

**FNDB020 Accounting**

**Workbook Answers**

Lecture and Tutorial

**Week 9: Accounting for Inventories**

**Part II**

**Updated April 2016**

**FNDB020: Accounting for Inventories (Part II)**

**Cost Flow Assumptions**

**Week 9A: Accounting for Inventories**

**Part II**

**This week you learn to calculate Ending Inventory and Cost of Goods Sold.**

**Recording inventory purchased at different prices**

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In *Accounting for Inventories Part I,* Adele *purchased* inventory at a **fixed** unit cost price of $3.00. However Adele is finding that inflation and changes in demand and supply of goods **has caused price changes.** If inventory is purchased at different cost price, **which cost price should Adele use?** Recording **cost of goods** purchased (inventory) is important since it determines the cost of good sold **(COGS)** (when Adele **sells**). *Remember that Net Sales –* ***COGS*** *= Gross Profit.*

For her **retail business** Adele’s Flower Shop, when an item is **sold** it is necessary to determine its cost using ***a cost flow assumption*** and ***related inventory cost flow method.***

There are **three** common inventory cost flow methods:

1. FIFO (first-in, first-out);
2. LIFO (last-in, first-out); and
3. Moving/Weighted Average cost

These are inventory cost flow methods used in both the perpetual and periodic inventory system. Adele will need to learn to allocate the cost of the inventory between:

1. Ending inventory (current asset) = number of units on hand x cost price
2. Cost of goods sold (expense) = number of units sold x cost price

**Methods to Allocate Cost of Inventories**

Before we explore the three main costing methods, we will look at a *specialised* method of inventory cost allocation:

1. **Specific Identification**

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The Specific Identification method is used by businesses that sell easily identifiable items of **high value** (for example cars, jewellery, expensive art). Each inventory unit is given a unique code (a serial number or registration number). This code is used to track **each** inventory item from the point of purchase to when it is sold (**COGS**). It is also used to determine inventory remaining (**ending inventory**) at the end of the accounting period.

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| **Exercise 9.1** | Specific Identification Method |

Lucas buys and sells pianos. He uses the specific identification costing method. Each piano is assigned a unique serial number when it is purchased. In July 2016, the following purchases were made:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Serial Number** | **Brand of Piano** | **Purchase Date** | **Cost Price** |
| 1. | Yag325 | Yamaha | 3 Jul 2015 | $8 500 |
| 2. | Beg159 | Beale | 3 Jul 2015 | 11 000 |
| 3. | Kau167 | Kayserburg | 5 Jul 2015 | 5 000 |
| 4. | Kag254 | Kayserburg | 5 Jul 2015 | 15 000 |
| 5. | Peg152 | PearlRiver | 25 Jul 2015 | 6 500 |

Total Cost of Goods **available in inventory for sale**  $46 000

In July 2016, the following pianos were sold: Kau167, Yag325.

1. Calculate the **COGS** (cost of each *uniquely identifiable* piano sold) for July 2016:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Unique Serial Number** | Cost | | Kau167 |  | | Yag325 |  | | COGS |  | |

1. Calculate the **ending inventory** on hand (remaining pianos) at 31 July 2016:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Unique Serial Number** | Cost | | Beg159 |  | | Kag254 |  | | Peg152 |  | | Ending Inventory |  | |

When is the Specific identification method used?

The specific identification method **is not practical unless each high value inventory unit can be separately identified**. For example, an automobile dealer may use the specific identification method since each automobile has a unique serial number. However, for many businesses this is ***impractical*** as most retail inventory is **almost identical and purchased in batches/ large quantities** (e.g. Cadbury choc, iPhones, Samsung tablets, **roses sold by Adele**). In such cases, one of the following three inventory cost flow methods may be used.

1. **Cost Flow Assumptions: FIFO,**

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| 1. Cost flow is in the order in which the cost was **first** purchased (incurred) |
| First-In, First-Out (**FIFO**) |

**FIFO**

Under the **first-in first-out (FIFO) inventory cost flow method**, the ***first-in units* purchased are assumed to be sold first. If 250 units are sold, FIFO calculates COGS from = 235 units @ $3.00 + 15 units @ $3.50.** This leaves the *ending inventory* made up of the most recent purchases.

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| --- | --- | --- | --- | --- |
|  |  | Inventory | Units | Cost per Unit |
| Aug | 01 | Available (first-in) | 235 | $3.00 |
|  | 05 | Purchase | 100 | 3.50 |
|  | 15 | Purchase (last-in) | 100 | 4.00 |
|  |  | Total | 435 |  |

**Inventory Costing Method – Perpetual Inventory System**

**A. Perpetual Inventory System (Use of an Inventory card)**

In a perpetual inventory system, an inventory card is prepared for each inventory item.

The inventory card records the cost price of the inventory item at the time of purchase. This **cost price** will be used to calculate COGS and the ending inventory, under FIFO, LIFO and Moving average methods.

