

EXAM REVIEW

ACCOUNTING 102 - UNIT I - CHAPTERS 1, 2 & 3

STUDY SUGGESTIONS

Review your class notes, homework exercises and problems.

Review **Summary, Review Problem and Glossary** at the end of each chapter.

Use your **Study Guide**, especially Multiple Choice and True & False questions

Chapter 1 - An Introduction To Managerial Accounting And Cost Concepts

Understand the major differences between **financial** and **managerial accounting**.

Know and understand the following terms and concepts:

- Planning
- Directing and motivating
- Controlling
- Feedback

Period costs (nonmanufacturing costs):

- Selling & Administrative Expenses

Product costs (inventory costs or manufacturing costs):

- Direct materials
- Direct labor
- Manufacturing overhead

Prime cost (direct materials and direct labor)

Conversion Cost (direct labor and manufacturing overhead)

Cost behavior:

- Variable Cost
- Fixed cost
- Relevant Range

Cost object:

- Direct Cost
- Indirect cost

Cost Classifications used in decisionmaking

- Differential cost and differential revenue
- Opportunity cost
- Sunk cost

Know how to prepare a **Schedule of Cost of Goods Manufactured**

Know how to prepare an **Income Statement including calculation of the cost of goods sold**

Know how to prepare a **Schedule of Cost of Goods Sold**

Understand the flow of product costs through inventory to cost of goods sold

Raw materials

Work in process including manufacturing overhead

Finished goods

Chapter 2 - Job Order Costing

Understand the differences and similarities between job order and process costing.

Understand the flow of overhead costs:

How manufacturing overhead costs are assigned to production

How to compute predetermined overhead rates

How to apply overhead costs to production

How to compute over and under applied overhead and close it to the appropriate accounts.

Understand how product costs flow through the three inventory accounts and into cost of goods sold.

Know the journal entries required in a Job Order Cost system.

Chapter 3 – Activity Based Costing

Explain the major differences between activity-based costing and a traditional costing system.

Distinguish between unit-level, batch-level, product-level, and facility-level activities.

Understand the ABC methodology:

How to compute activity rates for cost pools.

How to assign costs to products.

How to compute overhead cost per unit for each product.

How to compute total unit cost for each product.

Explain why product costs computed under activity based costing and conventional costing methods differ.

Explain how activity based costing can be used to target process improvements.

Understand the flow of costs in an activity based costing system.

SAMPLE PROBLEMS

Problem 1

Fill in the Missing Data

Cost of Goods Manufactured	Case 1	Case 2
Direct materials	8,000	6,000
Direct labor	3,000	5,000
Manufacturing overhead	_____	7,000
Total manufacturing costs	32,000	_____
Beginning work in process inventory	_____	2,000
Ending work in process inventory	2,000	_____
Cost of goods manufactured	_____	_____

Income Statement

Sales	50,000	30,000
Beginning finished goods inventory	9,000	7,000
Cost of goods manufactured	31,500	_____
Goods available for sale	_____	23,000
Ending finished goods inventory	7,000	5,000
Cost of goods sold	_____	_____
Gross margin	_____	12,000
Operating expenses	10,000	_____
Net income	6,500	3,000

Problem 2

Schedules of Cost of Goods Manufactured and Costs of Goods Sold

The following data were taken from the cost records:

Depreciation, factory	70,000
Indirect labor	110,000
Utilities, factory	50,000
Insurance factory	15,000
Lubricants for machines	10,000
Direct Labor	210,000
Purchases of raw materials	160,000

Inventories at the beginning and end of the year were as follows:

	<u>January 1</u>	<u>December 31</u>
Raw materials	15,000	25,000
Work in process	30,000	10,000
Finished goods	40,000	60,000

(a) Prepare a Schedule of Cost of Goods Manufactured

(b) Determine the Cost of Goods Sold for the year.

