Khurasan University

Faculty of Economics (BBA)

# Cost Accounting

For 2nd Year, 3rd Semester



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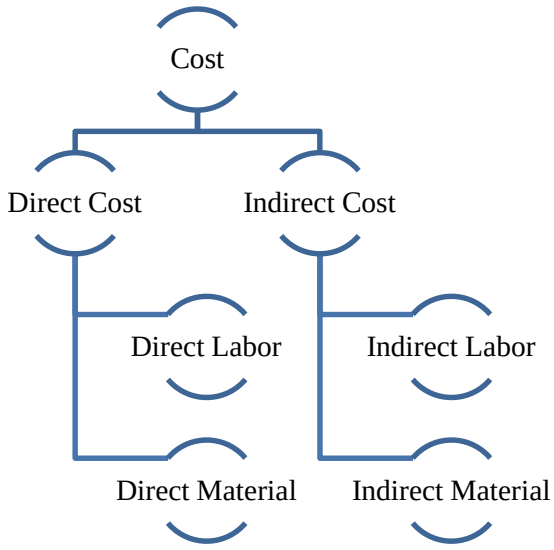
# Chapter One

## Definition of Cost Accounting:

**Cost Accounting:** Accounting for cost is known as a Cost Accounting.

هغه محاسبه کوم چې د مصرف د معلومولو لپاره ترسره کیږي د Cost Accounting څخه عبارت دی.

## Classification of Cost:




- **Direct Cost:** A cost which can be easily traced into a product is called Direct Cost.

  هغه مصرف کوم چې په یو تولید کې په اسانۍ سره اندازه کېدلای شي د Direct Cost څخه عبارت دی.

  - **Direct Labor:** A labor which is directly involved in the production of a product is called Direct Labor.

    هغه مذدور کوم چې په تولید کې په مستقیمه توګه برخه اخلي هغې ته Direct Labor ویل کیږي.

  - **Direct Material:** Materials which can be easily traced in full into a product is called Direct Material.

    هغه مواد کوم چې په یو تولید کې په اسانۍ سره اندازه کیدلای شي د Direct Material څخه عبارت دی.

- **Indirect Cost:** A cost which cannot be easily traced into a product is called Indirect Cost or Factory Overhead (FOH).

  هغه مصرف کوم چې په یو تولید کې په اسانۍ سره نشي اندازه کېدلای شي د Indirect Cost څخه عبارت دی.

  - **Indirect Labor:** A labor which is not directly involved in the production of a product is called Indirect Labor.

    هغه مذدور کوم چې په تولید کې په مستقیمه توګه برخه نه اخلي هغې ته Indirect Labor ویل کیږي.

  - **Indirect Material:** Materials which cannot be easily traced in full into a product is called Indirect Material.

    هغه مواد کوم چې په یو تولید کې په اسانۍ سره نشي اندازه کیدلای د Indirect Material څخه عبارت دی.

## Types of Cost:

1. **Opportunity Cost:** The benefits which are sacrificed in favor of alternative decision is called Opportunity Cost.

   **کله چې د یو متبادل کاروبار یا فیصلې د وجې نه مونږ خپل شته یا ګټې دلاسه ورکړو دلاسه ورکړل شوې ګټې ته Opportunity Cost ویل کیږي.**

   د مثال په ډول، یو کس د څه وخت لپاره خپله موجوده وظیفه پریږدي او غواړي چې نوره روزنه واخلي چې دغه تصمیم دده د پاره تر څو چې بهتره وظیفه اخلي د تنخوا څخه د محرومېدلو سبب ګرځي.

2. **Sunk Cost:** Cost which has already incurred and cannot be changed with the change in decision is called Sunk Cost.

   **هغه مصرف کوم چې زمونږ په کاروبار باندې راغلی وي او د فیصلې په تغیرولو سره تغیر پکې نه راځي.**

   د مثال په ډول، کله چې یو تجارت یو کس په اداره کې په کار وګماري او ده ته تنخوا هم ورکړي حالانکه دی اداره کې نه هیڅ ګټه ورنکړي.

3. **Product Cost:** Cost which incurs on production of goods or services is called Product Cost.

   **د شیانو او د خدماتو په تولید باندې چې کوم مصرف راځي هغې ته Product Cost ویل کیږي.**

   د مثال په ډول، کله چې مونږ خام مواد په یو تولید تبدیلوو نو پدې باندې د خامو موادو، کاریګر، برق، د ماشین الاتو استهلاک، د ګډام کرایه او داسې نور مصارف راځي.

4. **Period Cost:** Cost other than the product cost is called Period Cost.

   **د Product Cost نه علاوه چې په یو تولید باندې نور ځومره مصارف ترسره کیږي هغې ټولو ته Period Cost ویل کیږي.**

   د مثال په ډول، کله چې یو تولید جوړ شي او لدې نه وروسته خریدار ته رسولو پورې چې پدې باندې ځومره مصارف راځي؛ لکه، د مواد رسوونکي تنخوا، ټرانسپورټ، د ګډام کرایه او داسې نور مصارف.

5. **Historical Cost:** Cost which incurs on the day of transaction is known as Historical Cost.

   **کله چې یو تجارتي معامله ترسره شي په هغې ورځ باندې چې د اخیستل شوي جنس کوم قېمت وي هغې ته Historical Cost ویل کیږي.**

   د مثال په ډول، نن مونږ یو نوی ماشین د کارخانې لپاره په ۵۰۰۰ روپۍ واخیست او څه وخت بعد ددغه ماشین قېمت په مارکېټ کې په ۷۰۰۰ روپۍ شي.

6. **Standard Cost:** The predetermined cost of a product is called Standard Cost.

   **د یو تولید د تولید کیدو څخه مخکې چې د هغې د پاره کوم تخميني مصرف ټاکل کیږي هغې ته Standard Cost ویل کیږي.**

   د مثال په ډول، مونږ چوکۍ ګاڼې تولیدوو او مونږ ددې د پاره د مخکې نه د مصارفو تخميني اټکل کوو؛ لکه، لرګی ۱۰۰ روپۍ، مېخ ۲۰ روپۍ، کاریګر مصرف ۳۰ روپۍ چې ټول مصرف ۱۵۰ روپۍ کیږي.

7. **Variable Cost:** Cost which changes with the change in level of production is called Variable Cost.
**هغه مصرف کوم چې د تولید په اندازه کې تغیر راوستلو سره تغیر کیږي.**
د مثال په ډول، کله چې مونږ ۵ دانې چوکۍ ګانې تولیدوو نو مصرف پرې ۵۰۰۰ روپۍ راځي خو کله چې ۱۰ دانې چوکۍ ګانې تولید کړو نو مصرف پرې ۱۰۰۰۰ راځي.
8. **Fixed Cost:** Cost which does not change with the change in level of production is called Fixed Cost.
**هغه مصرف کوم چې د تولید په اندازه کې تغیر راوستلو سره نه تغیر کیږي.**
د مثال په ډول، کله چې مونږ په کارخانه کې د تولید د ځار لپاره یو سوپروایزر ولرو نو کارخانه که هر څومره توکي تولید کړي نو دده په تنخوا کې فرق نه راځي.
9. **Step Fixed Cost:** Cost which is fixed up to specific range of production and then changes is called Step Fixed Cost.
**هغه مصرف کوم چې د تولید تر یو خاص اندازې پورې ثابت وي او د هغې اندازې زیاتېدو څخه وروسته تغیر پکې راشي او د تغیر ور وسته بېرته ثابت شي.**
د مثال په ډول، که مونږ یو کور د پوهنتون لپاره په کرایه ونیسو او ددې پوهنتون ۱۰ خونې وي کوم چې د ۱۰۰۰ شاګردانو لپاره کفایت کوي او ددې کور کرایه ۲۰۰۰ روپۍ وي خو که پوهنتون څه وخت وروسته نور ۵۰۰ شاګردان جذب کړي نو پدې حالت کې ۵ نورو خونې والا کور ته ضرورت دی چې کرایه به یې ۱۰۰۰ روپۍ وي ترڅو شاګردانو لپاره بسنه وکړي.
10. **Semi Variable Cost:** Cost which is partly fixed and then variable is called Semi Variable Cost.
**هغه مصرف کوم چې د تولید تر یو خاص حده پورې ثابت وي او د هغې څخه وروسته تغیر پکې راشي او د تغیر څخه وروسته همداسې تغیر بدونکی پاتې شي.**
د مثال په ډول، که مونږ جنراتوري برق خپلې کارخانې ته وغزوو او مونږ ته وویل شي چې که ته مصرف کوي او کنه خو د میاشتې به ۱۵۰۰ روپۍ بېل ورکوي خو که ددې نه زیات شو د هغې به اضافې مصرف ورکوې.
11. **Implicit Cost:** Cost which we do not physically pay.
**هغه مصرف کوم چې مونږ په فزیکي توګه نه اداء کوو.**
د مثال په ډول، کله چې مونږ ته د کارخانې لپاره د یو کور ضرورت وشي او مونږ خپل کور ولرو حالانکه ددغه کور کرایه د میاشتې ۱۰۰۰ روپۍ وي خو مونږ یې د خپلې کارخانې لپاره استعمالوو لیکن مونږ یې کرایه نه اداء کوو.
12. **Explicit Cost:** Cost which we physically pay.
**هغه مصرف کوم چې مونږ په فزیکي توګه اداء کوو.**
د مثال په ډول، کله چې مونږ ته د کارخانې لپاره د یو کور ضرورت وشي او مونږ یې د میاشتې په ۱۰۰۰ روپۍ په کرایه ونیسو کوم چې وخت په وخت یې اداء کوو.

