

Name: KEY A

ACCT 2102 – Prof. J. M. Turner
Exam #2 Spring 2012

INSTRUCTIONS – Please read before you take the exam. Failure to follow instructions will result in the loss of points.

1. This is a closed book and closed notes exam. You must do your own work without assistance from anyone. Giving or receiving assistance from anyone during the exam will result in a grade of zero and reporting to the Office of Student Integrity. To attest to your compliance with this instruction and the Georgia Tech honor system, please sign the honor pledge below before turning in your exam.
2. To treat all students equally, I do not answer questions during an exam. Answer each question based on the information given. If you think there is a typo error, please let me know.
3. You may use only a calculator supplied by me. You may not use your cell phone or personal computer during the exam. All cell phones must be turned off and placed on the top of your desk in plain view at all times during the exam. Use of your cell phone during the exam is considered cheating and a violation of the Honor System.
4. Each multiple-choice question has only one best answer. If you choose more than one answer, it will be considered an incorrect answer. **Enter your answer to the multiple choice questions on the Scantron sheet provided.** What you enter on the Scantron sheet is your answer for grading purposes. Please totally erase changes on the Scantron or get a clean Scantron form and re-enter your answers. Insert your Scantron form inside of this exam when you turn it in.
5. You are required to show your work on the problems. **If you do not show your work, you will not receive full credit even if you have a correct answer.**

6. There are ~~11~~⁹ pages in this exam. Points available are as follows:

Terminology matching – 15 ¹⁷ @ 2 points each	30 34
Problems (2) ¹	24 10
Multiple choice – 25 ¹⁷ @ 3 points each	25 51
Total	129 95

Grades will be expressed as a percentage of total available points.

Honor Pledge:

On my honor, I pledge that I have neither given nor received any unauthorized help on this exam.

(Signed)

If you do not want your graded exam returned to the grading bins for this class, please sign below. If you do not sign below, your exam will be placed in the bins for this class if you signed a FERPA waiver.

Do not return my graded exam to the bin: _____

34

Matching (2 points each – 14 total points) Match each of the following terms with the phrase that most closely describes it. Each answer may be used only once. Enter the letter in the space provided; use capital letters.

- | | |
|--|---|
| ✓ A. Ability to bear costs <i>approach to allocation</i> | ✓ J. Cost pool |
| ✓ B. Full absorption costing | ✓ K. Cost-plus contract |
| ✓ C. Activity-based costing | ✓ L. Cost structure |
| ✓ D. Activity-based management | ✓ M. Equity approach to allocation |
| ✓ E. Cause-and-effect relationship | ✓ N. Lump-sum allocation |
| ✓ F. Controllable costs | O. Relative benefits approach to allocation |
| ✓ G. Cost allocation | ✓ P. Responsibility accounting system |
| ✓ H. Cost driver | ✓ Q. Unitized costs |
| ✓ I. Cost objective | ✓ R. Variable costing |

- R 1. A costing approach in which only variable manufacturing costs are product costs, and fixed manufacturing costs are period expenses.
- B 2. A costing approach in which all manufacturing costs are added to the product.
- F 3. Costs that a manager can influence
- A 4. A method of allocation that assigns more costs to more profitable cost objects.
- L 5. The relative proportion of fixed versus variable costs that a company incurs.
- H 6. A measure of the activity that is used to allocate costs
- N 7. Allocations of fixed costs in which predetermined amounts are allocated regardless of changes in the level of activity
- I 8. The object or recipient of the cost allocation
- P 9. A system of accounting that traces revenues and costs to organizational units and individuals with related responsibility for generating revenue and controlling costs.
- G 10. Assigning indirect costs to cost objectives
- E 11. An allocation of cost to the cost objective that caused it to be incurred.
- D 12. Has the goal of improving efficiency and effectiveness by analyzing and costing activities
- J 13. A grouping of individual costs whose total is allocated using one allocation base
- Q 14. Fixed costs stated on a per unit basis
- C 15. A recently developed method of cost allocation that uses cost drivers to allocate costs to products
- K 16. Price for this includes actual costs plus a fixed amount or percentage
- M 17. An attempt to allocate costs in a way that is fair to interested parties.

