

QUIZ 3—VERSION B

**ADM 2341
MANAGEMENT ACCOUNTING**

Professor: Shujun Ding

Duration: 50 minutes

NAME: _____ **STUDENT #:** _____

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 copy or booklet without that signed statement will not be graded and will receive a final exam grade of zero.

Instructions:

1. Limit your answer to the space provided. Indicate if you use the back of a page.
2. The use of standard abbreviations (for example, COGS for Cost of Goods Sold) is quite acceptable.
3. **Only non-programmable calculators are allowed.**
4. The use of electronic communication devices such as cell phones is strictly prohibited during the exam. Sharing of calculators is also strictly prohibited.
5. It is highly recommended that you use blue or black ink for your answers. If you do use pencil, you will not be able to submit your midterm for re-appraisal should you believe that the marking key was not applied appropriately to your answers.

Questions 1-4 (8 marks, 2 marks each)

Please write down your answers to the multiple choice questions (questions 1 to 4) below:

Question 1	<u>A</u>
Question 2	<u>A</u>
Question 3	<u>A</u>
Question 4	<u>D</u>

- Which of the following statements about variable costing is correct?
 - Even if a company uses absorption costing for its external reports, a manager can use variable costing statements for internal reports.
 - Under variable costing, both variable manufacturing overhead and variable period cost are included to determine unit product cost.
 - Under variable costing, the unit product cost contains some fixed manufacturing overhead cost.
 - When sales exceed production for a period, absorption costing operating income will generally be greater than variable costing operating income.
- Which of the following costs/expenses is included in product costs under both absorption costing and variable costing?
 - Variable manufacturing costs.
 - Bonuses paid for CEOs.
 - Salaries for accountants.
 - Variable selling expenses.
- A study has been conducted to determine if one of the departments in Parry Company should be discontinued. The contribution margin in the department is \$65,000 per year. Fixed expenses charged to the department are \$65,000 per year. It is estimated that \$40,000 of these fixed expenses could be eliminated if the department is discontinued. These data indicate that if the department were discontinued, the company's overall operating income per year would change by how much?
 - A decrease of \$25,000.
 - A decrease of \$10,000.
 - An increase of \$25,000.
 - An increase of \$10,000
 - None of the above
- Consider the following production and cost data for two products, L and C:

	<i>Product L</i>	<i>Product C</i>
Contribution Margin per Unit	\$130	\$120
Machine Setups Needed per Unit	10 setups	8 setups

The company can only perform 65,800 machine setups each period due to limited skilled labour, and there is unlimited demand for each product. What is the largest possible total contribution margin that can be realized each period?

- \$1,820,000.
- \$975,000.
- \$910,000.

- D. \$987,000.
E. None of the above

Question 5 (11 marks)

Smith Company produces and sells a single product, a non-programmable calculator used in accounting exams. Selected cost and operating data in 2013 are given below:

Units in beginning inventory	2,000 units
Units produced in 2013	6,000 units
Units sold in 2013	8,000 units
Units in ending inventory	0
Direct materials per unit	\$11
Direct labor per unit	\$6
Variable overhead per unit	\$3
Fixed overhead per year	\$120,000
Selling price per unit	\$50
Variable selling and administrative costs per unit sold	\$5
Fixed selling and administrative costs per year	\$70,000

Required:

- 1) Compute the unit product cost in 2013 assuming that the company uses absorption costing [2 marks]
- 2) Compute the unit product cost in 2013 assuming that the company uses variable costing [2 marks]
- 3) Compute the contribution margin per unit in 2013 assuming that the company uses absorption costing [2 marks]
- 4) Compute the contribution margin per unit in 2013 assuming that the company uses variable costing [2 marks]
- 5) Compute the operating income in 2013 assuming that the company uses variable costing [3 marks]

Suggested Solutions:

1, $DM + DL + VOH + FMOH = 11 + 6 + 3 + [120,000 \div 6,000] = \40 per unit

[If the final number is correct, then 2 marks; if not, give 1 mark for including the correct FMOH.]

