University of Sargodha
Institute of Learning & Research

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UOS

CHAPTER 2 EXERCISES

Exercise 2.1

1) Identify the estimated conversion cost per unit.

Direct Labour	$ 20
Variable Factory overhead	$ 15
Fixed Factory Overhead	$ 6
	$ 41

2) Identify the estimated Prime Cost per unit.

Direct Material	$ 32
Direct Labour	$ 20
	$ 52

3) Determine the estimated total varialbe cost per unit.

Direct Material	$ 32
Direct Labour	$ 20
Variable Factory overhead	$ 15
Variable marketing	$ 3
Total Variable Cost	$ 70

4) Compute the total cost that would be incurred during a month with a production level of

a) ***12000 Units***

Cost Item	**Estimated Unit Cost**	**Total Cost**
Direct Material	$ 32	384000
Direct Labour	$ 20	240000
Variable Factory overhead	$ 15	180000
Fixed factory Over head	$ 6	72000
Total Cost	**$ 73**	**876000**

b) **Sale Level of** ***8000 Units***

Cost Item	**Estimated Unit Cost**	**Total Cost**
Direct Material	$ 32	256000
Direct Labour	$ 20	160000
Variable Factory overhead	$ 15	120000
Fixed factory Over head	$ 6	48000
Variable marketing	$ 3	24000
Fixed marketing	$ 4	32000
Total Cost	**$ 80**	**640000**

Exercise 2.2

The Mercaldo Company
Income Statement
For the Period ended on 31st December, 19B

Sales 1995000 X85%=		16957500
Less Cost of Sales		
Variable Cost 11571000 X 85%=	9835350	
Fixed Cost =	7623000	
Total Cost of Sales		17458350
Loss for the Year		**(500850)**

Exercise 2.3

3. Manufacturing Costs: Cost of Goods Manufactured; Cost of goods sold.

Crockett Company

1 Material Control

Opening	176000	**WIP**	***2412000***
Purchases	2400000		
Transport in	32000	Closing	196000
	2608000		**2608000**

2 Payroll Control

	3204000	**WIP**	***3204000***
	3204000		**3204000**

3 FOH Control

	1885600	WIP	*1885600*
	1885600		**1885600**

4 Work in Process

opening	129800		
Material	2412000	**F.Goods**	***7494600***
Labour	3204000		
FOH	1885600	Closing	136800
	7631400		**7631400**

5 Finished Goods

Opening	620000		
WIP	7494600	**CGS**	***7547200***
		Closing	567400
	8114600		8114600

6 Cost of Goods Sold

F. Goods	7547200	

1	Total Manufacturing Cost	(2412000+3204000+1885600)	**7501600**
2	Cost of Goods Manufactured		**7494600**
3	Cost of Goods Sold		**7547200**

OR

The Crocket Company
Cost of Goods Sold Statement
For the Period ended on 31st, December 19B.

Description	**Amount**	
	$	**$**
Direct Material		
Opening Inventory of Raw Material		176000
Add Purchases	2400000	
Add Transportation In	32000	
Total Cost of Purchases		2432000
Cost of Material Available for use		2608000
Less: Closing Inventory of Raw Material		196000
Direct Material Used		2412000
Direct Labour Cost		3204000
Factory over head Cost		1885600
1: Total Manufacturing Cost		**7501600**
Add Opening Work in Process Inventory		129800
Cost of goods to be manufactured		7631400
Less: Closing Work in process Inventory		136800
2: Cost of Goods manufactured		**7494600**
Add Opening Finished Goods Inventory		620000
Cost of goods available for sale		8114600
Less: Closing Finished Goods Inventory		567400
3: Cost of Goods Sold		**7547200**

Exercise 2.4

4. Journal Entires for the Cost accounting Cycle.

Date	Description	P.R	Amount Debit($)	Amount Credit($)
a	Work in process Control		24500	
	FOH Control		4500	
	Material Control			29000
	Direct & Indirect Material issued			
b	Payroll Control		44000	
	Income Tax Withheld			7000
	FICA Tax			3300
	Accrued Payroll			33700
	Payroll Recorded and deductions made			
b-2	Accrued Payroll		33700	
	Voucher Payable			33700
	Voucher of Payroll made			
	Voucher Payable		33700	
	Bank			33700
	Payment of Payroll is made			
c	Work in process Control		30000	
	FOH Control		6000	
	Sales Salaries		8000	
	Payroll			44000
	Distribution of payroll is made			
d	FOH Control		4932	
	Sales Expenses Contorl		1096	
	SUI Contribution			2376
	FUI Contribution			352
	FICA Contribution			3300
	Employers Contribution recorded			
e	Work in process Control		22932	
	FOH Applied			22932
	FOH is charged to production			
f	Finished Goods		60000	
	Work in process Control			60000
	Cost of Production completed recorded			
g	Material Control		50000	
	Voucher Payable			50000
	Material Purchased			
h-1	Cost of Goods Sold		20000	
	Finished goods			20000
	Cost of Goods Sold recorded			
h-2	Accounts Receivables		26000	
	Sales			26000

	Finished Goods Shipped to Customers			

5. Journal entries for the cost accountng Cycle.

MultiElectro Incorporated

Date	Description	P.R	Amount Debit($)	Amount Credit($)
a	Material Control		120000	
	Voucher Payable			120000
	Direct Material Purchased			
b	Payroll Control		90000	
	Income Tax Withheld			15750
	FICA Tax			6750
	Accrued Payroll			67500
	Payroll Recorded and deductions made			
b-2	Accrued Payroll		67500	
	Voucher Payable			67500
	Voucher of Payroll made			
b-3	Work in process Control		45000	
	FOH Control		9000	
	Sales Salaries		15000	
	Admin Salaries		21000	
	Payroll			90000
	Distribution of payroll is made			
c	Material Control		26250	
	Voucher Payable			26250
	Indirect Material & Supplies Purchased			
d	FOH Control		6156	
	Sales Expenses Contorl		1710	
	Admn Expenses Control		2394	
	SUI Contribution			2790
	FUI Contribution			720
	FICA Contribution			6750
	Employers Contribution recorded			
e	Work in process Control		60000	
	FOH Control		15000	
	Sales Expense Control		4500	
	Material Control			79500
	Direct and Indirect Material Issued			
f	Voucher Payable		900	
	Material Control			900
	Deffective Shipping Supplies returned to vendors			
g	Vouchers Payable		142500	
	Bank			142500
	Accounts Payable including Salaries paid			

h	FOH Control		1000	
	Accumulated Depreciaton			1000
	Depreciation on Factory Building recorded			
i	FOH Control		6900	
	Voucher Payable			6900
	Sundry FOH recorded as Liability.			
j	Work in process Control		38056	
	FOH Control			38056
	Actual FOH is charged to Production			
k	Finished Goods		126000	
	Work in process Control			126000
	Cost of Production completed recorded			
l-1	Cost of Goods Sold		96000	
	Finished goods			96000
	Cost of Goods Sold recorded			
l-2	Accounts Receivables		150000	
	Sales			150000
	Finished Goods Shipped to Customers			

Exercise 2.6

6. Journal entries for the cost accountng Cycle.

Romer Company for month of February

			Amount	
Date	**Description**	**P.R**	**Debit($)**	**Credit($)**
a	Work in Process Control		18500	
	FOH Control		2800	
	Material Control			21300
	Direct & Indirect Material issued			
b	Finished Goods		51800	
	Work in Process Control			51800
	Work in Process Completed and transferred to Finished goods			
c	Material Control		32000	
	Voucher Payable			32000
	Material Purchased and received			
d	Payroll Control		50000	
	FICA Tax			3750
	Federal Income Tax			8750
	State Income Tax			2500
	Accrued Payroll			35000
	Payroll Recorded and deductions made			
d-2	Accrued Payroll		50000	
	Voucher Payable			50000
	Voucher of Payroll made			

e	Work in process Control		27500	
	FOH Control		9000	
	Marketing Salaries		8500	
	Admin Salaries		5000	
	Payroll			50000
	Distribution of payroll is made			
f	FOH Control		5001	
	Sales Expenses Contorl		1165	
	Admn Expenses Control		685	
	SUI Contribution			2700
	FUI Contribution			400
	FICA Contribution			3750
	Employers Contribution recorded			
g	FOH Control		11300	
	Accumulated Depreciation			9450
	Prepaid Insurance			600
	Vouchers Payable			1250
	FOH Expenses Recorded			
h	Work in process Control		28100.5	
	FOH Applied			28100.5
	Actual FOH is charged to Production			
i	Cost of Goods Sold (92120*100/140)		65800	
	Finished goods			65800
	Cost of Goods Sold recorded			
i-2	Accounts Receivables		92120	
	Sales			92120
	Sale of Finished Goods Recorded			
j	Bank		76000	
	Accounts Receivables			76000
	Accounts receivables collected			

