

## Chapter 1

### TRUE/FALSE

- |          |          |
|----------|----------|
| 1. TRUE  | 6. FALSE |
| 2. TRUE  | 7. TRUE  |
| 3. FALSE | 8. FALSE |
| 4. TRUE  | 9. TRUE  |
| 5. TRUE  | 10. TRUE |

### MULTIPLE CHOICE

- |      |       |       |
|------|-------|-------|
| 1. B | 6. D  | 11. D |
| 2. C | 7. A  | 12. B |
| 3. A | 8. A  | 13. B |
| 4. C | 9. B  | 14. A |
| 5. C | 10. D | 15. D |

## Cost Accounting - 2014

### Chapter 2 - Costs – Concepts and classification

#### Problem 1- Ram Corporation

1. Manufacturing overhead
2. Manufacturing overhead
3. Direct materials
4. Direct labor
5. Manufacturing overhead
6. Manufacturing overhead
7. Direct materials
8. Manufacturing overhead
9. Manufacturing overhead
10. Manufacturing overhead

#### Problem 2

- |                  |                   |
|------------------|-------------------|
| 1. Manufacturing | 6. Manufacturing  |
| 2. Selling       | 7. Administrative |
| 3. Manufacturing | 8. Selling        |
| 4. Selling       | 9. Administrative |

5. Administrative      10.Selling

	Product Cost			Period Cost	
	Direct mat.	Direct labor	Mfg. OH	Selling	Adm
1. DM	220,000				
2. Factory rent			50,000		
3. Direct labor		180,000			
4. Factory utilities			8,500		
5. Supervision			60,000		
6. Depreciation-FE			20,000		
7. Sales Commission				57,000	
8. Advertising					47,000
9. Depreciation-OE					10,000
10. Salary - pres.					250,000

1. TOTAL PRODUCT CST = 220,000 + 180,000 + 138,500
2. TOTAL PERIOD COST = 57,000 + 307,000
3. COST PER UNIT = 538,500/ 40,000 units  
= P 13,4625

**Problem 4 – Bug Company**

- |             |               |             |               |
|-------------|---------------|-------------|---------------|
| 1. Fixed    | Period        | 6. Variable | Period        |
| 2. Fixed    | Inventoriable | 7. Variable | Inventoriable |
| 3. Fixed    | Inventoriable | 8. Fixed    | Inventoriable |
| 4. Variable | Inventoriable | 9. Fixed    | Period        |
| 5. Fixed    | Inventoriable | 10. Fixed   | Inventoriable |

**Problem 5 – Mighty Muffler, Inc.**

- a. P 50,000

- b. P 50,000
- c.  $\frac{P 60,000}{500} = P120/\text{muffler} \times 400 = P 48,000$
- d.  $P 120 \times 800 = P 96,000$
- e.  $P 50,000 + P 48,000 = P 98,000$
- f.  $P 50,000 + P 96,000 = P 146,000$
- g.  $P 50,000 / 400 = P 125$
- h.  $P 50,000 / 500 = P 100$
- i.  $P 50,000 / 800 = P 62.50$
- j.  $P 48,000 / 400 = P 120$
- k.  $P 60,000 / 500 = P 120$
- l.  $P 96,000 / 800 = P 120$
- m.  $P 125 + P 120 = P 245$
- n.  $P 100 + P 120 = P 220$
- o.  $P 62.50 + P 120 = P 182.50$

**Problem 6 – Marvin Desk**

- |       |        |
|-------|--------|
| 1. DM | 8. OH  |
| 2. OH | 9. OH  |
| 3. OH | 10. DL |
| 4. OH | 11. OH |
| 5. DL | 12. OH |
| 6. OH | 13. OH |
| 7. OH | 14. OH |
|       | 15. DM |

**Problem 7 – Mother Goose Company**

1. Prime costs	-	530,000
2. Conversion cost	-	575,000
3 Inventoriable cost	-	860,000

4. Total period costs - 305,000

Problem 8 –

- a. c - fixed (total amount is constant)
- b. a – variable ( $4,480/3,200 = 1.40$ ;  $6,300/4,500 = 1.40$  per unit is constant)
- c. d - mixed ( $3,950/3,200 = 12.34$ ;  $5,250/4,500 = 1.16$ ) total amount and amount per unit varies in relation to units sold)

Problem 9 - Blanche Corporation

1. Direct materials used	P 32.00
Direct labor	20.00
Variable manufacturing overhead	15.00
Variable marketing	<u>3.00</u>
Total variable cost per unit	70.00
X No. of units produced and sold	<u>12,000</u>
Total variable costs per month	<u><u>P 840,000</u></u>

2. Fixed manufacturing overhead	P 6.00
Fixed marketing costs	<u>4.00</u>
Total fixed cost per unit	10.00
X No. of units produced and sold	<u>12,000</u>
Total fixed costs per month	<u><u>P 120,000</u></u>

Problem 10

1. Direct materials	P 60.00
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Direct labor	30.00
Variable manufacturing overhead	<u>9.00</u>
Total variable manufacturing cost per unit	<u>P 99.00</u>
2. Total variable manufacturing cost per unit	P 99.00
Variable marketing and administrative	<u>6.00</u>
Total variable costs per unit	<u>105.00</u>
3. Total variable manufacturing cost per unit	P 99.00
Fixed manufacturing overhead (30,000/1,200)	<u>25.00</u>
Full manufacturing cost per unit	<u>124.00</u>
4. Full manufacturing cost per unit	124.00
Variable marketing and administrative	6.00
Fixed marketing and administrative	<u>20.00</u>
Full cost to make and sell per unit	<u>150.00</u>

**Problem 11 – Johnson Corporation**

1. Variable cost per machine hour =  $\frac{35,600 - 20,000}{4,000 - 2,000}$

$4,000 - 2,000$

= 7.80 per machine hour

2.	<u>4,000 hours</u>	<u>2000 hours</u>
Total electricity expense	35,600	20,000
Less: Variable costs		

( 4,000 x 7.80)	<u>31,200</u>	
( 2000 x 7.80)	<u>          </u>	<u>15,600</u>
Fixed cost	<u>4,400</u>	<u>4,400</u>

3. Fixed cost		4,400
Variable cost ( 4,500 x 7.50)		<u>35,100</u>
Totl manufacturing costs		<u>39,500</u>

**Problem 12 – Valdez Motors Co.**

1. Variable cost per machine hour =  $\frac{5,475 - 3,975}{210 - 145}$   
= 23.08 per machine hour

2.	<u>210 hours</u>	<u>145 hours</u>
Total overhead costs	5,475	3,975
Less: Variable costs		
( 210 x 23.08)	4,847	
( 145 x 23.08)	<u>          </u>	<u>3,347</u>
Fixed cost	<u>628</u>	<u>628</u>

**Problem 13 – Marco Company**

	<u>Department A</u> <u>Department B</u>	
1. Direct materials	P 400,000	P 700,000
Direct labor	350,000	600,000
Factory supplies	<u>10,000</u>	<u>24,000</u>
Direct variable costs	<u>P 760,000</u>	<u>P 1,324,000</u>

<b>2. Controllable direct fixed costs</b>			
Supervisory salaries	<u>P 45,000</u>	<u>P 55,000</u>	
<b>3. Uncontrollable direct fixed costs:</b>			
Depreciation – machinery and Equipment	<u>P 100,000</u>	<u>P 180,000</u>	
<b>4. Controllable direct fixed cost</b>	<b>P 45,000</b>	<b>P 55,000</b>	
<b>Uncontrollable direct fixed cost</b>	<u><b>100,000</b></u>	<u><b>180,000</b></u>	
<b>Total direct fixed cost</b>	<u><b>P 145,000</b></u>	<u><b>P 235,000</b></u>	
<b>5. Allocated costs from headquarters</b>	<b>P 120,000</b>	<b>P 180,000</b>	
Allocated repairs & maintenance	40,000	80,000	
Allocated factory rent – bldg.	60,000	140,000	
Allocated plant executive’s salaries	<u>140,000</u>	<u>210,000</u>	
<b>Total indirect costs</b>	<u><b>P 360,000</b></u>	<u><b>P 610,000</b></u>	
<b>6. Allocated costs from headquarters</b>	<b>P 120,000</b>	<b>P 180,000</b>	
Allocated factory rent – bldg.	60,000	140,000	
Allocated plant executive’s salaries	140,000	210,000	
Depreciation- mach. & equipment	<u>100,000</u>	<u>180,000</u>	
<b>Total unavoidable costs</b>	<u><b>P 420,000</b></u>	<u><b>P 710,000</b></u>	

**True/False Questions**

- |          |          |           |           |
|----------|----------|-----------|-----------|
| 1. False | 6. True  | 11. False | 16. True  |
| 2. False | 7. False | 12. False | 17. False |
| 3. True  | 8. True  | 13. True  | 18. True  |
| 4. False | 9. False | 14. False | 19. False |
| 5. False | 10. True | 15. False | 20. True  |

**Multiple choice**

- |       |       |       |
|-------|-------|-------|
| 1. B  | 11. C | 21. A |
| 2. C  | 12. D | 22. C |
| 3. B  | 13. C | 23. A |
| 4. C  | 14. B | 24. C |
| 5. D  | 15. A | 25. D |
| 6. A  | 16. B | 26. B |
| 7. D  | 17. B | 27. A |
| 8. D  | 18. A | 28. B |
| 9. B  | 19. D | 29. C |
| 10. C | 20. B | 30. B |

### CHAPTER 3 - COST ACCOUNTING CYCLE

#### Problem 1

1. A
2. A
3. A, C
4. A
5. A
6. B
7. A
8. A, C
9. A
10. A
11. A
12. C
13. A
14. A
15. C

#### Problem 2 - Marvin Manufacturing Company

**Marvin Manufacturing Company**

**Cost of Goods Sold Statement**

**For the year ended December 31, 2014**

**Direct materials used**

**Materials, January 1 175,000**

**Purchases 250,000**

**Total available for use 425,000**

**Less> Materials, December 31 125,000 300,000**

**Direct labor 270,000**

**Factory overhead 324,000**

**Total manufacturing costs 894,000**

**Work in process, January 1 90,000**

**Cost of goods put into process 984,000**

**Less: Work in process, December 31 120,000**

**Cost of goods manufactured 864,000**

**Finished goods, January 1 100,000**

**Total goods available for sale 964,000**

**Less: Finished goods, December 31 80,000**

**Cost of goods sold 884,000**

**Problem 3 – Donna Company**

**Donna Company**  
**Cost of Goods Sold Statement**  
**For the month of May, 2014**

**Direct materials used**

Materials, May 1	124,000	
Purchases	<u>107,800</u>	
Total available	231,800	
Less> Material - May 31	<u>115,000</u>	116,800
Direct labor		160,000
Factory overhead		<u>240,000</u>
Total manufacturing costs		516,800
Work in process, May 1	<u>129,200</u>	
Cost of goods put into process		646,000
Less: Work in process, May 31	<u>124,000</u>	
Cost of goods manufactured		522,000
Finished goods – May 1	<u>150,000</u>	
Total goods available for sale		672,000
Less: Finished goods – May 31	<u>122,000</u>	
Cost of goods sold		<u>550,000</u>

**Problem 4 - Ram Company**

**1, Entries**

<b>a. Materials</b>	<b>150,000</b>
<b>Accounts payable</b>	<b>150,000</b>
<b>b. Payroll</b>	<b>75,000</b>
<b>Withholding taxes payable</b>	<b>11,200</b>
<b>SSS Premiums payable</b>	<b>2,400</b>
<b>Phil Health contributions payable</b>	<b>375</b>
<b>Pag-ibig funds contributions payable</b>	<b>1,620</b>
<b>Accrued payroll</b>	<b>59,405</b>
<b>Work in process</b>	<b>56,000</b>
<b>Factory overhead control</b>	<b>19,000</b>
<b>Payroll</b>	<b>75,000</b>
<b>c. Materials</b>	<b>20,000</b>
<b>Accounts payable</b>	<b>20,000</b>
<b>d. Factory overhead control</b>	<b>5,595</b>
<b>SSS premiums payable</b>	<b>3,600</b>
<b>Phil Health contributions payable</b>	<b>375</b>
<b>Pag-ibig funds contributions payable</b>	<b>1.620</b>
<b>e. Work in process</b>	<b>120,000</b>
<b>Factory overhead control</b>	<b>10,000</b>

Materials	130,000
f. Accounts payable	2,000
Materials	2,000
g. Accounts payable	148,300
Accrued payroll	59,405
Cash	207,705
h. Factory overhead control	24,900
Miscellaneous accounts	24,900
i. Work in process	67,200
Factory OH Applied (56,000 x 120%)	67,200
j. Finished goods	175,000
Work in process	175,000
k. Accounts receivable	2200,000
Sales	2200,000
Cost of goods sold	140,000
Finished goods	140,000

## 2. Statement of cost of goods sold

Direct materials used			
Purchases		170,000	
Less: Purchase returns		<u>2,000</u>	
Total available for use		168,000	
Less: Ind. Mat. used	10,000		
Mat.- October 31	<u>38,000</u>	<u>48,000</u>	120,000
Direct labor			56,000
Factory overhead			<u>67,200</u>
Total manufacturing costs			243,200

Less: Work in process, October 31	<u>68,200</u>
Cost of goods manufactured	175,000
Less: Finished goods – March 31	<u>35,000</u>
Cost of goods sold, normal	140,000
Less: OA-FO	<u>7,705</u>
Cost of goods sold, actual	<u><u>132,295</u></u>

Actual factory overhead (FO Control)	59,495
Less: Applied factory overhead	<u>67,200</u>
Over applied factory overhead	( 7,705)

#### Problem 5 – Darwin Company

##### 1. Entries

a. Materials	200,000
Accounts payable	200,000

b. FOControl	35,000
Accounts payable	35,000

c. Payroll	210,000
W/Taxes payable	18,520
SSS Premium payable	8,400

Phil Health contributions payable	1,125
PFC payable	6,300
Accrued payroll	175,655
Work in process	140,000
Factory Overhead control	30,000
Selling expense control	25,000
Adm. expense control	15,000
Payroll	210,000
d. Accrued payroll	175,000
Cash	175,000
e. FO Control	14,200
Selling expense control	2,375
Adm. Expense control	1,350
SSS prem. Payable	10,500
MC payable	1,125
PFC payable	6,300
f. Work in process	185,000
FO Control	35,000
Materials	220,000
g. Work in process	112,000

	<b>FO Applied (140,000x80%)</b>	<b>112,000</b>
<b>h. Finished goods</b>	<b>410,000</b>	
<b>Work in process</b>		<b>410,000</b>
<b>i. Accounts receivable</b>	<b>539,000</b>	
<b>Sales</b>		<b>539,000</b>
<b>Costs of goods sold</b>	<b>385,000</b>	
<b>Finished goods</b>		<b>385,000</b>
<b>j. Cash</b>	<b>405,000</b>	
<b>Accounts receivable</b>		<b>405,000</b>
<b>k. Accounts payable</b>	<b>220,000</b>	
<b>Cash</b>		<b>220,000</b>

**2. Cost of goods sold statement**

**Direct materials used**

Materials, January 1	50,000		
Purchases	<u>200,000</u>		
Total available	250,000		
Less> Mat.- Jan. 31	30,000		
Ind. Materials	<u>35,000</u>	<u>65,000</u>	185,000
Direct labor			140,000
Factory overhead			<u>112,000</u>
Total manufacturing costs			437,000
Work in process, January 1			<u>18,000</u>
Cost of goods put into process			455,000
Less: Work in process, January 31			<u>45,000</u>
Cost of goods manufactured			410,000
Finished goods – January 1			<u>35,000</u>
Total goods available for sale			445,000
Less: Finished goods – January 31			<u>60,000</u>
Cost of goods sold - normal			385,000
Underapplied factory overhead		<u>2,200</u>	
Cost of goods sold – actual			<u><u>387,200</u></u>

### 3. Income Statement

Sales		539,000
Less: Cost of goods sold		<u>387,200</u>
Gross profit		151,800
Less: Operating expenses		
Selling	27,375	

Administrative	<u>16,350</u>	<u>43,725</u>
Net income		<u>108,075</u>

#### 4 Balance sheet

Cash	110,000	Accounts payable	25,000
Accounts receivable	194,000	Accrued payroll	8,655
Finished goods	60,000	W/tax payable	18,520
Work in process	45,000	SSS Prem. payable	18,900
Materials	30,000	Medicare Cont. payable	2,250
		PFC payable	12,600
		Common stock	200,000
	<u>          </u>	Retained earnings	<u>153,075</u>
Total	<u>439,000</u>		<u>439,000</u>

### Problem 6 - Blanche Corporation

#### 1, Income Statement

Sales		1,200,000
Less: Cost of goods sold		<u>755,230</u>
Gross profit		444,770
Less: Operating expenses		
Marketing	60,000	
Administrative	<u>12,000</u>	<u>72,000</u>
Net income		<u>372,770</u>

## 2. Cost of goods sold statement

### Direct materials used

Materials, March 1	50,000	
Purchases	<u>400,000</u>	
Total available	450,000	
Less> Mat.- March 31	<u>47,485</u>	402,515
Direct labor		210,000
Factory overhead		<u>140,000</u>
Total manufacturing costs		752,515
Work in process, March 1		<u>102,350</u>
Cost of goods put into process		854,865
Less: Work in process, March 31		<u>117,135</u>
Cost of goods manufactured		737,730
Finished goods – March 1		<u>100,000</u>
Total goods available for sale		837,730
Less: Finished goods – March 31		<u>82,500</u>
Cost of goods sold		<u><u>755,230</u></u>

### Problem 7

1. Cost of goods manufactured	800,000
Work in process, December 31	<u>87,000</u>
Cost of goods put into process	887,000
Total manufacturing costs	<u>( 790,000)</u>
Work in process, January 1	<u><u>97,000</u></u>

2.	Cost of goods manufactured	800,000
	Finished goods, January 1	<u>80,000</u>
	Total goods available for sale	880,000
	Cost of goods sold	<u>(750,000)</u>
	Finished goods, December 31	<u>130,000</u>
4.	Direct materials used	590,000
	Materials, December 31	<u>150,000</u>
	Total available for sale	740,000
	Materials, January 1	<u>(100,000)</u>
	Materials purchased	<u>640,000</u>

**Problem 8 – Ellery Company**

- The company is using job order costing because the it is manufacturing a unique and custom made furniture
- Manufacturing is allocated based on the direct labor cost incurred  
Factory overhead rate -  $24,000,000/20,000,000 = 120\%$  of direct labor cost
- Actual factory overhead ( 500,000 + 750,000+1,000,000+11,000,000+2,000,000) 22,000,000  
Applied ( 20,000,000 x 120%) 24,000,000  
Overapplied overhead ( 2,000,000)

4.	Direct materials used	30,000,000
	Direct labor	20,000,000
	Factory overhead applied	<u>24,000,000</u>
	Total manufacturing cost	74,000,000
	Work in process, January 1	5,000,000

Work in process, December 31	<u>( 4,000,000)</u>
Cost of goods manufactured	75,000,000
Finished goods, January 1	13,000,000
Finished goods, December 31	<u>(11,000,000)</u>
Cost of goods sold – normal	77,000,000

**Problem 9 - Norman Company**

1.	Materials, October 1	25,000
	Purchases	180,000
	Materials, October 31	<u>(40,000)</u>
	Direct materials used	165,000
	Direct labor	220,000
	Factory overhead	<u>200,000</u>
	Total manufacturing costs	<u>585,000</u>
2.	Total manufacturing costs	585,000
	Work in process, Oct. 1	23,500
	Work in process, Oct. 31	<u>( 15,000)</u>
	Cost of goods manufactured	<u>593,500</u>
3.	Cost of goods manufactured	593,500
	Finished goods, Oct. 1	37,000
	Finished goods, Oct. 31	<u>( 31,000)</u>
	Cost of goods sold	<u>599,500</u>
4.	Sales	980,000

Cost of goods sold	( 599,500)
Net income	<u>380,500</u>

**Problem 10 – Janice Company**

1,	Sales (50,000/10%)	500,000
	Selling & administrative expenses	( 50,000)
	Net income	<u>( 50,000)</u>
	Cost of goods sold	<u>400,000</u>
2.	Cost of goods sold	400,000
	Finished goods, March 31	180,000
	Finished goods, March 1	( <u>120,000</u> )
	Cost of goods manufactured	<u>460,000</u>
3.	Cost of goods manufactured	460,000
	Work in process, March 31	100,000
	Work in process, March 1	( <u>90,000</u> )
	Total manufacturing costs	470,000
	Factory overhead	(126,000)
	Direct labor (126,000/75%)	( <u>168,000</u> )
	Direct materials used	176,000
	Materials, March 31	20,000
	Purchases	( <u>100,000</u> )
	Materials, March 1	<u>96,000</u>

**Problem 11 - Selina Corporation**

1.	Cost of goods manufactured	1,700,000
	Work in process, December 31	<u>500,000</u>
	Cost of goods put into process	<u><u>2,200,000</u></u>

Cost of goods manufactured + WP, end = TMC + WP, beg

$$1700,000 + X = 1,800,000 + .80X$$

$$X - .80X = 1,800,000 - 1,700,000$$

$$X = 100,00 / .20$$

$$= 500,000$$

2.	WP, Dec. 31 = 500,000	
3.	Total manufacturing cost	1,800,000
	Factory overhead ( (1,800,000 x 25% )	( 450,000)
	Direct labor (450,000/72%)	( <u>625,000</u> )
	Direct materials used	<u><u>725,000</u></u>

#### Problem 12

- (a) P 250,000 (725,000 - 280,000 - 195,000 )
- (b) P 805,000 (725,000 + 80,000)
- (c) P 710,000 (805,000 - 95,000)
- (d) P 120,000 (830,000 - 710,000)
- (e) P 110,000 (830,000 - 720,000)
- (f) P 30,000 (540,000 - 510,000)
- (g) P 65,000 (540,000 - 475,000)
- (h) P 513,000 (475,000 + 38,000)
- (i) P 438,000 (513,000 - 75,000)
- (j) P 135,000 (380,000 - 90,000 - 155,000)
- (k) P 478,000 (98,000 + 380,000)
- (l) P 93,000 (478,000 - 385,000)
- (m) P 75,000 (460,000 - 385,000)
- (n) P 105,000 (460,000 - 355,000)

