



**BUSI 1005 – Managerial Accounting
for Business Students
Fall 2013
TEST 1**

There are 45 marks available on this exam

Name: _____

Student #: _____

- 1) There are 45 marks available on this exam
- 2) This exam includes 8 pages and 5 questions.
- 3) This is a closed note, closed book examination.
- 4) Answers to Multiple-choice questions should be entered in the scantron sheet.
- 5) Answers to all other questions should be entered in this booklet.
- 6) You may use a calculator during the examination.
- 7) Show all your work and calculations.
- 8) **Good Luck!**

Question #0 (1 mark) (2 minutes)

Please tick your tutorial number to the right:

A01- Fri 11:35		A03- Mon 19:05		A05- Wed 13:35		A07-Thu 10:35	
A02- Thur 13:35		A04- Mon 18:05		A06- Wed 9:35		A08- Mon 8:35	

Question 1 (15 marks: 10 MCQ * 1.5 mark each) (30 minutes)

Select the best answer to each of the following questions and **enter your answers on the scantron sheet with a pencil.**

1. Jolly Miller is employed in the production of various electronic products, and she earns \$16 per hour. She is paid time-and-a-half for work in excess of 40 hours per week. During this week, she worked 48 hours. How much of her week's wage would be charged to manufacturing overhead (overtime premium)?
 - A. \$32
 - B. \$64
 - C. \$128
 - D. \$192

2. In a job-order costing system, the use of indirect materials would usually be recorded as a debit to which account?
 - A. Raw Materials
 - B. Work in Process
 - C. Manufacturing Overhead
 - D. Finished Goods

Use the following data to answer questions 3 and 4:

The following costs were incurred in January:

Direct materials	\$43,000
Direct labour	30,000
Manufacturing overhead	25,000
Selling expenses	12,000
Administrative expenses	28,000

3. Prime costs during the month totaled:
 - A. \$55,000
 - B. \$73,000
 - C. \$98,000
 - D. \$138,000

4. Conversion costs during the month totaled:
 - A. \$55,000
 - B. \$73,000
 - C. \$98,000
 - D. \$138,000

5. Dory Company uses a predetermined overhead rate based on direct labour hours to apply manufacturing overhead to jobs. Last year, Dory Company incurred \$156,600 in actual manufacturing overhead cost. The Manufacturing Overhead account showed that overhead was underapplied by \$12,600 for the year. If the predetermined overhead rate is \$6.00 per direct labour-hour, how many hours did the company work during the year?
- A. 28,200 hours.
 - B. 26,000 hours.
 - C. 25,000 hours.
 - D. 24,000 hours.

Use the following data to answer questions 6,7 and 8:

Atlanta company applies manufacturing overhead based on direct labour hours. You have the following information regarding 2013:

Budgeted manufacturing overhead	\$500,000
Budgeted Direct labour hours	75,000
Actual manufacturing overhead	520,000
Actual direct labour hours	73,000

6. The predetermined overhead rate in 2013 is:
- A. \$7.123/DLH
 - B. \$6.933/DLH
 - C. \$6.8493/DLH
 - D. \$6.667/DLH
7. The amount of over /underapplied manufacturing overhead in 2013 is:
- A. \$20,000 overapplied
 - B. \$20,000 underapplied
 - C. 33,309 overapplied
 - D. \$33,309 underapplied**
8. Assume the company closes over /underapplied manufacturing overhead to the Cost of Goods Sold (COGS) account. What is the impact of closing over/underapplied manufacturing overhead in 2013 on the COGS account?
- A. Debit of \$20,000
 - B. Credit of \$20,000
 - C. Debit of \$33,309
 - D. Credit of \$33,309

9. The Work in Process inventory account of a manufacturing company shows a balance of \$2,400 at the end of an accounting period. The job cost sheets of two uncompleted jobs show charges of \$400 and \$200 for direct materials and charges of \$300 and \$500 for direct labour. From this information, what predetermined overhead rate, as a percentage of direct labour costs, does the company appear to be using?

- A. 80%
- B. 125%
- C. 240%
- D. 300%

10. Finito Company has provided the following data concerning its manufacturing costs and work in process inventories last month:

Raw materials used in production	\$270,000
Direct labour	140,000
Manufacturing overhead	190,000
Beginning work in process inventory	50,000
Ending work in process inventory	80,000
Beginning finished goods inventory	75,000
Ending finished goods inventory	65,000

The Cost of Goods Manufactured for the month was:

- A. \$730,000
- B. \$630,000
- C. \$600,000
- D. \$570,000

Question 2 (12 marks) (24 minutes)

The Manhattan Company manufactures two models of compact disc players: a deluxe model and a regular model. The company has manufactured the regular model for years; the deluxe model was introduced recently to tap a new segment of the market. Since the introduction of the deluxe model, the company's profits have steadily declined and management has become increasingly concerned about the accuracy of its costing system.