Exercise 2.7

7. Cost of Goods Manufactured Statement.

TheThornton Company
Cost of Goods Manufactured Statement
For the Period ended on -----

Description	Amount	
	$	**$**
Direct Material		
Opening Inventory of Raw Material		16200
Add Purchases		20000
Cost of Material Available for use		36200
Less: Closing Inventory of Raw Material		17000
Direct Material Used		19200
Direct Labour Cost		16500
Factory over head Cost		8580
1 Total Manufacturing Cost		**44280**
Add Opening Work in Process Inventory		3600

Cost of goods to be manufactured		47880
Less: Closing Work in process Inventory		7120
2 Cost of Goods manufactured		**40760**

Exercise 2.8

8. Cost of Goods Sold Statement.

Pensacola
Corporation
Cost of Goods Sold Statement
For the Period ended on 31st, December

Description	**Amount**	
	$	**$**
Direct Material		
Opening Inventory of Raw Material		88000
Add Purchases	366000	
Add Freight on Material	6600	
Total Cost of Purchases		372600
Cost of Material Available for use		460600
Less: Closing Inventory of Raw Material		64000
Direct Material Used		396600
Direct Labour Cost		523600
Factory over head Cost		
Other FOH	468400	
Depreciation	104400	572800
1 Total Manufacturing Cost		**1493000**
Add Opening Work in Process Inventory		29800
Cost of goods to be manufactured		1522800
Less: Closing Work in process Inventory		38800
2 Cost of Goods manufactured		**1484000**
Add Opening Finished Goods Inventory		54200
Cost of goods available for sale		1538200
Less: Closing Finished Goods Inventory		66000
3 Cost of Goods Sold		**1472200**

2.1 Cost of Goods manufactured; Prime and Conversion costs.

Mat Company's
Cost of Goods Manufactured & Sold Statement
For the Period ended on 31st, December

Description	Amount	
	$	$
Direct Material		
Opening Inventory of Raw Material	20000	
Add Purchases	110000	
Cost of Material Available for use	130000	
Less: Closing Inventory of Raw Material	26000	
Direct Material Used	104000	
Direct Labour Cost	160000	
Factory over head Cost	80000	
Total Manufacturing Cost	**344000**	
Add Opening Work in Process Inventory	40000	
Cost of goods to be manufactured	384000	
Less: Closing Work in process Inventory	36000	
1 Cost of Goods manufactured	**348000**	
Add Opening Finished Goods Inventory	102000	
Cost of goods available for sale	450000	
Less: Closing Finished Goods Inventory	105000	
Cost of Goods Sold		**345000**

2.2 Income Statement relationships.

Company A

Description	Amount	
	$	$
Sales		4,000,000
Cost of Goods Sold		
Cost of Goods manufactured	3,800,000	
Add Opening Finished Goods Inventory	600,000	
Cost of goods available for sale	4,400,000	
Less Closing Finished Goods Inventory	**1,200,000**	
Cost of Goods Sold		3,200,000
Gross Profit		800,000

Company B

Description	Amount	
	$	$
Cost of goods available for sale	**1,490,000**	
Less Closing Finished Goods Inventory	190,000	
Cost of Goods Sold		1,300,000

Company C

Description		Amount	
		$	$
Sales			**834000**
Cost of Goods Sold			
Cost of Goods manufactured		340000	
Add Opening Finished Goods Inventory		450000	
Cost of goods available for sale		790000	
Less Closing Finished Goods Inventory		52000	
Cost of Goods Sold			738000
Gross Profit			96000

2.3 Cost accounting Cycle in T Accounts

Crockett Company

1 Material Control

Opening	20000	**WIP**	***70000***	**(1)**
Purchases	65000			
		Closing	15000	
	85000		**85000**	

2 Payroll Controll

	180000	WIP	*180000*	**(2)**
	180000		**180000**	

3 FOH Control

supplies	20000	**WIP**	***100000***	**(3)**
ind labour	55000			
Depreciation	10000			
Insurance	2000			
Misc	13000			
	100000		**100000**	

4 Work in Process Control

opening	7000			
Material	70000	F.Goods	*346000*	**(4)**
Labour	**180000**			
FOH	100000	Closing	11000	
	357000		**357000**	

5 Finished Goods

Opening	34000			
WIP	**346000**	CGS	350000	**(5)**
		Closing	30000	
	380000		380000	

6 Cost of Goods Sold

F. Goods	**350000**			

7 Sales

		Receivables	500000	
	0		500000	

8 Accounts Payable

			o/b	18000
V/P	**(6)**	**77000**	Materials	*65000*
c/b		6000		
		83000		83000

9 Payment of Payroll

		o/b	13000	
		Direct		
V/P	**184000**	Labor	180000	
c/b	9000			
	193000		193000	

10 Accounts Receivables

o/b	54000			
Sales	500000	**Cash**	***532000***	**(7)**
		c/b	22000	
	554000		554000	

1	Material Issued to production	70000
2	Direct Labour	180000
3	Total Factory overhead	100000
4	Cost of Goods Manufactured	346000
5	Cost of Goods Sold	350000
6	Payment of Accounts Payable	77000
7	Collection of accounts receivable	532000
8	Payment of payroll	184000

2.4 Journal Entries for the cost accounting cycle.

Waterlux Company

1 Material Control

Opening	17000	WIP	*84000*
Purchases	**91000**		
		Closing	24000
	108000		**108000**

2 Payroll Control

	50000	**WIP**	***50000***
	50000		**50000**

3 Facotory Overhead Control

	35000	**WIP**	***35000***
	35000		**35000**

4 Work in Process Control

opening	12000		
Material	**84000**	F.Goods	*157000*
Labour	50000		
FOH	25000	Closing	14000
	171000		**171000**

5 Finished Goods

Opening	28000		
WIP	**157000**	CGS	140000
		Closing	45000
	185000		185000

6 Cost of Goods Sold

F. Goods	**140000**

Journal Entries

Description			Amount	
Date	**Description**	**P.R**	**Debit($)**	**Credit($)**
a	Material Control		91000	
	Voucher Payable			91000
	Direct Material Purchased			
b	Work in process Control		84000	
	Material Control			84000
	Direct Material Charged to Production			
c	Work in process Control		50000	
	Payroll Control			50000
	Direct Labour Charged to Production			
d	Accrued Payroll		50000	

	Voucher Payable			50000	
	Voucher of Payroll made				
e	FOH Control		35000		
	Voucher Payable			35000	
	Sundry FOH recorded as Liability.				
f	Work in process Control		35000		
	FOH Control			35000	
	Actual FOH is charged to Production				
g	Finished Goods		157000		
	Work in process Control			157000	
	Cost of Production completed recorded				
h	Cost of Goods Sold		145000		
	Finished goods			145000	
	Cost of Goods Sold recorded				

2.5 The Cost Accounting Cycle.

Montana Company

Date	Description	P.R	Amount Debit($)	Credit($)
a	Material Control		92000	
	Voucher Payable			120000
	Direct Material Purchased			
b	FOH Control		18500	
	Voucher Payable			18500
	Sundry FOH recorded as Liability.			
c-1	Payroll Control		86000	
	Income Tax Withheld			8170
	SUI Tax			2322
	FUI Tax			688
	FICA Tax			6450
	Accrued Payroll			68370
	Payroll Recorded and deductions made			
c-2	Accrued Payroll		68370	
	Voucher Payable			68370
	Voucher of Payroll made			
c-3	Work in process Control		60500	
	FOH Control		12500	
	Sales Salaries		8000	
	Admin Salaries		5000	
	Payroll Control			86000
	Distribution of payroll is made			
c-4	FOH Control		8030	

