

## Midterm Exam      Managerial Accounting      Winter 2011 Solution!!!!                      ADM2341 All Sections

**90 Minutes**

Section	Time	Professor	Check <input type="checkbox"/>
M	Mon–Wed: 1600-1730,1430-1600	Bruce LaRochelle	
N	Tues-Thurs: 10:00 - 11:30, 830-1000	Ronald Eden	
P	Mon-Wed: 100-230,1130-100	Gilles Poirier	
Q	Tues: 13:00 - 14:30, 1130-1300	Ronald Eden	
R	Wed: 19:00 - 22:00	Marc Tassé	

STUDENT NAME: .....

STUDENT NUMBER: .....

**Instructions:**

1. Answer all questions in this booklet. Booklet is **not** to be removed from the examination room. You may separate the pages but ensure that you put them back together and staple before handing in. No other paper is permitted.
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 are allowed. **Programmable calculators are not allowed.**
7. **You must show calculations.**

<u>Questions</u>	<u>Max Grade</u>
<b>Q.1</b>	<b>/4</b>
<b>Q.2</b>	<b>/4</b>
<b>Q.3</b>	<b>/4</b>
<b>Q.4</b>	<b>/5</b>
<b>Q.5</b>	<b>/10</b>
<b>Q.6</b>	<b>/10</b>
<b>Q.7</b>	<b>/10</b>
<b>Q.8</b>	<b>/10</b>
<b>Total</b>	<b>/57</b>

**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 head sets), 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.**

The number in brackets is the grade for the question

**Q.1 (4)** The following cost data relates to the activities of Black company during the just completed year:

Property taxes, factory	\$6,000
Utilities, factory	10,000
Indirect labour	20,000
Depreciation, factory	48,000
Insurance, factory	12,000
Direct Materials used	64,000
Direct labour cost	80,000
Sale salaries	90,000
Rent on the finished goods warehouse	100,000
Other selling and administrative	70,000

The company uses a predetermined overhead rate to apply overhead cost to production. The rate for the year was \$20 per machine-hour; a total of 4,500 machine-hours was recorded for the year.

**Required:** Compute the amount of the over or underapplied overhead. Is the amount favourable or unfavorable? Explain.

Actual MOH = \$6,000 + 10,000 + 20,000 + 48,000 + 12,000 = \$96,000 (2)

MOH Applied = \$20 \* 4,500 = 90,000 (1)

Underapplied by \$6,000. Unfavourable because too little overhead has been applied to products. The year end correction will increase the cost of goods sold. (1).....

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**Q.2 (4)** The following data pertain to activity and costs for two months:

	<u>June</u>	<u>July</u>
Activity level in units	10,000	20,000
Variable costs	\$20,000	\$ ?
Fixed costs	15,000	?
Mixed costs	<u>10,000</u>	<u>?</u>
Total costs	<u>\$45,000</u>	<u>\$70,000</u>

**Required:**

1. Assuming that these activity levels are within the relevant range, what were the mixed costs for July?

2. What would be the total costs in August if the activity level were 25,000 units? .....

1. Unit variable cost for June is \$2.00 (\$20,000 ÷ 10,000 units).

Total variable costs for July are \$40,000 (\$2.00 × 20,000 units).

Fixed costs for July should remain at \$15,000.

Mixed costs for July are \$15,000. (\$70,000 - \$40,000 - \$15,000) (2)

2. Total Costs for August

VC	25,000*\$2.00 = \$50,000
FC =	15,000
MC = VC	15,000 – 10,000)/(20,000 -10,000) = \$.50 *25,000 = 12,500
FC	\$15,000 – (20,000 * \$.50) <u>5,000</u>
Total (2)	\$82,500

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**Q.3 (4)** Chown Company, which has only one product, has provided the following data concerning its most recent month of operations:

Selling Price	\$110
Units in Beginning Inventory	0
Units Produced	8,000
Units Sold	7,800
Units in Ending Inventory	200
Variable Costs per Unit:	
Direct Materials	\$22
Direct Labour	\$31
Variable Manufacturing Overhead	\$ 3
Variable Selling and Administrative	\$ 4
Fixed Costs:	
Fixed Manufacturing Overhead	\$248,000
Fixed Selling and Administrative	\$140,400

**Required:** What was the **total** contribution margin for the month under the variable costing approach?

$$\text{CM per unit} = \text{SP} - \text{VC} = \$110 - 22 - 31 - 3 - 4 = \$50 \text{ (2)}$$

$$\text{Total CM} = 7,800 * \$50 = \$390,000 \text{ (2)} \dots\dots\dots$$

**Q.4 (5)** Alpha Corporation has the following income statement for a recent period:

Sales	\$800,000
Less: Variable Expenses	<u>520,000</u>
Contribution Margin	280,000
Less: Fixed Costs	<u>210,000</u>
Income	\$ 70,000

**Required:** The following two parts are independent

**1.(3)** Using the **concept of operating leverage**, if Alpha's sales decrease by 20%, calculate the new net income

$$\text{OL} = \$280,000/70,000 = 4 \text{ (1)}$$

$$\text{Income will fall by } 4 * 20\% = 80\% \text{ (1)}$$

$$\text{New income} = \$70,000 - .80 * 70,000 = \$70,000 - 56,000 = \$14,000 \text{ (1)} \dots\dots\dots$$

**2. (2)** What is Alpha's margin of safety in dollars?

$$\text{CM\%} = = 280/800 = 35\% \text{ (1)}$$

$$\text{BEP \$s} = 210,000/.35 = \$600,000 \text{ (1)} \dots\dots\dots$$

$$\text{MS \$s} = \$800,000 - 600,000 = \$200,000 \text{ (1)}$$



**Q.6 (10)** Oakes Company, which has only one product, has provided the following data concerning its most recent month of operations:

Selling price	\$108
Units in beginning inventory	0
Units produced	1,100
Units sold	900
Units in ending inventory	200
Variable costs per unit:	
Direct materials	\$28
Direct labour	30
Variable manufacturing overhead	7
Variable selling and administrative	11
Fixed costs:	
Fixed manufacturing overhead	\$14,300
Fixed selling and administrative	1,800

**Required:**

- a) Prepare an income statement for the month using the absorption costing method.  
 b) **Without preparing an income statement**, what would be the income using the variable costing method. (Hint: use the reconciliation approach)

a)

(b.) Absorption costing income statement

Sales		\$97,200
Cost of goods sold:		
Beginning inventory	\$ 0	
Add cost of goods manufactured	<u>85,800</u>	
Goods available for sale	85,800	
Less ending inventory	<u>15,600</u>	<u>70,200</u>
Gross margin		27,000
Less selling and administrative expenses:		
Variable selling and administrative	9,900	
Fixed selling and administrative	<u>1,800</u>	<u>11,700</u>
Net income		<u>\$15,300</u> .....

(6)

b) FMOH in BB(AC) \$0 (1)

FMOH in EB(AC)  $200 * \$13 = \$2,600$  (1)

Income(VC) =  $\$15,300 - 2,600 = \$12,700$  (2)

\* FMOH rate =  $\$14,300 / 1100 = \$13$

**Or**

FMOH that would be in Income statement (VC) = \$14,300

FMOH in the Income statement above =  $900 * \$13 = 11,700$

Difference =  $14,300 - 11,700 = \$2,600$

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