Problem 3

Calculation of overhead rate and application of overhead

The J & M Plastics Company uses a predetermined overhead rate based on direct labor hours to apply manufacturing overhead to jobs. Estimated and actual data for direct labor and manufacturing overhead for the last year are as follows:

	<u>Estimated</u>	<u>Actual</u>
Direct labor hours	500,000	480,000
Manufacturing overhead	1,000,000	965,000

Required:

- (1) Compute the predetermined overhead rate for the year
- (2) Calculate the overhead applied for the year.
- (3) What is the amount of over-applied or under-applied overhead?
- (4) Journalize the entry to close the over or under-applied overhead to COGS

Problem 4

Journal Entries, T Accounts and Overhead Applied

The Jordan Company uses a job order costing system and applies overhead cost to jobs on the basis of direct labor hours. At the beginning of the year, the following estimates were made for the purpose of computing the predetermined overhead rate: manufacturing overhead cost \$360,000 and direct labor hours, 900. The following transactions took place during the year:

- a. Raw materials purchased, \$200,000.
- b. Raw materials used in production (all direct materials), \$185,000.
- c. Salary and wages incurred:
 - Direct labor (975 hours)\$230,000
 - Indirect labor \$ 90,000
 - Selling & Administrative salaries\$110,000
- d. Utility costs incurred, \$70,000 (90% related to factory operations, remainder to selling & administrative)
- e. Maintenance costs were incurred in the factory, \$54,000.
- f. Advertising costs were incurred, \$136,000.
- g. Depreciation was recorded for the year, \$95,000 (80% related to factory equipment, remainder to selling & adm equip.)
- h. Rental costs incurred on the buildings, \$120,000 (85% related to factory operations, remainder to selling & adm.)
- i. Manufacturing overhead was applied to jobs, \$_____.
- j. Cost of goods manufactured for the year, \$770,000.
- k. Sales for the year (all on account) totaled \$1,200,000. These goods cost \$800,000 to manufacture.

The balances in the inventory accounts at the beginning of the year were:

Raw Materials.....	\$30,000
Work in Process.....	21,000
Finished Goods.....	60,000

Required:

- (a) Prepare the journal entries to record the information given above.
- (b) Prepare T-accounts for **Raw Materials, Work in Process, Finished Goods and Manufacturing Overhead**. Post the relevant journal entries above to each T-account.
 1. Determine the ending balance in each account.
 2. What is the amount of over or under-applied overhead?
 3. Journalize the entry to transfer it to COGS.

(c) Job 412 was one of the many jobs started and completed during the year. The job required \$8,000 in direct materials and 39 hours of direct labor time at a total direct labor cost of \$9,200. The job contained only four units. If the company bills at a price 60% above the unit cost on the job cost sheet, what price per unit would have been charged to the customer?

Problem 5

Activity-Based Costing

Cabalo Company manufactures two products, Product C and Product D. The company estimated it would incur \$130,890 in manufacturing overhead costs during the current period. Overhead currently is assigned to the products on the basis of direct labor hours. Data concerning the current period's operations appear below:

	<u>Product C</u>	<u>Product D</u>
Estimated volume	400 units	1,200 units
Direct labor hours per unit	0.70 hour	1.20 hours
Direct material cost per unit	\$10.70	\$16.70
Direct labor cost per unit	\$11.20	\$19.20

Management is considering using activity-based costing to apply manufacturing overhead cost to products for external financial reports. The activity-based costing system would have the following three activity cost pools:

<u>Activity Cost Pool</u>	<u>Estimated Activity Measure</u>	<u>Overhead Cost</u>
Machine setups	Number of setups	\$ 13,570
Purchase Orders	Number of purchase orders	91,520
General Factory	Direct labor hours	25,800

<u>Activity Measure</u>	<u>Expected Activity</u>		<u>Total</u>
	<u>Product C</u>	<u>Product D</u>	
Number of setups	100	130	230
Number of purchase orders	810	1,270	2,080
Number of direct labor hours	280	1,440	1,720

Required:

- a. Compute the predetermined overhead rate under the current method. Using this rate and other data from the problem, determine the unit product cost of each product.
- b. Determine the activity rate (i.e. predetermined overhead rate) for each cost pool.
- c. Using the activity rates you computed in (b) above, do the following:
 - 1) Compute the total amount of manufacturing overhead cost that would be applied to each product using the activity-based costing system. After these totals have been computed, determine the amount of manufacturing overhead cost per unit of each product.
 - 2) Compute the unit product cost of each product.

