
 - B) advertising costs.
 - C) indirect manufacturing labour.
 - D) machine set up costs.
 - E) direct material costs.

4. Within the relevant range, if there is a change in the level of the volume, then:
 - A) total fixed costs and total variable costs will change.
 - B) total fixed costs and total variable costs will remain the same.
 - C) total fixed costs will change and total variable costs will remain the same.
 - D) total fixed costs will remain the same and total variable costs will change.

5. Production and costs over the past four years in relation to Product Alpha are as follows:

	Units	Costs
Year 1	500	\$6,000
Year 2	400	\$7,000
Year 3	600	\$9,000
Year 4	700	\$10,000

The estimated costs of producing 800 units in Year 5 will be:

- A) \$6,200
- B) \$11,000
- C) 21,000
- D) None of the above

6. Orion Company sells several products. Information on average revenues and costs are as follows:

Selling price per unit	\$23
Variable costs per unit:	
Direct material	\$4
Direct manufacturing labor	\$1.70
Manufacturing overhead	\$0.40
Selling costs	\$2
Annual fixed costs	\$100,000

The company sells 12,000 units during the year.

If direct labor and direct material costs increase by \$1 each, the contribution margin:

- A) increases by \$24,000
- B) increases by \$12,000
- C) decreases by \$24,000
- D) decreases by \$12,000

7. Sparkle Jewelry sells 800 units resulting in \$85,000 of sales revenue, \$32,000 of variable costs, and \$26,000 of fixed costs. The number of units that must be sold to achieve \$41,000 of operating income is: (Round interim calculations and final calculations to the nearest unit).

- A) 909 units
- B) 393 units
- C) 1,012 units
- D) 619 units

8. Stones Manufacturing sells a marble slab for \$1,100. Fixed costs are \$33,000, while the variable costs are \$550 per slab. The company currently plans to sell 210 slabs this month. What is the margin of safety assuming 85 slabs are actually sold? (Round interim calculations and final calculations to the nearest dollar.)

- A) \$165,000
- B) \$49,500
- C) \$27,500
- D) \$33,000

9. Sales of Blistre Autos are \$380,000, variable costs are \$230,000, and fixed costs are \$90,000. Calculate the degree of operating leverage of the company.

- A) 1.50
- B) 4.17
- C) 1.53
- D) 2.50

10. _____ is the usual starting point for budgeting.

- A) The sales budget
- B) The estimated net income
- C) The production budget
- D) The cash budget

The following multiple choice items are worth 2 points each.

11. BB Company has budgeted sales and production over the next quarter as follows:

	<u>April</u>	<u>May</u>	<u>June</u>
Sales in Units	100,000	120,000	?
Production in Units	104,000	128,000	156,000

On April 1, the company has 20,000 units of product on hand. A minimum of 20% of the next month's sales needs (in units) must be on hand at the end of each month. July sales are expected to be 140,000 units. What would be the budgeted sales for June (in units)?

- A. 128,000 units
- B. 148,000 units
- C. 184,000 units
- D. 188,000 units
- E. none of the above

12. Buildz Manufacturing currently produces 2,000 tables per month. The following per unit data for 2,000 tables apply for sales to regular customers:

Direct materials	\$75
Direct manufacturing labor	20
Variable manufacturing overhead	20
Fixed manufacturing overhead	<u>40</u>
Total manufacturing costs	\$155

What is the per unit cost if 4,000 units are produced assuming the company operates within its relevant range?

- A) \$125.00
- B) \$195.00
- C) \$135.00
- D) \$155.00
- E) None of the above

13. Orange Corporation has budgeted sales of 23,000 units, targeted ending finished goods inventory of 9,000 units, and beginning finished goods inventory of 6,000 units. How many units should be produced next year?

- A) 38,000 units
- B) 32,000 units
- C) 26,000 units
- D) 23,000 units
- E) None of the above

14. The following information pertains to Monroe Company:

<u>Month</u>	<u>Sales</u>	<u>Purchases</u>
January	\$62,000	\$33,000
February	\$84,000	\$42,000
March	\$101,000	\$61,000

- Cash is collected from customers in the following manner:

Month of sale	40%
Month following the sale	60%
- 45% of purchases are paid for in cash in the month of purchase, and the balance is paid the following month.
- Labor costs are 30% of sales. Other operating costs are \$38,000 per month (including \$10,000 of depreciation). Both of these are paid in the month incurred.