	Sales Expenses Contorl	880	
	Admn Expenses Control	550	
	SUI Contribution		2322
	FUI Contribution		688
	FICA Contribution		6450
	Employers Contribution recorded		
d	Work in process Control	82500	
	FOH Control	8300	
	Material Control		90800
	Direct and Indirect Material Issued		
e	Work in process Control	47330	
	FOH Control		47330
	Actual FOH is charged to Production		
f	Finished Goods	188000	
	Work in process Control		188000
	Cost of Production completed recorded		
g	Cost of Goods Sold	185500	
	Finished goods		185500
	Cost of Goods Sold recorded		
g-2	Accounts Receivables	241150	
	Sales		241150
	Finished Goods Shipped to Customers		
h	Bank/Cash	208662	
	Discount Allowed	4258	
	Accounts Receivables		212920
	Accounts Receivables Collected subject to 2% Discount		

Ledger Accounts

1 **Cash Account**

Opening	20000		
h	208662		
		Closing	**228662**
	228662		**228662**

2 **Accounts Receivables**

O/b	25000	h	212920
g	241150		
		Closing	**53230**
	266150		**266150**

3 **Material Control**

O/B	10000	d	*82500*
a	92000	d	8300
		Closing	**11200**
	102000		**102000**

4 **Work in Process**

opening	4500	f	188000
c-3	60500		
d	82500		
e	47330	***Closing***	**6830**
	194830		**194830**

5 **Finished Goods**

Opening	9500		
f	188000	g	185500
		Closing	**12000**
	197500		197500

6 **Cost of Goods Sold**

g	**185500**		

7 Machinery			
Opening	40000		
		Closing	40000
	40000		**40000**

8 Accounts Payables			
		O/B	15500
		a	92000
		b	18500
Closing	194370	c-2	68370
	194370		**194370**

9 Accrued Payroll			
		O/B	*2250*
Closing	***2250***		
	2250		**2250**

10 Accumulated Depreciation			
		O/B	10000
Closing	***10000***		
	10000		**10000**

11 Common Stock			
		O/B	60000
Closing	***60000***		
	60000		**60000**

12 Retained Earnings			
		O/B	21250
Closing	***21250***		
	21250		**21250**

13 Factory Over Head Control			
b	18500	e	47330
c-3	12500		
c-4	8030		
d	8300		
	47330		**0**

14 Payroll Control			
c-1	86000	c-4	86000
	86000		**86000**

15 Income Tax with Held			
		c-1	*8170*
Closing	***8170***		
	8170		**8170**

16 SUI Tax			
		c-1	2322
		c-4	*2322*
Closing	***4644***		
	4644		**4644**

17 FUI Tax			
		c-1	688
		c-4	688
Closing	***1376***		
	1376		1376

18 FICA Contribution			
		c-1	6450
		c-4	6450
Closing	***12900***		
	12900		12900

19 Accurued Payroll			
c-2	68370	c-1	68370
	0		**0**

20 Sales			
		g	241150
Closing	***241150***		
	241150		**241150**

21 Sales Expenses Control			
c-3	8000		
c-4	880		
		Closing	*8880*
	8880		**0**

22 Admn Salaries Control			
c-3	5000		
c-4	550		
		Closing	*5550*
	5550		**5550**

23 Discount Allowed			
h	4258		
		Closing	*4258*
	4258		**4258**

Montana Company
Trial Balance
As on

S.No	Description	P/R	Debit	Credit
1	Cash Account		228662	
2	Accounts Receivables		53230	
3	Material Control		11200	
4	Work in Process		6830	
5	Finished Goods		12000	
6	Cost of Goods Sold		185500	
7	Machinery		40000	
8	Accounts Payables			194370
9	Accrued Payroll			2250
10	Accumulated Depreciation			10000
11	Common Stock			60000
12	Retained Earnings			21250
13	Income Tax with Held			8170
14	SUI Tax			4644
15	FUI Tax			1376
16	FICA Contribution			12900
17	Sales			*241150*
18	Sales Expenses Control		*8880*	
19	Admn Salaries Control		*5550*	
20	Discount Allowed		*4258*	
	Total		**556110**	**556110**

2.6 Cost of goods sold statement; Income Statement

Mandmeyer Company
Income Statement
For the Period ended on 31st, December
19b

Description	Amount		
	$	**$**	**$**
Sales			**56000**
Direct Material			
Opening Inventory of Raw Material		4250	
Add Purchases		18000	
Cost of Material Available for use		22250	
Less: Closing Inventory of Raw Material		4000	
Direct Material Used		18250	

Direct Labour Cost		7500	
Factory over head Cost		5000	
Total Manufacturing Cost		**30750**	
Add Opening Work in Process Inventory		7500	
Cost of goods to be manufactured		38250	
Less: Closing Work in process Inventory		4000	
1 Cost of Goods manufactured		**34250**	
Add Opening Finished Goods Inventory		5100	
Cost of goods available for sale		39350	
Less: Closing Finished Goods Inventory		3500	35850
Cost of Goods Sold			**20150**
Gross Profit			
Less Operating Expenses			
Marketing Expenses		2800	
Admn Expenses		1120	
Other Expenses		560	4480
Net Profit			**15670**

CHAPTER 3

CHAPTER 3 Exercises

1. Manufacturing Costs

1 FOH Rate to Direct Labour

Direct Labour=	800000
FOH =	640000
FOH Rate=	80%

2

Work in Process Ending =		140000
Less Direct Labour=	50000	
FOH 80% of Labour	40000	90000
Direct Material Cost		50000

2. Manufacturing Costs

Direct Material Cost=		280000
Direct Labour Cost=		320000
FOH Costs		
Indirect Labour=	80000	
Indirect Material=	20000	
Other FOH=	124000	224000
Total Manufacturing Costs=		824000

FOH Rate=FOH/DL 224000/320000

Rate of Direct Labour = 0.7 or 70%

Closing Finished Goods=	176000
Less Direct Material Cost=	40000
Conversion cost=	136000
Labour Cost=	95200
FOH Cost	**40800**

Working

TMC=DM+Dl+OH

TMC=DM+CC

CC=DL+FOH

170=100+70

DL=136000/170*100=95200

FOH=136000/170*70=40800

3. Manufacturing Costs

Televane
Company
Cost of goods Manufactured and Sold Statement
For the Period ended on 31st, December
19b

Description	**Amount**		
	$	**$**	**$**
Direct Material			
Opening Inventory of Raw Material		75	
1 Add Purchases		**336**	
Cost of Material Available for use		411	
Less: Closing Inventory of Raw Material		85	
Direct Material Used		326	

	Direct Labour Cost	225	
	Factory over head Cost	135	
	Total Manufacturing Cost	**686**	
Add Opening Work in Process Inventory		80	
	Cost of goods to be manufactured	766	
Less: Closing Work in process Inventory		30	
2	**Cost of Goods manufactured**	**736**	
Add Opening Finished Goods Inventory		90	
	Cost of goods available for sale	826	
Less: Closing Finished Goods Inventory		110	
3	**Cost of Goods Sold**		**716**

4. Manufacturing Costs

Krieger Company

	Material Cost=		13000
	Direct Labour Cost=		15000
	Factor Over Head =		
	Molding Department=2.7* 1000=	2700	
	Decorating Department=	2100	4800
1	**Estimated Cost to Produce=**		**32800**
	Mark Up=		14760
2	**Bid Price=**		**18040**
3	Estimate Prime Cost=		**28000**
4	Estimate Coversion Cost=		**19800**