# Chapter Two

## Cost of Goods Sold (C.G.S) Statement

Mohammad Usman Manufacturing Company
Cost of Goods Sold Statement
*For The Period Ended _____*

| | | | |
|---|---|---|---|
| | Raw Material (Opening Inventory) | | 10,000.00 |
| *Add:* | Net Purchases | | |
| | Purchases | 50,000.00 | |
| + | Receiving and Handling Cost | 10,000.00 | |
| - | Discount Received | (5,000.00) | |
| - | Purchases Return | (5,000.00) | 50,000.00 |
| | Raw Material Available for Use | | 60,000.00 |
| *Less:* | Raw Material (Closing Inventory) | | (20,000.00) |
| | Raw Material Consumed | | 40,000.00 |
| *Add:* | Direct Labor | | 10,000.00 |
| | Prime/Primary Cost | | 50,000.00 |
| *Add:* | Factory Overhead Cost (FOH) | | 20,000.00 |
| | Total Manufacturing Cost | | 70,000.00 |
| *Add:* | Work in Process (Opening Inventory) | | 20,000.00 |
| | Cost of Goods to be Manufactured | | 90,000.00 |
| *Less:* | Work in Process (Closing Inventory) | | (10,000.00) |
| | Cost of Goods Manufactured | | 80,000.00 |
| *Add:* | Finished Goods (Opening Inventory) | | 10,000.00 |
| | Cost of Goods Available for Sale | | 90,000.00 |
| *Less:* | Finished Goods (Closing Inventory) | | (20,000.00) |
| | Cost of Goods Sold (C.G.S) | | 70,000.00 |

**Question 2, Page 31:**

Manufacturing costs; cost of goods manufactured; cost of goods sold. The December 31, 19B trail balance of the Balkwell Company showed:

| | | | |
|---|---|---|---|
| Sales ..... | 4,000,500.00 | Sales returns and allowances . | 25,200.00 |
| Purchases (net) ..... | 2,400,000.00 | Transportation in ..... | 32,000.00 |
| Direct labor ..... | 3,204,000.00 | Factory overhead ..... | 1,885,600.00 |
| Sales salaries ..... | 200,000.00 | Advertising expenses ..... | 155,000.00 |
| | | Delivery expenses ..... | 65,000.00 |

| Inventories | Dec 31, 19B | Dec 31, 19A |
|---|---|---|
| Finished goods ..... | 467,400.00 | 620,000.00 |
| Work in process ..... | 136,800.00 | 129,800.00 |
| Materials ..... | 196,000.00 | 176,000.00 |

**Required**

1. Total manufacturing cost
2. Cost of goods manufactured
3. Cost of goods sold

**Balkwell Company**
**Cost of Goods Sold Statement**
*For the period ended: Dec 31, 19B*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 176,000.00 |
| *Add:* | Net purchases | | |
| | Purchases | 2,400,000.00 | |
| + | Transportation in | 32,000.00 | 2,432,000.00 |
| | Raw material available for use | | 2,608,000.00 |
| *Less:* | Raw materials (closing inventory) | | (196,000.00) |
| | Raw materials consumed | | 2,412,000.00 |
| *Add:* | Direct labor | | 3,204,000.00 |
| | Prime cost | | 5,616,000.00 |
| *Add:* | Factory overhead cost | | 1,885,600.00 |
| | Total manufacturing cost | | 7,501,600.00 |
| *Add:* | Work in process (opening inventory) | | 129,800.00 |
| | Cost of goods to be manufactured | | 7,631,400.00 |
| *Less:* | Work in process (closing inventory) | | (136,800.00) |
| | Cost of goods manufactured | | 7,494,600.00 |
| *Add:* | Finished goods (opening inventory) | | 620,000.00 |
| | Cost of goods available for sale | | 8,114,600.00 |
| *Less:* | Finished goods (closing inventory) | | (467,400.00) |
| | Cost of goods sold | | 7,647,200.00 |

**Question 3, Page 31:**

**Cost of goods sold statement; income statement.** The accounting department of the Ruthven Company provided the following data for May: sales, 72,000; marketing expenses, 5%; administrative expenses, 1%; other expenses, 0.5% of all sales; purchases, 36,000; factory overhead, $^2/_3$ of direct labor, direct labor, 15,000.

| | |
|---|---|
| Beginning inventories | |
| Finished goods ……..…… | 7,000 |
| Work in process …….. | 8,000 |
| Materials ……. | 8,000 |
| Ending inventories | |
| Finished goods ……. | 10,200 |
| Work in process …….. | 15,000 |
| Materials ……. | 8,500 |

**Required:**

1. Cost of goods sold statement
2. Income statement

**Ruthven Company**
**Cost of Goods Sold Statement**
*For the period ended: May 31,*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 8,000.00 |
| *Add:* | Net purchases | | 36,000.00 |
| | Raw material available for use | | 44,000.00 |
| *Less:* | Raw materials (closing inventory) | | (8,500.00) |
| | Raw materials consumed | | 35,500.00 |
| *Add:* | Direct labor | | 15,000.00 |
| | Prime cost | | 50,500.00 |
| *Add:* | Factory overhead cost | | 10,000.00 |
| | Total manufacturing cost | | 60,500.00 |
| *Add:* | Work in process (opening inventory) | | 8,000.00 |
| | Cost of goods to be manufactured | | 68,500.00 |
| *Less:* | Work in process (closing inventory) | | (15,000.00) |
| | Cost of goods manufactured | | 53,500.00 |
| *Add:* | Finished goods (opening inventory) | | 7,000.00 |
| | Cost of goods available for sale | | 60,500.00 |
| *Less:* | Finished goods (closing inventory) | | (10,200.00) |
| | **Cost of goods sold** | | 50,300.00 |

**Ruthven Company**
**Income Statement**
*For the period ended: May 31,*

| | | | |
|---|---|---|---|
| | Sales | | 72,000.00 |
| *Less:* | Cost of goods sold | | (50,300.00) |
| | Gross income | | 21,700.00 |
| *Less:* | Operative expenses | | |
| | Marketing expenses | 3,600.00 | |
| | Administrative expenses | 720.00 | |
| | Other expenses | 360.00 | (4,680.00) |
| | **Net income** | | 17,020.00 |

**Question 5, Page 32:**

**Income statement; profit percentage.** The Shellkoff Company submits the following information on December 31, 19--:

| | |
|---|---|
| Sales for the year | 314,000 |
| Inventories at the beginning of the year: | |
| Finished goods | 5,900 |
| Work in process | 4,600 |
| Materials | 3,800 |
| Purchases of materials for the year | 140,000 |
| Direct labor | 67,350 |
| Factory overhead: 50% of labor cost | |
| Inventories at the end of the year: | |
| Finished goods | 9,270 |
| Work in process | 6,200 |
| Materials | 4,300 |
| Other expenses for the year: | |
| Marketing expenses | 23,115 |
| Administrative expenses | 17,650 |

**Required:**

1. An income statement for the year ended December 31, 19--
2. The percentage of income to sales, before income tax

**Shellkoff Company**
**Cost of Goods Sold Statement**
*For the period ended: Dec 31, 19--*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 3,800.00 |
| *Add:* | Net purchases | | 140,000.00 |
| | Raw material available for use | | 143,800.00 |
| *Less:* | Raw materials (closing inventory) | | (4,300.00) |
| | Raw materials consumed | | 139,500.00 |
| *Add:* | Direct labor | | 67,350.00 |
| | Prime cost | | 206,850.00 |
| *Add:* | Factory overhead cost | | 33,675.00 |
| | Total manufacturing cost | | 240,525.00 |
| *Add:* | Work in process (opening inventory) | | 4,600.00 |
| | Cost of goods to be manufactured | | 245,125.00 |
| *Less:* | Work in process (closing inventory) | | (6,200.00) |
| | Cost of goods manufactured | | 238,925.00 |
| *Add:* | Finished goods (opening inventory) | | 5,900.00 |
| | Cost of goods available for sale | | 244,825.00 |
| *Less:* | Finished goods (closing inventory) | | (9,270.00) |
| | **Cost of goods sold** | | 235,555.00 |

**Shellkoff Company**
**Income Statement**
*For the period ended: Dec 31, 19--*

| | | | |
|---|---|---|---|
| | Sales | | 314,000.00 |
| *Less:* | Cost of goods sold | | (235,555.00) |
| | Gross income | | 78,445.00 |
| *Less:* | Operative expenses | | |
| | Marketing expenses | 23,115.00 | |
| | Administrative expenses | 17,650.00 | (40,765.00) |
| | **Net income** | | 37,680.00 |

$$\textbf{Percentage of Income to Sales} = \frac{Net\ Income}{Sales}\ x\ 100$$

$$= \frac{37{,}680.00}{314{,}000.00}\ x\ 100$$

$$= 12\%$$

**Question 6, Page 32:**

**Cost of goods sold statement.** The following data are provided by the controller of the Metaxen Corporation.

| | | |
|---|---|---|
| Cash | 240,000 | |
| Accounts receivable | 348,000 | |
| Inventories | Jan 1 | Dec 31 |
| Finished goods | 44,200 | 66,000 |
| Work in process | 29,800 | 38,800 |
| Materials | 88,000 | 64,000 |
| Materials purchased | 366,000 | |
| Sales discount | 8,000 | |
| Factory overhead (excluding depreciation) | 468,400 | |
| Marketing and administrative expenses (excluding depreciation) | 344,200 | |
| Depreciation (90% manufacturing, 10% marketing and administrative expenses) | 116,000 | |
| Sales | 1,844,000 | |
| Direct labor | 523,600 | |
| Freight on materials purchased | 6,600 | |
| Rental income | 64,000 | |
| Interest on bonds payable | 16,000 | |

**Required:**

Cost of goods sold statement

**Metaxen Company**
**Cost of Goods Sold Statement**
*For the period ended: Dec 31, 19--*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 88,000.00 |
| *Add:* | Net purchases | | |
| | Materials purchased | 366,000.00 | |
| + | Freight on materials purchased | 6,600.00 | 372,600.00 |
| | Raw material available for use | | 460,600.00 |
| *Less:* | Raw materials (closing inventory) | | (64,000.00) |
| | Raw materials consumed | | 396,600.00 |
| *Add:* | Direct labor | | 523,600.00 |
| | Prime cost | | 920,200.00 |
| *Add:* | Factory overhead cost | | |
| | Factory overhead | 468,400.00 | |
| + | Depreciation (116000*90%) | 104,400.00 | 572,800.00 |
| | Total manufacturing cost | | 1,493,000.00 |
| *Add:* | Work in process (opening inventory) | | 29,800.00 |
| | Cost of goods to be manufactured | | 1,522,800.00 |
| *Less:* | Work in process (closing inventory) | | (38,800.00) |
| | Cost of goods manufactured | | 1,484,000.00 |
| *Add:* | Finished goods (opening inventory) | | 44,200.00 |
| | Cost of goods available for sale | | 1,528,200.00 |
| *Less:* | Finished goods (closing inventory) | | (66,000.00) |
| | **Cost of goods sold** | | 1,462,200.00 |

**Metaxen Company**
**Income Statement**
*For the period ended: Dec 31, 19--*

| | | | |
|---|---|---|---|
| | Sales | 1,844,000.00 | |
| - | Sales discount | (8,000.00) | |
| | Net sales | | 1,836,000.00 |
| *Less:* | Cost of goods sold | | (1,462,200.00) |
| | Gross income | | 373,800.00 |
| *Less:* | Operative expenses | | |
| | Depreciation (116000*10%) | 11,600.00 | |
| | Marketing & administrative expenses | 344,200.00 | |
| | Interest on bonds payable | 16,000.00 | (371,800.00) |
| | Operative income | | 2,000.00 |
| *Add:* | Other income | | |
| | Rental income | | 64,000.00 |
| | **Net income** | | 66,000.00 |

**Question 4, Page 32:**

**Income Statement.** Crowley, Inc., submits the following data for September:

Direct labor cost, 30,000.
Cost of goods sold, 111,000.
Factory overhead is applied at the rate of 150% of direct labor cost.