How much cash will be disbursed in total in March?

- A) \$58,300
- B) \$68,300
- C) \$108,850
- D) \$118,850

15. The following costs appear in Malgorzata Company's flexible budget at an activity level of 15,000 machine-hours:

Indirect materials	\$7,800
Factory rent	\$18,000

What would be the flexible budget amounts at an activity level of 12,000 machine hours if indirect material is a variable cost and factory rent a fixed cost and the actual factory rent is \$22,000?

	Indirect labour	Factory rent
A.	\$7,800	\$14,400
B.	\$7,800	\$18,000
C.	\$6,240	\$14,400
D.	\$6,240	\$18,000
E.	\$6,240	\$22,000

- A) Option A
- B) Option B
- C) Option C
- D) Option D
- E) Option E

SUMMARY OF YOUR ANSWERS: PLEASE WRITE THE LETTER YOU HAVE CHOSEN FOR EACH QUESTION

1	6	11
2	7	12
3	8	13
4	9	14
5	10	15

QUESTION 2- (6 points)

The Dougherty Furniture Company manufactures tables. In March, the production department had a budgeted allocation base of 4,000 machine-hours. The budgeted manufacturing overhead for the month was \$172,500. For Job A, the actual costs incurred in the Production Department were as follows:

	<u>Production Department</u>
Direct materials purchased	\$110,000
Direct materials used	32,500
Direct manufacturing labor	52,500
Indirect manufacturing labor	11,000
Indirect materials used	7,500
Depreciation on equipment	17,250

Job A incurred 800 machine-hours in the Production Department. The company uses a normal costing system based upon machine hours for applying overhead to jobs.

Required:

1. Determine the predetermined manufacturing overhead rate for the Production Department.
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2. What is the total cost of Job A?
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3. How much manufacturing overhead of Job A is over-allocated or under-allocated?
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QUESTION 4- (16 points)

The following question contains two unrelated parts. Answer **each** part.

PART 1: (8 marks)

Monarch Products Ltd. sells coffee-infused shampoo bars of soap. Each bar of soap sells for \$50. For the year ended December 31, 2016, the company reported an operating income of \$50,000. The company's fixed costs are 20% of its variable costs. The company has a degree of operating leverage factor of 2.50.

Required:

1. Compute annual dollar sales for 2016.
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2. How many units would Monarch Products Ltd. need to sell in order to make an operating income of \$9,750?
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3. Calculate the company's margin of safety in units.
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4. Interpret your answer from part (3) above and explain what the margin of safety means.
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PART 2: (8 marks)

Benjamin Manufacturing Company makes three products. The cost data for these three products are as follows:

	<u>Product A</u>	<u>Product B</u>	<u>Product C</u>
Selling price	\$10	\$20	\$40
Variable costs	7	12	16

Total fixed costs are \$840,000. The company's experience has a sales mix of 20% of dollar sales come from Product A, 60% from Product B, and 20% from Product C.

Required:

1. Calculate the contribution margin per unit and contribution margin ratio for each product.

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2. Compute the weighted average contribution margin ratio.

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3. Based upon the data above, calculate the company's overall break-even point in sales dollars.

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4. Calculate the dollar value of sales of each product to be sold at the break-even point.

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QUESTION 5- (8 marks)

Gift4U is a small boutique stop located in Aurora, Ontario. The owner, Rachel Brown, has asked you to analyze the cost structure of her store as a basis for assessing the future profitability. Outlined below are cost data for the months of May and June.

The boutique’s single product is a small reading tablet. In May and June, sales were 900 tablets and 1,100 tablets, respectively. The relevant range for the company is between 700 tablets and 1,400 tablets each month.