- D 1. Which of the following costs are not considered product costs under variable costing?
- A. Fixed manufacturing overhead.
 - B. Variable selling and administrative costs. *NOT product under any system*
 - C. Fixed selling and administrative costs. *-NOT product under any system*
 - D. None of the above.

- A 2. Which of the following is not a reason for a company to use variable costing? In other words, all of the following are reasons to use variable costing except *False*
- A. Variable costing is required by generally accepted accounting principles.
 - B. Variable costing eliminates the temptation to overproduce in order to reduce cost per unit. *true*
 - C. Variable costing highlights the fact that all of fixed overhead costs will be incurred regardless of the level of production. *true*
 - D. Variable costing is useful for decision making. *true*

- D 3. The following are amounts determined by Image, Inc. for the production of 800 clocks during August:

Sales price	\$40 per unit	<i>\$ 40</i>
Variable manufacturing costs	\$6 per unit	<i>(6)</i>
Fixed manufacturing costs	\$4 per unit	
Variable administrative costs	\$3 per unit	<i>(3)</i>
Fixed administrative costs	\$5 per unit	
	<i>unit cm \$</i>	<i>31</i>

If 800 clocks are sold during August, how much is total contribution margin? *x 800*

- A. \$27,200
- B. \$17,600
- C. \$24,000
- D. \$24,800

\$24,800

- D 4. In using variable costing, how are fixed manufacturing costs classified?
- A. As inventory costs
 - B. As part of cost of goods sold
 - C. As product costs
 - D. As period costs

Use the following data for problems 5 and 6.

Ajax Manufacturing has the following cost structures:

Direct material	\$10
Direct labor	20
Variable manufacturing overhead	<u>5</u>
Total variable manufacturing costs per unit	\$35

Fixed manufacturing overhead per year	\$100,000
Fixed selling and administrative expense per year	\$200,000

- A 5. Assume that Ajax produces 10,000 items and sells 8,000 items. In this case, the full cost of ending inventory is:

- ☐ A. \$90,000
☐ B. \$70,000
☐ C. \$140,000
☐ D. \$130,000

Var cost /unit	\$35	FC/unit	\$45
X units prod.	X 10,000	#units in inventory	X 2,000
TOTAL VAR COST	350,000	End Inv	\$90,000
FIXED PROD ✓	100,000		
Total prod cost	450,000		
# units	÷ 10,000		
COST /unit	\$45/unit		

- D 6. Assume that Ajax produces 10,000 items and sells 8,000 items. The selling price of Ajax's product is \$90 per unit. In this case, the contribution margin on the income statement prepared using variable costing is:

- ☐ A. \$350,000
☐ B. \$550,000
☐ C. \$700,000
☒ D. \$440,000

SP /unit	\$90
VC /unit	<u>35</u>
Unit contrib unit	\$55
Units sold	X 8,000
	<u>\$440,000</u>

- B 7. Last month, Garland Industries produced 100,000 units and sold 75,000 of them at a price of \$10 per unit. Manufacturing costs consisted of direct materials of \$200,000, direct labor of \$120,000, variable manufacturing overhead of \$60,000 and fixed manufacturing overhead of \$150,000. General and administrative costs totaled \$90,000.

What would Garland's net income be for the month using variable costing?

- ☐ A. \$262,500
☒ B. \$225,000
☐ C. \$380,000
☐ D. \$370,000

TCM	\$465,000
FOH	150,000
AFSA	<u>90,000</u>
Income	<u>225,000</u>

DM	200,000 ÷ 100,000 = \$2/unit
DL	120,000 ÷ 100,000 = 1.20/unit
Var OH	60,000 ÷ 100,000 = .60/unit
VC/unit	<u>\$3.80</u>

SP	\$10
VC	<u>3.80</u>
UnitCM	6.20
X	75,000
TCM	<u>465,000</u>

- D 8. Last month, Garland Industries produced 100,000 units and sold 75,000 of them at a price of \$10 per unit. Manufacturing costs consisted of direct materials of \$200,000, direct labor of \$120,000, variable manufacturing overhead of \$60,000 and fixed manufacturing overhead of \$150,000. General and administrative costs totaled \$90,000.

