

LECTURE GUIDE SOLUTIONS - CHAPTER 6
Merchandising Activities

Example 1 – Subsidiary Ledgers

Indicate the subsidiary ledger item for each of the following general ledger controlling accounts.

SOLUTION

G/L Controlling Account	Subsidiary Ledger Item
Cash	Each bank account
Accounts receivable	Individual customers
Inventory	Each item offered for sale
Plant assets	Each asset
Accounts payable	Individual creditors
Capital stock	Individual shareholders

Example 2 – Perpetual Inventory System Journal Entries

The following transactions occurred for Jill Swad Nissan. Record each entry in general journal form. Swad uses a perpetual inventory system.

- Three cars are purchased from Nissan (Maxima, \$21,000; Altima, \$14,500; Sentra; \$11,000) on account.
- The Maxima is sold for \$23,750 to Abe Lincoln; he paid 20% down.
- Nissan is paid in full.
- Abe Lincoln paid his account in full.

SOLUTION

a. Inventory	46,500	
Accounts payable (Nissan)		46,500
b. Cash	4,750	
Accounts Receivable (Abe Lincoln)	19,000	
Sales		23,750
Cost of goods sold	21,000	
Inventory		21,000
c. Accounts payable (Nissan)	46,500	
Cash		46,500
d. Cash	19,000	
Accounts receivable (Abe Lincoln)		19,000

Example 3 – Inventory Shortage

The year-end physical inventory at the Maltan Company showed a total of \$55,450, but the inventory ledger balance is \$56,300. Prepare the necessary adjusting journal entry.

SOLUTION

Cost of goods sold	850	
Inventory		850

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Example 4 – Periodic Inventory

A store that sold microwave ovens had 50 ovens on hand at the beginning of the year. During the year it purchased 290 ovens and there were 30 ovens left over at the end of the year. How many ovens were available for sale at some point during the year? How many ovens were sold? What was the cost of the ovens sold if each oven cost \$100?

SOLUTION

Ovens available for sale at some point = 50 (beginning) + 290 (purchases) = 340.

Ovens sold = 340 (available) - 30 (ending) = 310 ovens.

The cost of the ovens sold = 310 ovens × \$100 = \$31,000.

Example 5 – Periodic Inventory System Journal Entries

The following transactions occurred for Jill Swad Nissan. Record each entry in general journal form. Swad uses a periodic inventory system.

- Three cars are purchased from Nissan (Maxima, \$21,000; Altima, \$14,500; Sentra; \$11,000) on account.
- The Maxima is sold for \$23,750 to Abe Lincoln; he paid 20% down.
- Nissan is paid in full.
- Abe Lincoln paid his account in full.

SOLUTION

a. Purchases	46,500	
Accounts payable (Nissan)		46,500
b. Cash	4,750	
Accounts Receivable (Abe Lincoln)	19,000	
Sales		23,750
c. Accounts payable (Nissan)	46,500	
Cash		46,500
d. Cash	19,000	
Accounts receivable (Abe Lincoln)		19,000

Example 6 – Year-End Entries in a Periodic Inventory System

At year-end, the physical inventory of the Lawrence Corp. showed merchandise on hand totaling \$157,000. Inventory at the beginning of the year was \$152,500, and purchases of inventory for the year totaled \$1,090,400. Prepare the journal entry to close the purchases account and create a cost of goods sold account. Also, determine cost of goods sold using the "formula" approach.

SOLUTION

Inventory (ending)	157,000	
Cost of goods sold (forced)	1,085,900	
Inventory (beginning)		152,500
Purchases		1,090,400

Using the formula approach to determine CGS:

Beginning inventory	\$ 152,500
+ purchases	<u>1,090,400</u>
= Goods available for sale	1,242,900
- ending inventory	<u>-157,000</u>
= Cost of goods sold	\$1,085,900

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Example 8 – Purchase Discount

A company purchases inventory on account for \$4,000 on June 17, terms are 2/10, net 30. The invoice is paid on June 26.

- (1) Record the June 17 and June 26 entries, using both the gross and the net methods.
- (2) Suppose that the company did not pay until June 30. How would the entries change?