Account	<u>June</u>	<u>May</u>
Sales (in units)	1,100	900
Cost of Tablets Sold	\$102,300	\$83,700
Selling Expenses	2,600	2,180
Rent and other expenses	1,330	1,330
Shopping Bags Used	22	18
Rachel Brown’s Monthly Salary	<u>1,850</u>	<u>1,850</u>
	\$108,102	\$89,078

Required: (when needed, please round calculations to 2 decimals).

1. Identify each cost item as either variable, fixed or mixed costs.

2. Use the high-low method and provide the cost function for total fixed and variable costs.

3. Assume the following for the month of July: Rachel plans to increase the number of tablets to be sold in July by 25% over sales made in June by reducing the selling price of the tablet.
 - a. Calculate the forecasted total costs for July if sales increase by 25%.

 - b. Calculate the forecasted total cost per unit sold for July if sales increase by 25%.

 - c. What is the lowest selling price the reading tablet can be sold for assuming Rachel wants to ensure the selling price will cover all costs and also make an extra profit of \$3 per tablet?

QUESTION 6- (16 points)

Sanjay Rajak is an accountant for Mountain High Bikes, a retailer selling sturdy mountain bikes for intermediate-level bikers. The company's managers asked Sanjay to prepare a few budgets for the first months of the upcoming year.

- a) The managers forecasted that 5,000 bikes would be sold at a price of \$800 each during the month of January. The volume of sales in the month of February is expected to be 10% less than that of January while with the same price as January. Sanjay assumes that the level of sales of March will be equal to that of February.
- b) All sales are on credit. Sanjay knows that 75 % of sales are collected in the month of sale, the rest in the next month, and sales are uniform each month. December sales were equal to \$4,000,000.
- c) The beginning finished goods inventory consists of 250 bikes at a cost per unit of \$450. Assume that the unit purchase price will remain at \$450 for next year.
- d) The managers want ending finished goods inventory in January to be 6% of sales in February and ending finished goods inventory in February to be 4% of sales in March.
- e) At Mountain Bikes, the policy is to pay 70 % of purchases in the month in which the purchase is made and 30% in the following month. December purchases were equal to \$80,000.
- f) The selling and administrative expenses budget is divided into variable and fixed components. The variable selling and administrative expenses represent 40% of sales. Fixed selling and administrative expenses are \$300,000 per month. The fixed selling and administrative expenses include \$45,000 for depreciation equipment. All selling and administrative expenses are paid in the month they are incurred.
- g) Management plans to sell a piece of unused land in January for a total amount of \$100,000. The purchase price of this piece of land was \$75,000.
- h) The company plans to purchase \$800,000 of equipment in January and pay it in cash.
- i) Management would like to maintain a minimum cash balance of \$40,000. The annual interest rate is 6%. All borrowings occur at the beginning of the month. Interest payments must be done at the end of each month. The company will repay outstanding loans at the end of each month when possible. All borrowings and repayments should be made in increments of \$1,000. The beginning cash balance is \$50,000.

REQUIRED:

Complete the following budgets. (Round your calculations to the nearest dollar).

1. Sales Budget

	Months		
	January	February	March
Sales forecast (in units)			
Selling price			
Total sales \$			

2. Sales Collections Budget

	January	February
December sales		
January sales		
February sales:		
Total cash collections		

3. Purchases Budget

	January	February	March
Sales forecast (in units)			
Desired ending inventory			
Total needs			
Beginning inventory			
Bikes to be purchased			
Purchase price			
Cost of purchases			

4. Cash disbursements for Purchases budget

	January	February
December purchases		
January purchases		
February purchases		
Total cash disbursements		

5. Selling and Administrative Expenses Budget

	January	February
Sales forecast (in dollars)		
Selling and adm. expenses:		
Variable		
Fixed		
Total expenses		
Depreciation expense		
Total expenses		

6. Cash Budget

	January
Cash balance beginning	
Cash collection from sales	
Sale of land	
Total cash available	
Less disbursements:	
Purchases	
S & A expenses	
Equipment	
Total cash disbursements	
Surplus (deficit) of cash	
Borrowings	
Repayments	
Interests on borrowings	
Cash balance, ending	