What would Garland's net income be for the month using full costing?

- A. \$370,000
B. \$225,000
C. \$380,000
D. \$262,500

fixed

Total product cost - DM	200,000
DL	120,000
VOH	60,000
FH	150,000
	<u>530,000</u>
Total prod cost	
# units produced	÷ 100,000
Full cost/unit	<u>\$5.30</u>

SP	\$ 10
FC	<u>5.30</u>
Gross profit	4.70
	<u>X 75,000</u>
total GP	352,500
G+A	<u>90,000</u>
Income	<u>262,500</u>

- C 9. Mortenson Machines announced that production was being reduced because the company had excess inventory. Its first quarter would report a huge loss because of the use of full costing for financial reporting purposes. Which of the following is correct?

- A. With the reduction in production, fixed manufacturing overhead is spread out over more units and unit cost decreases. With a lower unit cost, cost of goods sold will be high and profit low.
- B. With the reduction in production, fixed manufacturing overhead is spread out over fewer units and unit cost increases. With a higher unit cost, cost of goods sold will be lower and profit higher.
- C. With the reduction in production, fixed manufacturing overhead is spread out over fewer units and unit cost increases. With a higher unit cost, cost of goods sold will be high and profit low.
- D. With the reduction in production, fixed manufacturing overhead is spread out over more units and unit cost decreases. With a higher unit cost, cost of goods sold will be high and profit low.

- C 10. An important concern in forming a cost pool is to:

- A. Avoid placing similar costs in the same pool.
- B. Limit the number of costs that make up the pool.
- C. Ensure that the costs in the pool are homogenous, or similar.
- D. Give back to the Tech community.

B 11. One way to avoid the unfavorable behavioral problems associated with unitized fixed costs is to:

- A. Not allocate fixed costs.
- B. Use a lump-sum method of allocating fixed costs.
- C. Combine fixed and variable costs in a single cost pool.
- D. Use only volume-based measures as the cost allocation base.

C 12. Which one of the following costs would most likely be allocated to products by a toy truck manufacturer in order to determine full cost per unit?

- A. Costs to advertise toy trucks on television. *PERIOD COST*
- B. Wages of workers that assemble the trucks. *direct labor*
- C. Production supervisor's salary. *Mfg. O/H*
- D. Cost of the wheels. *2 DIRECT MATLS.*

A 13. Which one of the following is a benefit of ABC for managers?

- A. It often leads to cost control improvements.
- B. Its use in determining full costs helps with internal decision making. *False*
- C. It is less likely that ABC will over-cost complex, low-volume products and under-cost simple, high-volume products. *False - effect as stated is backwards*
- D. It more expensive than traditional costing systems. *False*

All of the above

C 14. It is generally a good idea to allocate _____ rather than _____ service department costs.

- A. budgeted, direct
- B. variable, actual
- C. budgeted, actual
- D. uncontrollable, actual

Use the following data for questions 15 and 16.

Olsen Company estimated the following costs and activities for March:

Activity	EST. TOTAL Total cost	Cost driver & Estimated total units	Allocation rate Per unit
Machine setups	\$33,600	400 Setups	\$84 per setup
Utilities	\$60,000	200,000 usage hours	\$0.30 per hour
Materials handling	\$84,000	12,500 crates	\$6.72 per crate
Direct labor	\$35,520		\$20 per labor hour
Direct material	\$60,000		\$1 per pound

O/H
COST
TOTAL: 177,600

The following information pertains to the actual production of brackets and hinges during March:

	Brackets	Hinges
Units produced	60,000	40,000
Direct material cost incurred	\$30,000	\$31,200
Direct labor cost incurred (\$20/hour)	\$24,000	\$12,000
Setups implemented	120	290
Crates handled	6,800	5,200
Utility hours used	80,000	125,000

15. How much is the overhead cost per **hinge** if Olsen uses a traditional cost system and applies overhead based on direct labor cost using only one cost pool?