The following transactions in Table A, for Adele’s flower shop, will be used for exercises 9.2.1 to 9.4:

In August 2016, Adele made the following purchases and sales of inventory:

Table A

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Description | # of Units (40cm Roses) | | | Unit cost price ($) | Total cost ($) |
| 01 Aug | Balance **(first-in)** | 235 | | | **$3** | $705 |
| *Purchases made during August:* | | | | | | |
| 05 Aug | Purchase | | 100 | | **3.50** | 350 |
| 15 Aug | Purchase **(last-in)** | | 100 | | **4.00** | 400 |
| Total purchases | | | 200 | |  | 750 |
| *Cost of Goods* ***available*** *for sale (a)* | | | 435 | |  | $1,455 |
| *Sales made during August* | | | | | | |
| 08 Aug | Sales | | | 80 | ? | ? |
| 23 Aug | Sales | | | 90 | ? | ? |
| Total (***cost of goods sold***) (b) | | | | 170 | ? | ? |
| 31 Aug | **Ending Balance = (a)-(b)** | | | 265 | ? | ? |

***Required:*** Calculate COGS (sold inventory) and ending inventory (remaining and still available), using the different cost flow assumptions.

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| **Exercise 9.2.1** | Illustrate FIFO in a perpetual inventory system |

Complete the inventory card, using the transactions in table A.

FIFO: ***first-in units* purchased are assumed to be sold first.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Adele’s Flower shop – Inventory Card** | | | | | | | | | | |
| Item: Rose (40cm) | |  | | | | | | | | |
| Code: R40 | | Purchases | | | Sales **(COGS)** | | | Balance (available) | | |
| Date | Explanation | Units | Unit cost | Total cost | Units | Unit cost | Total cost | Units | Unit cost | Total cost |
| **1/8** | Balance |  |  |  |  |  |  | 235 | $3 | $705 |
|  | **(first-in)** |  |  |  |  |  |  | 235 | 3 | 705 |
| **5/8** | Purchase | 100 | 3.5 | 350 |  |  |  |  |  |  |
| **8/8** | Sales **(first-in)** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 100 | 3.5 | 350 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 100 | 3.5 | 350 |
| **15/8** | Purchase | 100 | 4 | 400 |  |  |  |  |  |  |
| **23/8** | Sales **(first-in)** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 100 | 3.5 |  |
|  |  |  |  |  |  |  |  | 100 | 4 |  |

Ending inventory from the inventory card (roses remaining as inventory):

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COGS from the inventory card (roses sold, taken out of inventory):

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4. Confirm COGS using the average cost per unit:

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| **COGS= $3.34 x 170= $567.80**  **The difference is due to rounding of the unit cost.** |

1. Which method provides the **highest profit** in August? Which method provides the lowest? Why?

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**Advantage and disadvantage to each inventory costing method**

**1. FIFO: First-in, first-out**

**Advantages:**

1. FIFO is easy to apply and therefore widely used.
2. It does not permit profit manipulation because management has to use the oldest unit cost for COGS. (Remember that COGS is an expense and will affect the profit).
3. The ending inventory reflects a more recent market value of goods.

**Disadvantage:**

The COGS recognised using FIFO may not reflect the current market value of goods, leading to overstatement or understatement of profit.

1. Not subject to profit manipulation
2. It smooths out profit by reporting COGS and ending inventory between the extremes produced by FIFO and LIFO during price changing periods.

Tutorial Week 10A

1. Which account does a retailer use that a service firm doesn’t use?

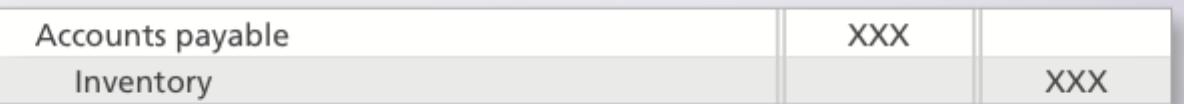
1. Cost of sales
2. Inventory
3. Sales revenue
4. All of the above

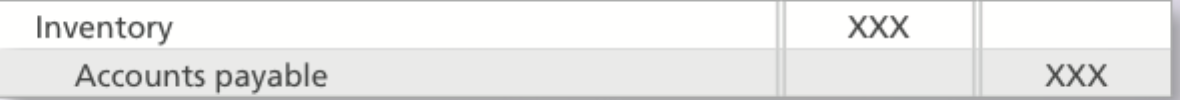
2. The two main inventory accounting systems are the:

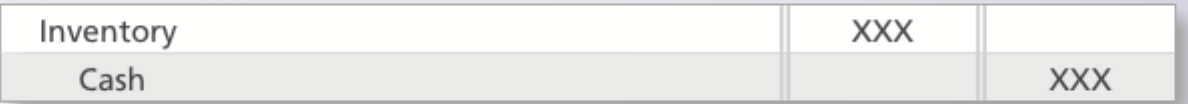
1. perpetual and periodic
2. purchase and sale
3. returns and allowances
4. cash and accrual

3. Ignoring GST, the journal entry for the purchase of inventory (under the Perpetual inventory method) on credit is:

a. 

b. 