The current cost accounting system allocates manufacturing support costs to the two products on the basis of direct labor hours. For 20x7, the company has estimated that it will incur \$1 million in manufacturing overhead cost and produce 5000 units of the deluxe model and 40,000 units of the regular model. The deluxe model requires two hours of direct labor and the regular model requires one hour. Material and labor costs per unit and selling price per unit are as follows:

	<i>Deluxe</i>	<i>Regular</i>
Direct materials cost	\$45	\$30
Direct labor cost	\$20	\$10
Selling price	\$140	\$80

Required -

- (a) Determine the cost to manufacture one unit of each model using the current cost accounting system of allocating manufacturing support costs based on direct labour hours. (3 marks)
- (b) The company has decided to allocate manufacturing overhead costs based on four activities. Using the activity-based costing data presented below, compute the total cost to manufacture one unit of each model.

The amount of manufacturing overhead cost traceable to the four activities for 20x7 are given below:

Activity	Activity Total Cost	Cost Driver	Cost Driver Quantity	Deluxe	Regular
Purchase orders	\$ 180,000	Number of orders	600	200	400
Quality control	250,000	Number of inspections	2,000	1,000	1,000
Production setups	220,000	Number of setups	200	100	100
Machine maintenance	350,000	Machine hours	35,000	20,000	15,000
	<u>\$ 1,000,000</u>				

Enter your answer to question 2 here:

Question 3 (5 marks) (10 minutes)

Management at Sippy Happy Productions is conducting a comprehensive investigation of cost behavior related to production of their single product. You have been asked to evaluate the behavior of shipping costs. Activity and costs for the last seven months is listed below.

Month	Shipping Activity	Shipping Cost
Aug	1,000 units	\$24,000
Sep	1,500	28,000
Oct	1,240	26,000
Nov	1,750	27,500
Dec	950	22,000
Jan	1,100	21,000
Feb	1,450	25,500

- 1) Use the high-low method to provide management with the mixed-cost equation for the shipping activity (you should provide the specific cost equation in the form $Y = a + bX$).
- 2) Determine the estimated cost for a level of shipping activity of 1,600 units.

Enter your answer to question 3 here:

Question 4 (12 marks) (24 minutes)

Hilary Inc. has provided you with the following information regarding its activity in 2013:

Direct materials purchased in 2013	\$120,000
Work in process, January 1, 2013	36,000
Direct materials, January 1 st , 2013	18,000
Finished goods inventory, January 1, 2013	45,000
Applied Manufacturing overhead	45% of conversion costs
Sales	650,000
Cost of goods available for sale in 2013 (Beginning Finished Goods inventory + Cost of goods manufactured during the year)	460,000
Direct labour during 2013	175,000
Cost of Goods Sold as % of sales	65%
Prime costs	299,000

Required

- a) Determine the cost of ending Direct Materials Inventory as of December 31, 2013.
- b) Determine the cost of ending Work in Process Inventory as of December 31, 2013.
- c) Determine the cost of ending Finished Goods Inventory as of December 31, 2013.
- d) Prepare a Schedule of Cost of Goods Manufactured for the year ended December 31, 2013.

Enter your answer to question 4 here:

Question	Q0	Q2	Q3	Q4	Total (excluding MCQ)
Marks	1	12	5	12	30
Score					

SOLUTIONS

Question 1- (15 marks) Multiple Choice Questions

1. B: $\$64 = 8\text{hours} * \8
2. C
3. B: $\$73,000 = 43,000+30,000$
4. A: $\$55,000=30,000+25,000$
5. D. Applied MOH = $\$165,600-12,600 = 143,000$
Actual DLH = $143,000/6 = 24,000\text{hours}$
6. D. POR = $500,000/75,000 = \$6.667$
7. D. applied MOH = $6.667 * 73,000 = \$486,691$
Underapplied MOH = actual – applied overhead = $\$520,000-486,691 = \$33,309$
8. C
9. B

$$\text{Total overhead} = \$2,400 - 400 - 200 - 300 - 500 = \$1,000$$

$$\text{Overhead as a \% of direct labour cost} = \$1,000 / 800 = 125\%$$

$$10. D. \$570,000 = 570,000 = 270,000+140,000+190,000+50,000-80,000$$

Question 2 – 12 marks

- (a) POR = $\$1,000,000 / 50,000 = \20 per direct labour hour **1**

	<i>Deluxe</i>	<i>Regular</i>
Direct materials	\$45	\$30
Direct labour	20	10
Overhead: 2 hours x \$20 1 hour x \$20	<u>40</u>	<u>20</u>
3 marks (1.5 for each product)	<u>\$105</u>	<u>\$ 60</u>