A. \$2.31
B. \$5.00
C. \$1.50
D. \$0.73

$$\begin{aligned} \text{Total O/H Cost } \$177,600 \\ \text{DIRECT LABOR COST } 35,520 \\ \hline = \$5 / \text{DIRECT LABOR DOLL} \\ \times \$12,000 \text{ TOTAL D.L. COST} \\ \hline \$60,000 \text{ TOTAL O/H Applied} \\ \div 40,000 \text{ \# hinges} \\ \hline \$1.50 \text{ O/H per hinge} \end{aligned}$$

16. How much is the overhead cost per **hinge** if Olsen uses activity-based costing?

A. \$2.42
B. \$17.76
C. \$1.50
D. \$91.02

$$\begin{aligned} \text{Setups. } \$84 \times 290 &= \$24,360 \\ \text{Utils } \$0.30 \times 125,000 &= 37,500 \\ \text{M. Handling } \$6.72 \times 5,200 &= 34,944 \\ \hline \text{Total O/H} &= 96,804 \\ \text{\# hinges} &\div 40,000 \\ \hline \text{O/H per hinge} &= \$2.4201 \end{aligned}$$

B

17. Martinez, Inc. has 2 departments—sorting and molding. The payroll and IT departments provide services for the production departments and all other service departments. Payroll is allocated based on number of employees and IT is allocated based on number of computer stations. Martinez provided the following information concerning its departments for June:

Department	Cost Incurred	# of employees	Square feet	Computer stations	# of labor hours
Sorting	\$58,000	30	3,000	6	20,000
Molding	\$84,000	10	4,500	4	10,000
IT	\$40,000	15	1,000	12	3,000
Payroll	\$34,000	25	1,500	8	7,000

How much service cost will be allocated to the sorting department using the direct method?

- A. \$45,250
B. \$49,500
C. \$88,300
D. \$20,750

	Sort	Mold	TOTAL	
# EMPLOYEES	30	10	40	$\$34,000/40 = \850
# STATIONS	6	4	10	$\$40,000/10 = \$4,000$

$$\begin{array}{lcl} \text{SORT - Payroll} & \$850 \times 30 = & \$25,500 \\ \text{IT} & \$4,000 \times 6 = & 24,000 \\ & & \hline & & 49,500 \end{array}$$

Bonus Question (2 points) DO NOT ENTER THE ANSWER TO THE BONUS QUESTION ON THE SCANTRON. INDICATE YOUR ANSWER BELOW.

C

If you see your professor, Dr. Turner, on campus or in the COM building, the appropriate reaction is to:

- A. Act as though you don't see him or don't know him
B. Turn around and walk the other way being careful to avoid eye contact
C. Smile and say hello
D. Offer him an incentive to grade your exam favorably

Note – There is only one correct answer to the bonus question

Problem 1

(10 points)

Raeon, Inc. produces car radios. The selling price per radio is \$1,000. Costs involved in production are:

Direct material	\$100
Direct labor	100
Variable manufacturing overhead	50
Fixed manufacturing overhead per year	250,000

\$250 Var cost of product

In addition, the company has fixed selling and administrative costs:

Fixed selling costs per year	\$175,000
Fixed administrative costs per year	75,000

During the year, Raeon produces 1,000 car radios and sells 800 radios. There was no beginning inventory.

Required:

- How much is profit using variable costing? \$100,000
- What is the cost of ending inventory using variable costing? \$50,000

① Sales	800 # @ \$1,000/unit	+	\$800,000	
Variable costs of production:				
Dir. Mat'l	800 @ \$100	+	80,000	
Dir. Labor	800 @ \$100	+	80,000	
Var O/H	800 @ \$50	+	40,000	
			<u>200,000</u>	
Contribution Margin			600,000	
Fixed Costs:				
Manuf. overhead		+	250,000	
Selling		+	175,000	
Admin.		+	75,000	
			<u>500,000</u>	
Net income / Profit			\$100,000	
		+	<u>7</u>	

② End Inventory

200 units @ \$250 each = \$50,000

3 = +1 +2