#### Multiple choice

THEORIES

PROBLEMS

1. A	1. B	11. B	21. A
2. C	2. A	12. C	22. B
3. B	3. D	13. C	23. B 116,000
4. C	4. B	14. D	24. B
5. B	5. D	15. B	25. A
6. B	6. C	16. B	26. D
7. C	7. B	17. B	27. D
8. C	8. B	18. B	28. B
9. D	9. B	19. B	29. A
10.D	10. C	20. D	30. A

#### Chapter 4 -

##### True or False

1. False 6. True 11. False 16. True  
2. True 7. False 12. False 17. False  
3. True 8. False 13. False 18. False  
4. False 9. True 14. False 19. True  
5. True 10. False 15. False 20. False

##### Multiple choice – Theory

- 1, d          6. d          11. d          16. a          21. c  
2. b          7. a          12. d          17. c          22. b  
3. b          8. c          13. c          18. b          23. d  
4. d          9. c          14. b          19. b          24. b  
5. d          10. b          15. c          20. b          25. b

#### Problem 1 – Alexis Company

## 1 Journal entries

1.	Materials	28,000	
	Accounts payable		28,000
2.	Work in process	22,000	
	Factory overhead control	3,000	
	Materials		25,000
3.	Materials	800	
	Work in process		500
	FO Control		300
4.	Accounts payable	1,000	
	Materials		1,000
5.	Payroll	39,000	
	Withholding taxes payable		3,025
	SSS Premiums payable	1,600	
	Phil Health contributions payable		375
	Pag-ibig funds contributions payable	1,200	
	Accrued payroll	32,800	
	Accrued payroll	32,800	
	Cash		32,800
6.	Work in process	33,400	
	Factory overhead control	5,600	

	Payroll	39,000	
7.	Factory Overhead Control	3,575	
	SSS Premiums payable	2,000	
	Phil Health cont. payable		375
	Pag-ibig cont. payable	1,200	
8	FO Control	15,000	
	Accum Depr.		3,000
	Prepaid ins.		950
	Accounts payable		11,050
9.	Work in process	26,720	
	FO Applied		26,720
10.	Finished goods	72,220	
	WP		72,220
	Job 401	31,720	
	Job 402	40,500	
11.	Accounts receivable	44,408	
	Sales (31,720 x 140%)	44,408	
	Cost of goods sold	31,720	
	FG		31,720

12. Cash 35,000

Accounts receivable 35,000

**Job 401**

<u>Direct materials</u>	<u>Direct labor</u>	<u>Factory overhead</u>
3,000	2,500	2,000
<u>5,500</u>	<u>10,400</u>	<u>8,320</u>
8,500	12,900	10,320

**Job 402**

<u>Direct materials</u>	<u>Direct labor</u>	<u>Factory overhead</u>
5,600	3,000	2,400
<u>7,000</u>	<u>12,500</u>	<u>10,000</u>
12,600	15,500	12,400

Page 3

**Job 403**

<u>Direct materials</u>	<u>Direct labor</u>	<u>Factory overhead</u>
9,500	10,500	8,400
( 500)		

**3. Cost of goods sold statement**

**Direct materials used**

Materials, August 1		22,000	
Purchases	28,000		
Less: Purchase returns	<u>1,000</u>	<u>27,000</u>	
Total available for use		49,000	
Less: Materials, Aug. 31	24,800		
Ind. Materials	<u>2,700</u>	<u>27,500</u>	21,500

Direct labor	33,400
Factory overhead	<u>26,720</u>
Total manufacturing costs	81,620
Work in process, Aug. 1	<u>18,500</u>
Cost of goods put into process	100,120
Less: Work in process, Aug. 31	<u>27,900</u>
Cost of goods manufactured	72,220
Finished goods, Aug. 1	<u>25,000</u>
Total goods available for sale	97,220
Less: Finished goods, Aug. 31	<u>65,500</u>
Cost of goods sold - normal	31,720
Add. Under applied factory overhead	<u>155</u>
Cost of goods sold	<u><u>31,875</u></u>

**Problem 2 - Golden Shower Company**

**2. Journal entries**

a. Materials 229,040

    Accounts payable 229,040

        X 20,000 x 5.20 = 104,000

        Y 24,000 x 3.75 = 90,000

    Ind. Materials 35,040

b. Payroll 220,000

    Withholding taxes payable 31,000

    SSS premiums payable 7,000

Phil Health cont. payable		440
Pag-ibig funds cont. payable		6,600
Accrued payroll		174,960
Accrued payroll		174,960
Cash		174,960
<b>c. Work in process</b>		<b>156,000</b>
Factory overhead control		24,000
Marketing & Adm. Exp. Control	40,000	
Payroll		220,000
Factory overhead control		14,760
Marketing & adm. Exp. Control		3,280
SSS Premiums payable		11,000
Phil Health contr. Payable		440
Pag-ibig funds contribution payable		6,600

	SSS	Phil Health	Pag-ibig	Total
	(5%)	(0,20%)	( 3% )	
FOC (180,000)	9,000	360	5,400	14,760
M & A Exp.control <u>2,000</u>		<u>80</u>	<u>1,200</u>	<u>3,280</u>
	11,000	440	6,600	18.040

**d. Work in process** **216,350**

Factory overhead control	15,040	
Materials		231,390

<u>Job 101</u>		<u>Job 102</u>	
(x) 4,000 x 5.00	20,000	(Y) 8,000 x 3.00	24,000
(x) 16,000 x 5.20	<u>83,200</u>	(Y) 16,000 x 3.75	<u>60,000</u>
	103,200		84,000

<u>Job 103</u>	
(x) 2,000 x 5.20	10,400
(Y) 5,000 x 3.75	<u>18,750</u>
	29,150

e. Work in process		85,500
FO Applied		85,500
Job 101 = 10,000 x 2.25	22,500	
102 = 16,000 x 2.25	36,000	
103 = 12,000 x 2.25	27,000	

f. Accounts receivable	510,000	
Sales		510,000
Cost of goods sold	380,700	
Work in process		380,700

g. Cash	494,000	
Sales discount	26,000	
Accounts receivable		520,000
h. Marketing & Adm. Exp. Control	30,000	
Factory overhead control	25,600	
Cash		51,600
Accum. Depreciation		4,000
i. Accounts payable	170,000	
Cash		170,000
j. Factory overhead applied	85,500	
Cost of goods sold		6,100
FO Control		79,400

**JOB 101**

DIRECT MATERIALS	DIRECT LABOR	FACTORY OVERHEAD
5,000	4,000	2,000
<u>103,200</u>	<u>44,000</u>	<u>22,500</u>
108,200	44,000	24,500

**JOB 102**

DIRECT MATERIALS	DIRECT LABOR	FACTORY OVERHEAD
1,200	2,000	800
<u>84,000</u>	<u>80,000</u>	<u>36,000</u>
85,200	82,000	36,800

**JOB 103**

DIRECT MATERIALS	DIRECT LABOR	FACTORY OVERHEAD
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21,950	36,000	27,000

**STOCKCARDS**

**MATERIAL X**

RECEIVED	ISSUED	BALANCE
		4,000 @ 5.00    20,000
20,000 @ 5.20    104,000		4,000 @ 5.00    20,000 20,000 @ 5/20    104,000
	4,000 @ 5.00    20,000	
	18,000 @ 5.20    93,000	2,000 @ 5.20    10,400

**MATERIAL Y**

RECEIVED	ISSUED	BALANCE
		8,000 @ 3.00    24,000
24,000 @ 3.75    90,000		8,000 @ 3.00    24,000 24,000 @ 3.75    90,000
	8,000 @ 3.00    24,000	
	21,000 @ 3.75    78,750	3,000 @ 3.75    11,250

**Problem 3 - J.A.N., Inc.**

1. Work in process	10,600
Factory overhead control	800
Materials	11,400
2. Work in process	11,700
Factory overhead control	1,200
Payroll	12,900
3. Finished goods (2,500 + 2,000 + 2.320)	6,820

Work in process

6,820

**Problem 4 - Hercules Company**

1. Job 101 –	5,200
Job 102	<u>4,700</u>
Work in process, end of April	<u>9,900</u>

Job 102 ( 4,700 + 3,800)	=	8,500
Job 104		5,800
Job 105		<u>5,200</u>
Work in process – end of May`		<u>P 19,500</u>

Job 105 (5,200 + 3,800) WP-end of June P 9,000

2. Finished goods – end of April (Job 103)	<u>1,200</u>
Finished goods – end of May (Job 101)	<u>10,600</u>

Finished goods – end of June (Job 102 + Job 104)  
10,500 + 10,000 20,500

3. May ( 1,200 x .25)	<u>300</u>
June (10,600 x .25)	<u>2,650</u>
July ( 20,500 x .25)	<u>5,125</u>

**Problem 5 - Star Wars Corporation**

Requirement No. 1

1.	Work in process	60,000	
	Materials		60,000
2.	Work in process	120,000	
	Payroll		120,000
3.	Work in process	75,000	
	FO Applied		75,000
4.	Finished goods	255,000	
	Work in process		255,000
5.	Accounts receivable	340,000	
	Sales		340,000
	Cost of goods sold	255,000	
	Finished goods		255,000

	<u>Job 110</u>	<u>Job 220</u>	<u>Job 330</u>	<u>Total</u>	
Selling price	<u>100,000</u>		<u>140,000</u>	<u>100,000</u>	<u>340,000</u>
Direct materials	15,000	25,000	20,000	60,000	
Direct labor	40,000	50,000	30,000	120,000	



2.	Work in process	125,000
	Materials	125,000
3.	Work in process	400,000
	Payroll	400,000
4.	Work in process	320,000
	FO Applied	320,000
5.	Finished goods	820,000
	Work in process	820,000
6.	Cost of goods sold	850,000
	Finished goods	850,000
7.	FO Control	330,000
	Various accounts	330,000

**Problem 7 - Ellen Joyce Company**

1.	Work in process	98,500
	Materials	98,500
2.	Work in process	156,000
	Payroll	156,000

3.	Work in process		118,500
	FO Applied		118,500
4.	Finished goods		343,000
	Work in process		343,000
	Job 201	-	190,000
	Job 202	-	94,000
	Job 203	-	<u>59,000</u>
	Total		<u>343,000</u>
5.	Accounts receivable		350,000
	Sales		350,000
	Cost of goods sold		284,000
	Finished goods		284,000

#### Cost of goods sold statement

Direct materials	98,500
Direct labor	156,000
Factory overhead	<u>118,500</u>
Total manufacturing costs	373,000
Less: Work in process, end	<u>30,000</u>
Cost of goods manufactured	343,000
Less: Finished goods, end	<u>59,000</u>

Cost of goods sold 284,000

Page 8 = Abner Corporation

1.	Direct materials used	205,000
	Materials – end	90,000
	Materials – beg.	<u>( 95,000)</u>
	Direct materials purchased	<u>200,000</u>
2.	Total manufacturing costs	675,000
	Factory overhead	( 175,000)
	Materials used	<u>( 205,000)</u>
	Direct labor costs	<u>295,000</u>
3.	Cost of goods available for sale	775,000
	Finished goods, end	<u>(110,000)</u>
	Cost of goods sold	<u>665,000</u>
4.	Sales	900,000
	Cost of goods sold	<u>(665,000)</u>
	Gross profit	<u>235,000</u>

Problem 9 - Pacific Production Company

1.	Materials - April 1	64,000
	Purchases	84,000
	Materials – April 30	( 60,000)

	Direct materials used	<u>( 78,000)</u>
	Indirect materials used	<u>10,000</u>
2.	Accrued payroll – April 30	6,000
	Payroll paid	44,000
	Direct labor cost	<u>( 32,000)</u>
	Indirect labor	<u>18,000</u>
3.	Direct labor cost	32,000
	Factory overhead rate	<u>125%-</u>
	Factory overhead applied	<u>40,000</u>
4.	Direct materials	78,000
	Direct labor	32,000
	Factory overhead	<u>40,000</u>
	Total manufacturing costs	150,000
	Work in process, beg.	82,000
	Work in process, end	<u>( 94,000)</u>
	Cost of goods manufactured	<u>138,000</u>
5.	Cost of goods manufactured	138,000
	Finished goods, April 1	296,000
	Finished goods, April 30	<u>(304,000)</u>
	Cost of goods sold	<u>130,000</u>

**Problem 10 – Candy Corporation**

1)	Job 101	P 175,000
	Job 102	<u>120,000</u>
	WP, July 1	<u><u>P 295,000</u></u>

<u>2)</u>	Job 101	80,000 x 125% =	P 100,000
	Job 102	95,000 x 125% =	118,750
	Job 103	115,000 x 125% =	<u>143,750</u>
	Total		<u><u>362,500</u></u>

<u>3)</u>		<u>Job 101</u>	<u>Job 102</u>	<u>Total</u>
	WP, beg.	175,000	120,000	295,000
	Cost added			
	Materials	55,000	80,000	135,000
	Labor	80,000	95,000	175,000
	Overhead	<u>100,000</u>	<u>118,750</u>	<u>218,750</u>
	Total	<u>410,000`</u>	<u>413,750</u>	<u>823,750</u>

4)	Job 101	410,000
	Add: Underapplied factory overhead	
	Actual FO	375,000
	Less: Applied FO	<u>362,500</u>
	Cost of goods sold – actual	<u><u>422,500`</u></u>

5)	FG, Inventory July 31 (Job 102)	<u>413,750</u>
6)	WP, Inventory, July 31 (Job 103)	
	Materials	92,000
	Labor	115,000
	Factory overhead	<u>143,750</u>
	Total WP Inventory, July 31	<u>350,750</u>

**Problem 11 – Kit-Kat Company**

1.	Materials	15,000	
	Purchases	140,000	
	Materials used - direct	131,000	
	Indirect	<u>14,000</u>	<u>(145,000)</u>
	Materials, December 31		<u>10,000</u>
2.	Direct labor	139,000	
	Indirect labor	<u>18,000</u>	
	Total payroll	<u>157,000</u>	
3.	Direct materials	131,000	
	Direct labor	139,000	
	Factory overhead applied	<u>166,800</u>	
	Total manufacturing cost	<u>436,800</u>	
4.	Total manufacturing cost	436,800	

Work in process, Jan. 1		128,400
Work in process, Dec. 31	(Job 7642)	<u>( 179,000)</u>
Cost of goods manufactured		<u>386,200</u>

5. Cost of goods manufactured		386,200
Finished goods, Jan. 1	(87,000 + 92,000)	179,000
Finished goods, Dec. (Job 7640)		<u>(187,000)</u>
Cost of goods sold, normal		378,200
Overapplied overhead -		<u>( 3,456)</u>
Cost of goods sold, actual		<u>374,744</u>

Actual 160,000

Applied (166,800)

Over applied ( 6,800)

Allocation: CofGS -  $378,200/744,200 \times 6,800 = 3,456$

FG  $187,000/744,200 \times 6,800 = 1,709$

WP  $179,000/744,200 \times 6,800 = 1,635$

6. Work in process, Dec. 31  $179,000 - 1,635 = \underline{177,365}$

7. FG, Dec. 3 =  $187,000 - 1709 = \underline{185,291}$

8. Gross profit (  $530,000 - 374,744 = \underline{155,256}$

#### Problem 12 – MLT Company

1) Materials, June 1	15,000
Purchases	33,000

	Materials, June 30	( 19,000)
	Indirect materials	( 1,000)
	Direct materials used	<u>28,000</u>
2)	Cost of goods manufactured	120,000
	Work in process, June 30	30,000
	Work in process, June 1	( 40,000)
	Total manufacturing cost	<u>110,000</u>
3)	Cost of goods available for sale	190,000
	Total manufacturing costs	(110,000)
	Finished goods, June 1	<u>80,000</u>

**Problem 13 – Miracle Company (start with No.. 3 then No. 2)**

1)	Cost of goods manufactured	168,000
	WP, January 31	95,000
	WP, January 1	( 80,000)
	Total manufacturing cost	183,000
	Direct labor	(63,000 / 75%) ( 84,000)
	Factory overhead	( 63,000)
	Direct materials used	36,000
	Materials January 31	50,000
	Indirect materials used	1,000
	Purchases	( 46,000)

	Materials, January 1	<u>41,000</u>	
2)	Cost of goods sold – normal	150,000	
	Finished goods, January 31	78,000	
	Finished goods, January 1	<u>( 60,000)</u>	
	Cost of goods manufactured	<u>168,000</u>	
3)	Sales ( 25,000 / 12.5%)	200,000	
	Selling and administrative expenses	( 25,000)	
	Net income	<u>(25,200)</u>	
	Cost of goods sold, actual	149,800	
	Overapplied FO		
	Actual	62,800	
	Less: Applied	<u>63,000</u>	<u>200</u>
	Cost of goods sold, normal	<u>150,000</u>	

**Problem 14 – Nona Company**

1)	Units sold	12,300
	Finished goods, end	300
	Finished goods, beg	<u>( 100)</u>
	Units completed/manufactured	<u>12,500</u>

2)	Direct materials used	1,847,700	
	Direct labor	2,125,800	
	Factory overhead	<u>1,026,500</u>	
	Total mfg. cost/cost of goods manufactured	5,000,000	
	Divide by units completed	<u>12,500</u>	
	Cost of goods manufactured per unit	<u>400/unit</u>	
3)	From Finished goods, beg. (100 units x P 430 )		43,000
	From units completed during the period ( 12,200 x P 400)	<u>4,880,000</u>	
	Cost of goods sold		<u>4,923,000</u>

Or

Finished goods, beg.		43,000
Cost of goods manufactured	5,000,000	
Finished goods, end ( 300 x P400)		( <u>120,000</u> )
Cost of goods sold		<u>4,923,000</u>

#### Problem 15

1.	Total manufacturing costs (5,400 + 3,600 + 4,800 + 4,200)	18,000
	Less: Cost of goods manufactured (5,400 + 3,600 + 4,800)	<u>13,800</u>
	Work in process, January 31	<u>4,200</u>
	Or simply Job order No. 4	<u>4,200</u>

2.	Total mfg. costs (4,000 + 3,550 + 5,850+9,600+4,500)	27,500
	Work in process, beg.	<u>4,200</u>
	Cost of goods put into process	31,700
	Less: Cost of goods manufactured (8,200 + 3,550)	<u>11,750</u>
	Work in process, February 28	<u><u>19,950</u></u>

Or Job 6	5,850
Job 7	9,600
Job 8	<u>4,500</u>
Total Work in process, February 28	<u><u>19,950</u></u>

3.	Total mfg. costs (6,500+3,800+4,200+2,500+6,000)	23,000
	Work in process, beg.	<u>19,950</u>
	Cost of goods put into process	42,950
	Less: Cost of goods manufactured (13,400+8,700)	<u>22,100</u>
	Work in process, March 31	<u><u>20,850</u></u>

Or Job 6	12,350
Job 9	2,500
Job 10	<u>6,000</u>
Total Work in process, March 31	<u><u>20,850</u></u>

4.	Cost of goods manufactured – January	13,800
	Less: Cost of goods sold (5,400 + 4,800)	<u>10,200</u>
	Finished goods, January 31	<u><u>3,600</u></u>

	Or Job 2	<u>3,600</u>
5.	Cost of goods manufactured - February	11,750
	Finished goods, February 1	<u>3,600</u>
	Total goods available for sale	15,350
	Less: Cost of goods sold ( 3,600 + 3,550)	<u>7,150</u>
	Finished goods, February 28	<u>8,200</u>
	Or Job 4	<u>8,200</u>
6.	Cost of goods manufactured – March	22,100
	Finished goods, March 1	<u>8,200</u>
	Total goods available for sale	30,300
	Less: Cost of goods sold ( 13,400 + 8,700)	<u>22,100</u>
	Finished goods, March 31	<u>8,200</u>
	Or Job 4	<u>8,200</u>
7.	Job 1	5,400
	Job 3	<u>4,800</u>
	Cost of goods sold – January	<u>10,200</u>
8.	Job 2	3,600
	Job 5	<u>3,550</u>
	Cost of goods sold – February	<u>7,150</u>

9.	Job 7	13,400
	Job 8	<u>8,700</u>
	Cost of goods sold – March	<u><u>22,100</u></u>

**Problem 16**

<u>Materials</u>		<u>Work in process</u>		<u>Finished Goods</u>	
Beg. 10,000	2) 2,000	Beg. 1,000	6) 25,000	Beg. 2,500	7) 18,000
1) 30,000	3) 15,000	3) 15,000		6) 25,000	End 9,500
		4) 10,000			27,500
		5) 5,000	End 6,000		
		31,000	31,000		

<u>Cost of Goods Sold</u>		<u>FO Control</u>		<u>FO Applied</u>	
7) 18,000		8) 4,200		5) 5,000	

<u>Accounts payable</u>	
2) 2,000	Beg. 25,000
	1) 30,000

1.	Materials, beg.	10,000
	Purchases	30,000
	Less: Purchase Returns	<u>2,000</u> <u>28,000</u>
	Total available for use	38,000
	Less: Materials issued	<u>15,000</u>
	Materials, end	<u>23,000</u>
2.	Direct labor hours	10,000
	x Direct labor rate per hour	<u>1.00</u>
	Direct labor charged to production	<u>10,000</u>
3.	P 2,000 (the amount debited to AP and credited to Direct materials)	
4.	Direct materials used	15,000
	Direct labor	10,000
	Factory overhead – applied	<u>5,000</u>
	Total manufacturing cost	30,000
	Work in process, beg.	<u>1,000</u>
	Cost of goods put into process	31,000
	Less: Cost of goods manufactured (credit to WP)	<u>25,000</u>
	Work in process, end	<u>6,000</u>
5.	Finished goods, beg.	2,500
	Cost of goods manufactured	<u>25,000</u>
	Total goods available for sale	27,500
	Less: Cost of goods sold	<u>18,000</u>

Finished goods, end	<u>9,500</u>
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6. P 18,000 (the amount debited to CofGS and credited to Finished Goods)