Inventory accounts showed these beginning and ending balances:

| | September 1 | September 30 |
|---|---|---|
| Finished goods | 15,000.00 | 17,500.00 |
| Work in process | 9,600.00 | 13,000.00 |
| Materials | 7,000.00 | 7,400.00 |

Other data:

| | |
|---|---|
| Marketing expenses | 14,100.00 |
| General and administrative expenses | 22,900.00 |
| Sales for the month | 182,000.00 |

**Required:** An income statement with schedule showing cost of goods manufactured and sold.

**Crowley, Inc.**
**Cost of Goods Sold Statement**
*For the period ended: Sep 30, 19--*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 7,000.00 |
| *Add:* | Net purchases | | 42,300.00 |
| | Raw material available for use | | 49,300.00 |
| *Less:* | Raw materials (closing inventory) | | 7,400.00 |
| | Raw materials consumed | | 41,900.00 |
| *Add:* | Direct labor | | 30,000.00 |
| | Prime cost | | 71,900.00 |
| *Add:* | Factory overhead cost | | 45,000.00 |
| | Total manufacturing cost | | 116,900.00 |
| *Add:* | Work in process (opening inventory) | | 9,600.00 |
| | Cost of goods to be manufactured | | 126,500.00 |
| *Less:* | Work in process (closing inventory) | | 13,000.00 |
| | Cost of goods manufactured | | 113,500.00 |
| *Add:* | Finished goods (opening inventory) | | 15,000.00 |
| | Cost of goods available for sale | | 128,500.00 |
| *Less:* | Finished goods (closing inventory) | | 17,500.00 |
| | **Cost of goods sold** | | 111,000.00 |

**Formula for reverse method:**
Cost of goods available for sale - Finished goods (closing inventory) = C.G.S.
Cost of goods available for sale = C.G.S. + Finished goods (closing inventory)
Cost of goods available for sale = 111000 + 17500
Cost of goods available for sale = 128500

**Short method for reverse method:**

| | | |
|---|---|---|
| *Add:* | Unknown figure | که چېرې عمليه د جمعې وه نو د نامعلوم عدد د پيداکولو لپاره معلوم اعداد سره منفي کوو |
| | Known figure | |
| | Known figure | |
| *Less* | Unknown figure | که چېرې عمليه د منفي وه نو د نامعلوم عدد د پيداکولو لپاره معلوم اعداد سره جمع کوو |
| | Known figure | |
| | Known figure | |
| | Known figure | که چېرې عمليه منفي يا د جمعې وي خو نامعلوم عدد د معلومو اعدادو په منځ کې وي نو معلوم اعداد يو له بل نه يې منفي کوو |
| *Add:* | Unknown figure | |
| | Known figure | |
| | Known figure | که چېرې عمليه منفي يا د جمعې وي خو نامعلوم عدد د معلومو اعدادو په منځ کې وي نو معلوم اعداد يو له بل نه يې منفي کوو |
| *Less* | Unknown figure | |
| | Known figure | |

**Crowley, In.**
**Income Statement**
*For the period ended: Sep 30, 19--*

| | | | |
|---|---|---|---|
| | Sales | | 182,000.00 |
| *Less:* | Cost of goods sold | | (111,000.00) |
| | Gross income | | 71,000.00 |
| *Less:* | Operative expenses | | |
| | Marketing expenses | 14,100.00 | |
| | General and administrative expenses | 22,900.00 | (37,000.00) |
| | **Net income** | | 34,000.00 |

**Question 7, Page 33:**

**Cost of goods sold statement.** The following data relate to the Brockway Corporation:

| | Inventories | |
|---|---|---|
| | Ending | Beginning |
| Finished goods | 95,000.00 | 110,000.00 |
| Work in process | 80,000.00 | 70,000.00 |
| Direct materials | 95,000.00 | 90,000.00 |

| | |
|---|---|
| Costs incurred during the period: | |
| Costs of goods available for sale | 684,000.00 |
| Total manufacturing cost | 584,000.00 |
| Factory overhead | 167,000.00 |
| Direct materials used | 193,000.00 |

**Required:** Cost of goods sold statement.

**Brockway Corporation**
**Cost of Goods Sold Statement**
*For the period ended: Dec 31, 19--*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 90,000.00 |
| *Add:* | Net purchases | | 198,000.00 |
| | Raw material available for use | | 288,000.00 |
| *Less:* | Raw materials (closing inventory) | | 95,000.00 |
| | Raw materials consumed | | 193,000.00 |
| *Add:* | Direct labor | | 224,000.00 |
| | Prime cost | | 417,000.00 |
| *Add:* | Factory overhead cost | | 167,000.00 |
| | Total manufacturing cost | | 584,000.00 |
| *Add:* | Work in process (opening inventory) | | 70,000.00 |
| | Cost of goods to be manufactured | | 654,000.00 |
| *Less:* | Work in process (closing inventory) | | 80,000.00 |
| | Cost of goods manufactured | | 574,000.00 |
| *Add:* | Finished goods (opening inventory) | | 110,000.00 |
| | Cost of goods available for sale | | 684,000.00 |
| *Less:* | Finished goods (closing inventory) | | 95,000.00 |
| | **Cost of goods sold** | | 589,000.00 |

**Question 8, Page 33:**

**Cost of goods sold statement; unit cost.** The records of Reinecke, Inc., show the following information as of March 31, 19B:

| | |
|---|---|
| Materials used | 440,000.00 |
| Direct labor | 290,000.00 |
| Indirect labor | 46,000.00 |
| Light and power | 4,260.00 |
| Depreciation | 4,700.00 |
| Repairs to machinery | 5,800.00 |
| Miscellaneous factory overhead | 29,000.00 |
| Work in process inventory, April 1, 19A | 41,200.00 |
| Finished goods inventory, April 1, 19A | 34,300.00 |
| Work in process inventory, March 31, 19B | 42,500.00 |
| Finished goods inventory, March 31, 19B | 31,500.00 |

During the year, 18,000 units were completed.

**Required:**

(1) A cost of goods sold statement for the year ended March 31, 19B.
(2) The unit cost of goods manufactured.
(3) The amount of over or underapplied factory overhead if the company applies factory overhead on the basis of 30% of direct labor cost.

**Reinecke, Inc.,**
**Cost of Goods Sold Statement**
*For the period ended: March 31, 19B*

| | | | |
|---|---|---|---|
| | Raw materials consumed | | 440,000.00 |
| *Add:* | Direct labor | | 290,000.00 |
| | Prime cost | | 730,000.00 |
| *Add:* | Factory overhead cost | | |
| | Indirect labor | 46,000.00 | |
| | Light and power | 4,260.00 | |
| | Depreciation | 4,700.00 | |
| | Repairs to machinery | 5,800.00 | |
| | Miscellaneous factory overhead | 29,000.00 | 89,760.00 |
| | Total manufacturing cost | | 819,760.00 |
| *Add:* | Work in process (opening inventory) | | 41,200.00 |
| | Cost of goods to be manufactured | | 860,960.00 |
| *Less:* | Work in process (closing inventory) | | (42,500.00) |
| | Cost of goods manufactured | | 818,460.00 |
| *Add:* | Finished goods (opening inventory) | | 34,300.00 |
| | Cost of goods available for sale | | 852,760.00 |
| *Less:* | Finished goods (closing inventory) | | (31,500.00) |
| | **Cost of goods sold** | | 821,260.00 |

**Requirement 2:**

$$\text{Unit Cost} = \frac{\text{Cost of goods manufactured}}{\text{Units manufactured}} = \frac{818{,}460.00}{18{,}000.00} = 45.47$$

**Requirement 3:**

| **Under or over applied FoH** | | |
|---|---|---|
| | Applied FoH (290000x30%) | 87,000.00 |
| *Less:* | Actual FoH | (89,760.00) |
| | Under applied FoH | (2,760.00) |

**Question 12, Page 34:**

**Income statement; cost and profit ratios.** The records of the Yukon Refrigerator Company show the following information for the three months ended March 31, 19--:

| | |
|---|---|
| Materials purchased | 1,946,700.00 |
| Inventories, January 1, 19--: | |
| Finished goods (100 refrigerators) | 43,000.00 |
| Materials | 268,000.00 |
| Direct labor | 2,125,800.00 |
| Factory overhead (40% variable) | 764,000.00 |
| Marketing expenses (all fixed) | 516,000.00 |
| General and administrative expenses (all fixed) | 461,000.00 |
| Sales (12,400 refrigerators) | 6,634,000.00 |
| Inventories, March 31, 19--: | |
| No unfinished work on hand. | |
| Finished goods (200 refrigerators), costed at 395 each. | |
| Materials | 167,000.00 |

**Required:**

(1) An income statement for the period.
(2) The number of units manufactured.
(3) The unit cost of refrigerators manufactured.
(4) The gross profit per unit sold.
(5) The income per unit sold.
(6) The ratio of gross profit to sales.
(7) The income to sales percentage.
(8) The break-even point in sales dollars.

**Yukon Refrigerator Company**
**Cost of Goods Sold Statement**
*For the period ended: March 31, 19--*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 268,000.00 |
| *Add:* | Net purchases | | 1,946,700.00 |
| | Raw material available for use | | 2,214,700.00 |
| *Less:* | Raw materials (closing inventory) | | (167,000.00) |
| | Raw materials consumed | | 2,047,700.00 |
| *Add:* | Direct labor | | 2,125,800.00 |
| | Prime cost | | 4,173,500.00 |
| *Add:* | Factory overhead cost | | 764,000.00 |
| | Total manufacturing cost/Cost of goods manufactured | | 4,937,500.00 |
| *Add:* | Finished goods (opening inventory) | | 43,000.00 |
| | Cost of goods available for sale | | 4,980,500.00 |
| *Less:* | Finished goods (closing inventory) (200*395) | | (79,000.00) |
| | **Cost of goods sold** | | 4,901,500.00 |

**Yukon Refrigerator Company**
**Income Statement**
*For the period ended: March 31, 19--*

| | | | |
|---|---|---|---|
| | Sales | | 6,634,000.00 |
| *Less:* | Cost of goods sold | | (4,901,500.00) |
| | Gross income | | 1,732,500.00 |
| *Less:* | Operative expenses | | |
| | Marketing expenses | 516,000.00 | |
| | General and administrative expenses | 461,000.00 | (977,000.00) |
| | **Net income** | | 755,500.00 |

**Requirement 2:**

| | **Number of units manufactured** | |
|---|---|---|
| | Units sold | 12,400.00 |
| + | Finished goods (closing units) | 200.00 |
| | | 12,600.00 |
| - | Finished goods (opening units) | (100.00) |
| | **Units manufactured** | 12,500.00 |

**Requirement 3:**

$$\text{Unit Cost} = \frac{\text{Cost of goods manufactured}}{\text{Units manufactured}} = \frac{4,937,500.00}{12,500.00} = 395.00 \text{ per unit}$$

**Requirement 4:**

$$\text{Gross profit per unit sold} = \frac{\text{Gross profit}}{\text{Units sold}} = \frac{1,732,500.00}{12,400.00} = 139.72 \text{ per unit}$$

**Requirement 5:**

$$\text{Net income per unit sold} = \frac{\text{Net profit}}{\text{Units sold}} = \frac{755{,}500.00}{12{,}400.00} = 60.93 \text{ per unit}$$

**Requirement 6:**

$$\text{Ratio of gross profit to sales} = \frac{\text{Gross profit}}{\text{Sales}} \text{ X } 100 = \frac{1{,}732{,}500.00}{6{,}634{,}000.00} \text{ X } 100 = 26.12\ \%$$