5. Income Statement

Hansford Inc.
Income Statement
For the Period ended on 30th, September

Description	**Amount**		
	$	**$**	**$**
Sales			**182000**
Direct Material			
Opening Inventory of Raw Material		7000	
Add Purchases		42300	
Cost of Material Available for use		49300	
Less: Closing Inventory of Raw Material		7400	
Direct Material Used		41900	
Direct Labour Cost		30000	
Factory over head Cost		45000	
Total Manufacturing Cost		**116900**	
Add Opening Work in Process Inventory		9600	
Cost of goods to be manufactured		126500	
Less: Closing Work in process Inventory		13000	
1 **Cost of Goods manufactured**		**113500**	
Add Opening Finished Goods Inventory		15000	
Cost of goods available for sale		128500	

Less: Closing Finished Goods Inventory		17500	
	Cost of Goods Sold at Normal	111000	
Add/Less	FOH Variance	3200	
	Cost of Goods Sold at actual		**114200**
	Gross Profit		67800
Less Operating Expenses			
	Marketing Expenses	14100	
	Admn Expenses	22900	
	Total Expenses		37000
	Net Profit		**30800**

6. Job Order cost Sheet.

Wadsworth Machine Works
Job Order Cost Sheet

Direct Material Cost			
9/14	Issued	600	
9/20	Issued	331	
9/22	Issued	200	
Total			1131

Direct Labour Cost				
week of Sept 20	90 Hrs	@$6.20 Hrs	558	
week of Sept 26	70 Hrs	@$7.30 Hrs	511	
Total				1069

Factory Overhead				
week of Sept 20	90 Hrs	@$5 Hrs	450	
week of Sept 26	70 Hrs	@$5 Hrs	350	
Total				800

Total Cost of Manufacturing	3000
Mark UP 40%	1200
Sale Price	**4200**

7. Job Order Costing

Date	**Description**		**P.R**	Amount **Debit($)**	**Credit($)**
a	Work in Process Job 36		Job Cost Sheet	44000	
	Work in Process Job 37		Job Cost Sheet	34000	
	Work in Process Job 38		Job Cost Sheet	32000	
		Material Control	Store Ledger Card		110000
	Direct Material issued to Production				
b	Work in Process Job 36		Job Cost Sheet	40000	
	Work in Process Job 37		Job Cost Sheet	48000	
	Work in Process Job 38		Job Cost Sheet	42000	

		Payroll Control	Pay roll sheet		130000
	Payroll distributed to work in process				

c	Work in Process Job 36		Job Cost Sheet	24000	
	Work in Process Job 37		Job Cost Sheet	28800	
	Work in Process Job 38		Job Cost Sheet	25200	
		FOH Applied	FOH analysis		78000
	FOH applied to Production				

d	Finished Job 36		Job Cost Sheet	144000	
	Finsihed Job 37		Job Cost Sheet	128800	
		Work in Process Job 36		Job Cost Sheet	144000
		Work in Process Job 37		Job Cost Sheet	128800
	Job No 36 & 37 Completed				

8. Job Order Costing.

	Date	Description	P.R	Debit($)	Credit($)
a		Work in Process Job 97		36000	
		Work in Process Job 98		30000	
		Work in Process Job 99		40000	
		Material Control			106000
		Direct Material issued to Production			
b		Work in Process Job 97		72000	
		Work in Process Job 98		70000	
		Work in Process Job 99		80000	
		Payroll Control			222000
		Payroll distributed to work in process			
c		Work in Process Job 97		36000	
		Work in Process Job 98		35000	
		Work in Process Job 99		40000	
		FOH Applied			111000
		FOH applied to Production			
d		Finished Job 97		240000	
		Finsihed Job 98		135000	
		Work in Process Job 97			240000
		Work in Process Job 98			135000
		Job No. 36 & 37 Completed			
e		Cost of Sales Job No. 97		240000	
		Finished Job 97			240000
		Cost of Sale of Job No 97 recorded			
f		Accounts Receivables		300000	

	Sales		300000
	Job No. 97 Sold on account		

9. Journal entries for the Cost Accounting cycle: Predetermied Overhead rate

Ledger Accounts

1 **Finished Goods**

Opening	40000		
		CGS	*375000*
WIP	390000		
		Closing	**55000**
	430000		**430000**

2 **Work in Process**

O/b	35000		
Material	90000	F.Goods	*390000*
Labour	160000		
FOH	120000	***Closing***	**15000**
	405000		**405000**

3 **Material**

O/B	5000		
		WIP	90000
Purchases	95000		
		Closing	**10000**
	100000		**100000**

4 **Factor Over Head Control**

		Applied	120000
Sundry	117000		
CGS	3000	CGS	
		Closing	**0**
	120000		**120000**

5 **Applied FOH**

		Opening	400000
		WIP	120000
Closing	520000		
	520000		520000

6 **Cost of Goods Sold at Normal**

O/B	600000		
F.Goods	375000	FOH	
Closing		***Closing***	975000
	975000		**975000**

6 **Cost of Goods Sold at actual**

O/B	600000	foh	3000
F.Goods	375000		
Closing		***Closing***	972000
	975000		**975000**

Date	**Description**	**P.R**	Amount **Debit($)**	**Credit($)**
a	Work in Process Control		370000	
	Material Contorl			90000
	Payroll Control			160000
	FOH Applied			120000
	Material Labour & FOH Charged to Production			
b	Finished Goods		390000	
	Work in Process Control			390000
	Work in Process Completed and transferred to Finished goods			
c	Cost of Goods Sold		375000	
	Finished Goods			375000
	Cost of Goods Sold Recorded			
d	FOH Applied		3000	
	Cost of Goods Sold			3000
	Under applied FOH Recorded			
e	Material Control		95000	

Voucher Payable		95000

Problems Chapter 3

3.1 Manufacturing Costs

Hulse Company
Cost of Goods Sold Statement
For the Period ended on 31st, December

Description		$	$
Direct Material			
Opening Inventory of Raw Material			20000
Add Purchases			58000
Cost of Material Available for use			78000
Less: Closing Inventory of Raw Material			18000
Direct Material Used			60000
Direct Labour Cost			
Grinding Department	8000*5.6	44800	
Machining Department	4600*6	27600	72400
Factory over head Cost			
Grinding Department	8000*6	48000	
Machining Department	4600*8	36800	84800
1 Total Manufacturing Cost			**217200**
Add Opening Work in Process Inventory			15000
Cost of goods to be manufactured			232200
Less: Closing Work in process Inventory			17600
2 Cost of Goods manufactured			**214600**
Add Opening Finished Goods Inventory			22000
Cost of goods available for sale			236600
Less: Closing Finished Goods Inventory			17000
3 Cost of Goods Sold			**219600**

4 Coversion Cost **157200**

5 Cost of Material Purchased **58000**

3.2 Manufacturing Costs

Ledger Accounts

1 **Finished Goods**

Opening	70000						
		CGS					
		(5)	*230000*	**2**	FOH app	75000	F Goods *220000* **(4)**

2 **Work in process**

O/b	50000						

WIP	220000				Payroll	100000			
		Closing	**60000**	**1**	material	**35000**	*Closing**	**40000**	**(3)**
	290000		**290000**			**260000**		**260000**	

Closing WIP= 5000+15000+20000

3 Material Control

O/B	10000	**WIP**	***35000***
a	50000		
		Closing	25000
	60000		**60000**

4 Cost of Goods Sold

F.Goods	230000		
FOH Cont	5000		
		C/B	**235000**
	235000		**235000**

5 Accrued Payroll

Payed	140000	Opening	10000
		Direct Lab	100000
Closing	20000	**Ind Lab**	**50000**
	160000		150000

6 FOH Controal

Acc Dep	10000	FOH App	75000
Payroll	50000		
Sundry acc	20000	CGS	5000
	80000		**80000**

7 FOH Applied

FOH Cont	75000	WIP	**75000**
	75000		**75000**

8 Accounts Payables

		O/B	20000
Cash	55000	Purchases	50000
Closing	15000		
	70000		**70000**

Problem 3-3

1) Cost of goods sold section

Columbus Company
Cost of Goods Sold Statement
For the Period ended on 31st October