**Problem 17 – Watson Manufacturing Company**

**Requirement 1 – Journal entries**

a. Work in Process	60,000	
Materials		60,000

b. Work in Process	79,000	
Payroll	79,000	

c. Work in Process	63,200	
Factory Overhead Applied		63,200

d. Factory Overhead Control	60,000	
Various credit accounts	60,000	

e. Finished Goods	134,000	
Work in process		134,000

Job 101 ( 20,000 + 30,000 + 24,000)	74,000
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Job 103 ( 24,000 + 20,000 + 16,000)	<u>60,000</u>
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Total costs	<u>134,000</u>
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**Requirement No. 2**

a. FO Applied ( 20,000 x 80%)	<u>16,000</u>
b. Job 101 = 74,000/1,000 units = P 74.00/unit	
Job 103 = 60,000/200 units = P300.00/unit	
c. Direct materials used	60,000
Direct labor	79,000
Factory overhead (79,000 x 80%)	<u>63,200</u>
Total manufacturing costs	202,200
Less: Cost of goods completed	<u>134,000</u>
Work in process, end	<u>68,200</u>
Or cost of Job 102 ( 16,000 + 29,000 + 23,200)	<u>68,200</u>
d. Actual factory overhead	60,000
Less: Applied factory overhead	<u>63,200</u>
Over-applied factory overhead	( 3,200)

#### MULTIPLE CHOICE – PROBLEMS

- |       |       |       |
|-------|-------|-------|
| 1. A  | 11. B | 21. C |
| 2. A  | 12. A | 22. C |
| 3. C  | 13. C | 23. C |
| 4. D  | 14. D | 24. B |
| 5. A  | 15. A | 25. A |
| 6. B  | 16. D | 26. D |
| 7. B  | 17. C | 27. B |
| 8. A  | 18. C | 28. B |
| 9. A  | 19. D | 29. D |
| 10. B | 20. C | 30. B |

## Chapter 5

### TRUE/FALSE

- |          |           |
|----------|-----------|
| 1. True  | 6. True   |
| 2. True  | 7. True   |
| 3. False | 8. True   |
| 4. True  | 9. True   |
| 5. True  | 10. False |

### Problem 1 – Stillwater Manufacturing

1)	Raw and In Process	356,000
	Accounts Payable	356,000

2)	Finished goods	373,700
	Raw and In Process	373,700

Raw materials purchased	356,000
RIP beg. (42,600-6,900)	35,700
RIP end (22,500-4,500)	( 18,000)
Mat. content of units completed	<u>373,700</u>

3)	Cost of goods sold	390,700
	Finished goods	390,700

Mat. content of units completed	373,700
FG beg.(45,000-17,000)	28,000
FG. End (16,000-5,000)	( <u>11,000</u> )
Mat. content of units sold	<u>390,700</u>

4)	Cost of goods sold	330,000
	Payroll	150,000
	FO Applied	180,000

4)	Cost of goods sold	14,400
	Raw and In Process	2,400
	Finished goods	12,000

Conversion cost	RIP	FG
End	4,500	5,000
Beg.	<u>( 6,900)</u>	<u>(17,000)</u>
Increase (decrease)	( 2,400)	( 12,000)

#### Problem 2 – Magnolia Corporation

1)	Raw and In Process	444,000
	Accounts payable	444,000

2)	Finished goods	443,000
----	----------------	---------

Raw and In process 443,000

Purchases 444,000

Mat. In RIP beg (23,400-2,400) 21,000

Mat. In RIP end (25,600-3,600) ( 22,000)

Mat. Content of FG 443,000

3) Cost of goods sold 399,000

Accrued payroll 210,000

FO Applied 189,000

3) Cost of goods sold 447,000

Finished goods 447,000

Mat. Content of FG 443,000

Mat. In FG beg. (24,000-8,000) 16,000

Mat. In FG end (19,000-7,000) ( 12,000)

Mat. Content of units sold 447,000

4) Raw and In Process 1,200

Cost of goods sold 1,200

Conversion cost in RIP end 3,600

Conversion cost in RIP beg ( 2,400)

	<b>Adjustment</b>	<b><u>1,200</u></b>
5)	<b>Cost of goods sold</b>	<b>1,000</b>
	<b>Finished goods</b>	<b>1,000</b>
	<b>Conversion cost in FG end</b>	<b>7,000</b>
	<b>Conversion cost in FG beg</b>	<b><u>(8,000)</u></b>
	<b>Adjustment</b>	<b><u>(1,000)</u></b>

**Problem 3 – Smart Manufacturing Company**

1.	<b>Materials purchased</b>	<b>146,000</b>
	<b>Materials in RIP beg (15,000 – 4,400)</b>	<b>10,600</b>
	<b>Materials in RIP end (24,000 – 7,800)</b>	<b><u>( 16,200)</u></b>
	<b>Materials backflushed from RIP to FG</b>	<b><u>140,400</u></b>
2.	<b>Materials backflushed from RIP to FG</b>	<b>140,400</b>
	<b>Materials in FG beg (36,000-10,800)</b>	<b>25,200</b>
	<b>Materials in FG end (18,000-6,500)</b>	<b><u>( 11,500)</u></b>
	<b>Materials backflushed from FG to CofGS</b>	<b><u>154,100</u></b>
3)	<b>a) Raw and In process</b>	<b>146,000</b>

Accounts payable		146,000
b) Cost of goods sold		180,000
Accrued payroll		80,000
FO Applied		100,000
c) Finished goods		140,400
Raw and In Process		140,400
d) Cost of goods sold		154,100
Finished goods		154,100
e) Raw and In Process		3,400
Cost of goods sold		900
Finished goods		4,300
	RIP	FG
End	7,800	6,500
Beginning	<u>(4,400)</u>	<u>(10,800)</u>
Increase (decrease)	<u>3,400</u>	<u>( 4,300)</u>

Problem 4 – Chiz Manufacturing Company

1)	Raw and In Process	230,000
	Accounts payable	230,000
2)	Finished goods	245,200
	Raw and In Process	245,200
	Materials purchased	230,000
	Materials in RIP beg. (40,000-12,000)	28,000
	Materials in RIP end (28,500-15,700)	<u>( 12,800)</u>
	Materials backflushed from RIP	<u>245,200</u>
3)	Cost of goods sold	264,700
	Finished goods	264,700
	Materials backflushed from RIP	245,200
	Materials in FG beg. (35,000-8,800)	26,200
	Materials in FG end ( 19,800-13,100)	<u>( 6,700)</u>
	Materials backflushed from CofGS	<u>264,700</u>
4)	Cost of goods sold	405,000
	Accrued payroll	180,000

FO Applied 225,000

5) Finished goods 4,300  
Cost of goods sold 600  
Raw and In Process 3,700

	RIP	FG
End	12,000	13,100
Beginning	<u>(15,700)</u>	<u>( 8,800)</u>
Increase (decrease)	(3,700)	<u>4,300</u>

## CHAPTER 6 – ACCOUNTING FOR MATERIALS

### Problem 1 - Norman Company

$$\begin{aligned} \text{a) } \text{EOQ} &= \sqrt{\frac{2 \times 64,000 \times 40}{2}} \\ &= 1600 \text{ units} \end{aligned}$$

$$\begin{aligned} \text{Ordering cost} &= \text{No of orders} \times \text{ordering cost} \\ &= \frac{64,000}{1,600} \times 40 \\ &= 1,600 \end{aligned}$$

$$\begin{aligned}
 \text{Carrying cost} &= \text{Average inventory} \times 2 \\
 &= \underline{1600} \times 2 \\
 &= 2 \\
 &= 1,600
 \end{aligned}$$

**Problem 2 – Abner Company**

$$\text{a) } \text{EOQ} = \frac{2 \text{ (number of units required annually)} (\text{cost of order})}{\text{carrying cost per unit}}$$

$$= \frac{2 \times 13,000 \times 200}{5.20}$$

$$= \frac{5,200,000}{5.20}$$

$$= 1,000 \text{ units}$$

$$\begin{aligned}
 \text{b) } \text{Number of orders in a year} &= \frac{\text{annual requirements}}{\text{EOQ}} \\
 &= 13,000 / 1,000 \\
 &= 13 \text{ orders}
 \end{aligned}$$

c) Average inventory based on EOQ =  $1,000/2$   
 = 500

d) Total carrying cost = Average inventory x Carrying cost/unit  
 = 500 x 5.20  
 = P 2,600

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Total ordering cost = No. of orders x ordering cost  
 = 13 x 200  
 = P 2,600

**Problem 3 - Olive Corporation**

1.  $EOQ = \sqrt{(2 \times 16,000 \times P15) / P3} = \underline{400 \text{ units}}$

2.

Order size	<u>Ordering costs</u>			<u>Carrying costs</u>			TRIC
	No. of orders	Cost per order	Ordering costs	Average Inventory	CCPU	Carrying cost	
6,400	2.5	P 15	P 37.50	3,200	P 3	P9,600	P9,637.50
1,600	10	15	150.00	800	3	2,400	2,550.00
400	40	15	600.00	200	3	600	1,200.00
200	80	15	1,200.00	100	3	300	1,500.00
100	160	15	2,400.00	50	3	150	2,550.00

No. of Orders = Annual demand / Order size

Average inventory = Order size / 2

#### Problem 4 – Heavyweight Co.

##### 1. Allocation based on cost

<u>Product</u>	<u>Invoice</u>	<u>Percentage</u>	<u>Share of Freight</u>	<u>Total cost</u>	<u>Cost/pound</u>
X	125,000	2.5%	3,125	128,125	12.81
Y	75,000	2.5%	1,875	76,875	12.81
Z	<u>100,000</u>	2.5%	<u>2,500</u>	<u>102,500</u>	13.67
	300,000		7,500	307,500	

Percentage =  $7,500/300,000$

##### Allocation based on shipping weight

<u>Product</u>	<u>Weight</u>	<u>Fraction</u>	<u>Share of Freight</u>	<u>Total Cost</u>	<u>Cost/pound</u>
X	10,000	10,000/23,500	3,192	128,192	12.82
Y	6,000	6,000/23,500	1,915	76.915	12.82
Z	<u>7,500</u>	7,500/23,500	<u>2,393</u>	<u>102,393</u>	13.65
	23,500		7,500	307,500	

#### Problem 5 - Maxie Company

1. Amount debited to Materials =  $100,000 \times 80\% \times 90\% \times 90\% = 64,800$
2. Amount debited to Materials =  $100,000 \times 80\% \times 90\% \times 90\% \times 98\% = 63,504$

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Problem 6 –

1. FIRST-IN, FIRST-OUT

Received		Issued		Balance	
				1,600 x 6.00	9,600
5	400 x 7.00    2,800			1,600 x 6.00 400 x 7.00	9,600 2,800
9	400 x 8.00    3,200			1,600 x 6.00 400 x 7.00 400 x 8.00	9,600 2,800 3,200
16		800 x 6.00    4,800		800 x 6.00 400 x 7.00 400 x 8.00	4,800 2,800 3,200
24	600 x 9.00    5,400			800 x 6.00 400 x 7.00 400 x 8.00 600 x 9.00	4,800 2,800 3,200 5,400
27		800 x 6.00    4,800 200 x 7.00    1,400		200 x 7.00 400 x 8.00 600 x 9.00	1,400 3,200 5,400

Cost of materials issued = 4,800 + 4,800 + 1,400 = 11,000

Cost of ending inventory = 1,400 + 3,200 + 5,400 = 10,000

2. AVERAGE

Received		Issued		Balance	
1				1,600 x 6.00	9,600
5	400 x 7.00    2,800			2,000 x 6.20	12,400
9	400 x 8.00    3,200			2,400 x 6.50	15,600
16		800 x 6.50    5,200		1,600 x 6.50	10,400

24	600 x 9.00	5,400			2,200 x 7.18	15,800
27			1,000 x 7.18	7,180	1,200 x 7.18	8,620

Cost of materials issued = 5,200 + 7,180 = 12,380

Cost of ending inventory = 8,620

### Problem 7 – Heaven & Earth

#### 1. FIFO

Issued = 600 x 4.00 = 2,400

Cost of inventory - 200 x 5.00 = 1,000

500 x 4.50 = 2,250

400 x 4.00 = 1,600

#### 2. WEIGHTED AVERAGE

	Received		Issued		Balance	
1					1,000 x 4.00	4,000
3			250 x 4.00	1,000	750 x 4.00	3,000
5	500 x 4.50	2,250			1,250 x 4.20	5,250
6			150 x 4.20	630	1,100 x 4.20	4,620
10			110 x 4.20	462	990 x 4.20	4,158
11			( 10)x 4.20	( 42)	1,000 x 4.20	4,200
15	500 x 5.00	2,500			1,500 x 4.47	6,700
20	(300) x 5.00	( 1,500)			1,200 x 4.33	5,200
26			100 x 4.33	433	1,100 x 4.33	4,767

### Problem 8 – Sterling Company

**A. PERPETUAL**

**1. FIFO**

Received		Issued		Balance	
1				300 x 17.50	5,250
8		200 x 17.50	3,500	100 x 17.50	1,750
10	900 x 18.00	16,200		100 x 17.50	1,750
				900 x 18.00	16,200
18		100 x 17.50	1,750	400 x 18.00	7,200
		500 x 18.00	9,000		
20	1,200 x 18.25	21,900		400 x 18.00	7,200
				1,200 x 18.25	21,900
25		400 x 18.00	7,200		
		600 x 18.25	10,950	600 x 18.25	10,950

**2. AVERAGE**

Received		Issued		Balance	
1				300 x 17.50	5,250
8		200 x 17.50	3,500	100 x 17.50	1,750
10	900 x 18.00	16,200		1,000 x 17.95	17,950
18		600 x 17.95	10,770	400 x 17.95	7,180
20	1,200 x 18.25	21,900		1,600 x 18.175	29,080
25		1000 x 18.175	18,175	600 x 18.175	10,905

**Problem 9 – Bedrock Company**

**a. Loss due to spoiled work is spread over all jobs**

1. Work in process	12,400,000
Materials	3,600,000
Payroll	4,000,000
FO Applied	4,800,000

2. Spoiled Goods	100,000
FO Control	24,000
Work in process (100 x 1,240)	124,000

3. Finished goods	12,276,000
Work in process	12,276,000

$$\text{Unit cost} = \frac{12,400,000 - 124,000}{10,000 - 100} = 1,240$$

B, Loss due to spoiled work is charged to the specific job

1. Work in process	11,600,000
Materials	3,600,000
Payroll	4,000,000
FO Applied (4,000,000 x 100%)	4,000,000

2. Spoiled Goods	100,000
Work in process	100,000

3. Finished goods	11,500,000
Work in process	11,500,000

$$\text{Unit cost} = \frac{11,500,000}{9,900} = 1,161,62$$

The increase in the unit cost is due to the loss absorbed by the remaining good units computed as follows

Cost (100 x 1,160)	=	116,000
Selling price		<u>100,000</u>
Loss		16,000/9900 = 1.62

**Problem 10 – Kyralei Co.**

**A)1. RAGC is charged with the cost of defective units**

a.	Work in process		1,760,000
	Materials	(2,000 x 400)	800,000
	Payroll	(2,000 x 200)	400,000
	FO Applied	(400,000 x 140%)	560,000
b.	Work in process		232,000
	Materials	(2,000 x 20)	40,000
	Payroll	(2,000 x 40)	80,000
	FO Applied	(80,000 x 140%)	112,000
c.	Finished goods		1,992,000
	Work in process		1,992,000

2. Cost of correcting defective work in not charged to RAGC

a.	Work in process	1,800,000
	Materials	800,000
	Payroll	400,000
	FO Applied (40,000 x 150%)	600,000
b.	FO Control	240,000
	Materials	40,000
	Payroll	80,000
	FO Applied	120,000
c.	Finished goods	1,800,000
	Work in process	1,800,000

B)

1.	Original cost	2,000 units	1,760,000
	Additional cost		<u>232,000</u>
	Total costs		1,992,000
	Divide by		<u>2,000</u>
	Cost per unit		<u>996.00</u>
2.	Original cost	2,000 units	1,800,000
	Divide by		<u>2,000</u>
	Cost per unit		<u>900.00</u>

Problem 11 – Little Mermaid

1. Charged to specific job

a.	Work in process		2,440,000
	Materials (5,000 x 200)		1,000,000
	Payroll (5,000 x 120)		600,000
	FO Applied (600,000 x 140%)		840,000

b.	Work in process		122,000
	Materials (1,000 x 50)		50,000
	Payroll (1,000 x 30)		30,000
	FO Applied (30,000 x 140%)		42,000

c.	Spoiled good	( 20 x 400)	8,000
	Work in process		8,000

d.	Finished goods		2,554,000
	Work in process		2,554,000

2. Charged to all production (FO rate should be 150% of direct labor cost)

a.	Work in process		2,500,000
	Materials		1,000,000
	Payroll		600,000
	FO Applied (20,000 x 150%)		900,000

b.	FO Control		125,000
	Materials		50,000

Payroll	30,000
FO Applied (30,000 x 150%)	45,000

c. Spoiled Goods	8,000	
Factory Overhead Control		2,000
Work in process (20 x 500)		10,000

d. Finished goods	2,490,000	
Work in process		2,490,000

3. a. Method used is charged to specific job		Total	Per unit
Original cost	5,000 units	2,440,000	488.00
Additional cost – defective		<u>122,000</u> Inc.	<u>24.40</u>
		2,562,000	512.40
Spoiled (20)	(8,000)	Inc .45	
Net	<u>4,980</u>	2,554,000	<u>512.85</u>
Divide by		<u>4,980</u>	
Cost per unit		<u>512.85</u>	

Increase in unit cost due to spoiled units

Cost ( 512.40 x 20)	10,248
Selling price	<u>8,000</u>
Loss	2,248 divide by remaining units

$$2,248/4,980 = 0.45$$

**b. Method used is charged to all production**

Original cost	5,000 units	2,500,000
Spoiled	( <u>20</u> )	( <u>10,000</u> )
Net	<u>4,980</u>	2,490,000
Divide by		<u>4,980</u>
Cost per unit		<u>500</u>

**Problem 12 – Marvin Corporation-**

1.	Work in process	300,000
	Materials	117,000
	Payroll	100,000
	FO Applied	83,000
2.	Work in process	4,350
	Materials	1,650
	Payroll	1,500
	FO Applied	1,200
3.	Spoiled goods	825
	Work in process	825
4.	Finished goods	303,525
	Work in process	303,525

**Problem 13 – Raindrops Company**

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$$EOQ = \sqrt{\frac{2 \times 60,000 \times 800}{.04}}$$

**Problem 14 – Nicole Company**

1. Safety stock (5 days x 100 units)                      500 units
2. Reorder point (5 days x 600 units)                      3,000 units
3. Normal maximum inventory =  $(3,500/2) + 500$  units = 2,250 units
4. Absolute maximum inventory =  $3,500 + 500$  units = 4,000 units

**Problem 15 -**

Material	Yearly Usage	Unit cost	Percent	Total cost	Percent
1 x 4	5,250	P 2.00	13.1 (5,250/40,100)	P 10,500	21,2

1 x 5	6,000	1.75	15.0 (6,000/40,100)	10,500	21.2
1 x 8	5,500	1.85	13.7	10,175	<u>20.6</u>
					63.0% - A
1 x 1	10,000	0.50	24.9	5,000	10.1
1 x 3	2,000	2.50	5.0	5,000	10.1
1 x 2	7,100	0.65	17.7	4,615	<u>9.3</u>
					29.5% - B
1 x 6	2,750	0.80	6.9	2,200	4.5
1 x 7	<u>1,500</u>	1.00	<u>3.7</u>	<u>1,500</u>	<u>3.0</u>
	40,100	100.0%		P49,490	<u>7.5%</u> - C
					100.0%

#### Problem 16

Material	Yearlyusage	Unitcost	Percent	Total cost	Percent
325	4,500	P30.00	8.3 (4,500/53,960)	P 135,000	45.2
730	2,500	28.00	4.6	70,000	23.4
126	7,750	3.00	14.4	23.250	<u>7.8</u>
					76.4% - A
415	3,500	6.50	6.5	22,750	7.6
260	9,300	1.90	17.2	17,670	5.9
810	2,000	7.00	3.7	14,000	<u>4.7</u>
					18.2 % - B

540	13,500	1.00	25.0	13,500	4.5
241	10,900	0.25	<u>20.2</u>	<u>2.725</u>	<u>0.9</u>
		100%		P398,895	<u>5,4%</u> - C
					100%

**TRUE/FALSE**

- |          |          |           |
|----------|----------|-----------|
| 1. True  | 6. False | 11. True  |
| 2. False | 7. False | 12. False |
| 3. False | 8. False | 13. False |
| 4. True  | 9. False | 14. False |
| 5. True  | 10. True | 15. False |

**Multiple choice**

**THEORIES PROBLEMS**

- |      |      |       |       |       |       |
|------|------|-------|-------|-------|-------|
| 1, a | 1. a | 6. c  | 11. c | 16. a | 21. c |
| 2, b | 2. c | 7. b  | 12. d | 17. b | 22. d |
| 3, d | 3. b | 8. a  | 13. d | 18. d | 23. a |
| 4, c | 4. b | 9. a  | 14. b | 19. c | 24. a |
| 5, b | 5. a | 10. c | 15. b | 20. b | 25. d |

## CHAPTER 6 – ACCOUNTING FOR MATERIALS

### Problem 1 - Norman Company

$$\begin{aligned} \text{a) } \quad \text{EOQ} &= \sqrt{\frac{2 \times 8,000 \times 40}{25}} \\ &= 160 \text{ units} \end{aligned}$$

$$\begin{aligned} \text{Ordering cost} &= \text{No of orders} \times \text{ordering cost} \\ &= \frac{8,000}{160} \times 40 \\ &= 2,000 \end{aligned}$$

$$\begin{aligned} \text{Carrying cost} &= \text{Average inventory} \times 25 \\ &= \frac{160}{2} \times 25 \end{aligned}$$

$$= \frac{2}{2000}$$

**Problem 2 – Abner Company**

a) 
$$\text{EOQ} = \frac{2 \times (\text{number of units required annually}) \times (\text{cost of order})}{\text{carrying cost per unit}}$$

$$= \frac{2 \times (1,200 \times 3) \times 200}{25}$$

$$= \frac{1,440,000}{25}$$

$$= 240 \text{ units}$$

d) 
$$\text{Number of orders in a year} = \frac{\text{annual requirements}}{\text{EOQ}}$$

$$= 3,600/240$$

$$= 15 \text{ orders}$$

e) 
$$\text{Average inventory based on EOQ} = \frac{\text{EOQ}}{2}$$

$$= 240/2$$

$$= 120$$

$$\begin{aligned}
 \text{d) Total carrying cost} &= \text{Average inventory} \times \text{Carrying cost/unit} \\
 &= 120 \times 25 \\
 &= \text{P } 3,000
 \end{aligned}$$