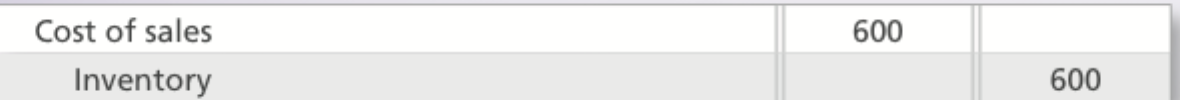
c. 

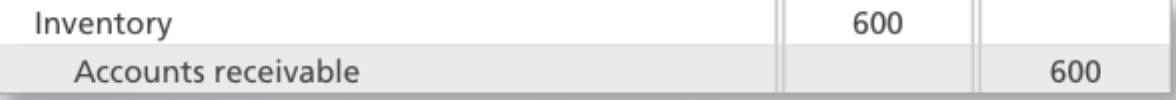
d. 

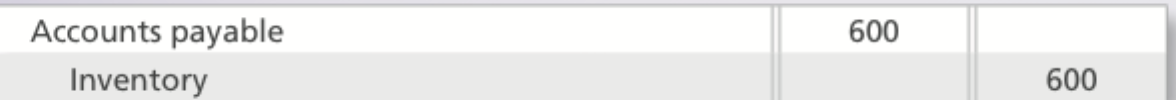
5. Suppose in one day JB Hi-Fi had sales of $300 000 and sales returns of $45 000. Cost of sales was $152 000. How much gross profit did JB Hi-Fi report for the day?

1. $148 000
2. $103 000
3. $255 000
4. $88 000

6. Suppose Dave’s Discount’s Inventory account showed a balance of $8 000 before the year- end adjustments. The physical count of goods on hand totalled $7400. Assuming errors of recording were involved, Dave Marshall would make the following entry to adjust the accounts: **.**

a. 

b. 

c. 

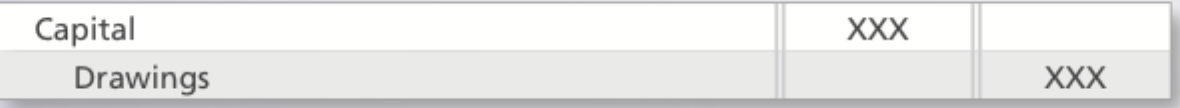
d. 

7. Which account in question 6 would Dave Marshall close at the end of the year?

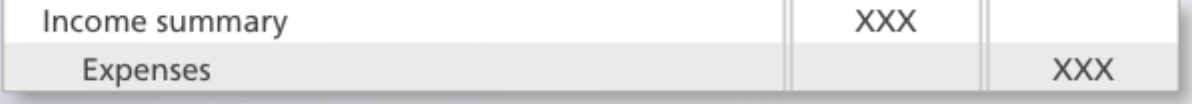
1. Cost of sales
2. Inventory
3. Accounts receivable
4. Accounts payable

8. The final closing entry for a proprietorship (sole trader) is:

a. 

b. 

c. 

d. 

## Task 1 Suppose Kmart buys $185 800 worth of MegoBlock toys on credit terms of 2/10, n/30. Some of the goods are damaged in shipment, so Kmart returns $18 530 of the goods to MegoBlock. All amounts are inclusive of GST.

***Requirement*** How much must Kmart pay MegoBlock:

1. after the discount period?
2. within the discount period?

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| a. | Original purchase amount |  |
|  | Less: Purchase returns |  |
|  | Kmart pays this amount *after* the discount period |  |
| b. | Kmart pays this amount *within* the discount period (-2%) |  |

## Task 2 Suppose a Myers store purchases $61 000 of women’s sportswear on credit from Tomas on 1 July 2016. Credit terms are 2/10, net 45. Myers pays electronically and Tomas receives the money on 10 July 2016.

***Requirements***

1. What was Myers’ net cost of this inventory? Ignore GST.
2. Journalize Myers’ transactions for 1 July 2016 and 10 July 2016.

:

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| --- | --- | --- | --- | --- |
| Journal | | | | |
| DATE | | ACCOUNTS AND EXPLANATIONS | DEBIT | CREDIT |
|  |  | *Myers’ entries* |  |  |
| Jul | 1 |  |  |  |
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| Myers’ cost of the inventory | = | Amount of the cash payment |
|  | = |  |
|  | = |  |

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| **ADDITIONAL EXERCISE - TEACHER GUIDED ACTIVITY** |

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| **Exercise 9.0** |  | **Income statement — perpetual inventory system** |

Source: Hoggett 9E, Chapter 6 (exercise 6.11)

*The account balances below are taken from the records of Gilberton Retail Prepare an income statement under the perpetual inventory system for the year ended 30 June 2016.*

|  |  |
| --- | --- |
| *Cost of sales*  *Inventory, 30 June 2016*  *Selling and distribution expenses*  *Sales*  *Sales returns and allowances*  *Administrative expenses*  *Freight inwards*  *Finance expenses* | *102 620*  *12 070*  *32 730*  *163 810*  *3 880*  *10 750*  *2 020*  *1 360* |

***Required:***

*Complete the Income Statement for the financial year ended 30 June 2016 using the* ***perpetual inventory*** *method.*

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| **GILBERTON RETAIL**  **Income Statement**  **for the year ended 30 June 2016** | | | |
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