SOLUTION

(1) Gross

June 17

Inventory	4,000	
Accounts payable		4,000

June 26

Accounts payable	4,000	
Purchase discounts (4,000 × 2%)*		80
Cash		3,920

*Reduces purchases on the income statement (or CGS)

(1) Net

June 17

Inventory	3,920	
Accounts payable		3,920

June 26

Accounts payable	3,920	
Cash		3,920

(2) Gross

June 30

Accounts payable	4,000	
Cash		4,000

(2) Net

June 26

Accounts payable	3,920	
Purchase discounts lost	80	
Cash		4,000

Example 9 – Purchase Return

A company purchases inventory on account for \$4,000 on June 17, but the merchandise is returned to the supplier on June 26. Record the June 26 entry.

SOLUTION

Accounts payable	4,000	
Inventory		4,000

Example 10 – Sales Returns

A customer purchased merchandise on account on July 8 for \$1,000, but returned the items on July 16. The merchandise had originally been purchased from the supplier for \$895. Prepare the July 16 journal entries assuming that a perpetual inventory system is in use.

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SOLUTION

Sales returns and allowances*	1,000	
Accounts receivable		1,000
Inventory	895	
Cost of goods sold		895

*Reduces sales on the income statement.

Example 11 – Sales Discount

Merchandise is sold on August 13 for \$500 with terms of 1/10, n/30 and the customer pays on August 21. Record the August 13 and August 21 journal entries.

SOLUTION

August 13

Accounts receivable	500	
Sales		500

August 21

Cash	495	
Sales discounts*	5	
Accounts receivable		500

*Reduces sales on the income statement.

Example 12 – Sales Taxes

Merchandise is sold on account for \$500 on March 8 and is subject to a 6% sales tax. Record the March 8 journal entry.

SOLUTION

Accounts receivable	530	
Sales		500
Sales tax payable		30

Example 13 – Net Sales

How might you analyze Procter & Gamble’s reported net sales?

SOLUTION

Sales for the most recent 5 years are given on page 46 of the annual report. We can compare the yearly figures and calculate the yearly changes.

Year	Net sales	% Change
2002	40,238	+2.5%
2001	39,244	-1.8%
2000	39,951	+4.8%
1999	38,125	+2.6%
1998	37,154	+3.9%
1997	35,764	

Interpret: P&G has not exhibited impressive sales growth. 2000 looked good, but the decline in 2001 is worrisome.

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Financial Assets

Example 1 – Bank Reconciliation

The following information relates to the bank checking account for Cantor Corp. as of May 31.

Balance per bank statement at May 31	\$9,740.15
Outstanding checks	3,352.70
Deposit in transit	1,106.30
Service charge by bank	10.00
Interest credited by bank	43.10
Balance per general ledger at May 31	7,550.65

In addition, the accountant for Cantor just discovered that an employee's paycheck written for \$435 was mistakenly recorded for \$345.

Prepare a bank reconciliation and record the adjusting entry needed to adjust to the correct cash balance.

SOLUTION

Balance per bank statement		\$9,740.15
Add: Deposits in transit	\$1,106.30	
Undeposited receipts	xxx	
Bank errors that understate bank balance	<u>xxx</u>	1,106.30
Deduct: Outstanding checks	\$3,352.70	
Bank errors that overstate bank balance	<u>xxx</u>	<u>-3,352.70</u>
Adjusted cash balance		<u>\$7,493.75</u>

Balance per books		\$7,550.65
Add: Bank credits and collections not in books	\$ 43.10	
Book errors that understate book balance	<u>xxx</u>	43.10
Deduct: Bank charges not recorded in books	\$ 10.00	
Book errors that overstate book balance	<u>90.00</u>	<u>-100.00</u>
Adjusted cash balance		<u>\$7,493.75</u>

Adjusting journal entry:

Cash	43.10	
Interest revenue		43.10
Bank service charge	10.00	
Salary expense	90.00	
Cash		100.00

Example 2 – Marketable Securities

The Clarion Co. purchased shares of Proctor & Gamble Co. stock for \$42,000 on September 9, 2003. On October 15, Clarion received \$1,500 in dividends. By December 31, 2003, the P&G stock was worth \$45,000. Assuming Clarion classifies the investment as available for sale, prepare the entry to record dividends and the adjusting journal entry to record the change in value. How will any investment-related accounts appear in the financial statements? How would your answer change if the investment were considered a trading security? Could the investment be classified as “held to maturity?”

