



BUSI 1005 – Management Accounting
Winter 2011

Test 1 – February 11, 2011

There are 45 marks available on this exam
This exam consists of 6 questions and 8 pages

VERSION A

Name: _____

Student #: _____

For questions 3-5, please show your work.

Question 1 (1 mark) (2 minutes)

Please tick off the tutorial section you are registered for:

<input type="checkbox"/> (2) Mon 9:30	<input type="checkbox"/> (10) Mon 19:00	<input type="checkbox"/> (18) Tue 19:00	<input type="checkbox"/> (26) Thu 11:30
<input type="checkbox"/> (3) Mon 10:30	<input type="checkbox"/> (11) Tue 11:30	<input type="checkbox"/> (19) Wed 11:30	<input type="checkbox"/> (27) Thu 12:30
<input type="checkbox"/> (4) Mon 11:30	<input type="checkbox"/> (12) Tue 12:30	<input type="checkbox"/> (20) Wed 12:30	<input type="checkbox"/> (28) Thu 13:30
<input type="checkbox"/> (5) Mon 12:30	<input type="checkbox"/> (13) Tue 13:30	<input type="checkbox"/> (21) Wed 15:30	<input type="checkbox"/> (29) Thu 16:30
<input type="checkbox"/> (6) Mon 13:30	<input type="checkbox"/> (14) Tue 14:30	<input type="checkbox"/> (22) Wed 16:30	<input type="checkbox"/> (30) Thu 18:00
<input type="checkbox"/> (7) Mon 14:30	<input type="checkbox"/> (15) Tue 15:30	<input type="checkbox"/> (23) Wed 18:00	<input type="checkbox"/> (31) Fri 10:30
<input type="checkbox"/> (8) Mon 16:30	<input type="checkbox"/> (16) Tue 16:30	<input type="checkbox"/> (24) Wed 19:00	<input type="checkbox"/> (32) Fri 11:30
<input type="checkbox"/> (9) Mon 18:00	<input type="checkbox"/> (17) Tue 18:00	<input type="checkbox"/> (25) Thu 10:30	<input type="checkbox"/>

Question 2 (5 marks) (10 minutes)

Classify each of the following manufacturing cost categories as direct material (DM), direct labor (DL), or indirect (I)

- ___ 1. Insurance on packaging equipment.
- ___ 2. Sheet aluminum used in making beer cans.
- ___ 3. Wages of assembly line workers.
- ___ 4. Salaries of plant security guards.
- ___ 5. Leather used in making footballs.
- ___ 6. Depreciation on materials handling equipment.
- ___ 7. Factory heating costs.
- ___ 8. Grapes used in making wine.
- ___ 9. Wages of finished goods quality inspectors.
- ___ 10. Wages of woodworkers in a furniture factory.

Question 3 (10 marks) (20 minutes)

Select the best answer to each of the following questions and **circle your response directly on the exam paper**. Each question is worth 2 marks.

1. The cost of goods manufactured for Toddler Toys for the year 20x0 was \$860,000. Beginning work-in-process inventory was \$50,000. Ending work-in-process was \$60,000. If the beginning finished goods inventory was \$500,000 and the ending finished goods inventory was \$990,000, what was the cost of goods sold for the year?
 - a) \$360,000
 - b) \$370,000
 - c) \$490,000
 - d) \$1,350,000

2. The following data relates to activity and costs for two recent months:

	<u>October</u>	<u>November</u>
Activity level in units	<u>5,000</u>	<u>10,000</u>
Variable costs	\$10,000	?
Fixed costs	30,000	?
Mixed costs	<u>20,000</u>	?
Total costs	<u>\$60,000</u>	<u>\$75,000</u>

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

- a) \$20,000
- b) \$25,000
- c) \$35,000
- d) \$40,000

Refer to the following information for questions 3 – 5:

Company A uses a job-order costing system and has the following manufacturing data for the year ending December 31, 20x5. Company A writes off any under or over applied overhead to cost of goods sold.

	<i>Jan 1, 20x5</i>	<i>Dec 31, 20x5</i>
Finished goods inventory	\$29,000	\$39,000
Work in process inventory	19,000	12,000
Raw materials inventory	20,000	25,000
Purchases of raw materials		70,000
Indirect labour		6,000
Factory utilities		5,000
Factory depreciation		4,000
Other factory costs		9,000
Direct labour		36,000
Selling expense		11,000
Underapplied overhead		5,000

3. The cost of raw materials used in production would be
 - a) \$65,000
 - b) \$75,000
 - c) \$70,000
 - d) \$25,000

4. Assume that the cost of raw materials used in production is \$60,000. The cost of goods manufactured would be
 - a) \$108,000
 - b) \$122,000
 - c) \$127,000
 - d) \$132,000

5. Assume that the cost of goods manufactured is \$120,000. Based on this assumption, the cost of goods sold would be
 - a) \$105,000
 - b) \$115,000
 - c) \$91,000
 - d) \$81,000

Question 4 (5 marks) (10 minutes)

The Danilee Company incurred the following shipping costs:

<i>Month</i>	<i>Units Shipped</i>	<i>Shipping Costs</i>
March	10,500	\$11,900
April	8,000	8,550
May	7,000	8,750
June	11,000	11,750

If 10,000 units are shipped in July, what would be the expected shipping cost?