SOLUTIONS TO SAMPLE PROBLEMS

Problem 1

* The missing data is indicated by an asterisk

	<u>Case 1</u>	<u>Case 2</u>
Direct materials	8,000	6,000
Direct labor	3,000	5,000
Manufacturing overhead	<u>21,000*</u>	<u>7,000</u>
Total manufacturing costs	32,000	18,000*
Add: Beginning work in process inventory	1,500*	2,000
Deduct: Ending work in process inventory	<u>2,000</u>	<u>4,000*</u>
Cost of goods manufactured	<u>31,500*</u>	<u>16,000*</u>
 Sales	 50,000	 30,000
Beginning finished goods inventory	9,000	7,000
Add: Cost of goods manufactured	<u>31,500</u>	<u>16,000*</u>
Goods available for sale	40,500*	23,000
Deduct: Ending finished goods inventory	<u>7,000</u>	<u>5,000</u>
Cost of goods sold	<u>33,500*</u>	<u>18,000*</u>
Gross margin (Sales -Cost of goods sold)	16,500*	12,000
Operating expenses	<u>10,000</u>	<u>9,000*</u>
Net income	<u>6,500</u>	<u>3,000</u>

Problem 2

Schedule of Cost of Goods Manufactured

Direct materials:

Raw materials inventory, January 1	15,000	
Add: Purchases of raw materials	<u>160,000</u>	
Raw materials available for use	175,000	
Deduct: raw materials inventory, Dec. 31	<u>25,000</u>	
Raw materials used in production		150,000
Direct Labor		210,000
Manufacturing overhead:		
Depreciation, factory	70,000	
Indirect labor	110,000	
Utilities, factory	50,000	
Insurance, factory	15,000	
Lubricants for machines	<u>10,000</u>	
Total overhead costs		<u>255,000</u>
Total manufacturing costs		615,000
Add: Work in process inventory, January 1		<u>30,000</u>
		645,000
Deduct: Work in process inventory, Dec. 31		<u>10,000</u>
Cost of Goods Manufactured		635,000

Schedule of Cost of Goods Sold

Finished goods inventory, January 1	40,000
Add: Cost of Goods Manufactured	<u>635,000</u>
Goods available for sale	675,000
Deduct: Finished goods inventory, Dec 1	<u>60,000</u>
Cost of Goods Sold	615,000

Problem 3

Calculation of overhead rate and application of overhead

- Predetermined overhead rate for the year:
 $\$1,000,000 / 500,000 = \2 per direct labor hour
- Overhead applied for the year. $480,000 \times \$2 = \$960,000$
- Under-applied overhead $\$965,000 - 960,000 = \$5,000$
- COGS

Manufacturing Overhead	5,000	5,000
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Problem 4
Journal Entries

Predetermined Overhead Rate: $\$360,000/900 = \400 per direct labor hour

a. Raw materials inventory	200,000	
Accounts payable		200,000
b. Work in process	185,000	
Raw materials inventory		185,000
c. Work in process	230,000	
Manufacturing overhead	90,000	
Salary & Wage Expense	110,000	
Wages payable		430,000
d. Manufacturing overhead	63,000	
Utilities Expense	7,000	
Accounts payable		70,000
e. Manufacturing overhead	54,000	
Accounts payable		54,000
f. Advertising Expense	136,000	
Accounts payable		136,000
g. Manufacturing overhead	76,000	
Depreciation Expense	19,000	
Accumulated depreciation		95,000
h. Manufacturing overhead	102,000	
Rent Expense	18,000	
Accounts payable		120,000
i. Work in process	390,000	
Manufacturing overhead		390,000
(975 dlh x \$400/dlh = 390,000)		
j. Finished goods inventory	770,000	
Work in process		770,000
k. Accounts Receivable	1,200,000	
Sales		1,200,000
Cost of goods sold	800,000	
Finished goods inventory		800,000