SOLUTION

Available for sale

Receipt of dividends

Cash	1,500	
Dividend revenue		1,500

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Adjusting journal entry

Marketable securities	3,000	
Unrealized holding gain on investments		3,000

Financial statements

The marketable securities will be shown in the balance sheet at the \$45,000 market value. In the stockholders' equity section of the balance sheet, include the unrealized holding gain account, probably right after retained earnings. The balance will increase stockholders' equity.

Trading security

The dividend entry would be the same, but the unrealized holding gain would go on the income statement rather than the balance sheet.

Held to maturity

The investment could never be considered held to maturity because stock does not have a maturity date.

Example 3 – Direct Write-Off Method

Fortney Co. determines that its \$1,000 account receivable from Barton Co. is uncollectible. Fortney uses the direct write-off method of accounting for bad debts. Record the necessary journal entry.

SOLUTION

Bad debt expense	1,000	
Accounts receivable		1,000

Example 4 – Estimating Bad Debts Using the Allowance Method

The following information relates to the Banyon Company.

Charge sales	\$500,000	
Estimated % of charge sales not collectible	1¼%	
Accounts receivable balance	\$72,500	
Estimated % of accounts receivable not collectible	8%	

Determine the charge to bad debt expense: (1) using the balance sheet approach, assuming the balance in the allowance account is \$150 credit; (2) using the balance sheet approach, assuming the balance in the allowance account is \$150 debit; (3) using the income statement approach.

SOLUTION

(1) Balance sheet approach if allowance account has \$150 credit balance

Desired balance in allowance account ($.08 \times \$72,500$)	\$5,800	
Expense = (\$5,800 - 150)		\$5,650

(2) Balance sheet approach if allowance account has \$150 debit balance

Desired balance in allowance account ($.08 \times \$72,500$)	\$5,800	
Expense = (\$5,800 + 150)		\$5,950

(3) Income statement approach, based on percentage of sales.

Expense = ($\$500,000 \times .0125$)		\$6,250
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Required journal entry

Bad Debt Expense		
Allowance for Doubtful Accounts		

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Financial Assets

Example 5 – Write-Off of Account; Reinstatement of Account

Assume that account of a customer, the Morton Co., is 90 days past due. The company has decided to write off the \$1,500 account as of June 30. Three months later (September 30), Morton is able to pay one-half of the account balance that was written off in June. Record the June 30 and September 30 journal entries.

June 30

Allowance for doubtful accounts	1,500	
Accounts receivable (Morton Co.)		1,500

September 30

Accounts receivable (Morton Co.)	750	
Allowance for doubtful accounts		750
Cash	750	
Accounts receivable (Morton Co.)		750

Example 6 – Liquidity of Accounts Receivable

In Chapter 14, we calculated the accounts receivable turnover and average collection period for Procter & Gamble for 2001 and 2002. How can we interpret those results?

SOLUTION

Ratio	Formula	Year	Calculations	Answer	Industry	S&P
AR turnover	$\frac{\text{net sales}}{\text{average AR}}$	2002	$\frac{40,238}{(3,090 + 2,931)/2}$	13.37 times	11.37 times	9.75 times
		2001	$\frac{39,244}{2,931}$	13.39		
Ave. coll. period	$\frac{365}{\text{AR turnover}}$	2002	$\frac{365}{13.37}$	27 days	32 days	37 days
		2001	$\frac{365}{13.39}$	27 days		

Interpret: To interpret these measures, we might (1) understand what they measure, (2) compare to last year, (3) compare to industry data or data for a broad group of companies, and/or (4) compare to rules of thumb.

- (1) AR turned over completely 13.37 during 2002. On average, it took 27 days to collect AR.
- (2) In 2001, the turnover was 13.39, or 27 days to collect (using 2001 AR balance, not the average AR), so P&G had a slight decline in 2002.
- (3) P&G is doing better than the industry overall and firms in general. However, we don't really know how credit terms differ among the firms.
- (4) Rules of thumb: none, although the collection period should not greatly exceed the credit term period (a figure we don't have access to).