- (b) Pool Rates:

Purchase orders: $\$180,000 \div 600 = \300 per purchase order

Quality control: $\$250,000 \div 2,000 = \125 per inspection

Production setups: $\$220,000 \div 200 = \$1,100$ per setup

Machine maintenance: $\$350,000 \div 35,000 = \10 per machine hour

2 marks (0.5 per activity)

		<i>Deluxe</i>	<i>Regular</i>
Overhead -			
• Purchase Orders: $\$300 \times 200 400$	1	\$ 60,000	\$120,000
• Quality Control: $\$125 \times 1,000 1,000$	1	125,000	125,000
• Production Setups: $\$1,100 \times 100 100$	1	110,000	110,000
• Machine maintenance: $\$10 \times 20,000 15,000$	1	200,000	150,000
		<u>\$495,000</u>	<u>\$505,000</u>
		$\div 5,000$	$\div 40,000$
Overhead cost per unit	1	\$99.00	12.63
Direct materials	0.5	45.00	\$30.00
Direct labour	0.5	20.00	10.00
		<u>\$164.00</u>	<u>\$52.63</u>

QUESTION 3 (5 marks)

Highest level of activity- Nov: 1,750 units- cost is \$27,500

Lowest level of activity- Dec: 950 units- cost is 22,000

1 mark for correctly identifying high/low points

Variable cost = $27,500 - 22,000 / 1,750 - 950 = 5,500 / 800 = \$6.875/\text{unit}$ **1 mark**

If highest level of activity is taken : $a = 27,500 - (1,750 \text{ units} * \$6.875) = 27,500 - 12,031.25 = \$15,468.75$

If lowest level of activity is taken: $a = 22,000 - (950 \text{ units} * \$6.875) = 22,000 - 6,531.25 = \$15,468.75$

1 mark

the cost equation is: $Y = 15,468.75 + 6.875 X$ (use their own variable and fixed cost if wrong)

1 mark

2. Estimated cost is $15,468.75 + (6.875 * 1,600) = \$26,468.75$ **1 mark**

Solution QUESTION 4 (12 marks)

a) Direct materials used = prime costs – direct labour
= $299,000 - 175,000$
= $\$124,000$ **1 mark**

Ending direct materials= Beg direct materials + purchases – used direct materials

= $18,000 + 120,000 - 124,000$

= $\$14,000$ **2 marks**

b) Ending WIP = Beg WIP + DM + DL + applied MOH – COGM

Applied MOH = 45% of conversion costs = 45% (DL + MOH)

55% MOH = 45% * 175,000

MOH = $78,750 / 0.55 = \$143,181$ **2 marks**

Cost of goods available for sale = Beg F.G. inventory + COGS

COGM + Cost of goods available for sale – Beg F.G. inventory = $460,000 - 45,000 = \$415,000$ **1 mark**

Ending WIP = $36,000 + 124,000$ (use their own DM)+ $175,000 + 143,181$ (use their own MOH)- $415,000$ (use their own COGM) = $\$63,181$ **1 mark**

c) Ending F.G inventory = beg F.G. + COGM – COGS (or cost of goods available for sale- COGS)
= $45,000 + 415,000$ (use their own COGM)- $(0.65 * 650,000)$
= $45,000 + 415,000 - 422,500$
= $\$37,500$ **(2 marks)**

d)

Hilary Inc.
Schedule of Cost of Goods
Manufactured
For the year ended December 31, 20x2

Direct materials used:	
DM, Jan 1	\$18,000
Purchases	120,000
DM, Dec 31	<u>14,000</u>
	124,000
Direct labour	175,000
Manufacturing overhead	<u>143,181</u>
Total manufacturing costs	<u>442,181</u>
Work in process, Jan 1	36,000
Work in process, Dec 31	<u>63,181</u>
Cost of Goods Manufactured	<u>415,000</u>

3 marks