2, $DM + DL + VOH = 11 + 6 + 3 = \20 per unit

[If the final number is correct, then 2 marks; if not, give 1 for having all variable product elements: DM, DL, and VOH]

3, $CM = \text{selling price} - VC = \text{Price} - [DM + DL + VOH + V. S\&A] = 50 - [11 + 6 + 3 + 5] = \25 per unit

[If the final number is correct, then 2 marks; if not, then give 1 for deducting all variable expenses: DM, DL, VOH, and V. S&A. Give FULL marks if the student calculates the total CM instead and gets it correct.]

4, $CM = \text{selling price} - VC = \text{Price} - [DM + DL + VOH + V. S\&A] = 50 - [11 + 6 + 3 + 5] = \25 per unit

[If the final number is correct, then 2 marks; if not, then give 1 for deducting all variable expenses: DM, DL, VOH, and V. S&A. Give FULL marks if the student calculates the total CM instead and gets it correct.]

5, $\text{Operating income} = \text{Sales revenues} - \text{All VC} - \text{All FC} = [50 \times 8,000] - [(20 + 5) \times 8,000] - [120,000 + 70,000] = 400k - 200k - 190k = \$10,000$

[If the final number is correct, then 3 marks. If not, then 1 mark for all VC, 1 mark for all FC, and 1 mark for calculating the income correct]

Question 6 (11 marks)

Garrison Company makes 40,000 units per year of a part that it uses in the products it manufactures. The unit product cost of this part is computed as follows:

Direct materials	\$24.70
Direct labor	\$16.30
Variable manufacturing overhead	\$2.30
Fixed manufacturing overhead	<u>\$17.40</u>
Unit product cost	<u>\$60.70</u>

An outside supplier has offered to sell the company all the parts that Garrison needs for \$52.80 a unit. If the company accepts this offer, the facilities now being used to make the part could be used to make a new product that is in high demand. The additional contribution margin on this new product would be \$44,000 per year.

If the part were purchased from the outside supplier, all of the direct labour cost of the part would be avoided. However, \$9.10 of the fixed manufacturing overhead cost that is being applied to the part would continue, even if the part were purchased from the outside supplier. This fixed manufacturing overhead cost would be applied to the company's remaining products.

Required:

- How much of the unit fixed manufacturing overhead of \$17.40 is relevant in the decision of whether to make or buy the part? [2 marks]
- How much of the unit fixed manufacturing overhead of \$17.40 is **NOT** relevant in the decision of whether to make or buy the part? [2 marks]
- How much of the unit product cost of \$60.70 is relevant in the decision of whether to make or buy the part? [3 marks]
- What is the net total dollar advantage (disadvantage) of purchasing 40,000 units of the part rather than making it? [4 marks]

Suggested Solutions

- $17.40 - 9.10 = \$8.30$ [2 marks or nothing]

b) \$9.10 [2 marks or nothing]

c) $DM + DL + VOH + \text{Avoidable FMOH} = 24.7 + 16.3 + 2.3 + 8.3 = \51.6

[If the final number is correct, then give 3 marks. If not, then give 0.5 each for DM, DL, and VOH, and 1.5 for Avoidable FMOH]

d) Purchasing cost: 52.8 per unit

Relevant making cost: $51.6 + 44,000/40,000 = 51.6 + 1.1 = \52.7 per unit

Net disadvantage: $(52.8 - 52.7) \times 40,000 = \$4,000$

[If the final number and conclusion (i.e. there is net advantage) are correct, then give 4 marks. If not, 1.5 marks for calculating opportunity cost correct, either in total (\$44,000) or per unit (\$1.1), 1.5 for determining the net financial impact, and 1 mark for the conclusion (advantage vs. disadvantage)]

NEVER CARRY OVER MISTAKES. IF A STUDENT MAKES A MISTAKE IN A PREVIOUS STEP, ALWAYS GIVE FULL MARKS FOR USING THE WRONG NUMBER CORRECTLY IN THE FOLLOWING STEPS