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$$\begin{aligned}
 \text{Total ordering cost} &= \text{No. of orders} \times \text{ordering cost} \\
 &= 15 \times 200 \\
 &= \text{P } 3,000
 \end{aligned}$$

### Problem 3 - Ulli Corporation

$$1. \quad \text{EOQ} = \sqrt{(2 \times 16,000 \times \text{P}15) / \text{P}3} = \underline{\underline{400 \text{ units}}}$$

Order size	<u>Ordering costs</u>			<u>Carrying costs</u>			
	No. of orders	Cost per order	Ordering costs	Average Inventory	CCPU	Carrying cost	TRIC
6,400	2.5	P 15	P 37.50	3,200	P 3	P9,600	P9,637.50
1,600	10	15	150.00	800	3	2,400	2,550.00
400	40	15	600.00	200	3	600	1,200.00
200	80	15	1,200.00	100	3	300	1,500.00
100	160	15	2,400.00	50	3	150	2,550.00

$$\text{No. of Orders} = \text{Annual demand} / \text{Order size}$$

$$\text{Average inventory} = \text{Order size} / 2$$

**Problem 4 – Heavyweight Co.**

**1. Allocation based on cost**

<u>Product</u>	<u>Invoice</u>	<u>Percentage</u>	<u>Share of Freight</u>	<u>Total cost</u>	<u>Cost/pound</u>
X	11,250	4%	450	11,700	2.60
Y	13,500	4%	540	14,040	2.34
Z	15,750	4%	630	16,380	2.184

**2. Allocation based on shipping weight**

<u>Product</u>	<u>Weight</u>	<u>Freight/pound</u>	<u>Share of Freight</u>	<u>Total Cost</u>	<u>Cost/pound</u>
X	4,500	.09	405	11,655	2.59
Y	6,000	.09	540	14,040	2.34
Z	7,500	.09	675	16,425	2.19

**Problem 5 - Maxie Company**

3. Amount debited to Materials =  $100,000 \times 80\% \times 90\% \times 90\% = 64,800$
4. Amount debited to Materials =  $100,000 \times 80\% \times 90\% \times 90\% \times 98\% = 63,504$

Problem 6 –

1. FIRST-IN, FIRST-OUT

Received		Issued		Balance	
				1,600 x 6.00	9,600
5	400 x 7.00    2,800			1,600 x 6.00    9,600 400 x 7.00    2,800	
9	400 x 8.00    3,200			1,600 x 6.00    9,600 400 x 7.00    2,800 400 x 8.00    3,200	
16		800 x 6.00    4,800		800 x 6.00    4,800 400 x 7.00    2,800 400 x 8.00    3,200	
24	600 x 9.00    5,400			800 x 6.00    4,800 400 x 7.00    2,800 400 x 8.00    3,200 600 x 9.00    5,400	
27		800 x 6.00    4,800 200 x 7.00    1,400		200 x 7.00    1,400 400 x 8.00    3,200 600 x 9.00    5,400	

Cost of materials issued = 4,800 + 4,800 + 1,400 = 11,000

Cost of ending inventory = 1,400 + 3,200 + 5,400 = 10,000

2, AVERAGE

Received		Issued		Balance	
1				1,600 x 6.00	9,600
5	400 x 7.00    2,800			2,000 x 6.20	12,400
9	400 x 8.00    3,200			2,400 x 6.50	15,600
16		800 x 6.50    5,200		1,600 x 6.50	10,400
24	600 x 9.00    5,400			2,200 x 7.18	15,800
27		1,000 x 7.18    7,180		1,200 x 7.18	8,620

Cost of materials issued = 5,200 + 7,180 = 12,380

Cost of ending inventory = 8,620

Problem 7 – Heaven & Earth

1. FIFO

Issued =  $600 \times 4.00 = 2,400$

Cost of inventory -  $200 \times 5.00 = 1,000$

$500 \times 4.50 = 2,250$

$400 \times 4.00 = 1,600$

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2. WEIGHTED AVERAGE

Received	Issued		Balance	
1			$1,000 \times 4.00$	4,000
3		$250 \times 4.00$ 1,000	$750 \times 4.00$	3,000
5 $500 \times 4.50$ 2,250			$1,250 \times 4.20$	5,250
6	$150 \times 4.20$	630	$1,100 \times 4.20$	4,620
10	$110 \times 4.20$	462	$990 \times 4.20$	4,158
11	$(10) \times 4.20$	(42)	$1,000 \times 4.20$	4,200
15 $500 \times 5.00$ 2,500			$1,500 \times 4.47$	6,700
20 $(300) \times 5.00$ (1,500)			$1,200 \times 4.33$	5,200
26	$100 \times 4.33$	433	$1,100 \times 4.33$	4,767

Problem 8 – Sterling Company

A. PERPETUAL

1. FIFO

Received	Issued		Balance	
1			$300 \times 17.50$	5,250
8	$200 \times 17.50$	3,500	$100 \times 17.50$	1,750
10 $900 \times 18.00$ 16,200			$100 \times 17.50$	1,750
			$900 \times 18.00$	16,200
18	$100 \times 17.50$	1,750	$400 \times 18.00$	7,200
	$500 \times 18.00$	9,000		
20 $1,200 \times 18.25$ 21,900			$400 \times 18.00$	7,200
			$1,200 \times 18.25$	21,900
25	$400 \times 18.00$	7,200		
	$600 \times 18.25$	10,950	$600 \times 18.25$	10,950

## 2. AVERAGE

Received		Issued		Balance	
1				300 x 17.50	5,250
8		200 x 17.50	3,500	100 x 17.50	1,750
10	900 x 18.00			1,000 x 17.95	17,950
16,200					
18		600 x 17.95	10,770	400 x 17.95	7,180
20	1,200 x 18.25			1,600 x 18.175	29,080
21,900					
25		1000 x 18.175	18,175	600 x 18.175	10,906

### Problem 9 – Bedrock Company

#### a. Loss due to spoiled work is spread over all jobs

1. Work in process	1,320,000
Materials	360,000
Payroll	480,000
FO Applied	480,000
2. Spoiled Goods	8,000
FO Control	8,500
Work in process (100 x 165)	16,500
3. Finished goods	1,303,500
Work in process	1,303,500

$$\text{Unit cost} = 1,303,500 / 7,900 = 165$$

**B, Loss due to spoiled work is charged to the specific job**

<b>1. Work in process</b>	<b>1,320,000</b>	
<b>Materials</b>		<b>360,000</b>
<b>Payroll</b>	<b>480,000</b>	
<b>FO Applied</b>		<b>480,000</b>
<b>2. Spoiled Goods</b>	<b>8,000</b>	
<b>Work in process</b>		<b>8,000</b>
<b>3. Finished goods</b>	<b>1,312,000</b>	
<b>Work in process</b>		<b>1,312,000</b>

**Problem 10 – Kyrlei Co.**

**A)1. RAGC is charged with the cost of defective units**

<b>a. Work in process</b>	<b>176,000</b>	
<b>Materials</b>		<b>80,000</b>
<b>Payroll</b>	<b>40,000</b>	
<b>FO Applied (40,000 x 140%)</b>		<b>56,000</b>
<b>b. Work in process</b>	<b>23,200</b>	
<b>Materials</b>		<b>4,000</b>

Payroll	8,000
FO Applied	11,200

c.	Finished goods	199,200
	Work in process	199,200

2. Cost of correcting defective work in not charged to RAGC

a.	Work in process	180,000
	Materials	80,000
	Payroll	40,000
	FO Applied (40,000 x 150%)	60,000

b.	FO Control	24,000
	Materials	4,000
	Payroll	8,000

c.	Finished goods	180,000
	Work in process	180,000

B)

1.	Original cost	2.000 units	176,000
	Additional cost		<u>23,200</u>
	Total costs		199,200



**2. Charged to all production (FO rate should be 150% of direct labor cost)**

<b>a.</b>	<b>Work in process</b>	<b>75,000</b>	
	<b>Materials</b>		<b>25,000</b>
	<b>Payroll</b>	<b>20,000</b>	
	<b>FO Applied</b>	<b>(20,000 x 150%)</b>	<b>30,000</b>
<b>b.</b>	<b>FO Control</b>	<b>1,250</b>	
	<b>Materials</b>		<b>500</b>
	<b>Payroll</b>	<b>300</b>	
	<b>FO Applied</b>	<b>(300 x 150%)</b>	<b>450</b>
<b>c.</b>	<b>Spoiled Goods</b>	<b>100</b>	
	<b>Factory Overhead Control</b>	<b>200</b>	
	<b>Work in process</b>		<b>300</b>
<b>d.</b>	<b>Finished goods</b>	<b>74,700</b>	
	<b>Work in process</b>		<b>74,700</b>

**3. a. Method used is charged to specific job**

<b>Original cost</b>	<b>5,000 units</b>	<b>73,000</b>
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Additional cost – defective		1,220
Spoiled	( 20)	( 100)
Net	<u>4,980</u>	74,120
Divide by		<u>4,980</u>
Cost per unit		<u>14.88</u>

c. Method used is charged to all production

Original cost	5,000 units	75,000
Spoiled	( 20)	( 300)
Net	<u>4,980</u>	74,700
Divide by		<u>4,980</u>
Cost per unit		<u>15.00</u>

Problem 12 – Marvin Corporation-

1.	Work in process	300,000
	Materials	117,000
	Payroll	100,000
	FO Applied	83,000

2.	Work in process	4,350
	Materials	1,650
	Payroll	1,500
	FO Applied	1,200

3.	Spoiled goods	825
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	Work in process	825
4.	Finished goods	303,525
	Work in process	303,525

**Problem 13 – Raindrops Company**

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$$EOQ = \sqrt{\frac{2 \times 60,000 \times 800}{1,200}}$$

**Problem 14 – Nicole Company**

1. Safety stock (5 days x 100 units)                      500 units
2. Reorder point (5 days x 600 units)                      3,000 units
3. Normal maximum inventory = (3,500/2) + 500 units = 2,250 units
4. Absolute maximum inventory = 3,500 + 500 units = 4,000 units

**Problem 15 -**

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$$EOQ = \sqrt{\frac{2 \times 100,000 \times 413}{25.30}}$$

<b>a. Investment costs</b>	
Invoice price	P 125.00
Excise tax ( 125.00 x 4%)	5.00
Insurance on shipment	<u>2.00</u>
<b>Total</b>	<b><u>P 132.00</u></b>
<b>b. Carrying costs</b>	
Cost of capital ( 132.00 x 15%)	P 19.80
Inventory insurance	3.00
Inventory tax ( 125.00 x 2%)	<u>2.50</u>
<b>Total</b>	<b><u>P 25.30</u></b>
<b>c. Ordering costs</b>	
Shipping permit	P 300.00
Processing costs	23.00
Unloading	<u>90,00</u>
<b>Total</b>	<b><u>P 413.00</u></b>

**TRUE/FALSE**

- |          |          |           |
|----------|----------|-----------|
| 1. True  | 6. False | 11. True  |
| 2. False | 7. False | 12. False |
| 3. False | 8. False | 13. False |
| 4. True  | 9. False | 14. False |
| 5. True  | 10. True | 15. False |



FO Applied ( 84,500 x 5.60) 473,200

2. FO Control 470,800  
Misc. Accounts 470,800

3. FO Applied 473,200  
Cost of Goods Sold 2,400  
FO Control 470,800

FO rate = P 456,120/81,450 = P 5.60/Mach. Hr.

Since the problem is silent, the total variance (overapplied will be closed to Cost of goods sold.

#### Requirement B

Cost of goods sold  $350,000/473,200 \times 2,400 = 1,775$

Finished goods  $100,000/473,200 \times 2,400 = 507$

Work in process  $23,200/473,200 \times 2,400 = 118$

#### Problem 4 - Ellery Corporation

1. Job 123 Job 124 Job 125 Job 126

Direct labor cost	600	940	1,400	5,120
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FO rate	<u>180%</u>	<u>180%</u>	<u>180%</u>	<u>180%</u>
Applied FO	<u>1,080</u>	<u>1,692</u>	<u>2,520</u>	<u>9,216</u>

2.	<u>Job 123</u>	<u>Job 124</u>	<u>Job 125</u>	<u>Job 126</u>	<u>TOTAL</u>
DM	300	1,080	720	4,200	6,300
DL	600	940	1,400	5,120	8,060
FO	<u>1,080</u>	<u>1,692</u>	<u>2,520</u>	<u>9,216</u>	<u>14,508</u>
TOTAL	<u>1,980</u>	<u>3,712</u>	<u>4,640</u>	<u>18,536</u>	<u>28,868</u>

### Problem 5 – Thermal Corporation

#### 1. Direct method

	<u>P1</u>	<u>P2</u>	<u>S1</u>	<u>S2</u>
Direct cost	P 90,000	P 60,000	P 20,000	P 32,000
Allocated cost				
S1	10,000	10,000	( 20,000)	
S2	<u>20,000</u>	<u>12,000</u>		( 32,000)
Total	<u>P120,000</u>	<u>P 82,000</u>		
Base	<u>50,000 MHrs.</u>	<u>20,000 DLHrs</u>		
FO rate	<u>P 2.40/MHr.</u>	<u>P 4.10/DLHr.</u>		

#### 2. Step method

	<u>P1</u>	<u>P2</u>	<u>S1</u>	<u>S2</u>
Direct cost	P 90,000	P 60,000	P 20,000	P 32,000
Allocated cost				
S1	2,000	2,000	( 20,000)	<u>16,000</u>
S2	<u>30,000</u>	<u>18,000</u>		( 48,000)
Total	<u>P122,000</u>	<u>P 80,000</u>		
Base	<u>50,000 MHrs.</u>	<u>20,000 DLHrs</u>		
FO rate	P 2.44/MHr	P 4.00/DLHr.		

#### 3. Algebraic method

	<u>P1</u>	<u>P2</u>	<u>S1</u>	<u>S2</u>
Direct cost	P 90,000	P 60,000	P 20,000	P 32,000
Allocated				

S1	3,143	3,143	( 31,429)	25,143
S2	<u>28,572</u>	<u>17,143</u>	<u>11,429</u>	( 57,143)
Total	<u>P121,715</u>	<u>P80,286</u>		
Base	<u>50,000 MHrs.</u>	<u>20,000 DLHrs</u>		
FO rate	<u>P 2.43/MHr.</u>	<u>P 4.0/DLHr.</u>		

$$S1 = 20,000 + 20\% S2$$

$$S2 = 32,000 + 80\% S1$$

$$\begin{aligned} S1 &= 20000 + 20\%( 32,000 + 80\% S1) \\ &= 20,000 + 6,400 + .16 S1 \end{aligned}$$

$$S1 - .16S1 = 26,400$$

$$S1 = 26,400 / .84$$

$$= 31,429$$

$$S2 = 32,000 + 80\% 31,429$$

$$= 32,000 + 25,143$$

$$= 57,143$$

### Problem 6 – ABC Company

#### 1. Direct method

	<u>Machinery</u>	<u>Assembly</u>	<u>Repair</u>	<u>Cafeteria</u>
Direct cost	P 52,500	P 48,000	P 14,000	P 11,000
Allocated cost				
S1	5,600	8,400	( 14,000)	
S2	<u>6,325</u>	<u>4,675</u>		( 11,000)
Total	<u>P 64,625</u>	<u>P 61,075</u>		
Base	<u>1,500DLHrs.</u>	<u>1,250 DLHrs</u>		
FO rate	<u>P 42.95DLHr.</u>	<u>P48.86/DLHr.</u>		

## 2. Step method

	<u>Machinery</u>	<u>Assembly</u>	<u>Repair</u>	<u>Cafeteria</u>
Direct cost	P 52,500	P 48,000	P 14,000	P 11,000
Allocated cost				
S1	4,119	6,176	<u>( 14,000)</u>	<u>3,705</u>
S2	<u>8,455</u>	<u>6,250</u>		<u>( 14,705)</u>
Total	<u>P 65,074</u>	<u>P 60,426</u>		
Base	<u>1,500 DLHrs.</u>	<u>1,250 DLHrs</u>		
FO rate	P 43.38/DLHr	P48.34/DLHr.		

## 3. Algebraic method

### Services rendered by

	Repair Dept.	Cafeteria Dept.
Repair		3,500 - 46.67%
Cafeteria	1,800 - 26.47%	
Machinery	2,000 - 29.41%	2,300 - 30.67%
Assembly	<u>3,000</u> - <u>44.12%</u>	<u>1,700</u> - <u>22.66%</u>
	6.800 100.00%	7,500 100.00%

$$\text{Repair} = 14,000 + (46.67\% \text{Cafeteria})$$

$$\text{Cafeteria} = 11,000 + 26.47\% \text{ Repair}$$

$$\text{Repair} = 14,000 + 46.67\% (11,000 + 26.47\% R)$$

$$= 14,000 + 5,134 + ,1235R$$

$$1 - .1235 R = 19,134$$

$$R = 19,134 / .8765$$

$$= 21,830$$

$$\text{Cafeteria} = 11,000 + 26.47\%R$$

$$= 11,000 + 5,778$$

$$= 16,778$$

#### 4. Algebraic method

	<u>Machinery</u>	<u>Assembly</u>	<u>Repair</u>	<u>Cafeteria</u>
Direct cost	P 52,500	P 48,000	P 14,000	P 11,000
Allocated cost				
S1	6,420	9,632	( 21,830)	5,778
S2	5,146	3,902	7,830	( 16,778)
Total	<u>P 64,066</u>	<u>P 61,534</u>		
Base	<u>1,500 DLHrs.</u>	<u>1,250 DLHrs</u>		
FO rate	P 42.71/DLHr	P49.23/DLHr.		

#### Problem 7 - Central Parkway Corp.

	<u>P1</u>	<u>P2</u>	<u>5 S1</u>	<u>S2</u>
Direct cost	120,000	80,000	25,000	10,000
Allocated				
S1	13,333	6,667	( 26,667)	6,667
S2	8,333	6,667	1,667	(16,667)
Total	<u>141,666</u>	<u>93,334</u>		

$$S1 = 25,000 + 10\% \text{ of } S2$$

$$S2 = 10,000 + 25\% \text{ of } S1$$

$$S1 = 25,000 + 10\% ( 10,000 + .25S1)$$

$$= 25,000 + 1,000 + .025S1$$

$$S1 - .025 S1 = 26,000$$

$$S1 = 26,000/.975$$

$$= 26,667$$

$$S2 = 10,000 + .25(26,667)$$

$$= 16,667$$

**Problem 8 – Megastar Company**

95,000 Mach. Hrs.

	<u>Total</u>	<u>Per Mach.Hr.</u>	
Fixed	34,200	0.36	( 34,200/95,000)
Variable	<u>41,800</u>	<u>0.44</u>	( 41,800/95,000)
	<u>76,000</u>	<u>0.80</u>	

1.	Actual factory overhead	P 78,600
	Less: Applied (100,000 x .80)	<u>80,000</u>
	Overapplied factory overhead	<u>( 1,400)</u>

2.	Actual factory overhead	P 78,600
	Less: Budget allowed on actual hours	
	Fixed	34,200
	Variable (100,000 x .44)	<u>44,000</u> <u>78,200</u>
	Spending variance – unfavorable	<u>P 400</u>

3.	Budget allowed on actual hours	P 78,200
	Less: Applied factory overhead	<u>80,000</u>
	Idle capacity variance favorable	<u>( 1,800)</u>

**Problem 9 - Abner Company**

<u>72,000 units</u>			
	<u>Total-</u>	<u>Per unit</u>	
Fixed	P 33,840	P 0.47	(33,840/72,000)
Variable	<u>302400</u>	<u>4.20</u>	(72,000 x 4.20)
<b>Total</b>	<b><u>P336,200</u></b>	<b><u>P 4.67</u></b>	
1.	Actual FO		P 15,910
	Less: Applied FO 5,400 units x P 4.67		<u>25,218</u>
	Underapplied FO		<u>(P 9.308)</u>
2.	Actual FO		P 15,910
	Less: Budget allowed on actual hours		
	Fixed (33,840/12 months)	2,820	
	Variable ( 5,400 x 4.20)	<u>22,680</u>	<u>25,500</u>
	Spending variance – favorable		<u>( P 9,590)</u>
3.	Budgeted allowed on actual hours		P25,500
	Less: Applied		<u>25,218</u>
	Idle capacity variance – unfavorable		<u>P 282</u>

**Problem 10 - Norman Corporation**

1. Variable rate/hour = 270,000 – 252,000  
60,000 - 48,000

= P1.50/DLHr.

	<u>High</u>	<u>Low</u>
Total	270,000	252,000
Less: Variable		
(60,000 x 1.50)	90,000	
(48,000 x 1.50)	<u>          </u>	<u>72,000</u>
Fixed	<u>180,000</u>	<u>180,000</u>

2.	Actual factory overhead	273,000
	Less: Applied ( 60,000 x 90%) x 5.25	<u>283,500</u>
	Overapplied FO	<u>( 10,500)</u>

FO rate =  $\frac{252,000}{48,000}$  = 5.25/ DLHrs.