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Example 7 – Note Receivable

The Dresden Company had accounts receivable due from the Piccolo Corp. Piccolo was experiencing financial difficulties and requested an extension to pay the amount owed. Dresden agreed, and on October 1, Piccolo signed a 120-day, 12% note.

- (1) Record all necessary entries assuming that the note was paid at the due date.
- (2) Record the entry needed on the due date assuming that Piccolo Corp. defaulted.

SOLUTION

(1)

October 1--receipt of note

Note receivable	10,000	
Accounts receivable		10,000

December 31 adjusting entry

Interest receivable ($\$1,000 \times .12 \times 3/12$)	300	
Interest revenue		300

February 1--collection of principal and interest.

Cash	10,400	
Note receivable		10,000
Interest receivable		300
Interest revenue		100

(2)

February 1--defaulted note

Accounts receivable	10,400	
Note receivable		10,000
Interest receivable		300
Interest revenue		100

LECTURE GUIDE SOLUTIONS – CHAPTER 8

Inventories and the Cost of Goods Sold

Example 1 – Computation of Cost of Goods Sold and Ending Inventory

Inventory data	Cost	Units
<i>Beginning inventory + purchases:</i>		
1/1 Beginning inventory, 1,000 units @ \$5	\$5,000	1,000
1/10 Purchase 200 units @ \$8	1,600	+200
1/20 Purchase 300 units @ \$6	<u>1,800</u>	<u>+300</u>
	\$8,400	1,500
 <i>Sales:</i>		
1/15 Sell 500 units @ \$12		<u>-500</u>
		1,000

Required:

1. Compute cost of goods sold and ending inventory assuming:
 - a. FIFO periodic
 - b. LIFO periodic
 - c. Average cost periodic
 - d. FIFO perpetual
 - e. LIFO perpetual
 - f. Average cost perpetual

2. Prepare journal entries to record the 1/10 and 1/15 transactions for (b) and (d).

SOLUTION

Cost of goods sold calculations for 500 units

- a./d. FIFO (periodic or perp.) = $(500 @ \$5) = \$2,500$
- b. LIFO (periodic) = $(300 @ \$6) + (200 @ \$8) = \$3,400$
- c. Average cost (periodic) = $(\$8,400 \div 1,500 \text{ units}) = \$5.60 \times 500 = \$2,800$
- e. LIFO (perpetual) = $(200 @ \$8) + (300 @ \$5) = \$3,100$
- f. Average cost (perpetual) = $\frac{(\$5 \times 1,000) + (\$8 \times 200)}{1,200} = 5.50 \times 500 = \$2,750$

Ending inventory calculations for 1,000 units

- a./d. FIFO (periodic or perp.) = $(300 @ \$6) + (200 @ \$8) + (500 @ \$5) = \$5,900$
- b. LIFO (periodic) = $(1,000 @ \$5) = \$5,000$
- c. Weighted ave. (periodic) = $\$5.60 \times 1,000 = \$5,600$
- d. LIFO (perpetual) = $(700 @ \$5) + (300 @ \$6) = \$5,300$
- f. Weighted ave. (perpetual) = $\frac{(\$5 \times 1,000) + (\$8 \times 200)}{1,200} = 5.50$
 $= (\$5.50 \times 700) + (\$6 \times 300) = \$5,650$
 (new average cost = 5.65/unit)

Summary

	Periodic			Perpetual		
	FIFO	Average Cost	LIFO	FIFO	Average Cost	LIFO
Goods avail. for sale	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400	\$8,400
Ending inventory	5,900	5,600	5,000	5,900	5,650	5,300
Cost of goods sold	2,500	2,800	3,400	2,500	2,750	3,100

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Inventories and the Cost of Goods Sold

Journal Entries for b.

<u>January 10</u>		
Purchases	1,600	
Accounts payable		1,600
<u>January 15</u>		
Accounts receivable	6,000	
Sales		6,000

Journal Entries for d.

<u>January 10</u>		
Inventory	1,600	
Accounts payable		1,600
<u>January 15</u>		
Accounts receivable	6,000	
Sales		6,000
Cost of goods sold	2,500	
Inventory		2,500

Example 2 – Error in Ending Inventory

Shown below is correct information related to inventory, net income, and ending retained earnings for 2002 and 2003. Determine the effect on those items in both 2002 and 2003 assuming that 2002 ending inventory is either understated (error 1) or overstated (error 2).