**Requirement 7:**

$$\text{Net income to sales percentage} = \frac{\text{Net income}}{\text{Sales}} \text{ X } 100 = \frac{755{,}500.00}{6{,}634{,}000.00} \text{ X } 100 = 11.39\ \%$$

**Requirement 8:**

| **Total fixed costs** | | **Total variable costs** | |
|---|---|---|---|
| Marketing expenses (all fixed) | 516,000.00 | Raw materials consumed | 2,047,700.00 |
| General & administrative expenses (all fixed) | 461,000.00 | Direct labor | 2,125,800.00 |
| Factory overhead (764000*60%) | 458,400.00 | Factory overhead (40% variable) | 305,600.00 |
| | 1,435,400.00 | | 4,479,100.00 |

$$\text{Break-even point} = \frac{\text{Fixed costs}}{\text{1 - Variable / Sales}} = \frac{1{,}435{,}400.00}{\text{1-4,479,100.00/6,634,000.00}} = 4{,}430{,}246.91$$

# Chapter Three

## Cost, Concept, Uses and Classification

**Formulas:**

1. Prime Cost = Direct Material[1] + Direct Labor
2. Conversion Cost = Direct Labor + Factory Overhead Cost
3. Cost to Produce[2] = Direct Material + Direct Labor + FoH[3] Cost
4. Bid Price[4] = Cost + Profit[5]

**Question 4, Page 58:**

**Bid calculations.** The Shepard Company is to submit a bid on the production of 10000 ceramic salad bowls. It is estimated that the cost of materials will be 7500 and direct labor, 10100. Factory overhead is applied at 5 per direct labor hour in the Molding Department and at 120% of the direct labor cost in the Finishing Department. It is estimated that 800 direct labor hours will be required in Molding and that direct labor cost in Finishing will be 4300. The company wishes a bid price consisting of a markup of 40% of its total production costs.

**Required:**

(1) Estimated cost to produce.
(2) Estimated prime cost.
(3) Estimated conversion cost.
(4) Bid price.

**Solution:**

**Requirement 1:**

**Estimated cost to produce**

| | | |
|---|---|---|
| Direct material | | 7,500.00 |
| Direct labor | | 10,100.00 |
| Factory overhead | | |
| Molding Dept. (800*5) | 4,000.00 | |
| Finishing Dept. (4300*120%) | 5,160.00 | 9,160.00 |
| **Estimated cost to produce** | | **26,760.00** |

[1] It is also called, Raw material consumed.
[2] It is also called, Total production or Total manufacturing cost.
[3] It is also called, Factory overhead.
[4] It is also called, Sales price.
[5] It is also called, Mark-up.

**Requirement 2:**

| Estimated prime cost | | |
|---|---|---|
| Direct material | | 7,500.00 |
| Direct labor | | 10,100.00 |
| **Estimated prime cost** | | **17,600.00** |

**Requirement 3:**

| Estimated conversion cost | | |
|---|---|---|
| Direct labor | | 10,100.00 |
| Factory overhead cost | | 9,160.00 |
| **Estimated conversion cost** | | **19,260.00** |

**Requirement 4:**

| Bid price | | |
|---|---|---|
| Cost | | 26,760.00 |
| Profit (26760*40%) | | 10,704.00 |
| **Estimated bid price** | | **37,464.00** |

**Question 6, page 59:**

**Cost computations.** On October 1, the Florida Company had the following inventories: materials, 24000; work in process, 12000; and finished goods, 36000. During the month, materials purchases totaled 56000. Direct labor for October was 40000, at a uniform wage of 6.40 per hour. Marketing and administrative expenses for the month amounted to 10% of net sales. Inventories on October 31 were as follows: materials, 20000; work in process, 8000; and finished goods, 40000. Net sales for October totaled 200000. Factory overhead is applied on the basis of 8 per direct labor hour.

**Required:**

(1) Prime cost.
(2) Conversion cost.
(3) Cost of goods manufactured.
(4) Cost of goods sold.
(5) Income from operations.

## Solution:

**Requirement 1:**

**Prime cost**

| | | | |
|---|---|---|---|
| | Raw material opening inventory | | 24,000.00 |
| *Add:* | Net purchases | | 56,000.00 |
| | Raw material available for use | | 80,000.00 |
| *Less:* | Raw material closing inventory | | (20,000.00) |
| | Raw material consumed | | 60,000.00 |
| *Add:* | Direct labor | | 40,000.00 |
| | **Prime cost** | | **100,000.00** |

**Requirement 2:**

**Conversion cost**

| | | |
|---|---|---|
| Direct labor | | 40,000.00 |
| Factory overhead (40000/6.40) | (6250*8) | 50,000.00 |
| **Conversion cost** | | **90,000.00** |

**Requirement 3:**

**Cost of goods manufactured**

| | | | |
|---|---|---|---|
| | Prime cost | | 100,000.00 |
| *Add:* | Factory overhead cost | | 50,000.00 |
| | Total manufacturing cost | | 150,000.00 |
| *Add:* | Work in process opening inventory | | 12,000.00 |
| | Cost of goods to be manufactured | | 162,000.00 |
| *Less:* | Work in process closing inventory | | (8,000.00) |
| | **Cost of goods manufactured** | | **154,000.00** |

**Requirement 4:**

**Cost of goods sold**

| | | | |
|---|---|---|---|
| | Cost of goods manufactured | | 154,000.00 |
| *Add:* | Finished goods opening inventory | | 36,000.00 |
| | Cost of goods available for sale | | 190,000.00 |
| *Less:* | Finished goods closing inventory | | (40,000.00) |
| | **Cost of goods sold** | | **150,000.00** |

**Requirement 5:**

**Income statement**

| | | | |
|---|---|---|---|
| | Sales | | 200,000.00 |
| *Less:* | Cost of goods sold | | (150,000.00) |
| | Gross profit | | 50,000.00 |
| *Less:* | Operative expenses | | |
| | Marketing & administrative expenses | | (20,000.00) |
| | **Net profit** | | **30,000.00** |

**Question 5, Page 58:**

**Cost computation.** Messersmith, Inc., submits the following data on October 31, 19--: materials put into process, 42300; direct labor is paid at the rate of 7.80 and 8.40 per hour in Department A and B respectively; Department A worked 6125 hours and Department B reported 9875 hours. Factory overhead is applied on the basis of direct labor hours at the rate of 5 per hour in Department A and 4.20 per hour in Department B.

| | Inventories | |
|---|---|---|
| | *Oct. 1* | *Oct. 31* |
| Finished goods ……. | 11300 | 9400 |
| Work in process ……... | 17300 | 19425 |
| Materials …….. | 15000 | 19200 |

**Required:** Without preparing a formal income statement, determine:

(1) Prime cost.
(2) Total manufacturing costs.
(3) Cost of goods manufactured.
(4) Cost of goods sold.
(5) Conversion cost.

**Solution:**

**Requirement 1:**

| **Prime cost** | | |
|---|---|---|
| Direct material | | 42,300.00 |
| Direct labor | | 130,725.00 |
| **Prime cost** | | **173,025.00** |

**Requirement 2:**

| | **Total manufacturing cost** | | |
|---|---|---|---|
| | Prime cost | | 173,025.00 |
| *Add:* | Factory overhead cost | | 72,100.00 |
| | **Total manufacturing cost** | | **245,125.00** |

**Requirement 3:**

| | **Cost of goods manufactured** | | |
|---|---|---|---|
| | Total manufacturing cost | | 245,125.00 |
| *Add:* | Work in process opening inventory | | 17,300.00 |
| | Cost of goods to be manufactued | | 262,425.00 |
| *Less:* | Work in process closing inventory | | (19,425.00) |
| | **Cost of goods manufactured** | | **243,000.00** |

**Requirement 4:**

| Cost of goods sold | | |
|---|---|---|
| Cost of goods manufactured | | 243,000.00 |
| *Add:* Finished goods opening inventory | | 11,300.00 |
| Cost of goods available for sale | | 254,300.00 |
| *Less:* Finished goods closing inventory | | (9,400.00) |
| **Cost of goods sold** | | **244,900.00** |

**Requirement 5:**

| Conversion cost | | |
|---|---|---|
| Direct labor | | 130,725.00 |
| Factory overhead cost | | 72,100.00 |
| **Conversion cost** | | **202,825.00** |

**Question 9, Page 59:**

**Fire loss calculation.** Robidaux Products, Inc., a small manufacturing company, produces a highly flammable cleaning fluid. On May 31, 19F, the company had a fire which completely destroyed the processing building and the work in process inventory; some of the equipment was saved.

After the fire, a physical inventory was taken. The materials were valued at 30000, the finished goods at 60000, and supplies at 5000.

The inventories of January 1, 19F, consisted of:

| | |
|---|---|
| Finished goods | 70,000.00 |
| Work in process | 50,000.00 |
| Materials | 15,000.00 |
| Supplies | 2,000.00 |
| Total | 137,000.00 |

A review of the accounts showed that the sales and gross profit for the last five years were:

| | Sales | Gross Profit |
|---|---|---|
| 19A | 300,000.00 | 86,200.00 |
| 19B | 320,000.00 | 102,400.00 |
| 19C | 330,000.00 | 108,900.00 |
| 19D | 250,000.00 | 62,500.00 |
| 19E | 280,000.00 | 84,000.00 |
| Total | 1,480,000.00 | 444,000.00 |

The sales for the first five months of 19F were 150000; materials purchases were 50000; freight on purchases was 5000; direct labor for the five months was 40000. For the past five years, factory overhead was 50% of direct labor cost.

**Required:** The value of the work in process inventory lost by five.

**Solution:**

**Robidaux**
**Cost of Goods Sold Statement**
*For the period ended: May 31, 19F*

| | | | |
|---|---|---|---|
| | Raw materials (opening inventory) | | 15,000.00 |
| *Add:* | Net purchases | | |
| + | Purchases | 50,000.00 | |
| + | Freight on purchases | 5,000.00 | 55,000.00 |
| | Raw material available for use | | 70,000.00 |
| *Less:* | Raw materials (closing inventory) | | (30,000.00) |
| | Raw materials consumed | | 40,000.00 |
| *Add:* | Direct labor | | 40,000.00 |
| | Prime cost | | 80,000.00 |
| *Add:* | Factory overhead cost | | 20,000.00 |
| | Total manufacturing cost | | 100,000.00 |
| *Add:* | Work in process (opening inventory) | | 50,000.00 |
| | Cost of goods to be manufactured | | 150,000.00 |
| *Less:* | Work in process (closing inventory) | | (55,000.00) |
| | Cost of goods manufactured | | 95,000.00 |
| *Add:* | Finished goods (opening inventory) | | 70,000.00 |
| | Cost of goods available for sale | | 165,000.00 |
| *Less:* | Finished goods (closing inventory) | | (60,000.00) |
| | **Cost of goods sold** | | 105,000.00 |

**یادونه:** په پورتني مثال کې لکه څرنګه چې د Work in process تعمیر مکمل سوځېدلی نو لدې امله مونږ بعضې ارقام په پورتني CGS Statement کې د CGS د رقم په شمول نلرو. هر کله چې مونږ سره CGS رقم معلوم نه وي نو د Reverse طریقه هم کار نکوي. نوددې په خاطر مونږ د تېرو پنځو کلونو په ټول خرڅلاؤ کې د تېرو پنځو کلونو د ټولو خامو ګټو فیصدي معلوموو. د لاندې فرمول پوسیله کولای شو چې لومړی د تیرو پنځو کلونو د خامې ګټې فیصدي معلوم او بیا د موجوده کال د ټول خرڅلاؤ څخه د موجوده کال خامه ګټه تفریق کوو چې پدې وسیله مونږ د CGS رقم پیدا کوو چې بیا کولای شو د CGS Statement باقي نور ارقام پیدا کړو.

$$\text{Last 5 Years Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \text{ X } 100 = \frac{444000}{1480000} \text{ X } 100 = 30\%$$

Sales - (Gross Profit X Last 5 Years Gross Profit Ratio) = CGS
150000 - (150000 X 30%) = 105000

**Question 7, Page 59:**

**Gross profit determination.** The Davidson Corporation manufactures a kitchen appliances to sell for 280. Last year the company sold 2000 of these appliances, realizing a gross profit of 25% of the cost of goods sold. Of this total cost of goods sold, materials accounted for 40% of the total and factory overhead for 15%.