T Accounts

<u>Manufacturing Overhead</u>	
(c) 90,000	(f) 390,000
(d) 63,000	
(e) 54,000	
(g) 76,000	
(h) 102,000	
	Bal 5,000

<u>Raw Materials</u>	
Bal 30,000	(b) 185,000
(a) 200,000	
Bal 45,000	

<u>Work in Process</u>	
Bal 21,000	
(b) 185,000	(j) 770,000
(c) 230,000	
(i) 390,000	
Bal 56,000	

<u>Finished Goods</u>	
Bal 60,000	(k) 800,000
(j) 770,000	
Bal 30,000	

a. Manufacturing overhead is \$5,000 overapplied

b. Manufacturing Overhead	5,000	
COGS		5,000

Job 412

Cost of Manufacturing Job 412:

Direct Materials	\$8,000	
Direct Labor (39 hours)	9,200	
Manufacturing Overhead	<u>15,600</u>	= 39 dlh * 400
Total Cost	\$32,800	

Cost Per Unit Produced in Job 412:

Total Cost (a)	\$32,800
Units Produced (b)	<u>4</u>
Unit Cost (a/b)	\$ 8,200

Selling Price Per Unit Charged to Customer for Job 412:

Unit Cost	\$ 8,200
Markup (60%)	<u>4,920</u> (8,200 * .60)
Selling Price per unit	\$13,120

Problem 5 **Activity-Based Costing**

A. Predetermined Overhead Rate:

$$\$130,890 / 1,720 = \$76.10$$

<u>Direct Labor Hours:</u>	<u>Product C</u>	<u>Product D</u>	<u>Total</u>
	400 units	1,200 units	
	<u>x .7 dlh</u>	<u>x 1.2 dlh</u>	
	280	1,440	1,720

<u>Unit Product Cost:</u>	<u>Product C</u>	<u>Product D</u>
Direct Materials	\$ 10.70	\$ 16.70
Direct Labor	11.20	19.20
Manufacturing Overhead	<u>53.27*</u>	<u>91.32**</u>
Total Unit Cost	\$ 75.17	\$127.22

$$*.7 \text{ dlh/unit} * \$76.10 = \$53.27$$

$$**1.2 \text{ dlh/unit} * \$76.10 = \$91.32$$

B. Activity-Based Costing – Activity Rates:

<u>Activity Cost Pool</u>	<u>Estimated OH Cost</u>	<u>Estimated Activity</u>	<u>Activity Rate</u>
Machine set-ups	\$ 13,570	230 setups	\$59 per setup
Purchase orders	91,520	2,080 orders	\$44 per order
General Factory	25,800	1,720 dlh	\$15 per dlh

C. 1) Activity-Based Costing – Applying Overhead Cost to Products

<u>Activities</u>	<u>Activity Rates</u>	<u>Product C</u>		<u>Product D</u>	
		<u>Estimated Activity</u>	<u>Estimated Amount</u>	<u>Estimated Activity</u>	<u>Estimated Amount</u>
Machine set-ups	\$59 per set-up	100	\$ 5,900	130	\$ 7,670
Purchase orders	\$44 per order	810	35,640	1,270	55,880
General Factory	\$15 per dlh	280	<u>4,200</u>	1,440	<u>21,600</u>
Total Overhead Cost (a)			\$45,740		\$85,150
Number of units produced (b)			400 units		1,200 units

Overhead cost per unit (a/b)	\$114.35/unit	\$70.96/unit
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C. 2) Activity-Based Costing – Unit Product Costs

<u>Unit Product Cost:</u>	<u>Product C</u>	<u>Product D</u>
Direct Materials	\$ 10.70	\$ 16.70
Direct Labor	11.20	19.20
Manufacturing Overhead	<u>114.35</u>	<u>70.96</u>
Total Unit Cost	\$136.25	\$106.86