	2002 Correct	2003 Correct	Error 1		Error 2	
			2002	2003	2002	2003
Beg. Inventory	10	20	10	18	10	22
+ Purchases	50	60	50	60	50	60
= GAFS	60	80	60	78	60	82
- End. Inventory	20	25	18	25	22	25
= CGS	40	55	42	53	38	57
Net income	30	35	28	37	32	33
End. RE	50	85	48	85	52	85

Example 3 – Gross Profit Method

The following information relates to the Delatore Company:

Beginning inventory	\$60,000
Purchases	90,000
Sales	100,000
Gross profit %	20%

Compute (1) the estimated cost of goods sold and (2) the estimated cost of ending inventory.

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Inventories and the Cost of Goods Sold

SOLUTION

(1) Estimated cost of goods sold:

$$\begin{aligned}\text{Cost of goods sold} &= \text{sales} \times (100\% - 20\% \text{ gross profit}) \\ &= \$100,000 \times 80\% \\ &= \$80,000\end{aligned}$$

(2) Estimated cost of ending inventory:

$$\begin{aligned}\text{Cost of beginning inventory} & \$ 60,000 \\ + \text{Cost of purchases} & \underline{90,000} \\ = \text{Cost of goods available for sale} & 150,000 \\ - \text{Cost of goods sold} & \underline{-80,000} \text{ (est.)} \\ = \text{Estimated cost of ending inventory} & \$ 70,000 \text{ (est.)}\end{aligned}$$

Example 4 – Retail Method

Assume that the following information is given:

Beginning inventory:	
At cost	\$100,000
At retail	125,000
Net purchases:	
At cost	300,000
At retail	375,000
Net sales at retail	280,000

Calculate the following:

- Goods available for sale at cost
- Goods available for sale at retail
- Cost ratio (cost to retail)
- Ending inventory at retail
- Ending inventory at cost

SOLUTION

- Goods available for sale at cost = 100,000 (BI) + 300,000 (purchases) = 400,000
- Goods available for sale at retail = 125,000 (BI) + 375,000 (purchases) = 500,000
- Cost ratio = 400,000 ÷ 500,000 = 80%
- Ending inventory at retail = 125,000 + 375,000 - 280,000 = 220,000
- Ending inventory at cost = 80% × 220,000 = 176,000

[Note: ending inventory is valued at average LCM]

Example 5 – Inventory and Liquidity

Refer to the ratios we calculated in Chapter 14 for Procter & Gamble. How might you analyze Procter & Gamble's inventory turnover and days in inventory?

LECTURE GUIDE SOLUTIONS – CHAPTER 8

Inventories and the Cost of Goods Sold

SOLUTION

Ratio	Formula	Year	Calculations	Answer	Industry	S&P
Inventory turnover	$\frac{\text{CGS}}{\text{average inventory}}$	2002	$\frac{20,989}{(3,456+3,384)/2}$	6.14 times	5.53 times	9.88 times
		2001	$\frac{22,102}{3,384}$	6.53 times		
Ave. days in inventory	$\frac{365}{\text{inventory turnover}}$	2002	$\frac{365}{6.14}$	59 days	66 days	37 days
		2001	$\frac{365}{6.53}$	56 days		

Interpret: To interpret these measures, we might (1) understand what they measure, (2) compare to last year, (3) compare to industry data or data for a broad group of companies, and/or (4) compare to rules of thumb.

- (1) Inventory turned over completely 6.14 times during last year. On average, it took 59 days to sell the inventory.
- (2) Last year, the turnover was 6.53, or 56 days to sell (using 2001 inventory balance, not the average inventory), so P&G has gotten a little slower in turning over inventory.
- (3) P&G is doing better than the industry overall. A comparison to S&P firms may not be meaningful, since the types of inventory sold can vary drastically. Also, P&G's turnover rate is probably slower than non-manufacturing firms, since they have to actually make the inventory before they sell it, and that manufacturing time is included in the turnover rate.
- (4) Rules of thumb: none, given variations in the type of inventory that companies sell.