During the coming year, it is expected that materials and labor costs will each increase 25% per unit and the factory overhead will increase 12.5% per unit. To meet these rising costs, a new sales price must be set.

**Required:** The number of units that must be sold to realize the same total gross profit in the coming year as realized last year if the new selling price is set at: (1) 300; (2) 325; (3) 350.

**Solution:**

***Step 1:***

| **Cost** | **Sales** |
|---|---|
| 100 | 125 |
| x | 280 |

$$x = \frac{280 \times 100}{125} = 224$$

**Step 2:**

**Last year cost of goods sold**

| | |
|---|---|
| Materials => | (224 x 40%) = 89.6 |
| Labor => | (224 x 45%) = 100.8 |
| FoH => | (224 x 15%) = 33.6 |
| **Total cost** | **224** |

**Step 3:**

**Current year cost of goods sold**

| | |
|---|---|
| Materials => | 89.6 + (89.6 x 25%) = 112 |
| Labor => | 100.8 + (100.8 x 25%) = 126 |
| FoH => | 33.6 + (33.6 x 12.5%) = 37.8 |
| **Total cost** | **275.8** |

**Step 4:**

| | | |
|---|---|---|
| Sales | | 280 |
| Less: C.G.S | | -224 |
| Gross profit | | 56 |

Total gross profit = 2000 x 56 = 112000

**Step 5:**

Sales - Cost = Gross profit

1). 300 - 275.8 = 24.2 => 112000/24.2 = 4628

2). 325 - 275.8 = 49.2 => 112000/49.2 = 2276

3). 350 - 275.8 = 74.2 => 112000/74.2 = 1509

# Chapter Four

## Process Costing OR Cost of Production Report

دا فصل په ټوله کې د تولید اندازه او په هغې باندې د مصارفو ډیر دقیق راپورونه مونږ ته راکوي. پدې معنا د تولید پروسېس کول په مختلفو څانګو باندې ویشل کیږي او هره څانګه د یو تولید په پروسېس باندې خپل خپل کارونه ترسره کوي چې په هغې کې بیا په هره څانګه کې خپل خپل مصارف ترسره کیږي. د مثال په ډول مونږ سل عدد چوکۍ تولیدوو. اوس مونږ ددې تولید په درې څانګو کې تقسیموو لکه په اوله څانګه کې دده قطع کاري ترسره کیږي، په دوهمه څانګه کې بسته کیږي او په دریمه څانګه کې پالش کیږي، نو پدې وخت کې هره څانګه د خپل کار د ترسره کولو لپاره مصارف کوي. په لاندینۍ شپږو جدولونو کې د تولید د اندازې او مصارفو دقیق راپورونه جوړولای شو.

**Department A**
**Quantity Schedule**

| | | |
|---|---|---|
| Units started (produced) | | 10,000.00 |
| Units completed & transferred to Dept. B | 7,000.00 | |
| Units still in process | 2,000.00 | |
| Units lost (Normal/Abnormal loss) | 1,000.00 | |
| **Total** | **10,000.00** | **10,000.00** |

**Department B**
**Quantity Schedule**

| | | |
|---|---|---|
| Units received from Dept. A | | 7,000.00 |
| Units completed & transferred to Dept. C | 5,000.00 | |
| Units still in process | 1,500.00 | |
| Units lost (Normal/Abnormal loss) | 500.00 | |
| **Total** | **7,000.00** | **7,000.00** |

**Department A**
**Cost Schedule**

| Cost added in Dept. A | Total cost | Per unit cost |
|---|---|---|
| Material | | |
| Labor | | |
| FoH | | |
| **Total** | - | - |

**Department B**
**Cost Schedule**

| Cost received from Dept. A | Total cost | Per unit cost |
|---|---|---|
| Cost added in Dept. B | | |
| Material | | |
| Labor | | |
| FoH | | |
| **Total** | - | - |

**Department A**
**Cost accounted for as follows**

| | | |
|---|---|---|
| Cost of units completed (7000x3) | | 21,000.00 |
| Cost of work in process (closing inv.) Dept. A | | |
| Material | | |
| Labor | | |
| FoH | | |
| **Total** | - | **21,000.00** |

**Department B**
**Cost accounted for as follows**

| | | |
|---|---|---|
| Cost of units completed (5000x3) | | 15,000.00 |
| Cost of work in process (closing inv.) Dept. B | | |
| Material | | |
| Labor | | |
| FoH | | |
| Cost of work in process (closing inv.) Dept. A | | |
| Material | | |
| Labor | | |
| FoH | | |
| **Total** | - | **15,000.00** |

**Question 2, Page 136:**

**Costing of units transferred; lost units.** Read, Inc., instituted a new process in October, during which it started 10000 units in Department A. Of the units started, 1000 units, a normal number, were lost during the process; 7000 were transferred to Department B; and 2000 remained in work in process inventory at the end of the month, 100% complete as to materials and 50% complete as to conversion cost. Materials and conversion costs of 27000 and 40000, respectively, were charged to the department in October.

**Required:** Total cost transferred to Department B.

**Department A**
**Quantity Schedule**

| | | |
|---|---|---|
| Units started | | 10,000.00 |
| Units completed & transferred to Dept. B | 7,000.00 | |
| Units still in process | 2,000.00 | |
| Units lost (Normal loss) | 1,000.00 | |
| | **10,000.00** | **10,000.00** |

**Department A**
**Cost Schedule**

| Cost added in Dept. A | Total cost | Per unit cost |
|---|---|---|
| Material | 27,000.00 | 3.00 |
| Conversion | 40,000.00 | 5.00 |
| **Cost accounted for** | **67,000.00** | **8.00** |

**Equivalent production method:**

$$\text{Per unit material cost} = \frac{\text{Material cost}}{\text{Units completed + in process \%}} = \frac{27000}{7000 + (2000*100\%)} = 3.00$$

$$\text{Per unit conversion cost} = \frac{\text{Conversion cost}}{\text{Units completed + in process \%}} = \frac{40000}{7000 + (2000*50\%)} = 5.00$$

**Department A**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (7000x8) | 56,000.00 |
| | Total cost of work in process (ending inv.) Dept. A | |
| (2000*100%) | Material (2000*3) | 6,000.00 |
| (2000*50%) | Conversion (1000*5) | 5,000.00 |
| | **Cost accounted for** | **67,000.00** |

**Problem 6-1, Page 138:**

**Cost of production report; normal spoilage (loss).** Malamud Company uses process costing. All materials are added at the beginning of the process. The product is inspected when it is 80% converted, and spoilage is identified only at that point. Normal spoilage is expected to be 5% of good output (completed & in process materials).

During March, 10500 units were put into process. Current costs were 52500 for materials; 39770 for labor; and 31525 for factory overhead. The 3000 units still in process at the end of March were estimated to be 90% completed. All spoilage was normal. A total of 7000 units were transferred to finished goods.

**Required:** A cost of production report for March.

**Department A**
**Quantity Schedule**

| | | |
|---|---|---|
| Units started | | 10,500.00 |
| Units completed & transferred to Dept. B | 7,000.00 | |
| Units still in process | 3,000.00 | |
| Units lost (Normal loss) (100*5%) | 500.00 | |
| | **10,500.00** | **10,500.00** |

**Department A**
**Cost Schedule**

| Cost added in Dept. A | Total cost | Per unit cost |
|---|---|---|
| Material | 52,500.00 | 5.25 |
| Labor | 39,770.00 | 4.10 |
| FoH | 31,525.00 | 3.25 |
| **Cost accounted for** | **123,795.00** | **12.60** |

**Equivalent production method:**

$$\text{Per unit material cost} = \frac{\text{Material cost}}{\text{Units completed + in process \%}} = \frac{52500}{7000 + (3000*100\%)} = 5.25$$

$$\text{Per unit labor cost} = \frac{\text{Labor cost}}{\text{Units completed + in process \%}} = \frac{39770}{7000 + (3000*90\%)} = 4.10$$

$$\text{Per unit FoH cost} = \frac{\text{FoH cost}}{\text{Units completed + in process \%}} = \frac{31525}{7000 + (3000*90\%)} = 3.25$$

**Department A**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (7000x12.6) | 88,200.00 |
| | Total cost of work in process (ending inv.) Dept. A | |
| (3000*100%) | Material (3000*5.25) | 15,750.00 |
| (3000*90%) | Labor (2700*4.1) | 11,070.00 |
| (3000*90%) | FoH (2700*3.25) | 8,775.00 |
| | **Cost accounted for** | **123,795.00** |

## Question 1, Page 136:

**Cost of production report.** A company's Department 2 costs for June were:

| | |
|---|---|
| Cost from Department 1 …… | 16,320.00 |
| Cost added in Deparment 2: | |
| Materials …… | 43,415.00 |
| Labor …… | 56,100.00 |
| Factory overhead …… | 58,575.00 |

The quantity schedule shows 12000 units were received during the month from Department 1; 7000 units were transferred to finished goods; and 5000 units in process at the end of June were 50% completed as to materials cost and 25% completed as to conversion cost.