Description	**Amount**			
	$	**$**	**$**	
Direct Material				
Opening Inventory of Raw Material		40700		
Add Purchases		24800		
Cost of Material Available for use		65500		
Less: Closing Inventory of Raw Material		35700		
Direct Material Used		29800		
Direct Labour Cost		18600		
Factory over head Cost		27450		
Total Manufacturing Cost		**75850**		
Add Opening Work in Process Inventory		4070		
Cost of goods to be manufactured		79920		
Less: Closing Work in process Inventory		4440		
1 Cost of Goods manufactured		**75480**	75180/20400	3.7
Add Opening Finished Goods Inventory		9800		

Cost of goods available for sale	85280		
Less: Closing Finished Goods Inventory	9250	(2800+20400-20700)	2500
Cost of Goods Sold at Normal	**76030**		

2. Income Statement for October

Columbus
Income Statement
For the Period ended on 31st October

Description	**Amount**		
	$	**$**	**$**
Sales		**144900**	
Less returns		**1300**	
Net Sales			**143600**
Cost of Goods Sold at Normal			76030
Gross Profit			**67570**
Less Operating Expenses			
Marketing Expenses			
Paid	25050		
Dep Building	360		
Dep Equipment	192	25602	
Admn Expenses			
Paid	19700		
Dep Building	240		
Dep Equipment	288	20228	
Total Expenses			**45830**
Net Profit			21740

3 **Over /Under Applied FOH**

FOH Control Account

V/P	20100	FOH Applied	27450
Material Control	3950		
Dep on Building	1800		
Dep on M & Equip	9600	CGS	12400
Indirect Laobur	4400		
	39850		39850

Problem 3-4

Morrisville Canning
Income Statement
For the Period ended on 31st, December 19 A

Description	**Amount**		
	$	**$**	**$**
Sales			**60000**

Direct Material			
Opening Inventory of Raw Material		4000	
Add Purchases		15000	
Cost of Material Available for use		19000	
Less: Closing Inventory of Raw Material		2000	
	Direct Material Used	17000	
	Direct Labour Cost	9000	
	Factory over head Cost	9000	
	Total Manufacturing Cost	**35000**	
Add Opening Work in Process Inventory		2000	
	Cost of goods to be manufactured	37000	
Less: Closing Work in process Inventory		1000	
1	**Cost of Goods manufactured**	**36000**	
Add Opening Finished Goods Inventory		6000	
	Cost of goods available for sale	42000	
Less: Closing Finished Goods Inventory		4000	
	Cost of Goods Sold at Normal	38000	
Add/Less	FOH Variance	2000	
	Cost of Goods Sold at actual		**40000**
	Gross Profit		20000
Less Operating Expenses			
	Marketing Expenses	6000	
	Admn Expenses	9000	
	Total Expenses		15000
	Net Profit		**5000**

Cash Account

O/B	5000	Material	15000
Sales	60000	Labour	9000
		FOH (9000+2000-3000)	8000
		Admn Exp	6000
		Marketing Exp	8000
		C/B	**19000**
	65000		46000

Morrisville Canning Company
Balance Sheet
As on 31st December, 19A

Assets		**$**	**Liabilities & Equities**		**$**
Cash		19000	Current Liabilites		17500
Accounts Receivables		10000	Common Stock		30000
Finished Goods		4000	Retained Earnings	10000	
Work in Process		1000	Profit	5000	15000
Materials		2000			
Prepaid expenses		500			
Property Plant etc	30000				
Less Depreciation	4000	26000			
		62500			**62500**

CHAPTER 4

1. Equivalent Production

Department B
Cost of Production Report

1 Quantity Schedule:

Units Received from Last Depatment:		20000
Units completed and transferred out:	15000	
Units still in process(60% Conversion)	5000	
Total Units Accounted For		20000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost received from last department	39000	1.95
Cost Added by the department		
Material	6500	0.325
Conversion	9000	0.5
Total Cost Added by department	15500	
Total Cost to be Accounted for	54500	2.775

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:				
	2.775	15000	=	41625
Work in Process Closing Inventor				
Adjusted cost from preceding Department				
	1.95 X	5000	=	9750
Material	0.325	5000	=	1625
Conversion	0.5 X	3000	=	1500
Total Cost Accounted For				**54500**

4 Additional Calculations:

Equvilant Production Report

	Material	Conversion
Units Completed and transferred out	15000	15000
Units still in process	5000	3000
Equvilant Production	20000	18000
Unit Cost	0.325	0.5

2. Costing of units transferred; lost units.

Rude Inc.
Department A
Cost of Production Report

1 Quantity Schedule:

Units started in process:		10000
Units completed and transferred out:	7000	
Units still in process(100% M, 50% Con)	2000	
Units Lost in process	1000	
Total Units Accounted For		10000

2	**Cost Added by the department**	**Total Cost**	**Unit Cost**
	Material	27000	3
	Conversion	40000	5
	Total Cost Added by department	67000	8

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	8 x	7000	=	56000
Work in Process Closing Inventor				
Material	3 x	2000	=	6000
Conversion	5 x	1000	=	5000
Total Cost Accounted For				**67000**

4 Additional Calculations:

Equvilant Production Report

	Material	Conversion
Units Completed and transferred out	7000	7000
Units still in process	2000	1000
Equvilant Production	9000	8000
Unit Cost	3	5

---

3. Cost of Production report; no lost units.

A Company
Department 2
Cost of Production Report

1 Quantity Schedule:

Units Received from Last Depatment:		12000
Units completed and transferred out:	7000	
Units still in process(M:50%, Con:25%)	5000	
Total Units Accounted For		12000

2	**Cost Charged by the Department**	**Total Cost**	**Unit Cost**
	Cost received from Department 1:	16320	1.36
	Cost added by Department 2:		
	Material	43415	4.57
	Labour	56100	6.8
	F.O.H	58575	7.1
	Total Cost Added by department	174410	19.83

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	19.83 x	7000	=	138810
Work in Process Closing Inventor				
Cost charged by department 1:				
	1.36 x	5000	6800	
Material	4.57 x	2500	11425	
Labour	6.8	1250	8500	
FOH	7.1 x	1250	8875	35600
Total Cost Accounted For				**174410**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out	7000	7000	7000
Units still in process	2500	1250	1250
Equvilant Production	9500	8250	8250
Unit Cost	4.57	6.8	7.1

4. Cost of Production report; Normal Spoilage.

Wade Company
Department 1
Cost of Production Report

1 Quantity Schedule:

Units Put in to process		10500
Units completed and transferred out:	7000	
Units still in process(90%)	3000	
Units Lost in process (Up to 525 Normal)	500	
Total Units Accounted For		10500

2 Cost added by Department 2:	**Total Cost**	**Unit Cost**
Material	52500	5.25
Labour	39770	4.1
F.O.H	31525	3.25
Total Cost Added by department	**123795**	12.6

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	12.6	x	7000	=	88200
Work in Process Closing Inventor					
Material	5.25	x	3000	15750	
Labour	4.1		2700	11070	
FOH	3.25	x	2700	8775	35595
Total Cost Accounted For					**123795**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out	7000	7000	7000
Units still in process	3000	2700	2700
Equvilant Production	10000	9700	9700
Unit Cost	5.25	4.1	3.25

5. Cost of Production report; Normal Loss.

Lauren Chemical Inc.
Department 2
Cost of Production Report

1 Quantity Schedule:

Units Received from Last Depatment:	55000

	Units completed and transferred out:				39500	
	Units still in process(1/3 Conversion)				10500	
	Units Lost in process				5000	
	Total Units Accounted For					55000

		Total Cost	Unit Cost
2	**Cost Charged by the Department**		
	Cost received from Department 1:	99000	1.8
	Adjusted cost from Last Department		1.98
	Cost added by Department 2:		
	Material		
	Labour	27520	0.64
	F.O.H	15480	0.36
	Total Cost Added by department	142000	2.98

3	**Cost Accounted for as follows:**					
	Cost of Units completed and transferred out:					
		2.98	x	39500	=	117710
	Work in Process Closing Inventor					
	Cost charged by department 1:					
		1.98	x	10500	20790	
	Material				0	
	Labour	0.64		3500	2240	
	FOH	0.36	x	3500	1260	24290
	Total Cost Accounted For					**142000**