Question 5 (13 marks) (26 minutes)

Last night, the sprinkler system at Plant A was accidentally set off. The ensuing deluge destroyed most of the cost records in Plant A for the month just completed (May). The plant manager has come to you in a panic - she has to complete her report for head office by the end of today. She wants you to give her the numbers she needs for her report. She can provide you with the information:

<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Direct Materials</td> </tr> <tr> <td style="width: 10%; border-right: 1px solid black;">Beg</td> <td style="width: 90%; text-align: center;">25,000</td> </tr> <tr> <td style="border-right: 1px solid black;">End</td> <td style="text-align: center;">55,000</td> </tr> </table>	Direct Materials		Beg	25,000	End	55,000	<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Work in Process</td> </tr> <tr> <td style="width: 10%; border-right: 1px solid black;">Beg</td> <td style="width: 90%; text-align: center;">15,000</td> </tr> <tr> <td style="border-right: 1px solid black;">End</td> <td style="text-align: center;"> </td> </tr> </table>	Work in Process		Beg	15,000	End		<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Finished Goods</td> <td></td> </tr> <tr> <td style="width: 10%; border-right: 1px solid black;">Beg</td> <td style="width: 60%; text-align: center;">??</td> <td style="width: 30%;"></td> </tr> <tr> <td style="border-right: 1px solid black;">End</td> <td style="text-align: center;">50,000</td> <td style="text-align: right; vertical-align: middle;">400,000 Transferred Out</td> </tr> </table>	Finished Goods			Beg	??		End	50,000	400,000 Transferred Out
Direct Materials																							
Beg	25,000																						
End	55,000																						
Work in Process																							
Beg	15,000																						
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Finished Goods																							
Beg	??																						
End	50,000	400,000 Transferred Out																					
<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Cost of Goods Sold</td> </tr> <tr> <td style="width: 10%; border-right: 1px solid black;">Beg</td> <td style="width: 90%; text-align: center;"> </td> </tr> <tr> <td style="border-right: 1px solid black;">End</td> <td style="text-align: center;"> </td> </tr> </table>	Cost of Goods Sold		Beg		End		<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Manufacturing Overhead</td> </tr> <tr> <td style="width: 10%; border-right: 1px solid black;">Beg</td> <td style="width: 90%; text-align: center;">0</td> </tr> <tr> <td style="border-right: 1px solid black;">End</td> <td style="text-align: center;"> </td> </tr> </table>	Manufacturing Overhead		Beg	0	End		<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; border-bottom: 1px solid black;">Wages Payable</td> <td></td> </tr> <tr> <td style="width: 10%; border-right: 1px solid black;">Beg</td> <td style="width: 60%; text-align: center;">10,000</td> <td style="width: 30%;"></td> </tr> <tr> <td style="border-right: 1px solid black;">End</td> <td style="text-align: center;">20,000</td> <td></td> </tr> </table>	Wages Payable			Beg	10,000		End	20,000	
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End																							
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Beg	10,000																						
End	20,000																						

Other information:

- total direct materials transfers to work-in-process for the month were \$180,000
- a total of 10,000 direct labour hours were worked during the month at an average wage of \$15 per hour
- overhead is applied to production at \$10 per direct labour hour
- on May 31, there was 1 job, #XL235, left in Work in Process. It included \$4,000 of direct materials and had received 20 direct labour hours to date (it started on May 30).
- actual manufacturing overhead expenses for May were 95,000
- there are no indirect materials or indirect labour charges in the month of May
- the company writes off over/under applied overhead to cost of goods sold at the end of the year. The company's year end is December 31.

Required -

- a. Material purchases during May.
- b. Cost of work in process inventory at the end of May.
- c. Amount paid for direct labour in May.
- d. Cost of goods sold for May.
- e. Over/under applied overhead in May
- f. Cost of goods transferred from Work in Process to Finished Goods in May.
- g. Cost of finished goods inventory at the beginning of May.

Question 6 (11 marks) (24 minutes)

Alanis Mor is set to analyze her costs for the year. She is the accountant in charge of product costing. She has recently received calls from the marketing department enquiring about the accuracy of product costing, because the company has recently raised prices of one of their product the without any response from competitors. Similarly, their other product has been under severe price competition by competitors and management is wondering if they can maintain their leadership role with regard to product position. Alanis, gathered the following information to help in her analysis:

Total manufacturing overhead for the year was budgeted at \$5,525,000. Manufacturing overhead is charged on the basis of machine hours. Budgeted data for the year is as follows:

	<i>XZ14</i>	<i>JA21</i>
Direct Materials and Direct Labour (per unit)	\$15.50	\$17.25
Totals -		
Machine hours	15,000	35,000
Direct Labour hours	25,000	25,000
Machine set-ups	700	300
Units produced	60,000	200,000

Required:

- Compute the unit cost of XZ14 and JA21, using the current cost allocation method.
- Alanis decided to look into the activity based costing she heard about at a conference. Upon analysis, the following additional information was acquired: Manufacturing overhead consisted of the following cost pools:

<u>Item or Category</u>	<u>Cost Driver</u>	<u>Dollar Value</u>
Machine Related Costs	Machine Hours	\$1,650,000
Labour Related Costs	Direct Labour Hours	\$2,550,000
Machine Setups	Machine Setups	\$1,325,000
Total		<u>\$5,525,000</u>

Compute the unit cost of XZ14 and JA21, using activity based costing.