**Required:** Cost of production report.

**Department 2**
**Quantity Schedule**

| | | |
|---|---|---|
| Units received from Dept. 1 | | 12,000.00 |
| Units completed & transferred to finished goods | 7,000.00 | |
| Units still in process | 5,000.00 | |
| | **12,000.00** | **12,000.00** |

**Department 2**
**Cost Schedule**

| | Total cost | Per unit cost |
|---|---|---|
| Cost received from Dept. 1 (16320/12000) | 16,320.00 | 1.36 |
| Cost added in Dept. 2 | | |
| Material | 43,415.00 | 4.57 |
| Labor | 56,100.00 | 6.80 |
| FoH | 58,575.00 | 7.10 |
| **Cost accounted for** | **174,410.00** | **19.83** |

**Equivalent production method:**

$$\text{Per unit material cost} = \frac{\text{Material cost}}{\text{Units completed + in process \%}} = \frac{43415}{7000 + (5000*50\%)} = 4.57$$

$$\text{Per unit labor cost} = \frac{\text{Labor cost}}{\text{Units completed + in process \%}} = \frac{56100}{7000 + (5000*25\%)} = 6.80$$

$$\text{Per unit FoH cost} = \frac{\text{FoH cost}}{\text{Units completed + in process \%}} = \frac{58575}{7000 + (5000*25\%)} = 7.10$$

**Department 2**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (7000x19.83) | 138,810.00 |
| | Total cost of work in process (ending inv.) Dept. 1 | |
| | (5000*1.36) | 6,800.00 |
| | Total cost of work in process (ending inv.) Dept. 2 | |
| (5000*50%) | Material (2500*4.57) | 11,425.00 |
| (5000*25%) | Labor (1250*6.8) | 8,500.00 |
| (5000*25%) | FoH (1250*7.1) | 8,875.00 |
| | **Cost accounted for** | **174,410.00** |

## Question 4, Page 137:

**Cost of production report.** Brooks, Inc., uses process costing. The costs for Department 2 for April were:

| | | |
|---|---|---|
| Cost from preceding department ..... | 20,000.00 | |
| Cost added by deparment: | | |
| Materials ..... | 21,816.00 | |
| Labor ..... | 7,776.00 | |
| Factory overhead ..... | 4,104.00 | 33,696.00 |

The following information was obtained from the department's quantity schedule:

| | |
|---|---|
| Units received | 5,000.00 |
| Units transferred out | 4,000.00 |
| Units still in process | 1,000.00 |

The degree of completion of the work in process as to costs originating in Department 2 was: 50% of the units were 40% complete; 20% were 30% complete; and the balance were 20% complete.

**Required:** The cost of production report for Department 2 for April.

**Department 2**
**Quantity Schedule**

| | | |
|---|---|---|
| Units received from Dept. 1 | | 5,000.00 |
| Units completed & transferred to Dept. 3 | 4,000.00 | |
| Units still in process | 1,000.00 | |
| | **5,000.00** | **5,000.00** |

**Department 2**
**Cost Schedule**

| | Total cost | Per unit cost |
|---|---|---|
| Cost received from Dept. 1 (20000/5000) | 20,000.00 | 4.00 |
| Cost added in Dept. 2 | | |
| Material | 21,816.00 | 5.05 |
| Labor | 7,776.00 | 1.80 |
| FoH | 4,104.00 | 0.95 |
| **Cost accounted for** | **53,696.00** | **11.80** |

**Equivalent production method:**

$$\text{Per unit material cost} = \frac{\text{Material cost}}{\text{Units completed + in process \%}} = \frac{21816}{4000+(500*40\%)+(200*30\%)+(300*20\%)} = 5.05$$

**(1000*50%=500), (1000*20%=200), (1000*30%=300)**

$$\text{Per unit labor cost} = \frac{\text{Labor cost}}{\text{Units completed + in process \%}} = \frac{7776}{4000+(500*40\%)+(200*30\%)+(300*20\%)} = 1.80$$

**(1000*50%=500), (1000*20%=200), (1000*30%=300)**

$$\text{Per unit FoH cost} = \frac{\text{FoH cost}}{\text{Units completed + in process \%}} = \frac{4104}{4000+(500*40\%)+(200*30\%)+(300*20\%)} = 0.95$$

**(1000*50%=500), (1000*20%=200), (1000*30%=300)**

**Department 2**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (4000x11.80) | 47,200.00 |
| | Total cost of work in process (ending inv.) Dept. 1 | |
| | (1000*4.00) | 4,000.00 |
| | Total cost of work in process (ending inv.) Dept. 2 | |
| (500*40%) + | Material (320*5.05) | 1,616.00 |
| (200*30%) + | Labor (320*1.80) | 576.00 |
| (300*20%) | FoH (320*0.95) | 304.00 |
| | **Cost accounted for** | **53,696.00** |

**Question 5, Page 137:**

**Equivalent production.** During April, 20000 units were transferred in from Department A at a cost of 39000. Materials cost of 6500 and conversion cost of 9000 were added in Department B. on April 30, Department B had 5000 units of work in process 60% complete as to conversion costs. Materials are added in the beginning of the process in Department B.

**Required:**

(1) Equivalent production computations.

(2) The cost per equivalent unit for conversion costs.

**Department B**
**Cost Schedule**

| | Total cost | Per unit cost |
|---|---|---|
| Cost received from Dept. A (20000x1.950) | 39,000.00 | 1.950 |
| Cost added in Dept. B | | |
| Material | 6,500.00 | 0.325 |
| Conversion | 9,000.00 | 0.500 |
| **Cost accounted for** | **54,500.00** | **2.775** |

**Equivalent production method:**

$$\text{Per unit material cost} = \frac{\text{Material cost}}{\text{Units completed + in process \%}} = \frac{6500}{15000 + (5000*100\%)} = 0.325$$

$$\text{Per unit conversion cost} = \frac{\text{Conversion cost}}{\text{Units completed + in process \%}} = \frac{9000}{15000 + (5000*60\%)} = 0.500$$

**Department B**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (15000x2.775) | 41,625.00 |
| | Total cost of work in process (ending inv.) Dept. B | |
| (5000*100%) | Material (5000*0.325) | 1,625.00 |
| (5000*60%) | Conversion (3000*0.50) | 1,500.00 |
| | Total cost of work in process (ending inv.) Dept. A (5000*1.95) | 9,750.00 |
| | **Cost accounted for** | **54,500.00** |

**Question 3, Page 136:**

**Cost of production report; normal loss.** For December, the Production Control Department of Carola Chemical, Inc., reported the following production data for Department 2:

| | | |
|---|---|---|
| Transferred in from Department 1 | 55,000.00 | litters |
| Transferred out to Department 3 | 39,500.00 | litters |
| In process at the end of December (with 1/2 labor and factory overhead) | 10,500.00 | litters |

All materials were put into process in Department 1.
The Cost Department collected these figures for Department 2:

| | |
|---|---|
| Unit cost for units transferred in from Department 1 | 1.80 |
| Labor cost in Department 2 | 27,520.00 |
| Applied factory overhead | 15,480.00 |

**Required:** A cost of production report for Department 2 for December.

**Department 2**
**Quantity Schedule**

| | | |
|---|---|---|
| Liters received from Dept. 1 | | 55,000.00 |
| Liters completed & transferred to Dept. 3 | 39,500.00 | |
| Liters still in process | 10,500.00 | |
| Liters lost (Normal loss) | 5,000.00 | |
| | **55,000.00** | **55,000.00** |

**Department 2**
**Cost Schedule**

| | Total cost | Per liter cost |
|---|---|---|
| Cost received from Dept. 1 (55000*1.80) | 99,000.00 | 1.80 |
| Cost added in Dept. 2 | | |
| Labor | 27,520.00 | 0.64 |
| FoH | 15,480.00 | 0.36 |
| Per unit cost increased (99000/50000)-(99000/55000) | | 0.18 |
| **Cost accounted for** | **142,000.00** | **2.98** |

**Equivalent production method:**

$$\text{Per unit labor cost} = \frac{\text{Labor cost}}{\text{Units completed + in process \%}} = \frac{27520}{39500 + (10500*1/3)} = 0.64$$

$$\text{Per unit FoH cost} = \frac{\text{FoH cost}}{\text{Units completed + in process \%}} = \frac{15480}{39500 + (10500*1/3)} = 0.36$$

**Department 2**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (39500x2.98) | 117,710.00 |
| | Total cost of work in process (ending inv.) Dept. 1 | |
| | (10500*1.98) | 20,790.00 |
| | Total cost of work in process (ending inv.) Dept. 2 | |
| (10500*1/3) | Labor (3500*0.64) | 2,240.00 |
| (10500*1/3) | FoH (3500*0.36) | 1,260.00 |
| | **Cost accounted for** | **142,000.00** |

## Question 6, Page 137:

**Cost of units transferred out; abnormal loss.** During February, the Assembly Department received 60000 units from the Cutting Department at a unit cost of 3.54. Costs added in the Assembly Department were: materials, 41650; labor 101700; and factory overhead, 56500. There was no beginning inventory. Of the 60000 units received, 50000 were transferred out; 9000 units were in process at the end of the month (all materials, 2/3 converted); 1000 lost units were ½ complete as to materials and conversion costs. The entire loss is considered abnormal and is to be charged to factor overhead.

**Required:** Cost of production report.

**Assembly Department**
**Quantity Schedule**

| | | |
|---|---|---|
| Units received from Cutting Department | | 60,000.00 |
| Units completed & transferred out | 50,000.00 | |
| Units still in process | 9,000.00 | |
| Units lost (Abnormal loss) | 1,000.00 | |
| | **60,000.00** | **60,000.00** |

**Assembly Department**
**Cost Schedule**

| | Total cost | Per liter cost |
|---|---|---|
| Cost received from Cutting Department (60000/3.54) | 212,400.00 | 3.54 |
| Cost added in Assembly Department | | |
| Material | 41,650.00 | 0.70 |
| Labor | 101,700.00 | 1.80 |
| FoH | 56,500.00 | 1.00 |
| **Cost accounted for** | **412,250.00** | **7.04** |

**Equivalent production method:**

$$\text{Per unit material cost} = \frac{\text{Material cost}}{\text{Units completed + in process \% + Abnormal loss \%}} = \frac{41650}{50000+(9000*100\%)+(1000*1/2)} = 0.70$$

$$\text{Per unit labor cost} = \frac{\text{Labor cost}}{\text{Units completed + in process \% + Abnormal loss \%}} = \frac{101700}{50000+(9000*2/3)+(1000*1/2)} = 1.80$$

$$\text{Per unit FoH cost} = \frac{\text{FoH cost}}{\text{Units completed + in process \% + Abnormal loss \%}} = \frac{56500}{50000+(9000*2/3)+(1000*1/2)} = 1.00$$

**Assembly Department**
**Cost accounted for as follows**

| | | |
|---|---|---|
| | Total cost of units completed (50000x7.04) | 352,000.00 |
| | Total cost of work in process (ending inv.) Assembly Department | |
| (9000*100%) | Material (9000*0.70) | 6,300.00 |
| (9000*2/3) | Labor (6000*1.80) | 10,800.00 |
| (9000*2/3) | FoH (6000*1) | 6,000.00 |
| | Total cost of work in process (ending inv.) Cutting Department (9000*3.54) | 31,860.00 |
| | Abnormal loss added to FoH cost Assembly Department | |
| (1000*1/2) | Material (500*0.7) | 350.00 |
| (1000*1/2) | Labor (500*1.80) | 900.00 |
| (1000*1/2) | FoH (500*1) | 500.00 |
| | Abnormal loss added to FoH cost Cutting Department (1000*3.54) | 3,540.00 |
| | **Cost accounted for** | **412,250.00** |

# Chapter Five

## Controlling and Costing Materials


پدې فصل کې مونږ دا معلوموو چې په خامو موادو باندې څومره مصارف راغلي او د هغې کنټرول کوو. کله چې خام مواد کارخانې ته راوړل کیږي نو هغه مواد په Store Room کې زخیره کیږي چې په Store Room کې ددې د راتګ او وتلو ریکارډ د ثبتولو مسؤلیت د Store Keeper په غاړه وي. ددې ریکارډ د ساتلو او ثبتولو لپاره مونږ لاندې فارمټ او جدول استعمالوو.