3.	Actual factory overhead	273,000
	Less: Budget allowed on actual hours	
	Fixed	180,000
	Variable (54,000 x 1.50)	<u>81,000</u>
		<u>261,000</u>
	Spending variance	<u>12,000</u>

4.	Budget allowed on actual hours	261,000
	Less: Applied	<u>283,500</u>

Idle capacity variance ( 22,500)

**Problem 11 – Strawberry Corporation**

Actual factory overhead	30,500
Less: Applied factory overhead	<u>39,700</u>
Overapplied factory overhead – favorable	<u>( 9,200)</u>

a. Allocation of overapplied factory overhead

Cost of goods sold  $32,000/39,700 \times 9,200 = 7,416$

Finished goods inventory  $4,200/39,700 \times 9,200 = 973$

Work in process inventory  $\underline{3,500/39,700} \times 9,200 = \underline{811}$

39,700 9,200

b. Applied factory overhead 39,700

Cost of goods sold 7,416

Finished goods inventory 973

Work in process inventory 811

Factory overhead control 30,500

**Problem 12**

a)	Product A	Product B
Direct materials ( 50 x P120)	P 6,000	(100 x P120) P 12,000

Direct labor	6,000	18,000
Factory overhead (100 x P 25)	<u>2,500</u>	<u>7,500</u>
	(300 x P 25)	
Total manufacturing cost	P 14,500	P 37,500
No. of units	<u>50</u>	<u>100</u>
Cost per unit	P 290/unit	P 375/unit

Factory overhead rate =  $\frac{P200,750}{8,030}$  direct labor ours = P 25/DLHr.

b)

	Product A		Product B
Direct materials (50 x P120)	P 6,000	(100 x P120)	P 12,000
Direct labor	6,000		18,000
Factory overhead			
Material handling (20 x P50)	1,000	(40 x P50)	2,000
Scheduling & setup (5 x 200)	1,000	( 7 x 200)	1.400
Design section (3 x P 107.50)	322,50	(5 x 107.50)	537.50
No. of parts (6 x 100)	<u>600</u>	(10 x 100)	<u>1,000</u>
Total costs	P 14,922.50		P 34,937.50
No. of units	<u>50</u>		<u>100</u>
Cost per unit	P 298.45/unit		P 349.38/unit

TRUE/FALSE

- |          |         |           |
|----------|---------|-----------|
| 1. True  | 6. True | 11. False |
| 2. False | 7. True | 12. False |
| 3. True  | 8. True | 13. True  |

4. True                      9. False                      14. True  
 5. True                      10. True                      15. True

**MULTIPLE CHOICE – THEORY**

- |         |         |
|---------|---------|
| 1.    c | 6.    d |
| 2.    c | 7.    c |
| 3.    d | 8.    a |
| 4.    b | 9.    d |
| 5.    d | 10.  A  |
| 6.      |         |

**MULTIPLE CHOICE - PROBLEMS**

- |         |        |        |
|---------|--------|--------|
| 1.    a | 11.  d | 21.  b |
| 2.    b | 12.  a | 22.  d |
| 3.    c | 13.  b | 23.  a |
| 4.    c | 14.  c | 24.  b |
| 5.    c | 15.  c | 25.  c |
| 6.    c | 16.  c | 26.  c |
| 7.    c | 17.  b | 27.  d |
| 8.    a | 18.  a | 28.  c |
| 9.    d | 19.  a | 29.  d |
| 10.  d  | 20.  a | 30.  d |

**CHAPTER 7 - ACCOUNTING FOR FACTORY OVERHEAD**

**Problem 1 – Denmark Company**

FO rate =  $\frac{425,000}{1,000,000}$      $\frac{425,000}{500,000 \text{ units}}$      $\frac{425,000}{100,000 \text{ MHrs.}}$      $\frac{425,000}{1,062,500}$      $\frac{425,000}{250,000 \text{ DLHrs/}}$

4.25% of DMC    P0.85/unit    P4/25/MHr.    40% of DLC    P1.70/DLHr.

**Problem 2 - Marco Company**

4. FO rate =  $P255,000/100,000 = P 2.55/DLHr.$   
5. FO Applied =  $105,000 \times P2.55 = P 267,750$
- |                        |                |
|------------------------|----------------|
| 6. FO Control (actual) | P 270,000      |
| Less: Applied          | <u>267,750</u> |
| Underapplied           | <u>P 2,250</u> |

**Problem 3 – Marvin Company**

**Requirement A**

- |                             |         |
|-----------------------------|---------|
| 5. Work in Process          | 473,200 |
| FO Applied ( 84,500 x 5.60) | 473,200 |
| 6. FO Control               | 470,800 |
| Misc. Accounts              | 470,800 |
| 7. FO Applied               | 473,200 |
| Cost of Goods Sold          | 2,400   |
| FO Control                  | 470,800 |

$$\text{FO rate} = P 456,120/81,450 = P 5.60/\text{Mach. Hr.}$$

Since the problem is silent, the total variance (overapplied will be closed to Cost of goods sold.

**Requirement B**

$$\text{Cost of goods sold } 350,000/473,200 \times 2,400 = 1,775$$

$$\text{Finished goods } 100,000/473,200 \times 2,400 = 507$$

Work in process  $23,200/473,200 \times 2,400 = 118$

**Problem 4 - Ellery Corporation**

1.		<u>Job 123</u>	<u>Job 124</u>	<u>Job 125</u>	<u>Job 126</u>	
	Direct labor cost	600		940	1,400	5,120
	FO rate	<u>180%</u>		<u>180%</u>	<u>180%</u>	<u>180%</u>
	Applied FO	<u>1,080</u>		<u>1,692</u>	<u>2,520</u>	<u>9,216</u>

2.		<u>Job 123</u>	<u>Job 124</u>	<u>Job 125</u>	<u>Job 126</u>	<u>TOTAL</u>
	DM	300	1,080		720	4,200 6,300
	DL	600	940		1,400	5,120 8,060
	FO	<u>1,080</u>	<u>1,692</u>		<u>2,520</u>	<u>9,216</u> 14,508
	TOTAL	<u>1,980</u>	<u>3,712</u>		<u>4,640</u>	<u>18,536</u> 28,868

**Problem 5 – Thermal Corporation**

**1. Direct method**

	<u>P1</u>	<u>P2</u>	<u>S1</u>	<u>S2</u>
Direct cost	P 90,000	P 60,000	P 20,000	P 32,000
Allocated cost				
S1	10,000	10,000	<u>(20,000)</u>	

S2	<u>20,000</u>	<u>12,000</u>		<u>( 32,000)</u>
Total	<u>P120,000</u>	<u>P 82,000</u>		
Base	<u>50,000 MHrs.</u>	<u>20,000 DLHrs</u>		
FO rate	<u>P 2.40/MHr.</u>	<u>P 4.10/DLHr.</u>		

## 2. Step method

	<u>P1</u>	<u>P2</u>	<u>S1</u>	<u>S2</u>
Direct cost	P 90,000	P 60,000	P 20,000	P 32,000
Allocated cost				
S1	2,000	2,000	<u>( 20,000)</u>	<u>16,000</u>
S2	<u>30,000</u>	<u>18,000</u>		<u>( 48,000)</u>
Total	<u>P122,000</u>	<u>P 80,000</u>		
Base	<u>50,000 MHrs.</u>	<u>20,000 DLHrs</u>		
FO rate	P 2.44/MHr	P 4.00/DLHr.		

## 3. Algebraic method

	<u>P1</u>	<u>P2</u>	<u>S1</u>	<u>S2</u>
Direct cost	P 90,000	P 60,000	P 20,000	P 32,000
Allocated				
S1	3,143	3,143	<u>( 31,429)</u>	25,143
S2	<u>28,572</u>	<u>17,143</u>	<u>11,429</u>	<u>( 57,143)</u>
Total	<u>P121,715</u>	<u>P80,286</u>		
Base	<u>50,000 MHrs.</u>	<u>20,000 DLHrs</u>		
FO rate	<u>P 2.43/MHr.</u>	<u>P 4.0/DLHr.</u>		

$$S1 = 20,000 + 20\% S2$$

$$S2 = 32,000 + 80\% S1$$

$$S1 = 20,000 + 20\%( 32,000 + 80\% S1)$$

$$= 20,000 + 6,400 + .16 S1$$

$$S1 - .16S1 = 26,400$$

$$S1 = 26,400 / .84$$

$$= 31,429$$

$$\begin{aligned}
 S2 &= 32,000 + 80\% 31,429 \\
 &= 32,000 + 25,143 \\
 &= 57,143
 \end{aligned}$$

### Problem 6 – ABC Company

#### 1. Direct method

	<u>Machinery</u>	<u>Assembly</u>	<u>Repair</u>	<u>Cafeteria</u>
Direct cost	P 52,500	P 48,000	P 14,000	P 11,000
Allocated cost				
S1	5,600	8,400	( 14,000)	
S2	<u>6,325</u>	<u>4,675</u>		<u>( 11,000)</u>
Total	<u>P 64,625</u>	<u>P 61,075</u>		
Base	<u>1,500DLHrs.</u>	<u>1,250 DLHrs</u>		
FO rate	<u>P 42.95DLHr.</u>	<u>P48.86/DLHr.</u>		

#### 2. Step method

	<u>Machinery</u>	<u>Assembly</u>	<u>Repair</u>	<u>Cafeteria</u>
Direct cost	P 52,500	P 48,000	P 14,000	P 11,000
Allocated cost				
S1	4,119	6,176	( 14,000)	<u>3,705</u>
S2	<u>8,455</u>	<u>6,250</u>		<u>( 14,705)</u>
Total	<u>P 65,074</u>	<u>P 60,426</u>		
Base	<u>1,500 DLHrs.</u>	<u>1,250 DLHrs</u>		
FO rate	P 43.38/DLHr	P48.34/DLHr.		

#### 3. Algebraic method

##### Services rendered by

	Repair Dept.	Cafeteria Dept.
Repair		3,500 - 46.67%
Cafeteria	1,800 - 26.47%	
Machinery	2,000 - 29.41%	2,300 - 30.67%

Assembly	<u>3,000</u> - <u>44.12%</u>	<u>1,700</u> - <u>22.66%</u>
	6.800 100.00%	7,500 100.00%

Repair = 14,000 + (46.67% Cafeteria)

Cafeteria = 11,000 + 26.47% Repair

Repair = 14,000 + 46.67% (11,000 + 26.47% R)

= 14,000 + 5,134 + .1235R

1 - .1235 R = 19,134

R = 19,134 / .8765

= 21,830

Cafeteria = 11,000 + 26.47%R

= 11,000 + 5,778

= 16,778

### 8. Algebraic method

	<u>Machinery</u>	<u>Assembly</u>	<u>Repair</u>	<u>Cafeteria</u>
Direct cost	P 52,500	P 48,000	P 14,000	P 11,000
Allocated cost				
S1	6,420	9,632	( 21,830)	5,778
S2	5,146	3,902	7,830	( 16,778)
Total	<u>P 64,066</u>	<u>P 61,534</u>		
Base	<u>1,500 DLHrs.</u>	<u>1,250 DLHrs</u>		
FO rate	P 42.71/DLHr	P49.23/DLHr.		

### Problem 7 - Central Parkway Corp.

	<u>P1</u>	<u>P2</u>	<u>5 S1</u>	<u>S2</u>
Direct cost	120,000	80,000	25,000	10,000
Allocated				
S1	13,333	6,667	( 26,667)	6,667
S2	<u>8,333</u>	<u>6,667</u>	<u>1,667</u>	<u>(16,667)</u>

Total	<u>141,666</u>	<u>93,334</u>		
-------	----------------	---------------	--	--

$$S1 = 25,000 + 10\% \text{ of } S2$$

$$S2 = 10,000 + 25\% \text{ of } S1$$

$$S1 = 25,000 + 10\% ( 10,000 + .25S1$$

$$= 25,000 + 1,000 + .025S1$$

$$S1 - .025 S1 = 26,000$$

$$S1 = 26,000/.975$$

$$= 26,667$$

$$S2 = 10,000 + .25(26,667)$$

$$= 16,667$$

#### Problem 8 – Megastar Company

95,000 Mach. Hrs.

	<u>Total</u>	<u>Per Mach.Hr.</u>	
Fixed	34,200	0.36	( 34,200/95,000)
Variable	<u>41,800</u>	<u>0.44</u>	( 41,800/95,000)
	<u>76,000</u>	<u>0.80</u>	

1.	Actual factory overhead	P 78,600
	Less: Applied (100,000 x .80)	<u>80,000</u>
	Overapplied factory overhead	<u>( 1,400)</u>

2.	Actual factory overhead		P 78,600
	Less: Budget allowed on actual hours		
	Fixed	34,200	
	Variable (100,000 x .44)	<u>44,000</u>	<u>78,200</u>
	Spending variance – unfavorable		<u>P 400</u>
3.	Budget allowed on actual hours		P 78,200
	Less: Applied factory overhead	<u>80,000</u>	
	Idle capacity variance favorable		<u>( 1,800)</u>

Problem 9 - Abner Company

	<u>72,000 units</u>		
	<u>Total-</u>	<u>Per unit</u>	
Fixed	P 33,840	P 0.47	(33,840/72,000)
Variable	<u>302400</u>	<u>4.20</u>	(72,000 x 4.20)
Total	<u>P336,200</u>	<u>P 4.67</u>	

1.	Actual FO		P 15,910
	Less: Applied FO 5,400 units x P 4.67		<u>25,218</u>
	Underapplied FO		<u>(P 9.308)</u>
2.	Actual FO		P 15,910
	Less: Budget allowed on actual hours		
	Fixed (33,840/12 months)	2,820	
	Variable ( 5,400 x 4.20)	<u>22,680</u>	<u>25,500</u>

Spending variance – favorable ( P 9,590)

3. Budgeted allowed on actual hours P25,500  
Less: Applied 25,218  
Idle capacity variance – unfavorable P 282

Problem 10 - Norman Corporation

1. Variable rate/hour =  $\frac{270,000 - 252,000}{60,000 - 48,000}$   
  
= P1.50/DLHr.

	<u>High</u>	<u>Low</u>
Total	270,000	252,000
Less: Variable		
(60,000 x 1.50)	90,000	
(48,000 x 1.50)	<u>          </u>	<u>72,000</u>
Fixed	<u>180,000</u>	<u>180,000</u>

2. Actual factory overhead 273,000  
Less: Applied ( 60,000 x 90%) x 5.25 283,500  
Overapplied FO ( 10,500)

FO rate =  $\frac{252,000}{48,000}$  = 5.25/ DLHrs.

48,000

3.	Actual factory overhead		273,000
	Less: Budget allowed on actual hours		
	Fixed	180,000	
	Variable (54,000 x 1.50)	<u>81,000</u>	<u>261,000</u>
	Spending variance		<u>12,000</u>
4.	Budget allowed on actual hours		261,000
	Less: Applied	<u>283,500</u>	
	Idle capacity variance	<u>( 22,500)</u>	

**Problem 11 – Strawberry Corporation**

Actual factory overhead		30,500
Less: Applied factory overhead		<u>39,700</u>
Overapplied factory overhead – favorable		<u>( 9,200)</u>

b.	Allocation of overapplied factory overhead		
	Cost of goods sold	$32,000/39,700 \times 9,200 =$	7,416
	Finished goods inventory	$4,200/39,700 \times 9,200 =$	973
	Work in process inventory	$\underline{3,500/39,700} \times 9,200 =$	<u>811</u>
		39,700	<u>9,200</u>
b.	Applied factory overhead		39,700
	Cost of goods sold		7,416

Finished goods inventory	973
Work in process inventory	811
Factory overhead control	30,500

**Problem 12**

a)	Product A		Product B
Direct materials ( 50 x P120)	P 6,000	(100 x P120)	P 12,000
Direct labor		6,000	18,000
Factory overhead (100 x P 25)	<u>2,500</u>	(300 x P 25)	<u>7,500</u>
Total manufacturing cost	P 14,500		P 37,500
No. of units	<u>50</u>		<u>100</u>
Cost per unit	P 290/unit		P 375/unit

Factory overhead rate =  $P200,750/8,030$  direct labor ours = P 25/DLHr.

b)

	Product A		Product B
Direct materials (50 x P120)	P 6,000	(100 x P120)	P 12,000
Direct labor		6,000	18,000
Factory overhead			
Material handling (20 x P50)	1,000	(40 x P50)	2,000
Scheduling & setup (5 x 200)	1,000	( 7 x 200)	1.400

Design section (3 x P 107.50)	322,50 (5 x 107.50)	537.50
No. of parts (6 x 100)	<u>600</u> (10 x 100)	<u>1,000</u>
Total costs	P 14,922.50	P 34,937.50
No. of units	<u>50</u>	<u>100</u>
Cost per unit	P 298.45/unit	P 349.38/unit

**TRUE/FALSE**

- |          |          |           |
|----------|----------|-----------|
| 1. True  | 6. True  | 11. False |
| 2. False | 7. True  | 12. False |
| 3. True  | 8. True  | 13. True  |
| 4. True  | 9. False | 14. True  |
| 5. True  | 10. True | 15. True  |

**MULTIPLE CHOICE – THEORY**

- |       |       |
|-------|-------|
| 7. c  | 6. d  |
| 8. c  | 7. c  |
| 9. d  | 8. a  |
| 10. b | 9. d  |
| 11. d | 10. A |
| 12.   |       |

**MULTIPLE CHOICE - PROBLEMS**

- |       |       |       |
|-------|-------|-------|
| 11. a | 11. d | 21. b |
| 12. b | 12. a | 22. d |
| 13. c | 13. b | 23. a |
| 14. c | 14. c | 24. b |
| 15. c | 15. c | 25. c |
| 16. c | 16. c | 26. c |
| 17. c | 17. b | 27. d |
| 18. a | 18. a | 28. c |
| 19. d | 19. a | 29. d |
| 20. d | 20. a | 30. d |

A

CHAPTER 9 – PROCESS COSTING

Problem 1 -

Mat. & Conversion

	<u>Actual</u>	<u>WD</u>	<u>EP</u>	
a) Units completed	8,000		100%	8,000
Units IP end	<u>2,000</u>	1/2	<u>1,000</u>	
	<u>10,000</u>		<u>9,000</u>	
b) Units completed	21,000		100%	21,000
Units IP end	<u>4,000</u>		3/4	<u>3,000</u>
	<u>25,000</u>		<u>24,000</u>	
c) Units completed	6,000		100%	6,000
Units IP end	1,000		3/4	750
	<u>500</u>		2/5	<u>200</u>

		<u>7,500</u>		<u>6,950</u>
d)	Units completed	18,000	100%	18,000
	Units IP end	5,000	$\frac{1}{2}$	2,500
		<u>4,000</u>	$\frac{3}{4}$	<u>3,000</u>
		<u>27,000</u>		<u>23,500</u>
e)	Units completed	32,000	100%	32,000
	Units IP end	1,500	$\frac{1}{5}$	300
		<u>4,000</u>	$\frac{3}{4}$	<u>3,000</u>
		<u>37,500</u>		<u>35,300</u>

**Problem 2 - Casper Corporation**

1)	Units started	<u>11,000</u>		
	Units completed	9,000	100%	9,000
	Units in process, end	<u>2,000</u>	$\frac{3}{4}$	<u>1,500</u>
		<u>11,000</u>		<u>10,500</u>
2)		<u>Materials</u>	<u>Labor</u>	<u>Overhead</u>
	Cost incurred	P 15,750	P 40,950	P 25,200
	Equivalent prod.	<u>10,500</u>	<u>10,500</u>	<u>10,500</u>
	Unit cost	<u>P 1.50</u>	<u>P 3.90</u>	<u>P 2.40</u>

**Problem 3 -**

Case 1	<u>Materials</u>		<u>Conversion</u>		
		WD	EP	WD	EP
Started	<u>5,000</u>				
Completed		4,000	100%	4,000	100% 4,000
In process, end	<u>1,000</u>	100%	<u>1,000</u>	$\frac{3}{4}$	<u>750</u>
	5,000		<u>5,000</u>		<u>4,750</u>

Case 2					
Received		<u>50,000</u>			
Completed		44,000	100%	44,000	100% 44,000
In process end	<u>6,000</u>	-		$\frac{1}{4}$	<u>1,500</u>
		<u>50,000</u>		<u>44,000</u>	<u>45,500</u>

Case 3					
Started	<u>35,000</u>				
Completed		29,000	100%	29,000	100% 29,000
In process, end	3,000	75%	2,250	$\frac{1}{3}$	1,000
	<u>3,000</u>	100%	<u>3,000</u>	$\frac{1}{2}$	<u>1,500</u>
	<u>35,000</u>		<u>34,250</u>		<u>31,500</u>

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Problem 4 - Bewitched Co.