4 **Additional Calculations:**

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out		39500	39500
Units still in process		3500	3500
Equvilant Production		43000	43000
Unit Cost		0.64	0.36

6. Cost of production report; normal spoilage.

Alabama Milling Company
Department 2
Cost of Production Report

1	**Quantity Schedule:**		
	Units Received from Last Depatment:		110000
	Units completed and transferred out:	85000	
	Units still in process(1/4 Conversion)	22000	
	Units Lost in process	3000	
	Total Units Accounted For		110000

		Total Cost	Unit Cost
2	**Cost Charged by the Department**		
	Cost received from Department 1:	176000	1.6
	Adjusted cost from Last Department		1.6448598
	Cost added by Department 2:		
	Material		
	Labour	26245	0.29

	F.O.H			12670	0.14
	Total Cost Added by department			214915	2.0748598

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	2.07486	x	85000	=	176363.08
Work in Process Closing Inventor					
Cost charged by department 1:					
	1.64486	x	22000	36186.916	
Material				0	
Labour	0.29		5500	1595	
FOH	0.14	x	5500	770	38551.916
Total Cost Accounted For					**214915**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out		85000	85000
Units still in process		5500	5500
Equvilant Production		90500	90500
Unit Cost		0.29	0.14

7. Cost of production report; spoilage at end of process.

Norman Company
Department 2
Cost of Production Report

1 Quantity Schedule:

Units Received from Last Depatment:		160000
Units completed and transferred out:	123000	
Units still in process(1/2 Conversion)	34500	
Units Lost in process	2500	
Total Units Accounted For		160000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost received from Department 1:	280000	1.75
Adjusted cost from Last Department		
Cost added by Department 2:		
Material		
Labour	45680	0.32
F.O.H	22840	0.16
Total Cost Added by department	348520	2.23

Adjusted Cost for Lost Units

2500*2.23/123000 0.045325

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

0.045325+	2.23	x	123000	=	279865
Work in Process Closing Inventor					
Cost charged by department 1:					
	1.75	x	34500	60375	
Material				0	
Labour	0.32	x	17250	5520	

FOH	0.16	x	17250	2760	68655
Total Cost Accounted For					**348520**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out		123000	123000
Units Lost in process		2500	2500
Units still in process		17250	17250
Equvilant Production		142750	142750
Unit Cost		0.32	0.16

8. Cost of production report; Units lost at end, all normal.

Rogers Milling company
Department 2
Cost of Production Report

1 Quantity Schedule:

Units Received from Last Depatment:					110000
Units completed and transferred out:				85000	
Units still in process(1/4 Conversion)				22000	
Units Lost in process				3000	
Total Units Accounted For					110000

2 Cost Charged by the Department				**Total Cost**	**Unit Cost**
Cost received from Department 1:				176000	1.6
Adjusted cost from Last Department					
Cost added by Department 2:					
Material					
Labour				26180	0.28
F.O.H				13090	0.14
Total Cost Added by department				215270	2.02
Adjusted Cost for Lost Units					
3000*2.02/85000			0.071294		

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:					
0.056471+	2.02	x	85000	=	177760
Work in Process Closing Inventor					
Cost charged by department 1:					
	1.6	x	22000	35200	
Material				0	
Labour	0.28		5500	1540	
FOH	0.14	x	5500	770	37510
Total Cost Accounted For					**215270**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out		85000	85000
Units Lost in process		3000	3000
Units still in process		5500	5500
Equvilant Production		93500	93500
Unit Cost		0.28	0.14

9. Cost of production report; Abnormal Loss

Assembly Department
Cost of Production Report

1 Quantity Schedule:

Units Received from Cutting Depatment:		60000
Units completed and transferred out:	50000	
Units still in process(100% M, 2/3 Con)	9000	
Units Lost in process	1000	
Total Units Accounted For		60000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost received from Department 1:	212400	3.54
Adjusted cost from Last Department		
Cost added by Department 2:		
Material	41650	0.7
Labour	101700	1.8
F.O.H	56500	1
Total Cost Added by department	412250	7.04

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:					
	7.04	x	50000	=	352000
Transferred to FOH (Cost of abnormal Loss)					
Cost received from Department 1:					
	3.54	x	1000	=	3540
Material	0.7	x	500	=	350
Labour	1.8	x	500	=	900
FOH	1	x	500	=	500
Work in Process Closing Inventor					
Cost charged by department 1:					
	3.54	x	9000	31860	
Material	0.7	x	9000	6300	
Labour	1.8	x	6000	10800	
FOH	1	x	6000	6000	54960
Total Cost Accounted For					**412250**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out	50000	50000	50000
Units Lost in process	500	500	500
Units still in process	9000	6000	6000
Equvilant Production	59500	56500	56500
Unit Cost	0.7	1.8	1

10. Cost of production report; addition of materials

Oloroso Inc.
Third Department
Cost of Production Report

1 Quantity Schedule:

Units Received from Cutting Depatment:		20000
Units added by the department		20000
Total Units in department		40000
Units completed and transferred out:	32000	
Units still in process(100% M, 50% Con)	8000	
Total Units Accounted For		40000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost received from Department 2:	30000	1.5
Adjusted cost from Last Department		0.75
Cost added by Department 2:		
Material	8800	0.2146341
Labour	9000	0.2465753
F.O.H	7200	0.1972603
Total Cost Added by department	55000	1.4084698

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

1.40847	x	32000	=	45071.032

Work in Process Closing Inventor
Cost charged by department 2:

	0.75	x	8000	6000	
Material	0.214634	x	9000	1931.7073	
Labour	0.246575	x	4500	1109.589	
FOH	0.19726	x	4500	887.67123	9928.9676
Total Cost Accounted For					**55000**

4 Additional Calculations:

Equvilant Production Report

	Material	Labour	FOH
Units Completed and transferred out	32000	32000	32000
Units Lost in process			
Units still in process	9000	4500	4500
Equvilant Production	41000	36500	36500
Unit Cost	0.2146341	0.2465753	0.19726

11. Cost of Production report; addition of materials:

Cresent Corporation
Department No. 2
Cost of Production Report

1 Quantity Schedule:

Units Received from Cutting Depatment:	20000
Units added by the department	10000
Total Units in department	30000

	Units completed and transferred out:			24000	
	Units still in process(100% M, 50% Con)			6000	
	Total Units Accounted For				30000

		Total Cost	Unit Cost
2	**Cost Charged by the Department**		
	Cost received from Department 2:	60000	3
	Adjusted cost from Last Department		2
	Cost added by Department 2:		
	Material	30000	1
	Conversion	54000	2
	Total Cost Added by department	144000	5

3 Cost Accounted for as follows:

	Cost of Units completed and transferred out:				
		5 x	24000	=	120000
	Work in Process Closing Inventor				
	Cost charged by department 2:				
		2 x	6000	12000	
	Material	1 x	6000	6000	
	Labour	2 x	3000	6000	
					24000
	Total Cost Accounted For				**144000**

4 Additional Calculations:

Equvilant Production Report

	Material	Conversion
Units Completed and transferred out	24000	24000
Units Lost in process		
Units still in process	6000	3000
Equvilant Production	30000	27000
Unit Cost	1	2

4-1 Equivalent Production:

1) The Number of Equivalent Units of Raw Material in all Inventories.

Departments			
Fabrication	**Assembly**	**Packing**	**Shipping**
6000*25%	10000*100%	3000*100%	8000*100%
1500	**10000**	**3000**	**8000**

2) The Number of Equivalent units of Fabrication Department direct Labour in all Inventories.

Departments			
Fabrication	**Assembly**	**Packing**	**Shipping**
6000*40%	10000*100%	3000*100%	8000*100%
2400	**10000**	**3000**	**8000**

3. The Number of equivalent units of Packaging Department Material and Direct Labour in the Packaging Department Inventory/

Material	**Labour**
3000*60%	3000*75%
1800	**2250**

---

2) Quantity & Equivalent Production Schedules: Lost Units.