**ABC Company**
**Material Ledger Card (Bin Card)**
**For The Month of Jan 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| | | | | - | | | - | | | - |
| | | | | - | | | - | | | - |
| | | | | - | | | - | | | - |
| | | | | - | | | - | | | - |
| | | | | - | | | - | | | - |
| **Total** | | - | | - | - | | - | - | | - |

**Four methods for data entry in Material Ledger Card:**

1. **FIFO (First In, First Out) Method:** پدې طریقه کې مونږ کوم خام مواد چې په لومړي ځل Store Room ته راوړل شوي وي هغه لومړی Production Department ته لیږو او ددې په اساس په تولید باندې راغلي مصارف معلوموو.
2. **LIFO (Last In, First Out) Method:** پدې طریقه کې مونږ کوم خام مواد چې په اخیر ځل Store Room ته راوړل شوي وي هغه لومړی Production Department ته لیږو او ددې په اساس په تولید باندې راغلي مصارف معلوموو.
3. **Average Method:** پدې طریقه کې مونږ د دواړو اول او اخیر Store Room ته راوړل شویو خامو موادو د قیمتونو اوسط اخلو او بیا ددې په اساس په تولید باندې راغلي مصارف معلوموو.
4. **Most Recent Purchase Price:** پدې طریقه کې چې مونږ کوم خام مواد د اخیر ځل لپاره په کوم قیمت اخیستې وي د همدې قیمت په اساس په تولید باندې راغلي مصارف معلوموو.

**Question 1, Page 340:**

**Materials costing methods.** The Meltzer Company made the following materials purchases and issues during January:

| | | |
|---|---|---|
| Inventory: | January 01. | 500 units @ 1.20 |
| Receipts: | January 06. | 200 units @ 1.25 |
| | January 10. | 400 units @ 1.30 |
| | January 25. | 500 units @ 1.40 |
| Issues: | January 15. | 560 units |
| | January 27. | 500 units |

**Required:**

The cost of materials consumed and the cost of assigned to the inventory at the end of the month. Using a perpetual inventory system and:

(1) Average costing, rounding unit costs to the nearest cent.

(2) Fifo costing.

(3) Lifo costing.

## 1. Fifo costing method:

**Meltzer Company**
**Material Ledger Card**
**For The Month of Jan 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| 1-Jan | Balance | | | - | | | - | 500.00 | 1.20 | 600.00 |
| 6-Jan | Purchases | 200.00 | 1.25 | 250.00 | | | - | 500.00 | 1.20 | 600.00 |
| | | | | - | | | - | 200.00 | 1.25 | 250.00 |
| 10-Jan | Purchases | 400.00 | 1.30 | 520.00 | | | - | 500.00 | 1.20 | 600.00 |
| | | | | - | | | - | 200.00 | 1.25 | 250.00 |
| | | | | - | | | - | 400.00 | 1.30 | 520.00 |
| 15-Jan | Issues | | | - | 500.00 | 1.20 | 600.00 | 140.00 | 1.25 | 175.00 |
| | | | | - | 60.00 | 1.25 | 75.00 | 400.00 | 1.30 | 520.00 |
| 25-Jan | Purchases | 500.00 | 1.40 | 700.00 | | | - | 140.00 | 1.25 | 175.00 |
| | | | | - | | | - | 400.00 | 1.30 | 520.00 |
| | | | | - | | | - | 500.00 | 1.40 | 700.00 |
| 27-Jan | Issues | | | - | 140.00 | 1.25 | 175.00 | 40.00 | 1.30 | 52.00 |
| | | | | - | 360.00 | 1.30 | 468.00 | 500.00 | 1.40 | 700.00 |
| **Total** | | **1,100.00** | | **1,470.00** | **1,060.00** | | **1,318.00** | **540.00** | | **752.00** |

Materials consumed: **1,318.00**

Inventory cost: **752.00**

## 2. Lifo costing method:

**Meltzer Company**
**Material Ledger Card**
**For The Month of Jan 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| 1-Jan | Balance | | | - | | | - | 500.00 | 1.20 | 600.00 |
| 6-Jan | Purchases | 200.00 | 1.25 | 250.00 | | | - | 500.00 | 1.20 | 600.00 |
| | | | | - | | | - | 200.00 | 1.25 | 250.00 |
| 10-Jan | Purchases | 400.00 | 1.30 | 520.00 | | | - | 500.00 | 1.20 | 600.00 |
| | | | | - | | | - | 200.00 | 1.25 | 250.00 |
| | | | | - | | | - | 400.00 | 1.30 | 520.00 |
| 15-Jan | Issues | | | - | 400.00 | 1.30 | 520.00 | 500.00 | 1.20 | 600.00 |
| | | | | - | 160.00 | 1.25 | 200.00 | 40.00 | 1.25 | 50.00 |
| 25-Jan | Purchases | 500.00 | 1.40 | 700.00 | | | - | 500.00 | 1.20 | 600.00 |
| | | | | - | | | - | 40.00 | 1.25 | 50.00 |
| | | | | - | | | - | 500.00 | 1.40 | 700.00 |
| 27-Jan | Issues | | | - | 500.00 | 1.40 | 700.00 | 500.00 | 1.20 | 600.00 |
| | | | | - | | | - | 40.00 | 1.25 | 50.00 |
| **Total** | | **1,100.00** | | **1,470.00** | **1,060.00** | | **1,420.00** | **540.00** | | **650.00** |

Materials consumed: **1,420.00**
Inventory cost: **650.00**

**Question 2, Page 340:**

**Materials costing methods.** The following information is to be used in costing inventory on October 31:

October 1. Beginning balance: 800 units @ 6
October 5. Purchased 200 units @ 7
October 9. Purchased 200 units @ 8
October 16. Issued 400 units
October 24. Purchased 300 units @ 9
October 27. Issued 500 units

**Required:** The cost of materials used and the cost assigned to the October 31 inventory by each of these perpetual inventory costing methods:

(1) First-in, first-out.
(2) Last-in, first-out.
(3) Average, using a materials ledger card and rounding unit costs to the nearest cent.
(4) Most recent purchase price.

## 1. First-in, first-out costing method:

**Mohammad Usman Company**
**Material Ledger Card**
**For The Month of October 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| 1-Oct | Beginning balance | | | - | | | - | 800.00 | 6.00 | 4,800.00 |
| 5-Oct | Purchases | 200.00 | 7.00 | 1,400.00 | | | - | 800.00 | 6.00 | 4,800.00 |
| | | | | - | | | - | 200.00 | 7.00 | 1,400.00 |
| 9-Oct | Purchases | 200.00 | 8.00 | 1,600.00 | | | - | 800.00 | 6.00 | 4,800.00 |
| | | | | - | | | - | 200.00 | 7.00 | 1,400.00 |
| | | | | - | | | - | 200.00 | 8.00 | 1,600.00 |
| 16-Oct | Issues | | | - | 400.00 | 6.00 | 2,400.00 | 400.00 | 6.00 | 2,400.00 |
| | | | | - | | | - | 200.00 | 7.00 | 1,400.00 |
| | | | | - | | | - | 200.00 | 8.00 | 1,600.00 |
| 24-Oct | Purchases | 300.00 | 9.00 | 2,700.00 | | | - | 400.00 | 6.00 | 2,400.00 |
| | | | | - | | | - | 200.00 | 7.00 | 1,400.00 |
| | | | | - | | | - | 200.00 | 8.00 | 1,600.00 |
| | | | | - | | | - | 300.00 | 9.00 | 2,700.00 |
| 27-Oct | Issues | | | - | 400.00 | 6.00 | 2,400.00 | 100.00 | 7.00 | 700.00 |
| | | | | - | 100.00 | 7.00 | 700.00 | 200.00 | 8.00 | 1,600.00 |
| | | | | - | | | - | 300.00 | 9.00 | 2,700.00 |
| | | | | - | | | - | | | - |
| **Total** | | **700.00** | | **5,700.00** | **900.00** | | **5,500.00** | **600.00** | | **5,000.00** |

Materials used: **5,500.00**
Inventory cost: **5,000.00**

## 2. Last-in, first-out costing method:

**Mohammad Usman Company**
**Material Ledger Card**
**For The Month of October 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| 1-Oct | Beginning balance | | | - | | | - | 800.00 | 6.00 | 4,800.00 |
| 5-Oct | Purchases | 200.00 | 7.00 | 1,400.00 | | | - | 800.00 | 6.00 | 4,800.00 |
| | | | | - | | | - | 200.00 | 7.00 | 1,400.00 |
| 9-Oct | Purchases | 200.00 | 8.00 | 1,600.00 | | | - | 800.00 | 6.00 | 4,800.00 |
| | | | | - | | | - | 200.00 | 7.00 | 1,400.00 |
| | | | | - | | | - | 200.00 | 8.00 | 1,600.00 |
| 16-Oct | Issues | | | - | 200.00 | 8.00 | 1,600.00 | 800.00 | 6.00 | 4,800.00 |
| | | | | - | 200.00 | 7.00 | 1,400.00 | | | - |
| 24-Oct | Purchases | 300.00 | 9.00 | 2,700.00 | | | - | 800.00 | 6.00 | 4,800.00 |
| | | | | - | | | - | 300.00 | 9.00 | 2,700.00 |
| 27-Oct | Issues | | | - | 300.00 | 9.00 | 2,700.00 | 600.00 | 6.00 | 3,600.00 |
| | | | | - | 200.00 | 6.00 | 1,200.00 | | | - |
| | | | | - | | | - | | | - |
| **Total** | | **700.00** | | **5,700.00** | **900.00** | | **6,900.00** | **600.00** | | **3,600.00** |

Materials used: **6,900.00**
Inventory cost: **3,600.00**

### 3. Average, using a materials ledger card and rounding unit costs to the nearest cent:

**Mohammad Usman Company**
**Material Ledger Card**
**For The Month of October 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| 1-Oct | Beginning inventory | | | - | | | - | 800.00 | 6.00 | 4,800.00 |
| 5-Oct | Purchases | 200.00 | 7.00 | 1,400.00 | | | - | 1,000.00 | 6.20 | 6,200.00 |
| 9-Oct | Purchases | 200.00 | 8.00 | 1,600.00 | | | - | 1,200.00 | 6.50 | 7,800.00 |
| 16-Oct | Issues | | | - | 400.00 | 6.50 | 2,600.00 | 800.00 | 6.50 | 5,200.00 |
| 24-Oct | Purchases | 300.00 | 9.00 | 2,700.00 | | | - | 1,100.00 | 7.18 | 7,900.00 |
| 27-Oct | Issues | | | - | 500.00 | 7.18 | 3,590.91 | 600.00 | 7.18 | 4,309.09 |
| **Total** | | **700.00** | | **5,700.00** | **900.00** | | **6,190.91** | **600.00** | | **4,309.09** |