Started 15,000



Materials	480,000	8.00	245,000	7.00
Labor	330,000	6.00	190,000	5.00
Overhead	<u>220,000</u>	<u>4.00</u>	<u>114,000</u>	<u>3.00</u>
Total costs added	<u>1,030,000</u>	<u>18.00</u>	<u>549,000</u>	<u>15.00</u>
Total costs	<u>1,030,000</u>	<u>18.00</u>	<u>1,269,000</u>	<u>33.00</u>

Total costs accounted for as follows:

C & T (40,000 x 18)                      720,000    (30,000 x 33)                      990,000

IP end

Cost from preceding dept.                      (10,000 x 18) 180,000

Materials ( 20,000 x 8) 160,000                      ( 5,000 x 7)    35,000

Labor    (15,000 x 6)    90,000                      ( 8,000 x 5)    40,000

Overhead (15,000 x 4)    60,000    310,000    ( 8,000 x 3)    24,000    279,000

Total cost as accounted for                      1,030,000                      1,269,000

### Problem 6 - Ten Ten Corporation

	Actual	Strawberry	Chocolate	Conversion
1, Units started	<u>100,000</u>	<u>WD</u>	<u>EP</u> <u>WD</u>	<u>EP</u> <u>WD</u> <u>EP</u>
Completed	90,000	100% 90,000	100% 90,000	100% 90,000
IP end	<u>10,000</u>	100% <u>10,000</u>	_____	70% <u>7,000</u>
	<u>100,000</u>	<u>100,000</u>	<u>90,000</u>	<u>97,000</u>

### 2. Unit cost

Strawberry =  $180,000 / 100,000 = 1.80$

Chocolate =  $135,000 / 90,000 = 1.50$

$$\text{Conversion} = 116,400/97,000 = 1.20$$

3. Completed & transferred (90,000 x 4.50)	<u>405,000</u>
4. In process, end	
Strawberry ( 10,000 x 1.80)	18,000
Chocolate	-
Conversion ( 7,000 x 1.20)	<u>8,400</u>
	<u>26,400</u>

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**Problem 7 – Lenlen Corporation**

a) Lost units – discovered at the beginning

Units received	<u>80,000</u>				
Units completed	60,000	100%	60,000	100%	60,000
Units IP end	10,000		10,000	50%	5,000
Units lost	<u>10,000</u>		-	-	-
	<u>80,000</u>		<u>70,000</u>		<u>65,000</u>

Costs accounted for as follows:

Cost from preceding dept.	<u>560,000</u>	<u>8.00</u>
Cost added in the department		
Materials	175,000	2.50
Labor	121,875	1.875
Overhead	<u>243,750</u>	<u>3.75</u>
Total cost added	<u>540,625</u>	<u>8.125</u>
Total costs	<u>1,100,626</u>	<u>16.125</u>

Cost accounted for as follows:

Completed and transferred ( 60,000 x 16.125)		967,500
In process, end		
Cost from preceding dept. ( 10,000 x 8)	80,000	
Materials ( 10,000 x 2.50)	25,000	
Labor ( 5,000 x 1.875)	9,375	
Overhead ( 5,000 x 3.75)	<u>18,750</u>	<u>133,125</u>
Total costs as accounted for		<u><u>1,100,625.</u></u>

b) Normal – discovered at the end

Units completed	60,000	100% 60,000	100% 60,000
Units IP end	10,000	100% 10,000	50% 5,000
Units lost	<u>10,000</u>	100% <u>10,000</u>	100% <u>10,000</u>
	<u>80,000</u>	<u>80,000</u>	<u>75,000</u>

Costs charged to the department

Cost from preceding dept.	<u>560,000</u>	<u>7.00</u>
Cost added in the dept.		
Materials	175,000	2.1875
Labor	121,875	1.625
Overhead	<u>243,750</u>	<u>3.25</u>
Total costs added	<u>540,625</u>	<u>7.0625</u>
Total costs	<u><u>1,100,625</u></u>	<u><u>14.0625</u></u>

Total costs accounted for as follows:

Comp. & transf. ( 60,000 x 14.0625) + (10,000 x 14.0625)	984,375
IP end	
Cost from prec. Dept. ( 10,000 x 7)	70,000
Materials ( 10,000 x 2.1875)	21,875

Labor ( 5,000 x 1.625)	8,125	
Overhead (5,000 x 3.25)	<u>16,250</u>	<u>116,250</u>
Total costs as accounted for		<u>1,100,625</u>

c) Abnormal – discovered when 60% completed

Units completed	60,000	100%	60,000	100%	60,000
Units IP ed	10,000	100%	10,000	50%	5,000
Units lost	<u>10,000</u>	100%	<u>10,000</u>	60%	<u>6,000</u>
	<u>80,000</u>		<u>80,000</u>		<u>71,000</u>

Costs charged to the department

Cost from preceding dept.		<u>560,000</u>	<u>7.00</u>	
Cost added in the dept.				
Materials		175,000	2.1875	
Labor		121,875	1.71655	
Overhead		<u>243,750</u>	<u>3.43309</u>	
Total added		<u>540,625</u>	<u>7.33714</u>	Total
costs		<u>1,100,625</u>	<u>14.33714</u>	

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Total costs as accounted for

Comp. & transf. ( 60,000 x 14.33714)	860,228
FOC (10,000 x 7.00) + (10,000 x 2.1875) + (6,000 x 5.14964)	122,773
IP, end	
Cost from prec. Dept ( 10,000 x 7.00)	70,000
Materials ( 10,000 x 2.1875)	21,875
Labor ( 6,000 x 1.71655)	8,583
Overhead ( 6,000 x 3.43309)	<u>17,166</u> <u>117,624</u>

Total cost as accounted for 1,100,625

d) Lost – abnormal discovered at the end

Note - Equivalent production and unit costs are the same as lost – Normal discovered at the end. The difference is only on the allocation of the cost.

Completed & transferred ( 60,000 x 14.0625)		843,750
Spoiled goods ( 10,000 x 12.00)		120,000
FOC 10,000 ( 14.0625 – 12.00)		20,625
IP end		
Cost from prec. (10,000 x 7)	70,000	
Materials ( 10,000 x 2.1875)	21,875	
Labor (5,000 x 1.625)	8,125	
Overhead (5,000 x 3.25)	<u>16,250</u>	<u>116,250</u>
Total costs as accounted for		<u>1,100,625</u>

Problem 8 - Briones Company

Units received	<u>28,000</u>			
Units completed	16,000	100%	16,000	100% 16,000
Units IP end	10,000		-	60% 6,000
Units lost – normal	800		-	100% 800
Units lost – abnormal	<u>1,200</u>		_____	100% <u>1,200</u>
	<u>28,000</u>		<u>16,000</u>	<u>24,000</u>
Cost charged to the department				

Cost from preceding department	<u>280,000</u>	<u>10.00</u>
Cost added in the department		
Materials	24,000	1.50
Conversion	<u>180,000</u>	<u>7.50</u>
Total added	<u>204,000</u>	<u>9.00</u>
Total costs to be accounted for	<u>484,000</u>	<u>19.00</u>

Costs accounted for as follows:

Completed & transf. (16,000 x 19) + (800 x 17.50)		318,000
FOC ( 1,200 x 17.50)		21,000
IP end		
Cost from preceding dept. ( 10,000 x 10)	100,000	
Materials		-
Conversion (6,000 x 7.50)	<u>45,000</u>	<u>145,000</u>
Total costs as accounted for		<u>484,000</u>

Problem 9 - SLEX Corporation

Started/received	60,000			36,000		
Increase in units	_____			<u>9,000</u>		
	<u>60,000</u>			<u>45,000</u>		
Completed	36,000	36,000	36,000	39,000	39,000	39,000
IP, end	9,000	9,000	3,000	6,000	6,000	2,400
Lost	<u>15,000</u>	_____	_____	_____	_____	_____
	<u>60,000</u>	<u>45,000</u>	<u>39,000</u>	<u>45,000</u>	<u>45,000</u>	<u>41,400</u>

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Cost charged to the department

Cost from prec. Dept.			<u>230,400</u>	<u>5.12</u>
Cost added in the dept.				
Materials	180,000	4.00	135,000	3.00
Labor	78,000	2.00	82,800	2.00
Overhead	<u>15,600</u>	<u>0.40</u>	<u>41,400</u>	<u>1.00</u>
Total added	<u>273,600</u>	<u>6.40</u>	<u>259,200</u>	<u>6.00</u>
Total costs	<u>273,600</u>	<u>6.40</u>	<u>489,600</u>	<u>11.12</u>

Costs accounted for as follows:

Completed ( 36,000 x 6.40)	230,400	(30,000 x 11.12)	433,680
----------------------------	---------	------------------	---------

IP end

Cost from prec. Dept.		(6,000 x 5.12)	30,720
Mat. ( 9,000 x 4)	36,000	(6,000 x 3.00)	18,000
Labor (3,000 x 2)	6,000	(2,400 x 2.00)	4,800
OH ( 3,000 x 0.40)	<u>1,200</u>	<u>43,200</u>	(2,400 x 1.00) <u>2,400</u>
	<u>273,600</u>		<u>55,920</u>
			<u>489,600</u>

Problem 10

Received	<u>5,000</u>				
Completed	3,800	100%	3,800	100%	3,800
IP end	800	40%	320	20	160
Lost	<u>400</u>	100%	<u>400</u>	100%	<u>400</u>
	<u>5,000</u>		<u>4,520</u>		<u>4,360</u>

Costs charged to the dept.

Cost from prec. Dept	<u>60,000</u>	<u>12.00</u>
Cost added in the dept.		
Materials	22,600	5.00
Conversion cost	<u>17,440</u>	<u>4.00</u>
Total added	<u>40,040</u>	<u>9.00</u>
<u>Total costs as accounted for</u>	<u>100,040</u>	<u>21.00</u>
Costs accounted for as follows		
Completed ( 3.800 x 21)		79,800
Spoiled goods ( 400 x 15)		6,000
FOC 400 x (21 – 15)		2,400
IP end		
Cost from prec. Dept. ( 800 x 12)		9,600
Mat. ( 320 x 5)		1,600
Conversion ( 160 x 4 )	<u>640</u>	<u>11,840</u>
Total costs as accounted for		<u>100,040</u>

**Problem 11 - Diamond Company**

Units received	55,000				
Increase in units	<u>5,000</u>				
	<u>60,000</u>				
Units completed	45,000	100%	45,000	100%	45,000
Units completed & on hand	3,000	100%	3,000	100%	3,000
Units IP end	<u>12,000</u>	100%	<u>12,000</u>	70%	<u>8,400</u>
-	<u>60,000</u>		<u>60,000</u>		<u>56,400</u>

Costs charged to the department

Cost from prec. Dept.	<u>24,750</u>	<u>0.4125</u>
Cost added in the dept.		
Materials	7,200	0.12
Conversion cost	<u>53,580</u>	<u>0,95</u>
Total added	<u>60,780</u>	<u>1.07</u>
Total costs	<u>85,530</u>	<u>1.4825</u>

Total costs accounted for as follows:

Completed and transferred ( 45,000 x 1.4825)		66,712.50
Completed and on hand ( 3,000 x 1.4825	4,447.50	
IP end		
Cost from prec. Dept. ( 12,000 x 0.4125)	4,950	
Materials (12,000 x 0.12)	1,440	
Conversion cost ( 8,400 x 0.95)	<u>7,980</u>	<u>14,370</u>
		<u>18,817.50</u>
		<u>85,530</u>

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Multiple choice

- |      |       |       |              |
|------|-------|-------|--------------|
| 1. C | 11. D | 21. C | 31 B         |
| 2. C | 12. B | 22. C | 32. A        |
| 3. B | 13. B | 23. B | 33. 7,189.50 |
| 4. B | 14. D | 24. C |              |

- |     |   |     |   |     |   |
|-----|---|-----|---|-----|---|
| 5.  | C | 15. | D | 25. | D |
| 6.  | B | 16. | A | 26. | A |
| 7.  | C | 17. | D | 27. | B |
| 8.  | C | 18. | C | 28. | D |
| 9.  | B | 19. | B | 29. | D |
| 9.  | D | 20. | D | 30. | B |
| 10. | D |     |   |     |   |

#### CHAPTER 10 - AVERAGE AND FIFO COSTING

##### TRUE OR FALSE

1. TRUE
2. TRUE
3. TRUE
4. FALSE
5. TRUE
6. TRUE
7. FALSE
8. TRUE
9. TRUE
10. TRUE

##### MULTIPLE CHOICE - THEORY

- |     |   |     |   |
|-----|---|-----|---|
| 1.  | B | 11. | C |
| 2.  | A | 12. | C |
| 3.  | A | 13. | C |
| 4.  | B | 14. | C |
| 5.  | A | 15. | D |
| 6.  | C |     |   |
| 7.  | A |     |   |
| 8.  | A |     |   |
| 9.  | D |     |   |
| 10. | A |     |   |

##### Problem 1

##### 1) FIFO

Units in process, beg.	10,000
Units started	<u>50,000</u>
	<u>60,000</u>

**Units completed & transferred (40,000)**

IP beg.	10,000		70%	7,000	
Started & completed	45,000	100%	45,000	100%	45,000
Units in process, end	<u>5,000</u>	100%	<u>5,000</u>	60%	<u>3,000</u>
	<u>60,000</u>		<u>50,000</u>		<u>55,000</u>

**2) AVERAGE**

Units in process, beg.	10,000				
Units started	<u>50,000</u>				
	<u>60,000</u>				
Units completed	55,000	100%	55,000	100%	55,000
Units IP end	<u>5,000</u>	100%	<u>5,000</u>	60%	<u>3,000</u>
	<u>60,000</u>		<u>60,000</u>		<u>58,000</u>

**Problem 2**

**1) FIFO**

Units in process, beg.	3,000				
Units started	<u>50,000</u>				
	<u>53,000</u>				
Units completed & transferred (45,000)					
IP beg.	3,000		25%	750	
Started & completed	42,000	100%	42,000	100%	42,000
Units in process, end	<u>8,000</u>	100%	<u>8,000</u>	60%	<u>4,800</u>
	<u>53,000</u>		<u>50,000</u>		<u>47,550</u>

PAGE 2

2) AVERAGE

Units in process, beg.	3,000				
Units started	<u>50,000</u>				
	<u>53,000</u>				
Units completed	45,000	100%	45,000	100%	45,000
Units IP end	<u>8,000</u>	100%	<u>8,000</u>	60%	<u>4,800</u>
	<u>53,000</u>		<u>53,000</u>		<u>49,800</u>

Problem 3

1)

Units in process beg.	300				
Units started	<u>2,000</u>				
	<u>2,300</u>				
Units comp. & transf. (1,700)					
IP beg.	300	40%	120	70%	210
Started & completed	1,400	100%	1,400	100%	1,400
Units in process, end	<u>600</u>	40%	<u>240</u>	20%	<u>120</u>
	<u>2,300</u>		<u>1,760</u>		<u>1,730</u>

2)

Unit cost - Materials  $3,714/1760 = 2.110227$

Conversion  $2,258/1730 = 1.305202$

6,512 3.415429

### 3) Cost of units transferred out

From IP beg.

Cost last month 540

Cost added Mat. (120 x 2.110227) 253

Conversion (210 x 1.305202) 274 1,067

From units started & completed (1,400 x 3.415429) 4,782

5,849

### 4) Cost of ending inventory

Materials (240 x 2.110227) 507

Conversion (120 x 1.305202) 156

663

### Problem 4 -

#### 1) FIFO

Units in process, beg 8,000

Units started 14,000

22,000

Units Completed (17,000)

IP beg. 8,000 70% 5,600 70% 5,600

Started & completed 9,000 100% 9,000 100% 9,000

Units in process, end 5,000 80% 4,000 40% 2,000

22,000                      18,600                      16,600

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48,240

Unit cost	Materials	$126,852/18,000$	=	6.82
	Conversion	$\frac{219,120}{16,600}$	=	<u>13.20</u>
		394,212		<u>20.02</u>

Completed & transf.

IP beg.

Cost labor month	48,240	
Cost added (5,600 x 20.02)	<u>112,112</u>	160,352
Started & completed (9,000 x 20.02)	<u>180,180</u>	340,532

IP end

Materials (4,000 x 6.82)	27,280	
Conversion (2,000 x 13.20)	<u>26,400</u>	<u>53,680</u>
	<u>394,212</u>	

2) AVERAGE

Units completed	17,000	100%	17,000	100%	17,000
Units IP end	<u>5,000</u>	80%	<u>4,000</u>	40%	<u>2,000</u>
	<u>22,000</u>		<u>21,000</u>		<u>19,000</u>

Unit cost      Materials  $\frac{16,440 + 126,852}{21,000} = 6.823428$



3) Completed & transf. (245000 x 20) 4,900,000

4) IP ined

Materials ( ( 20,000 x 14)	280,000	
Conversion ( 8000 x 6)	<u>48,000</u>	<u>328,000</u>
		<u><u>5,228,000</u></u>

b) FIFO

1) Units completed ( 245,000)

IP beg	15,000	-	1/3	5,000
Started & completed	230,000	100%	230,000	100% 230,000
Units IP beg.	<u>20,000</u>	100%	<u>20,000</u>	40% <u>8,000</u>
	<u>265,000</u>		<u>250,000</u>	<u>243,000</u>

2) Unit cost:    Materials    3,500,000/250,000    =    14.00

                  Conversion    1,458000/243,000    =    6.00

20.00

3) Completed& transferred

From IP beg.

Cost last month 270,000

Cost added ( 5,000 x 6) 30,000    300,000

From started & completed ( 230,000 x 20)      4,600,000    4,900,000

4) IP end

Materials ( 20,000 x 14)      280,000

Conversion (8,000 x 6)      48,000    328,000

5,228,000

Problem 6 - Ellery Company

A) AVERAGE

1) Units IP beg.      15,500

Units started      36,000

= 51,500

Units completed	48,000	100%	48,000	100%	48,000
Units IP ed	<u>3,500</u>	100%	<u>3,500</u>	45%	<u>1,575</u>
	<u>51,500</u>		<u>51,500</u>		<u>49,575</u>

2) Unit cost      Materials 7,800 + 54,000      =      1.20

51,500

Conversion 20,150 + 79,000      =      2.00

49,575      3.20

3) Completed & transferred ( 48,000 x 3.20)      153,600

4) IP end

Materials ( 3,500 x 1.20)      4,200

Conversion ( 1,575) x 2.00)      3,150    7,350

160,950

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B) FIFO

1) Units IP beg	15,500				
Units started	<u>36,000</u>				
	<u>51,500</u>				
Units completed (48,000)					
IP beg.	15,500	-	35%	5,425	
Started & completed	32,500	100%	32,500	100%	32,500
Units IP end	<u>3,500</u>	100%	<u>3,500</u>	45%	<u>1,575</u>
	<u>51,500</u>	36,000		39,500	

2) Unit cost	IP beg.	27,950			
	Materials	54,000/36000	=	1.50	
	Conversion	<u>79,000/39,500</u>	=	<u>2.00</u>	
		<u>160,950</u>		<u>3.50</u>	

3) Completed & transferred

IP beg.		
Cost last month	27,950	
Cost added ( 5,425 x 2)	10,850	
Started & completed ( 32,500 x 3.50)	<u>113,750</u>	152,550

4) IP end

Materials ( 3,500 x 1.50)	5,250	
Conversion ( 1,575 x 2)	<u>3,150</u>	<u>8,400</u>
		<u>160,950</u>

Problem 7 - GDL Company

A) AVERAGE

Units IP beg	10,000				
Units received	<u>40,000</u>				
	<u>50,000</u>				
Units completed	35,000	100%	35,000	100%	35,000
Units IP end	10,000	100%	10,000	50%	5,000
Units lost – normal	<u>5,000</u>		_____		_____
	<u>50,000</u>		<u>45,000</u>		<u>40,000</u>

Unit cost

Cost from preceding dept.  $\frac{40,000 + 140,000}{50,000 - 5,000} = 4.00$

$50,000 - 5,000$

Materials  $\frac{20,000 + 70,000}{45,000} = 2.00$

$45,000$

Labor  $\frac{39,000 + 162,500}{45,000} = 5.0375$

40,000

Overhead  $\frac{42,000 + 130,000}{40,000} = 4.30$   
15.3375

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Problem 7 – continuation

Completed & transferred ( 35,000 x 15.3375) 536,812.50

IP end

Cost from prec. Dept ( 10,000 x 4)	40,000.00
Materials ( 10,000 x 2)	20,000.00
Labor ( 5,000 x 5.0375)	25,187.50
Overhead ( 5,000 x 4.30)	<u>21,500.00</u>
	<u>106,687.50</u>

B)FIFO

Units IP beg. 10,000

Units received 40,000

50,000

Units completed ( 35,000)

IP beg.	10,000	-	1/4	2,500
Started & completed	25,000	100%	25,000	100% 25,000
Units IP end	10,000	100%	10,000	1/2 5,000

Units lost	<u>5,000</u>	_____	_____
	<u>50,000</u>	<u>35,000</u>	<u>32,500</u>

Unit cost

IP beg.	141,000		
From preceding dept.	$140,000/40,000 - 5,000$	=	4.00
Materials	$70,000/35,000$	=	2.00
Labor	$162,500/32,500$	=	5.00
Overhead	$130,000/32,500$	=	<u>4.00</u>
	<u>643,500</u>		<u>15.00</u>

Completed & transferred \*35000)

IP beg

Cost last month	141,000
Cost added ( 2.500 x 9)	22,500
Received & completed ( 25,000 x 15)	<u>375,000</u>
	<u>538,500</u>

IP end

Cost from preceding dept. ( 10,000 x 4)	40,000
Materials (10,000 x 2)	20,000
Labor ( 5,000 x 5)	25,000
Overhead ( 5,000 x 4)	<u>20,000</u>
	<u>105,000</u>

Page 8 - Janice Manufacturing Co.

Units in process, beg.	2,000		
Units received from preceding dept.	<u>9,000</u>		
	<u>11,000</u>		
Units comp. & transf.	8,000		
IP beg.	2,000	50%	1,000
Received & completed	6,000	100%	6,000
Units in process, end	<u>3,000</u>	1/3	<u>1,000</u>
	<u>11,000</u>		8,000
Cost – IP beg.	<u>10,250</u>		
Cost from precedig dept.	<u>36,000</u>		<u>P 4.00</u>
Cost added in the dept			
Materials	4,000		.50
Labor	8,000		1.00
Overhead	<u>6,000</u>		<u>.75</u>
	<u>18,000</u>		<u>2,25</u>

Total costs to be accounted from 64,250 6.25

Costs accounted for as follows:

Cost of units completed & transf.