Fleming Laboratories Inc.

1) Quantity Schedule for each of the three departments

a)	**Blending Department:**	**Units**	**Units**
	Units Started in Process		8000
	Units Completed & Transferd to Testing Department	5400	
	Units Still in Process(100% M, 1/3 Labour & FOH)	2400	
	Units Lost in Process	200	
	Total Units accounted for		8000

b)	**Testing Department:**	**Units**	**Units**
	Units received from Blending Department		5400
	Units Completed & Transferd to Terminal Department	3200	
	Units Still in Process(100% M, 1/3 Labour & FOH)	1800	
	Units Lost in Process	400	
	Total Units accounted for		5400

c)	**Terminal Department:**	**Units**	**Units**

Units received from Testing Department		3200
Units Completed & Transferd to Finished Goods Store Room	2100	
Units Still in Process(100% M, 2/3 Labour & FOH)	900	
Units Lost in Process	200	
Total Units accounted for		3200

2) Equvilant Production Schedule for each of the three departments.

a) Blending Department:

	Material	Labour	FOH
Units Completed and Transferred to Testing Department	5400	5400	5400
Units Still in Process(100% M, 1/3 Labour & FOH)	2400	800	800
Equivilant Production Quantity	7800	6200	6200

b) Testing Department

	Material	Labour	FOH
Units Completed and Transferred to Terminal Department	3200	3200	3200
Units Still in Process(100% M, 1/3 Labour & FOH)	1800	600	600
Equivilant Production Quantity	5000	3800	3800

c) Terminal Department:

	Material	Labour	FOH
Units Completed and Transferred to Store Room	2100	2100	2100
Units Still in Process(100% M, 2/3 Labour & FOH)	900	600	600
Equivilant Production Quantity	3000	2700	2700

3) Unit Cost of FOH in Blending Department.

	FOH
Units Completed and Transferred to Testing Department	5400
Units Still in Process(100% M, 1/3 Labour & FOH)	800
Equivilant Production Quantity	6200
Cost Added by the Blending Department=	5580
Equvillant Prodcution Quantity of Blending Department=	6200
Unit Cost =	0.9

4) Adjusted Cost from Proceeding Department in Testing Department if the unit cost transferred in from the Blending Department is $ 5.35

Total Cost received from Blending Department(5.35 x5400)=	28890
No of Good Unist in testing Department=	5000
Adjusted Cost in Testing Department=	***5.778***

4-3. Cost of Production report: Spoilage at end of process, both normal and Abnormal.

Dallas Company
Department No.1
Cost of Production Report

1 Quantity Schedule:

Units Started in the Process		10000
Units completed and transferred out:	8000	
Units still in process(100% M, 25% Con)	1200	
Units Lost in Process Normal	460	
Units Lost in process (Abnormal)	340	
Total Units Accounted For		10000

2	**Cost Charged by the Department**	**Total Cost**	**Unit Cost**
	Cost added by Department No.1		
	Material	50000	5
	Conversion	45500	5
	Total Cost Added by department	***95500***	***10***
	Adjustment for loss: ***460*10/8000=***	***0.575***	

3 **Cost Accounted for as follows:**

Cost of Units completed and transferred out:

0.575+	10	x	8000	=	84600

Transferred to FOH (Cost of abnormal Loss)

	10	x	340	=	3400

Work in Process Closing Inventor

Cost charged by department 1:

Material	5	x	1200	6000	
Con	5	x	300	1500	
					7500
Total Cost Accounted For					**95500**

4 **Additional Calculations:**

Equvilant Production Report

	Material	Conversion
Units Completed and transferred out	8000	8000
Units Lost in process(abnormal)	340	340
Units Lost in process(normal)	460	460
Units still in process	1200	300
Equvilant Production	10000	9100
Unit Cost	5	5

4-4 Cost of production report: normal & abnormal spoilage.

Menninger Inc.
Department No.2
Cost of Production Report

1 **Quantity Schedule:**

Units Received from Department 1		30000
Units completed and transferred out:	25000	
Units still in process(50%)	4200	
Units Lost in Process Normal(25000*3%)	750	
Units Lost in process (Abnormal)	50	
Total Units Accounted For		30000

2	**Cost Charged by the Department**	**Total Cost**	**Unit Cost**

Cost received from Department 1				135000	4.5
Cost added by Department No.1					
Material				12500	0.5
Conversion				139340	5
Total Cost Added by department				***286840***	***10***

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:					
	10	x	25000	=	250000
Cost of Normmal Loss Charged to Finished Goods					
Last Dept Cost= 750*4.5=				3375	
Conversion 720*5=				3600	6975
Transferred to FOH (Cost of abnormal Loss)					
Preceding Dept Cost= 50*4.5=				225	
Conversion	5	x	48	240	465
Work in Process Closing Inventor					
Cost charged by department 1:					
	4200	x	4.5	18900	
Material	0.5	x	0	0	
Con	5	x	2100	10500	
					29400
Total Cost Accounted For					**286840**

4 Additional Calculations:

Equvilant Production Report

		Material	Conversion
Units Completed and transferred out		25000	25000
Units Lost in process(abnormal)	(50*96%)		48
Units Lost in process(normal)	(750*96%)		720
Units still in process			2100
Equvilant Production		25000	27868
Unit Cost		0.5	5

4-5 Cost of production report: normal & abnormal spoilage.

Yares Company
Department No.2
Cost of Production Report

1 Quantity Schedule:

Units Received from Department 1		14000
Units completed and transferred out:	8000	
Units still in process(60%)	5000	
Units Lost in Process Normal(8000*5%)	400	
Units Lost in process (Abnormal)	600	
Total Units Accounted For		14000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost received from Department 1	140000	10
Cost added by Department No.1		
Material	12000	1.5

Conversion				89250	7.5
Total Cost Added by department				***241250***	***19***

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:					
	19	x	8000	=	152000
Cost of Normmal Loss Charged to Finished Goods					
Last Dept Cost= 400*10=				4000	
Conversion 360*7.5=				2700	6700
Transferred to FOH (Cost of abnormal Loss)					
Preceding Dept Cost= 600*10=				6000	
Conversion	7.5	x	540	4050	10050
Work in Process Closing Inventor					
Cost charged by department 1:					
	5000	x	10	50000	
Material	1.5	x	0	0	
Con	7.5	x	3000	22500	
					72500
Total Cost Accounted For					**241250**

4 Additional Calculations:

Equvilant Production Report

		Material	Conversion
Units Completed and transferred out		8000	8000
Units Lost in process(abnormal)	(600*90%)		540
Units Lost in process(normal)	(400*90%)		360
Units still in process			3000
Equvilant Production		8000	11900
Unit Cost		1.5	7.5

4-6 Cost of production report: normal & abnormal spoilage.

Neltner Company
Department No.1
Cost of Production Report

1 Quantity Schedule:

Units Started in Process		10000
Units completed and transferred out:	7000	
Units still in process(90%)	2000	
Units Lost in Process Normal(9000*5%)	450	
Units Lost in process (Abnormal)	550	
Total Units Accounted For		10000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost added by Department No.1		
Material A	13370	1.337
Material B	4500	0.5
Labour	37580	3.834694
FOH	46975	4.793367
Total Cost Added by department	***102425***	***10.46506***

Adjustment for Loss= 450 * 10.46506/7000= ***0***

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

0	10.46506	x	7000	=	73255.43

Cost of Normal Loss to Finished goods

Material A	450	x	1.337	601.65	
Material B	0	x	0.5	0	
Labour	405	x	3.834694	1553.051	
FOH	405	x	4.793367	1941.314	4096.015

Transferred to FOH (Cost of abnormal Loss)

Material A	550	x	1.337	735.35	
Material B	0	x	0.5	0	
Labour	495	x	3.834694	1898.173	
FOH	495		4.793367	2372.717	5006.24

Work in Process Closing Inventory:

Cost charged by department 1:

Material A	2000	x	1.337	2674	
Material B	2000	x	0.5	1000	
Labour	1900	x	3.834694	7285.918	
FOH	1900		4.793367	9107.398	20067.32
Total Cost Accounted For					**102425**

4 Additional Calculations:

Equvilant Production Report

	Material A	Material B	Labour	FOH
Units Completed and transferred out	7000	7000	7000	7000
Units Lost in process(abnormal)	550		495	495
Unist lost in process (Normal)	450		405	405
Units still in process	2000	2000	1900	1900
Equvilant Production	10000	9000	9800	9800
Unit Cost	1.337	0.5	3.834694	4.793367

4-7 Cost of production report: normal & abnormal spoilage.