Materials used: **6,190.91**
Inventory cost: **4,309.09**

**Note:** Computation formulas for average method:

1. When purchases occur, the formulas are:
   *Average Quantity = Balance Quantity + Purchases Quantity*
   *Average Amount = Balance Amount + Purchases Amount*
   *Average Rate = Balance Amount / Balance Quantity*

2. When Issues occur, the formulas are:
   *Average Quantity = Balance Quantity – Issues Quantity*
   *Average Rate = Issues Amount / Issues Quantity*
   *Average Amount = Balance Quantity * Balance Rate*

## 4. Most recent purchase price:

**Mohammad Usman Company**
**Material Ledger Card**
**For The Month of October 2017**

| Date | Description | Purchases | | | Issues | | | Balance | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Quantity | Rate | Amount | Quantity | Rate | Amount | Quantity | Rate | Amount |
| 1-Oct | Beginning inventory | | | - | | | - | 800.00 | 6.00 | 4,800.00 |
| 5-Oct | Purchases | 200.00 | 7.00 | 1,400.00 | | | - | 1,000.00 | 7.00 | 7,000.00 |
| 9-Oct | Purchases | 200.00 | 8.00 | 1,600.00 | | | - | 1,200.00 | 8.00 | 9,600.00 |
| 16-Oct | Issues | | | - | 400.00 | 8.00 | 3,200.00 | 800.00 | 8.00 | 6,400.00 |
| 24-Oct | Purchases | 300.00 | 9.00 | 2,700.00 | | | - | 1,100.00 | 9.00 | 9,900.00 |
| 27-Oct | Issues | | | - | 500.00 | 9.00 | 4,500.00 | 600.00 | 9.00 | 5,400.00 |
| **Total** | | **700.00** | | **5,700.00** | **900.00** | | **7,700.00** | **600.00** | | **5,400.00** |

Materials used: **7,700.00**
Inventory cost: **5,400.00**

**Note:** Computation formulas for most recent purchase price method:

1. When purchases occur, the formulas are:
   *Balance Quantity = Previous Balance Quantity + Purchases Quantity*
   *Balance Rate = Purchases Rate*
   *Balance Amount = Balance Quantity * Balance Rate*

2. When Issues occur, the formulas are:
   *Balance Quantity = Previous Balance Quantity – Issues Quantity*
   *Balance Rate = Issues Rate*
   *Balance Amount = Balance Quantity * Balance Rate*

# Chapter Six

## Joint Cost Allocation

**Joint Product:** کله چې د یو قسمه خامو موادو نه مختلف قسمه تولیدات تولیدیږي، نو دغه خامو موادو ته Joint Product ویل کیږي.

**Joint Cost:** کله چې مختلف تولیدات د یو قسمه خامو موادو نه تولیدیږي، نو څرنګه چې ددې مختلفو تولیداتو د تولید کېدو لپاره لومړنی کوم پروسس چې ترسره کیږي او په هغې باندې چې څومره مصارف ترسره کیږي دغې مصارفو ته Joint Costوایي.

**By Product:** کله چې مختلف تولیدات د یو قسمه خامو موادو نه تولیدیږي، خو کله چې یو بل غیر متوقع تولید د اصلي تولیداتو د تولید کېدو د پروسس په پایله چې لاسته راځي هغې ته By Productویل کیږي.

**By Cost:** کله چې مختلف تولیدات د یو قسمه خامو موادو نه تولیدیږي، خو کله چې یو بل غیر متوقع تولید د اصلي تولیداتو د تولید کېدو د پروسس په پایله چې لاسته راځي او په هغې باندې چې کوم مصارف ترسره کیږي هغې ته By Costویل کیږي.

**د مثال په ډول:** کله چې یو تولیدونکی د شیدو څخه مختلف تولیدات جوړوي؛ لومړی یې د ټولو تولیداتو د تولید کولو په موخه په اوله مرحله کې ګرموي او بیا ترې د هر تولید ځانګو ته خپل خپل برخه خام مواد یعنې شیدې لیږي. کله چې خام مواد په اوله مرحله کې د نورو تولیداتو د تولید کولو په موخه ګرمیږي پدې باندې مختلف مصارف ترسره کیږي، کله د مذدور مصرف، د برق مصرف، او داسې نور چې دغه مصارفو ته Joint Costوایي. خو کله چې مثلاً کچ تولیدیږي نو د کچ د لاسته راوړلو په پایله کې په غیر متوقع ډول سره شوملې هم حاصلیږي او پدې باندې چې بیا کوم مصارف ترسره کیږي هغې ته By Costوایي.

**Market Value Method**
**Joint Cost** _____

| Products | Units Produced | Per Unit Sale Price | Total Market Value | Joint Cost Allocation |
|---|---|---|---|---|
| | | | | |

$$Joint\ Cost\ Allocation = \frac{Joint\ Cost}{Total\ Market\ Value}\ X\ Each\ Market\ Value$$

**Weighted Average Method**
**Joint Cost**

| Products | Units Produced | Per Unit Weight | Total Weight | Joint Cost Allocation |
|---|---|---|---|---|
| | | | | |

$$Joint\ Cost\ Allocation = \frac{Joint\ Cost}{Total\ Weight}\ X\ Each\ Weight$$

**Question 5, Page 197:**

**Joint cost allocation – market value and weighted average methods.** The Buildon Company products three joint products: Buildon, Buildeze, and Buildrite. Total joint production cost for November was 21600.

The units produced and unit sales prices at the split-off point were:

| PRODUCT | UNITS | UNIT SALES PRICE |
|---|---|---|
| Buildon ..... | 6,000.00 | 2.20 |
| Buildeze ..... | 8,000.00 | 1.25 |
| Buildrite ..... | 10,000.00 | 1.28 |

In determining costs by the weighted average method, each unit is weighted as follows:

| PRODUCT | PER UNIT WEIGHTING |
|---|---|
| Buildon ..... | 6 |
| Buildeze ..... | 4 |
| Buildrite ..... | 4 |

**Required:** Allocation of the production cost, using:

(1) The market value method.

(2) The weighted average method.

**Market Value Method**

**Joint Cost 21,600.00**

| Products | Units Produced | Per Unit Sale Price | Total Market Value | Joint Cost Allocation |
|---|---|---|---|---|
| Buildon | 6,000.00 | 2.20 | 13,200.00 | 7,920.00 |
| Buildeze | 8,000.00 | 1.25 | 10,000.00 | 6,000.00 |
| Buildrite | 10,000.00 | 1.28 | 12,800.00 | 7,680.00 |
| **Total** | | | **36,000.00** | **21,600.00** |

**Weighted Average Method**

**Joint Cost 21,600.00**

| Products | Units Produced | Per Unit Weight | Total Weight | Joint Cost Allocation |
|---|---|---|---|---|
| Buildon | 6,000.00 | 6.00 | 36,000.00 | 7,200.00 |
| Buildeze | 8,000.00 | 4.00 | 32,000.00 | 6,400.00 |
| Buildrite | 10,000.00 | 4.00 | 40,000.00 | 8,000.00 |
| **Total** | | | **108,000.00** | **21,600.00** |

**Question 6, Page 197:**

**Cost allocation – weighted average method.** A department's equivalent production schedules show 10000 units of Article X and 8000 units of Article Y. Both articles are made from the same raw materials, but a unit of Article X and Article Y require estimated quantities of materials in the ratio of 3:2, respectively. Both articles pass through the same conversion process, but Article X and Article Y require estimated production times per unit in the ratio of 5:4, respectively.

**Required:** A computation of the unit materials and conversion costs for each product if the total costs are: materials, 92000; conversion cost, 41000.

**Weighted Average Method**
**Material (Joint Cost) 92,000.00**

| Products | Units Produced | Per Unit Weight | Total Weight | Joint Cost Allocation |
|---|---|---|---|---|
| X | 10,000.00 | 3.00 | 30,000.00 | 60,000.00 |
| Y | 8,000.00 | 2.00 | 16,000.00 | 32,000.00 |
| **Total** | | | **46,000.00** | **92,000.00** |

**Weighted Average Method**
**Conversion (Joint Cost) 41,000.00**

| Products | Units Produced | Per Unit Time Consumed | Total Time Consumed | Joint Cost Allocation |
|---|---|---|---|---|
| X | 10,000.00 | 5.00 | 50,000.00 | 25,000.00 |
| Y | 8,000.00 | 4.00 | 32,000.00 | 16,000.00 |
| **Total** | | | **82,000.00** | **41,000.00** |

**Question 9, Page 198:**

**Joint cost allocation using market value method; sell or process further.** The Domecq Company produces three products, A, B, and C, as the result of initial joint processing plus separable processing after the split-off point. Records for July show the following:

| | A | B | C | Total |
|---|---|---|---|---|
| Materials used …… | - | - | - | 150,000.00 |
| Joint processing cost …… | - | - | - | 170,000.00 |
| Separable processing costs …… | 50,000.00 | 80,000.00 | 70,000.00 | |
| Units produced …… | 6,000.00 | 12,000.00 | 6,250.00 | |
| Units sold …… | 4,000.00 | 9,000.00 | 4,250.00 | |
| Unit sales price …… | 50.00 | 37.50 | 40.00 | |

**Required:**

(1) The cost assigned to ending inventory for each product and in total, assuming no beginning inventory and using the market value method for joint cost allocation. In completing this requirement, disregard the information given in requirement (2).

(2) The difference in operating profit if Domecq accepts an offer from a prospective customer who would be willing to buy all the output of Product B at the split-off point for 30 per unit.

**Market Value Method**

**Joint Cost 320,000.00**

| Products | Units Produced | Per Unit Sale Price | Total Market Value | Separable Cost | Market Value Split-off Point | Joint Cost Allocation | Total Cost | Ending Inventory Cost |
|---|---|---|---|---|---|---|---|---|
| A | 6,000.00 | 50.00 | 300,000.00 | 50,000.00 | 250,000.00 | 100,000.00 | 150,000.00 | 50,000.00 |
| B | 12,000.00 | 37.50 | 450,000.00 | 80,000.00 | 370,000.00 | 148,000.00 | 228,000.00 | 57,000.00 |
| C | 6,250.00 | 40.00 | 250,000.00 | 70,000.00 | 180,000.00 | 72,000.00 | 142,000.00 | 45,440.00 |
| **Total** | | | | | **800,000.00** | **320,000.00** | | |

**Formulas Used in Above Table:**

$$\textbf{Joint Cost Allocation} = \frac{\textbf{Joint Cost}}{\textbf{Total Market Value Split} - \textbf{off Point}} \textbf{ X Each Market Value Split} - \textbf{off Point}$$

$$\textbf{Ending Inventory} = \textbf{ Units Produced} - \textbf{Units Sold}$$

$$\textbf{Per Unit Ending Inventory Cost} = \frac{\textbf{Each Total Cost}}{\textbf{Units Produced}} \textbf{ X Ending Inventory}$$

«««« END »»»»