IP beg.	10,250	
Cost added ( 1,000 x 2.25)	<u>2,250</u>	12,500
Cost & transf. (6,000 x 6.25)		<u>37,500</u> 50,000

IP end

Cost from preceding (3,000 x 4.00)		12,000
M, L, O ( 1,000 x 2.25)	<u>2,250</u>	<u>14,250</u>

Total costs as accounted for 64,250

### Problem 9 – Norman Corporation

#### AVERAGE METHOD

Units IP beg. 1,000

Units started 9,000

10,000

Units completed & transferred 8,000 100% 8,000 100% 8,000 100% 8,000

Units IP end 1,500 100% 1,500 75% 1,125 50% 750

Units lost – abnormal 500 100% 500 100% 500 100% 500

10,000 10,000 9,625 9,250

Cost to be accounted for

	Cost IP beg	Cost added	Unit cost
Materials	2,520	72,480	7.50
Labor	1,540	21,560	2.40
Overhead	<u>2,800</u>	<u>43,450</u>	<u>5.00</u>
	<u>6,860</u>	<u>137,490</u>	<u>14.90</u>

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Cost accounted for as following

Completed & transferred ( 8,000 x 14.90)	119,200
Factory Overhead ( 500 x 14.90)	7,450
In process, end	
Materials (1,500 x 7.50)	11,250
Labor ( 1,125 x 2.40)	2,700
Overhead ( 750 x 5.00)	<u>3,750</u>
Total costs as accounted for	<u>144,350</u>

Problem 9 - Norman Corporation

FIFO METHOD

Units completed & transferred

IP beg.	1,000	40%	400	65%	650	75%	750
Started & completed	7,000	100%	7,000	100%	7,000	100%	7,000
Units IP end	1,500	100%	1,500	75%	1,125	50%	750
Units lost – abnormal	<u>500</u>	100%	<u>500</u>	100%	<u>500</u>	100%	<u>500</u>

	10,000	9,400	9,275	9,000
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**Cost to be accounted for**

Cost IP beg.	<u>6,860</u>	
<b>Cost added</b>		
Materials	72,480	7.710638
Labor	21,560	2.324528
Overhead	<u>43,450</u>	<u>4.827778</u>
	<u>137,490</u>	<u>14,862944</u>
<b>Total costs to be accounted</b>	<u><u>144,350</u></u>	<u><u>14,862944</u></u>

**Costs accounted for as follows:**

**Completed & transferred**

<b>IP beg.</b>		
Cost – last month	6,860	
<b>Cost added</b>		
M ( 400 x 7.710638)	3,084	
L ( 650 x 2.324528)	1,511	
O ( 750 x 4.827778)	3,621	
Started & comp.(7,000 x 14.862944)	<u>104,041</u>	119,117
Factory overhead control ( 500 x 14.862944)		7,432

**In Process, end**

Materuaks ( 1,500 x 7.710638)	11,566	
Labor ( 1,125 x 2.324528)	2,615	
Overhead ( 750 x 4.827778)	<u>3,620</u>	<u>17,801</u>
		<u><u>144,350</u></u>

**Problem 10 -**

1)	Units IP beg	5,000				
	Units received	<u>20,000</u>				
		<u>25,000</u>				
	Units completed	21,000	100%	21,000	100%	21,000
	Units IP end	<u>4,000</u>		_____	30%	<u>1,200</u>
		<u>25,000</u>		<u>21,000</u>		<u>22,200</u>

2) Unit cost

Transferred in	<u>17,750 + 104,000</u>	=	4.87
	25,000		

Materials	<u>0 + 23,100</u>	=	1.10
	21,000		

Conversion	<u>7,250 + 38,400</u>	=	2.056306
	22,200		<u>8.026306</u>

3) Completed ( 21,000 x 8.026306 )	<u>168,552</u>
4) IP end	
Prec. Dept. cost (4,000 x 4.87)	19,480
Materials	-
Conversion ( 1,200 x 2.056306)	<u>2,468</u>
	21,948

Problem 11 – Nofat Company		<u>Material A</u>		<u>Material B</u>		<u>Conversion</u>	
1) Units IP beg.	600						
Units received	<u>3,900</u>						
	<u>4,500</u>						
Units completed	4,100	100%	4,100	100%	4,100	190%	4,100
Units IP end	<u>400</u>	100%	<u>400</u>	_____	30%	<u>120</u>	
	<u>4,500</u>		<u>4,500</u>		<u>4,100</u>		<u>4,220</u>

2) Units cost

From preceding department	<u>9,090 + 67,410</u>	=	17,00
	4,500		

Material A	<u>4,000 + 21,200</u>	=	5.60
	4,500		

Material B	<u>0 + 16,400</u>	=	4.00
	4,100		

Conversion	<u>1,340 + 17,650</u>	=	4.50
	4,220		_____

	<u>31.10</u>	
3) Completed ( 4,100 x 31.10)		<u>127,510</u>
4) IP end		
Cost from precede dept. ( 400 x 17.00)		6,800
Material A ( 400 x 5.60)		2,240
Conversion ( 120 x 4.50)		<u>540</u>
		<u>9,580</u>

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Problem 12 – Cross Company

Units started	<u>10,500</u>				
Units completed	7,000	100%	7,000	100%	7,000
Units IP end	3,000	100%	3,000	90%	2,700
Lost units - normal	<u>500</u>	100%	<u>500</u>	80%	<u>400</u>
	<u>10,500</u>		<u>10,500</u>		<u>10,100</u>

Unit cost:	Materials	$52,500/10,500 =$	5.00
	Labor	$39,770/10,100 =$	3.9376237
	Overhead	$31,525/10,100 =$	<u>3.1212871</u>
			<u>12.0589108</u>

1. Completed and transferred	$7,000 \times 12.0589108 =$	84,412
Share in cost of lost units		<u>3,788</u>

88,200

2, In process, end

Materials	3,000 x 5	=	15,000
Labor	2,700 x 3.93762 47	=	10,632
Overhead	2,700 x 3.12129871	=	8,427
Share in cost of lost units		=	<u>1,536</u>
			<u>35,595</u>

Cost of lost			Allocation to C&T		IP end	
Materials	500 x 5.00	=	2,500	7/10	1,750	3/10 750
Labor	400 x 3.93762	=	1,575	70/97	1,137	27/97 438
Overhead	400 x 3.12129	=	<u>1,249</u>	70/97	<u>901</u>	27/97 <u>348</u>
Total			<u>5,324</u>		<u>3,788</u>	<u>1,536</u>

Problem 13 - Alonzo Manufacturing

	<u>Materials</u>	<u>Conversion</u>	<u>Total</u>
Cost – IP beg.	P 6,544	P 16,803	P 23,347
Current cost	<u>281,656</u>	<u>344,817</u>	<u>626,473</u>
Total costs	P288,200	P 361,620	<u>P649,820</u>
Divided by equivalent prod.	<u>262,000</u>	<u>258,300</u>	
Unit cost	<u>P 1.10</u>	<u>P 1.40</u>	<u>P 2.50</u>

1. Completed & transferred	( 255,200 x 2.50)	<u>P 638,000</u>
2. Total costs to be accounted for		P 649,820
Less: Cost of units IP end		<u>11,597</u>
Costs of units completed		<u><u>P 638,223</u></u>

Problem 14 - Nicole Mfg. Co.

1) Units IP beg.	12,000
Units received	80,000
Increase in units	<u>4,000</u>
	<u><u>96,000</u></u>

Units completed	86,000	100%	86,000	100%	86,000
Units IP end	<u>10,000</u>	100%	<u>10,000</u>	2/5	<u>4,000</u>
	<u><u>06,000</u></u>		<u><u>96,000</u></u>		<u><u>90,000</u></u>

	<u>Transf. In</u>	<u>Materials</u>	<u>Labor</u>	<u>Overhead</u>	<u>Total</u>
Costs – IP beg.	P 11,800	P 3,125	P 1,490	P 1,320	P 17,735
Current cost	<u>86,120</u>	<u>21,835</u>	<u>43,510</u>	<u>34,680</u>	<u>186,145</u>
Total costs	P 97,920	P 24,960	P 45,000	P 36,000	<u><u>P 203,880</u></u>
Divided by EP	<u>96,000</u>	<u>96,000</u>	<u>90,000</u>	<u>90,000</u>	
Unit cost	<u><u>P 1.02</u></u>	<u><u>P 0.26</u></u>	<u><u>P 0.50</u></u>	<u><u>P 0.40</u></u>	<u><u>P 2.18</u></u>

2) Completed & transferred ( 86,000 x 2.18) P 187,480

3) IP end

Cost from prec. Dept (10,000 x 1.02) P 10,200

Materials ( 10,000 x 0.26) 2,600

Labor ( 4,000 x 0.50) 2,000

Overhead ( 4,000 x 0.40) 1,600

P 16,400

Problem 15 -

1) Units received. 60,000

Units completed 50,000 100% 50,000 100% 50,000

Units IP beg. 9,000 100% 9,000 50% 4,500

Units lost – abnormal 1,000 \_\_\_\_\_

60,000 59,000 54,500

Cost from prec. Dept. 212,400 3.54

Materials 84,370 1.43

Coverision 129,710 2.38

426,480 7.35

2) Factory OH ( 1,000 x 3.54) P 3,540

3) Completed & transf. (50,000 x 7.35) 367,500

4) IP end

Cost from prec. Dept ( 9,000 x 3.54)	31,860
Materials ( 9,000 x 1.43)	12,870
Conversion ( 4,500 x 2.38)	<u>10,710</u>
	<u>55,440</u>

**Problem 16 – DEXTER Co.**

1) Cost per unit =  $122,360/19000 = \underline{6.44}$

**Completed & transferred**

From IP beg.

Cost last month	30,610
Cost added ( 1,000 x 1.45)	1,450
Received & completed ( 14,000 x 6.45)	<u>90,300</u>
	122.360

**Unit cost**

Cost from preceding dept.	$110,000/22,000$	= 5.00
M,L,O	$30,450 /21,000$	= <u>1.45</u>
		<u>6,45</u>

Units completed ( 19,000)

From IP beg.	5,000	1/5	1,000
From units received	14,000	100%	14,000
Units IP end	<u>8,000</u>	3/4	<u>6,000</u>
	27,000		<u>21,000</u>

2) IP end

Cost from preceding ( 8,000 x 5)	40,000
M, L, O ( 6,000 x 1.45)	<u>8,700</u>
	<u>48,700</u>

**Problem 17 – Nicole Company**

Units IP beg.	1,400
Units received	<u>14,000</u>
	<u>15,400</u>

Units Completed & transf.	11,200	100%	11,200	100%	11,200
Units IP end	3,500	100%	3,500	40%	1,400
Units lost – normal	560	100%	560	100%	560
Units lost – abnormal	<u>140</u>	100%	<u>140</u>	100%	<u>140</u>
	<u>15,400</u>		15,400		13,300

1) Completed & transf. ( 11,200 x 9) + (560 x 9) P 105,840

2)	FOC	( 140 x 9)	<u>1,260</u>
3)	IP end		
	Cost from prec dept.	( 3,500 x 5)	17,500
	Materials	( 3,500 x 1)	3,500
	Conversion	( 1,400 x 3)	<u>4,200</u>
			<u>25,200</u>

Problem 18 - Samahan Inc.

1)	Units IP end	( 500 x 50% x 132)	<u>P 33,000</u>
2)	Finished goods, end	( 700 x 132)	<u>P 92,400</u>
3)	From FG beg.	600 uittz	P 76,800
	From units completed – IP beg.	1,250 “	161,000
	From units received and completed	<u>800 “</u>	<u>105600</u>
	Cost of goods sold	2,650	<u>P 343,400</u>

Or

Total available for sale

FG beg.	600 units	P 76,800
Completed from IP beg.	1,250	161,000
Completed from started	1,500 x 132	<u>198,000</u>

Total goods available for sale	435,800
Less: FG Inventory	<u>92,400</u>
Cost of goods sold	<u>P 343,400</u>

**Computation of equivalent production**

Units IP beg.	1,250		
Units started	<u>2,000</u>		
	<u>3,250</u>		
Units completed (2,750)			
IP beg.	1,250	20%	250
Started & completed	1,500	100%	1,500
Units IP end	<u>500</u>	50%	<u>250</u>
	<u>3,250</u>		<u>2,000</u>

Unit cost ( 264000/2000 = 132.00

**Completed & transferred**

IP beg.	
Cost last month	P 128,000
Cost added ( 250 x 132)	<u>33,000</u>
Cost of IP beg. upon completion	<u>P 161,000</u>
Units started & completed ( 1,500 x 132)	<u>P 198,000</u>

	<u>Department 1</u>			<u>Department 2</u>		
	<u>Actual</u>	<u>Materials</u>	<u>Conversion</u>	<u>Actual</u>	<u>Materials</u>	<u>Conversion</u>
Started or received	<u>60,000</u>			<u>45,000</u>		
Comp. & transf.	45,000	45,000	45,000	40,000	40,000	40,000
IP end	<u>15,000</u>	15,000	<u>9,000</u>	<u>5,000</u>	<u>5,000</u>	<u>4,000</u>
	<u>60,000</u>	<u>60,000</u>	<u>54,000</u>	<u>45,000</u>	<u>45,000</u>	<u>44,000</u>

Costs charged to the dept.

Cost from preceding dept. 171,000 3.80

Cost added in the dept.

Materials 90,000 1.50 112,500 2.50

Labor 64,800 1.20 61,600 1.40

Overhead 59400 1.10 50,600 1.15

Total added 214,200 3.80 224,700 5.05

Total costs 214,200 3.80 395,700 8.85

Costs accounted for as follows

Comp. & transf. ( 45,000 x 3.80) 171,000 (40,000 x 8.85) 354,000

IP beg

Cost from prec dept (5,000 x 3.80) 19,000

Mat. ( 15,000 x 1.50) 22,500 (5,000 x 2.50) 12,500

Labor ( 9,000 x 1.20) 10,800 (4,000 x 1.40) 5,600



7.	Finished goods	354,000	
	Work in process – Dept. 2		354,000
8.	Accounts receivable	400,000	
	Sales		400,000
	Cost of goods sold	252,000	
	Finished goods		252,000
	75,000 + (20,000 x 8.85)		

**Michelle Company**  
**Cost of Goods sold Statement**  
**For the month of June, 2008**

**Direct materials used**

Materials, June 1		P 50,000
Purchases		<u>180,000</u>
Total available for use		230,000
Less: Materials, June 30		<u>27,500</u> P 202,500
Direct labor		126,400
Factory overhead		<u>110,000</u>
Total manufacturing costs		438,900
Less: Work in process, June 30		<u>84,900</u>

Cost of goods manufactured	354,000
Finished goods, June 1	<u>75,000</u>
Total goods available for sale	429,000
Less: Finished goods, June 30	<u>177,000</u>
Cost of goods sold	<u><u>P 2,52,000</u></u>

Multiple choice (problems)

- |       |       |       |       |
|-------|-------|-------|-------|
| 1. A  | 11. B | 21. A | 31. C |
| 2. A  | 12. C | 22. D | 32. D |
| 3. D  | 13. A | 23. C | 33. B |
| 4. C  | 14. C | 24. D | 34. C |
| 5. A  | 15. C | 25. B | 35. B |
| 6. A  | 16. A | 26. A | 36. A |
| 7. A  | 17. A | 27. B | 37. D |
| 8. C  | 18. A | 28. B |       |
| 9. D  | 19. A | 29. C |       |
| 10. C | 20. A | 30. B |       |

CHAPTER 11 –JOINT PRODUCTS/BY-PRODUCTS

TRUE/FALSE

- |      |      |       |
|------|------|-------|
| 1. T | 6. T | 11. T |
| 2. F | 7. T | 12. F |
| 3. F | 8. F | 13. T |

4. T

9. T

14. T

5. T

10.T

15. F

### Problem 1 – Owen Company

#### 1. Market Value method

Product	Units Produced	MVat SO	Total MV	Percentage	Share in JC
A	20,000	4.00	80,000	70%	56,000
B	32,000	1.75	56,000		39,200
C	36,000	3.00	108,000		75,600
D	24,000	2.75	<u>66,000</u>		<u>46,200</u>
			<u>310,000</u>		<u>217,000</u>

#### 2. Average Unit Cost Method

Product	Units Produced	Average Unit Cost	Share in JC
A	20,000	1.9375	38,750
B	32,000		62,000
C	36,000		69,750
D	24,000		<u>46,500</u>
			<u>217,000</u>

#### 3. Weighted average method

Product	Units Produced	WF	Total WF	Cost/WF	Share in JC
A	20,000	3.0	60,000	.3875	23,250
B	32,000	5.5	176,000		68,200
C	36,000	5.0	180,000		69,750
D	24,000	6.0	<u>144,000</u>		<u>55,800</u>
					<u>217,000</u>

**Problem 2 - Meadows Company**

**a. Sales value at split-off method**

Product	SV at SO	Percentage	Share in JC
A	88,000	60%	52,800
B	77,000		46,200
C	55,000		<u>33,000</u>
			<u>132,000</u>

**b. Physical units method**

Product	Units Produced	Average UC	Share in JC
A	13,200	5.00	66,000
B	8,800		44,000
C	4,400		<u>22,000</u>
			<u>132,000</u>

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**Problem 3 – Anchor Company**

**1. Market value method**

Product	SV at SO	Percentage	Share in JC	Add'l Cost	Total Cost
A	420,000	60%	252,000	88,000	340,000
B	270,000		162,000	30,000	192,000
C	60,000		<u>36,000</u>	<u>12,000</u>	<u>48,000</u>
			450,000	130,000	<u>580,000</u>

2. Average unit cost method

Product	Units Produced	Ave UC	Share in JC	Add'l Cost	Total Cost
A	50,000	4.50	225,000		313,000
B	40,000		180,000		210,000
C	10,000		<u>45,000</u>	<u>12,000</u>	<u>57,000</u>
			450,000	130,000	<u>580,000</u>

Problem 4 – Laguna Chemical Company

1)

a) - Revenue from by-product shown as additional sales

Sales

Main product	180,000	
By-product	<u>1,000</u>	181,000

Less: Cost of goods sold

Materials	30,000	
Labor	17,400	
Overhead	<u>17,400</u>	
Cost of goods manufactured	64,800	
Less: Inventory, end	<u>6,480</u>	<u>58,320</u>

Gross profit 122,680

Less: Selling and administrative expenses 54,000

Net Income 68,680

b) Revenue from by-product shown as deduction from cost of goods sold of MP

Sales

<b>Main product</b>		<b>180,000</b>
<b>Less: Cost of goods sold</b>		
<b>Materials</b>	<b>30,000</b>	
<b>Labor</b>	<b>17,400</b>	
<b>Overhead</b>	<b><u>17,400</u></b>	
<b>Cost of goods manufactured</b>	<b>64,800</b>	
<b>Less: Inventory, end</b>	<b><u>6,480</u></b>	
<b>Cost of goods sold</b>	<b>58,320</b>	
<b>Less: Revenue from by-product</b>	<b><u>1,000</u></b>	<b><u>57,320</u></b>
<b>Gross profit</b>		<b>122,680</b>
<b>Less: Selling and administrative expenses</b>		<b><u>54,000</u></b>
<b>Net Income</b>		<b><u>68,680</u></b>

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c) Revenue from by-product shown as other income

Sales

**Main product** **180,000**

**Less: Cost of goods sold**

Materials	30,000	
Labor	17,400	
Overhead	<u>17,400</u>	
Cost of goods manufactured	64,800	
Less: Inventory, end	<u>6,480</u>	
Cost of goods sold		<u>58,320</u>
Gross profit		121,680
Less: Selling and administrative expenses		<u>54,000</u>
Net operating income		67,680
Other income – Revenue from by-product		<u>1,000</u>
Net Income		<u>68,680</u>

2. Revenue from by-product shown as deduction from production cost of main product

Sales		
Main product		180,000
Less: Cost of goods sold		
Materials	30,000	
Labor	17,400	
Overhead	<u>17,400</u>	
Total mfg. cost/cofg manufactured	64,800	
Less: Rev. from by-product	<u>1,000</u>	
Net manufacturing cost	63,800	
Less: Inventory, end	<u>6,380</u>	
Cost of goods sold		<u>57,420</u>

Gross profit	122,580
Less: Selling and administrative expenses	<u>54,000</u>
Net income	<u>68,580</u>

**Problem 5 – Fisher Company**

1,	<u>By-product A</u>	<u>By-product B</u>
Sales value	P 6,000	P 3,500
Mfg. cost after separation	( 1,100)	( 900)
Marketing & adm. Exp.	( 750)	( 500)
Desired profit	( <u>900</u> )	( <u>420</u> )
Share in the joint cost	<u>3,250</u>	<u>1,680</u>

Total manufacturing cost before separation or joint cost	37,500
Share of by-product A	( 3,250)
Share of by-product B	( <u>1,680</u> )
Share of main product in the mfg. cost before separation	<u>32,570</u>

2.	<u>Main Product</u>	<u>By-product A</u>	<u>Byproduct B</u>
Sales	75,000	6,000	3,500
Less: Cost of goods sold			
Share in joint cost	32,570	3,250	1,680
Cost after separation	<u>11,500</u> <u>44,070</u>	<u>1,100</u> <u>4,350</u>	<u>900</u> <u>2,580</u>
Gross profit	30,930	1,650	920

Less: Marketing & Adm. Exp.	<u>6,000</u>	<u>750</u>	<u>500</u>
Net Income	<u>24,930</u>	<u>900</u>	<u>420</u>

**Problem 6 - Eternity Company**

1. Sales value – Z	12,000
Further processing cost	( 4,000)
Marketing & adm. Exp.	( 2,000)
Desired profit	( <u>2,000</u> )
Share of Z in the joint cost	<u>4,000</u>

**Hypothetical MV**

<u>2.</u>	<u>Product</u>	<u>Units</u>	<u>Per Unit</u>	<u>Total HMV</u>	<u>Percentage</u>	<u>Share in JC</u>
	X	8,000	20-5	120,000	40%	80,000
	Y	10,000	25-7	<u>180,000</u>	60%	<u>120,000</u>
				<u>300,000</u>		<u>200,000</u>

**Problem 7 – North Avenue Products Company**

1.		<u>East</u>	<u>West</u>	<u>Total</u>	
	Sales	17,500	8,500	26,000	
	Less: Cost of goods sold				
	Share in Joint cost	6,480	3,600	10,080	
	Cost after split-off	<u>3,000</u>	-	<u>3,000</u>	
	Total mfg. cost	9,480	3,600	13,080	
	Less: Inventory end	<u>1,580</u>	<u>7,900</u>	<u>540</u>	<u>3,060</u>
				<u>2,120</u>	<u>10,960</u>

Gross profit	9,600	5,440	15,040
Less: Selling & Adm. Exp.	<u>3,500</u>	<u>1,700</u>	<u>5,200</u>
Net income	<u>6,100</u>	<u>3,740</u>	<u>9,840</u>

2. Schedule allocating the joint cost to "East" and "West"  
Hypothetical MV

<u>Products</u>	<u>Units Produced</u>	<u>Per Unit</u>	<u>Total</u>	<u>Percentage</u>	<u>Share in JC</u>
East	3,000	7.00 – 1,00	18,000	36%	6,480
West	2,000	5.00	<u>10,000</u>		<u>3,600</u>
			<u>28,000</u>		<u>10,080</u>