SOLUTION**Question 2**

- | | | | |
|-------|--------|-------|-------|
| 1. I | 2. DM | 3. DL | 4. I |
| 5. DM | 6. I | 7. I | 8. DM |
| 9. I | 10. DL | | |

Question 3

- b $\$500,000 + 860,000 - 990,000 = \$370,000$
- b $\$75,000 - 20,000 \text{ Variable Costs} - 30,000 \text{ Fixed Costs} = \$25,000$
- a $20,000 + 70,000 - 25,000 = \$65,000$
- b Total manufacturing costs =
 $60,000 + 6,000 + 5,000 + 4,000 + 9,000 + 36,000 - 5,000 = 115,000$
Cost of goods manufactured = $19,000 + 115,000 - 12,000 = \$122,000$
- b $29,000 + 120,000 - 39,000 + 5,000 = \$115,000$

Question 4 – 5 marks

Variable costs = $(11,750 - 8,750) \div (11,000 - 7,000) = \0.75 **2 marks**

Fixed costs = $\$11,750 - (11,000 \times 0.75) = 3,500$ **2 marks**

$10,000 \times \$0.75 + 3,500 = \$11,000$ **1 mark**

Question 5 – 13 marks

a. $180,000^{\text{Requisitions}} - 25,000^{\text{Op Inv}} + 55,000^{\text{End Inv}} = \$210,000$ **1 mark**

b. Job #XL235:

Direct materials	0.5	\$4,000
Direct labour: 20 hours x \$15	0.5	300
Overhead: 20 hours x \$10	1	200
		<u>\$4,500</u>

c. $10,000^{\text{Wages Pay Beg}} + 150,000^{\text{Direct Labour}} - 20,000^{\text{Wages Pay end}} = \$140,000$ **1 mark**

d. \$400,000 Amount transferred out of finished goods inventory **1 mark**

Actual overhead incurred	1	\$95,000
Applied overhead: 10,000 direct labour hours x \$10	1	100,000
Overapplied overhead		<u>\$5,000</u>

Beginning WIP	0.5	\$15,000
Direct materials	0.5	180,000
Direct labour	1	150,000
Manufacturing overhead applied	1	100,000
Less ending WIP	1	<u>-4,500</u>
		<u>\$440,500</u>

g. $\$400,000^{\text{Transferred out}} - 440,500^{\text{Transferred in}} + 50,000^{\text{End inv}} = 9,500$ **2 marks**

Question 6 – 11 marks

- a. POR = $\$5,525,000 \div 50,000 = \110.50 per MH **0.5 marks**

		<i>XZ14</i>	<i>JA21</i>
Direct Costs	0.5	\$15.50	\$17.25
Overhead: 0.25 hours x \$110.50 35/200 hours x \$110.50	2	27.63	19.34
Cost per unit		<u>\$43.13</u>	<u>\$35.59</u>

- b. Rates -

Machine related: $\$1,650,000 \div 50,000 = \$33/\text{MH}$ **1 mark**

Labour related: $\$2,550,000 \div 50,000 = \$51/\text{DLH}$ **1 mark**

Machine setups: $\$1,325,000 \div 1,000 = \$1,325/\text{Setup}$ **1 mark**

		<i>XZ14</i>	<i>JA21</i>
Machine related: $\$33 \times 15,000$ $\$33 \times 35,000$	1	\$495,000	\$1,155,000
Labour related: $\$51 \times 25,000$ $\$51 \times 25,000$	1	1,275,000	1,275,000
Machine Setups: $\$1,325 \times 700$ $\$1,325 \times 300$	1	927,500	397,500
		<u>2,697,500</u>	<u>2,827,500</u>
	1	$\div 60,000$	$\div 200,000$
Overhead cost per unit	0.5	44.96	14.14
Direct costs	0.5	15.50	17.25
Cost per unit		<u>\$60.46</u>	<u>\$31.39</u>

Alternative Solution -

		<i>XZ14</i>	<i>JA21</i>
Machine Related: $\$33 \times 15,000 / 60,000$ $35,000 / 200,000$	1.5	\$8.25	\$5.78
Labour related: $\$51 \times 25,000 / 60,000$ $25,000 / 200,000$	1.5	21.25	6.37
Machine Setups: $\$1,325 \times 700 / 60,000$ $300 / 200,000$	1.5	15.46	1.99
		<u>44.96</u>	<u>14.14</u>
Direct costs	0.5	15.50	17.25
Cost per unit		<u>\$60.46</u>	<u>\$31.39</u>