Total joint cost 10,260.00

Less: Net revenue of by-product

Sales value 200

Less: Selling & adm. Exp ( 20) 180.00

Net joint cost to be allocated 10,080.00

Problem 8

<u>Products</u>	<u>Sales value at SO</u>	<u>Percentage</u>	<u>Share in JC</u>
X	137,500	55.00%	99,000
Y	62,500	25.00%	45,000
Z	<u>50,000</u>	<u>20.00%</u>	<u>36,000</u>
	250,000	100.00%	180,000

$$99,000/180,000= 55\% \times 250,000 = 137,500$$

$$50,000/250,000= 20\% \times 180,000 = 36,000$$

$$100\% - 55\% - 20\% = 25\%$$

IF SV AT SO IS GIVEN WE NEED NOT COMPUTE FOR NRV

**Problem 9 - CHERRY BLOSSOMS COMPANY**

<u>Products</u>	<u>Units Produced</u>	<u>MV zt SO</u>	<u>Total MV</u>	<u>Fractions</u>	<u>Share in JC</u>
A	80,000	20	1,600,000	160/595	774,454
B	70,000	30	2,100,000	210/595	1,016,470
C	90,000	25	<u>2,250,000</u>	225/595	<u>1,089,076</u>
			5,950,000		2,880,000

**Problem 10 Comely Products**

1. Share in materials cost		60,000
Share in conversion cost		88,000
Further processing cost		<u>30,000</u>
Total cost	178,000	
Divide by kilos produced		<u>25,000</u>
Unit cost of Product R		<u><u>7.12</u></u>
2. Sales		180,000
Less: Total cost		
Share in material cost	36,000	
Share in conversion cost	64,000	
Further processing cost	<u>20,000</u>	<u>120,000</u>
Gross margin		<u>60,000</u>
3. Sales		150,000
Less: Total cost		
Share in material cost	24,000	
Share in conversion cost	48,000	
Further procession cost	<u>30,000</u>	<u>102,000</u>

Gross margin		48,000
Less: Administrative expenses (20% x 150,000)		<u>30,000</u>
Net Income		<u>18,000</u>

Allocation of material cost ( logical method – average unit cost)

Product	Kilos Produced	Mat. Cost/kilo	Share – Mat. Cost
R	(5)	25,000	<b>2.40</b> 60,000
S	(3)	15,000	36,000
T	(2)	<u>10,000</u>	<u>24,000</u>
		50,000	120,000

Material cost/kilo produced -

$$= 120,000/50,000 = 2.40$$

Allocation of conversion cost - net realizable value method

Product	Kilos Produced	SP/unit	MV at. Final Pt.	FPC	NRV	Percentage Share in CC
R	25,000	10.00	250,000	30,000	220,000	88,000
S	15,000	12.00	180,000	20,000	160,000	<b>40%</b> 64,000
T	<u>10,000</u>	15.00	<u>150,000</u>	<u>30,000</u>	<u>120,000</u>	<u>48,000</u>
	50,000		580,000		500,000	200,000

Problem 11 – Blackberry Company

a) Net by-product income treated as other income		
Sales (main product ) 20,000 x 10		200,000
Less: Cost of goods sold		
Total manufacturing cost	150,000	
Less: Inventory ( <u>150,000</u> x 5,000)		<u>30,000</u> <u>120,000</u>

25,000

Gross profit	80,000
Less: Marketing and administrative expenses	<u>60,000</u>
Net income from operations	20,000
Other income: By-product income (2,700 – 1,100)	<u>1,600</u>
Net income	<u>21,600</u>

b) Net by-product income deducted from costs of goods sold of the main product  
Sales 200,000

Less: Cost of goods sold – main product	120,000
Less: By-product income	<u>1,600</u> <u>118,400</u>
Gross profit	81,600
Less: Marketing and administrative expenses	<u>60,000</u>
Net income	<u>21,600</u>

c) Value of by-product produced, using net realizable value method, treated as a deduction from the total manufacturing costg.

Sales 200,000

Less: Cost of goods sold

Total manufacturing cost	150,000
Less: Value of by-product produced	
Total sales value (1,200 x 3)	3,600
Less: (AC and expenses)	<u>1,100</u> <u>2,500</u>
Net manufacturing cost	147,500
Less: inventory ( <u>147,500</u> x 5,000)	<u>29,500</u> <u>118,000</u>

25,000

Gross profit 82,000

Less: Marketing and administrative expenses	<u>60,000</u>
Net income	<u>22,000</u>

d) Value of by-product produced, using the reversal cost method, treated as a deduction from the total manufacturing cost

	MAIN	BY-PRODUCT	TOTAL
Sales	200,000	2,700	202,700
Less: Cost of goods sold			
Share in total mfg. cost	148,580	1,420	150,000
Additional cost	<u>-</u>	<u>800</u>	<u>800</u>
Total	148,520	2,220	150,800
Less: Inventory	<u>29,794</u>	<u>118,726</u>	<u>555</u>
	<u>1,665</u>	<u>30,349</u>	<u>120,391</u>
Gross profit	81,274	1,035	82,309
Less: Marketing & adm. exp.	<u>60,000</u>	<u>300</u>	<u>60,300</u>
Net income	<u>21,274</u>	<u>735</u>	<u>22,009</u>

Total manufacturing cost 150,000

Less: Share of by-product (reversal cost)

Total sales value (1,200 x 3) 3,600

Additional cost ( 800)

Mktg. & adm. exp.	( 300)	
Desired profit (30%_	(1,080)	<u>1,420</u>
Share of main product		<u>148,580</u>

**Problem 12 Miller Company (joint cost - P 300,000)**

Product	Units Produced	Net Realizable Va		Share in	
		Per unit	Total	Percentage	Joint Cost
K	8,000	(40-5-5.75)	234,000		140,400
L	6,000	(34-4-4)	156,000	(300/500)	93,600
M	4,000	(32-2-2.50)	<u>110,000</u>	60%	<u>66,000</u>
-			500,000		<u>300,000</u>

**Problem 13 –**

(1) Prod.	(2) Qty Produced	(3) Selling Price	(4) MV at Fins;; z[y	(5) CASO	(6) NRV	(7) Percentage	(8) Sh. In JC	(9) Total Cost	(10) Cost per Unit
M	1,500	10	15,000	3,000	12,000	(35/50)	8,400	11,400	7.60
N	2,500	12	30,000	2,000	28,000	70%	19,600	21,600	8.64
O	1,000	15	15,000	5,000	<u>10,000</u>		<u>7,000</u>	<u>12,000</u>	12.00
					50,000				
			(2x3)		(4-5)		(6x70	(5+8)	(9/2)

1. COST OF GOODS SOLD (M) (1,200 X 7.60) = 9,120
2. GROSS PROFIT (N) 2,000 (12 – 8.64) = 6.720
3. COST – INVENTORY END (O) (200 X 12) = 2,400

**Problem 14 –**

Ferguson Company (Selling Price should be P 125 for butter and P90 for powder,

Shells – P4.00 and additional processing cost of butter is P 15)

Net Realizable Value

1) Prod	Pounds Produced	Per unit	Total	Percentage	Share in JC
Butter	20	(125 – 15)	2,200	(5,200/6,250)	1,830.40
Powder	45	90	<u>4,050</u>	83.20%	<u>3,369.60</u>
			6,250		5,200.00

2) Prod.	Pounds Produced	Average UC	Share in Jc
Butter	20	5,200/65	1,600
		80	
Powder	<u>45</u>		<u>3,600</u>
	65		5,200

3) Prod.	NRV	Percentage	Share in JC
Butter	2,200	5,060/6250)	1,781
Powder	<u>4,050</u>	80.96%	<u>3,279</u>
	6,250	(5,200 – 140)	5,060

Multiple choice – Theory

- |      |       |       |
|------|-------|-------|
| 1. C | 6. D  | 11. C |
| 2. D | 7. B  | 12. C |
| 3. A | 8. C  | 13. A |
| 4. D | 9. A  | 14. A |
| 5. B | 10. C | 15. B |

**Multiple choice – Problems**

- |        |       |       |
|--------|-------|-------|
| 1. B.  | 11. A | 21. D |
| 2. D   | 12. B | 22. A |
| 3. C   | 13. C | 23. C |
| 4. D   | 14. B | 24. C |
| 5. B   | 15. C | 25. C |
| 6. B   | 16. D | 26. D |
| 7. C   | 17. D | 27. A |
| 8. A   | 18. D | 28. A |
| 9. C.  | 19. A | 29. D |
| 10. B. | 20. B | 30. A |
|        |       | 31. B |
|        |       | 32. B |

**CHAPTER 12 - STANDARD COSTING**

**Problem 1 – Michelle Corporation**

1. Actual price	P 2.52	2/. Actual qty. used	4.450
Std. price	( <u>2.50</u> )	Std. qty.	( <u>4,050</u> )
Difference	0.02	Difference	400
X Act. Qty.	<u>4,450</u>	x Std. price	<u>x 2.50</u>
MPV	<u>89.00 U</u>	MQV	<u>1.000 U</u>

<u>3</u> Actual rate	P 3.00	4. Actual hours	3,150
Std. rate	( <u>3.10</u> )	Std. hours	( <u>3,000</u> )
Difference	( 0.10 )	Difference	150

X Actual Hrs.	<u>3,150</u>	x Std. rate	<u>3.10</u>
Labor rate var.	<u>( 315) F</u>	LEV	<u>465 U</u>

**Problem 2 – Longview Hospital**

1. Actual price (9,540/3,600)	2.65	2. Actual qty. used	3,200
Std. price	<u>(2.75)</u>	Std. qty ( 1,500 x2)	<u>(3,000)</u>
Difference	(0.10)	Difference	200
X Actual quantity	<u>3,600</u>	x Std. price	<u>2.75</u>
MPV	<u>( 360) F</u>	MQV	<u>550U</u>

<u>2.</u> Actual rate (5100/340)	15.00	4. Actual hrs.	340
Std. rate	<u>15.00</u>	Std. hrs. (1,500 x .2)	<u>(300)</u>
Difference	0	Difference	40
		X Std. rate	<u>15.00</u>
		LEV	<u>600 U</u>

5. Actual hrs.	340
Std. hrs.	<u>( 300)</u>
Difference	40
X Variable rate	<u>7.00</u>
Variable efficiency	<u>280 U</u>

**Problem 3 - Golden Shower Company**

		<u>5,000 DLHrs.</u>	
	<u>Total</u>	<u>Per DLHr</u>	Std. hrs./unit = <u>5,000 DLHrs..</u>
Fixed	5,000	1.00	4,000 units

Variable	<u>7,500</u>	<u>1.50</u>	
Total	<u>12,500</u>	<u>2.50</u>	= 1.25 Hrs./unit

### Materials

1. Actual price	P 1.02	2. Actual qty.	7,200
Std. price	<u>( 1,00)</u>	Std.(3,500 x 2)	<u>7,000</u>
Difference	.02	Difference	200
X actual qty.	<u>7,200</u>	x Std. price	<u>1.00</u>
MPV	<u><u>144 U</u></u>	MQV	<u><u>200 U</u></u>

### Labor

1. Actual rate (33,750/4,500)	7,50	2/ Actual hrs.	4,500
Std. rate	<u>( 8.00)</u>	Std. hrs. (3,500 x 1.25)	<u>4,375</u>
Difference	( 0.50)	Difference	125
X actual hrs.	<u>4,500</u>	x Std. rate	<u>8.00</u>
LRV	<u><u>(2,250) F</u></u>	LEV	<u><u>1.000U</u></u>

### Factory overhead

1. Actual overhead		11,250.00
Less: Budget allowed on std. hrs.		
Fixed	5,000	
Variable (4,375 x 1.50)	<u>6,562.50</u>	<u>11,562.50</u>
Controllable variance	<u><u>( 312.50) F</u></u>	
2. Budget allowed on std hrs.		11,562.50
Less: OH applied to production		
(4,3,75 x 2.50)	<u>10,937.50</u>	

Volume variance 625.00

Problem 4 – Fenton Company

155,000 DLHrs.

	Total	Per DLHr		
Fixed	620,000	4.00	(4 x 155,000)	Std. hrs./unit = 10.00/4
Variable	<u>465,000</u>	<u>3.00</u>	(465,000/155,000)	= 2.5 Hrs.
Total	1,085,000	7.00		

1. Actual variable overhead 475,000

Less: AH x Variable rate ( 148,000 x 3) 444,000

Variable spending variance 31,000 U

AH x Variable rate 444,000

Less: Std. hrs. x V rate ( 60,000 x 2.5 x 3) 450,000

Variable efficiency variance ( 6,000) F

2. Actual fixed overhead 632,500

Less: Fixed overhead at normal capacity 620,000

Fixed spending variance 12,500 U

Fixed overhead at normal capacity 620,000

Less: Std. hrs. x fixed rate (150,000 x 4) 600,000

Fixed volume variance 20,000 U

3. Actual factory overhead (475,000 + 632,500)		1,107,500
Less: Budget allowed on std. hrs.		
Fixed		620,000
Variable ( 150,000 x 3)	<u>450,000</u>	<u>1,070,000</u>
Controllable variance		<u>37,500 U</u>
Budget allowed on std. hrs		1,070,000
Less: Std. hrs. x OH rate (150,000 x 7)		<u>1,050,000</u>
Volume variance		<u>20,000 U</u>
4. Actual factory overhead		1,107,500
Less: Budget allowed on actual hrs.		
Fixed		620,000
Variable (148,000 x 3)	<u>444,000</u>	<u>1,064,000</u>
Spending variance		<u>43,500 U</u>
Budget allowed on actual hrs.		1,064,000
Less: Budget allowed on std. hrs.		<u>1,070,000</u>
Efficiency variance		<u>( 6,000) F</u>
Budget allowed on std. hrs.		1,070,000
Less: Std. hrs. x FO rate (150,000 x 7)		<u>1,050,000</u>
Volume variance		<u>20,000 U</u>
5. Spending variance		<u>43,500 U</u>

Variable efficiency variance	( <u>6,000</u> ) F
Actual hours	148,000
Less: Standard hours	<u>150,000</u>
Difference	( 2,000)
X Fixed overhead rate	<u>4.00</u>
Fixed efficiency variance	( <u>8,000</u> ) F
Budget allowed on actual hours	1,064,000
Less: Actual hrs. x factory OH rate	
148,000 x 7	<u>1,036,000</u>
Idle capacity variance	<u><u>28,000</u></u> U

**Problem 5 - GDL Company**

Additional information - . Materials added 100% at the beginning

Units completed    40,000

From in process, beg.	10,000	-	20%	2,000	
From started	30,000	100%	30,000	100%	30,000
Units in process, end	<u>20,000</u>	100%	<u>20,000</u>	40%	<u>8,000</u>
Total	<u>60,000</u>	50,000		40,000	

## Materials

Actual price	1.20	Actual qty. used	1,000,000
Less: Std. price	<u>1.00</u>	Less: Std. qty.	<u>1,000,000</u>
Difference	0.20	Difference	0
X Actual mat. Purchased	<u>2,000,000</u>	x Std. price	<u>1.00</u>
Mat. Price variance	<u>400,000</u> U	Mat. Usage variance	<u>0</u>

## Labor

Actual rate	14.00	Actual hours	60,000
Less: Std. rate	<u>15.00</u>	Less: Std. hours	<u>40,000</u>
Difference	( 1.00)	Difference	20,000
X Actual hrs.	<u>60,000</u>	x Std. rate	<u>15.00</u>
Labor rate varianc	<u>( 60,000)</u> F	Labor efficiency	<u>300,000</u>

## Factory overhead

Actual factory overhead ( 280,000 + 83,000)	363,000
Less: Budget allowed on std. hrs.	
Fixed	80,000
Variable (40,000 x 5)	<u>200,000</u> <u>280,000</u>
Controllable variance	<u>83,000</u> U
 Budget allowed on std. hrs.	 280,000
Less: Overhead applied (40,000 x 7)	<u>280,000</u>
Volume variance	-

**Problem 6 – Mentor Company**

**Materials**

Actual price	1.05	Actual qty. used	60,500
Less: Std. price	<u>1.00</u>	Less: Std. qty. (5,000 x 12)	<u>60,000</u>
Difference	0.05	Difference	500
X Actual qty. (63,525/1.05)	<u>60,500</u>	x Std. price	<u>1.00</u>
Mat. Price variance	<u><u>3,025 U</u></u>	Mat. Qty. variance	500U

**Labor**

Actual rate	9.15	Actual hours	10,500
Less: Std. price	<u>9.00</u>	Less: Std. hrs. (5,000 x 2)	<u>10,000</u>
Difference	0.15	Difference	500
X Actual hrs.(96,075/9.15)	<u>10,500</u>	x Std. rate	<u>9.00</u>
Labor rate variance	<u><u>1,575U</u></u>	Labor efficiency	<u><u>4,500U</u></u>

144,000 DLHrs.

	<u>Total</u>	<u>Per Hour</u>
Fixed	288,000	2.00
Variable	<u>360,000</u>	<u>2.50</u>
Total	648,000	4.50

**Factory overhead**

Actual factory overhead (27,000 + 24,500)	51,500
Less: Budget allowed on std. hrs.	

	Fixed (288,000/12)	24,000	
	Variable ( 10,000 x 2.50)	<u>25,000</u>	<u>49,000</u>
	Controllable variance	<u>2,500</u>	
	Budget allowed on std. hours	49,000	
	Less: Std. hrs. x std. rate (10,000 x 4.50)	<u>45,000</u>	
	Volume variance		<u>4,000</u>
1.	Materials ( 60,500 x 1.00)	60,500	
	Material price variance	3,025	
	Accounts payable		63,525
2.	Work in process (5,000 x 12 x 1)	60,000	
	Material quantity variance	500	
	Materials		60,500
3.	Payroll	96,075	
	Accrued payroll	96,075	
4.	Work in process (5,000 x 2 x 9.00)	90,000	
	Labor rate variance	1,575	
	Labor efficiency variance	4,500	
	Payroll	96,075	
5.	Factory Overhead Control	51,500	

	Misc, Accounts	51,500
6.	Work in process	45,000
	Factory overhead applied	45,000
7.	Factory overhead applied	45,000
	Factory overhead - Controllable variance	2,500
	Factory overhead - Volume variance	4,000
	Factory overhead control	51,500
8.	Finished goods (5,000 x 39)	195,000
	Work in process	195,000
9.	Accounts receivable (4,500 x 100)	450,000
	Sales	450,000
10.	Cost of Goods sold ( 4,500 x 39)	175,500
	Finished goods	175,500
11.	Cost of goods sold	16,100
	Material price variance	3,025
	Material quantity variance	500
	Labor rate variance	1,575
	Labor efficiency variance	4,500
	Factory overhead – controllable variance	2,500

Factory overhead – volume variance                      4,000

**Problem 7 - Risk Company**

1.	Actual hours	101,000
	Less: Std. hrs.	<u>101,300 (1)</u>
	Difference	(300)
	X Variable rate	<u>3</u>
	Variable efficiency	<u>(900)</u>
2.	Actual variable overhead	303,750
	Less: Variable spending variance	<u>750</u>
	Actual hrs. x variable rate	303,000
	Divide by variable rate	<u>3.00</u>
	Actual hrs.	<u>101,000(2)</u>
3.	Fixed overhead at normal capacity	295,000
	Les: Overhead applied to production	<u>398,835 (3)</u>
	Fixed volume variance	( 3,835)
	Actual fixed overhead	299,950
	Less: Fixed spending	<u>4,950</u>
	Fixed overhead at normal capacity	295,000

**Problem 8 – Liberty Co.**

Actual hours	11,120
Less: Standard hours	<u>10,000</u>
Difference	1,120
X Standard rate	<u>3.75</u>
Labor efficiency variance	4.200

### Problem 9

#### Materials

Actual price (154,000/2,200)	70	Actual qty. used	2.200
Less: Std. price	<u>62.50</u>	Less: Std. qty.(400 x 6)	<u>2,400</u>
Difference	7.50	Difference	( 200)
X Actual mat. Purchased	<u>2,200</u>	x Std. price	<u>62.50</u>
Mat. Price variance	<u>17,025 U</u>	Mat. Usage variance	<u>(12,500)F</u>

#### Labor

Actual rate	(237,500/5,000	47.50	Actual hours	5,000
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Less: Std. rate	<u>45.00</u>	Less: Std.hrs.(400x12)	<u>4,800</u>
Difference	2.50	Difference	200
X Actual hrs.	<u>5,000</u>	x Std. rate	<u>45.00</u>
Labor rate varianc	<u>12,500 U</u>	Labor efficiency	9,000 U

### Problem 10

1. Std. qty. of materials ( 4,000 x 6)		<u>24,000</u>
2. Actual price	(273,000/6,000)	<u>10.50</u>
3. Std. direct labor hrs. allowed (4,000 x 1hr/unit)		4,000 DLHRS.
4. Actual rate		42.00
Less: Standard rate		<u>40.00</u>
Difference		2.00
X Actual hours		3,800
Labor rate		7,600
5. Actual hrs		3,800
Less: Std. hrs. (4,000 x 1)		<u>4,000</u>
Difference	(8,000)/40	( 200)
Std. rate		<u>40.00</u>
Labor efficiency variance		(8,000) F
6. Actual factory overhead (120,000 + 5,000)		125,000
Less: Std. hrs. x std. rate ( 4,000 x 30)		<u>120,000</u>
Factory overhead variance		5,000

### Problem 11

1. Actual labor hours	14,000
Less: Std. hours	<u>15,000</u>

Difference		(1,000)
X Std. rate		<u>3.00</u>
Labor efficiency variance	(3,000) F	
Actual rate (43,400/14,000)		3.10
Less: Std. rate	<u>3.00</u>	
Difference (1,400/14,000)		0.10
X Actual hrs		<u>14,000</u>
Labor rate variance		1,400

Multiple choice

1. C
2. A
3. C
4. C
5. B
6. D
7. D
8. C
9. B
10. 12,000 Unf
11. B
12. B
13. D
14. C
15. C
16. C
17. D
18. C
19. D
20. D
21. B
22. A
23. D
24. D
25. B
26. D
27. 400 CREDIT

- 28. D
- 29. 1,000 fav.
- 30. B
- 31. C
- 32. D
- 33. D
- 34. Not enough information
- 35. NOT ENOUGH INFORMATION