Farniente Company
Department B.
Cost of Production Report

1 Quantity Schedule:

Units Received From Department A:		12000
Units completed and transferred out:	9000	
Units still in process(95% Con, 100% Mat)	2000	
Units Lost in Process Normal(9000*5%)	450	
Units Lost in process (Abnormal)	550	
Total Units Accounted For		12000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost Received from Department A	84000	7

Cost added by Department No.1

Material	18000	1.636364
Labour & FOH	45200	3.830508
Total Cost Added by department	***147200***	***12.46687***

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	12.46687	x	9000	=	112201.8
Cost of Normal Loss					
	7	x	450	=	3150
	3.830508	x	405	=	1551.356

Transferred to FOH (Cost of abnormal Loss)

Last Dept Cost	550	x	7	3850	
Conversion	495	x	3.830508	1896.102	
					5746.102

Work in Process Closing Inventory:

Last Deptt:	2000	x	7	14000	
Cost Added					
Material	2000	x	1.636364	3272.727	
Conversion	1900	x	3.830508	7277.966	24550.69
Total Cost Accounted For					**147200**

4 Additional Calculations:

Equvilant Production Report

	Material A	Conversion
Units Completed and transferred out	9000	9000
Units Lost in process(abnormal)		495
Unist Lost in Process (Normal)		405
Units still in process	2000	1900
Equvilant Production	11000	11800
Unit Cost	1.636364	3.830508

4-8 Cost of Production Report: addition of material

Ferry Inc.
Department 1
Cost of Production Report

1 Quantity Schedule:

Units started in process		300000
Units completed and transferred out:	180000	
Units still in process(1/3 Con, 100% Mat)	45000	
Units Lost in Process Normal	75000	
Total Units Accounted For		300000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost added by Department No.1		
Material	90000	0.4
Labour	39000	0.2
FOH	7800	0.04
Total Cost Added by department	***136800***	***0.64***

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	0.64	x	180000	=	115200

Work in Process Closing Inventory:

Cost Added					
Material	45000	x	0.4	18000	
Labour	15000		0.2	3000	
FOH	15000	x	0.04	600	21600
Total Cost Accounted For					**136800**

4 Additional Calculations:

Equvilant Production Report

	Material	Laobur	FOH
Units Completed and transferred out	180000	180000	180000
Units still in process	45000	15000	15000
Equvilant Production	225000	195000	195000
Unit Cost	0.4	0.2	0.04

Ferry Inc.
Department 2
Cost of Production Report

1 Quantity Schedule:

Units Received in	180000	
Units Added by Department	45000	225000
Units completed and transferred out:	195000	
Units still in process(40% Con, 100% Mat)	30000	
Total Units Accounted For		225000

2 Cost Charged by the Department	**Total Cost**	**Unit Cost**
Cost received from Deptt 1	115200	0.64
Adjusted Cost from Deptt 1		0.512
Cost added by Department No.1		
Material	67500	0.3
Labour	41400	0.2
FOH	20700	0.1
Total Cost Added by department	***244800***	***1.112***

3 Cost Accounted for as follows:

Cost of Units completed and transferred out:

	1.112	x	195000	=	216840

Work in Process Closing Inventory:

Adjusted Cost 30000*0.512=				15360	
Cost Added					
Material	30000	x	0.3	9000	
Labour	12000		0.2	2400	
FOH	12000	x	0.1	1200	27960
Total Cost Accounted For					**244800**

4 Additional Calculations:

Equvilant Production Report

	Material	Laobur	FOH
Units Completed and transferred out	195000	195000	195000
Units still in process	30000	12000	12000
Equvilant Production	225000	207000	207000
Unit Cost	0.3	0.2	0.1

CHAPTER 7

CHAPTER 7 EXERCISES

Exercises 1

			Freight on	Allocated
Item	Weight	Cost	Weight	Cost
Pepto	450	1125	40.5	45
Lenco	600	1350	54	54
Bilco	750	1575	67.5	63
Total	**1800**	**4050**	**162**	**162**
Total freigh charges $		162		

Exercises 2

Store Ledger Card Under Average Costing Method

Date	Received			Issued			Balance		
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
01-Jan	500	1.2	600				500	1.2	600
06-Jan	200	1.25	250				700	1.2143	850
10-Jan	400	1.3	520				1100	1.2455	1370
15-Jan				560	1.245	697.5	540	1.2455	672.55
25-Jan	500	1.4	700				1040	1.3198	1372.5
27-Jan				400	1.32	527.9	640	1.3198	844.64
				960		**1225**	**640**		**844.64**

Store Ledger Card Under FIFO Costing Method

Date	Received			Issued			Balance		
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
01-Jan	500	1.2	600				500	1.2	600
06-Jan	200	1.25	250				500	1.2	600
							200	1.25	250
10-Jan	400	1.3	520				500	1.2	600
							200	1.25	250
							400	1.3	520
15-Jan				500	1.2	600	140	1.25	175
				60	1.25	75	400	1.3	875
25-Jan	500	1.4	700				140	1.25	175
							400	1.3	175
							500	1.4	700
27-Jan				140	1.25	175	140	1.3	182
				260	1.3	338	500	1.4	700
				960		**1188**	**640**		**882**

Store Ledger Card Under LIFO Costing Method

Date	Received			Issued			Balance		
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
01-Jan	500	1.2	600				500	1.2	600
06-Jan	200	1.25	250				500	1.2	600
							200	1.25	250
10-Jan	400	1.3	520				500	1.2	600
							200	1.25	250
							400	1.3	520

15-Jan				400	1.3	520	500	1.2	600
				160	1.25	200	40	1.25	50
25-Jan	500	1.4	700				500	1.2	600
							40	1.25	50
							500	1.4	700
27-Jan				400	1.4	560	500	1.2	600
							40	1.25	50
							100	1.4	140
				960		**1280**	**640**		**790**

Exercises 3

Store Ledger Card Under Average Costing Method

Date	**Received**			**Issued**			**Balance**		
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
01-Oct	700	5	3500				700	5	3500
03-Oct				400	5	2000	300	5	1500
04-Oct	300	5.2	1560				600	5.1	3060
08-Oct	300	5.2	1560				900	5.1333	4620
09-Oct				500	5.133	2566.67	400	5.1333	2053.33
11-Oct				300	5.133	1540	100	5.1333	513.333
13-Oct	1000	5.1	5100				1100	5.103	5613.33
21-Oct	400	5.5	2200				1500	5.2089	7813.33
23-Oct				600	5.209	3125.33	900	5.2089	4688
27-Oct				800	5.209	4167.11	100	5.2089	520.889
29-Oct	300	5.6	1680				400	5.5022	2200.89
				2600		**13399.1**	**400**		**2200.89**

Store Ledger Card Under FIFO Costing Method

Date	**Received**			**Issued**			**Balance**		
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
01-Oct	700	5	3500				700	5	3500
03-Oct				400	5	2000	300	5	1500
04-Oct	300	5.2	1560				300	5	1500
							300	5.2	1560
08-Oct	300	5.2	1560				300	5	1500
							300	5.2	1560
							300	5.2	1560
09-Oct				300	5	1500	100	5.2	520
				200	5.2	1040	300	5.2	1560
11-Oct				100	5.2	520	100	5.2	520
				200	5.2	1040			
13-Oct	1000	5.1	5100				100	5.2	520
							1000	5.1	5100
21-Oct	400	5.5	2200				100	5.2	520
							1000	5.1	5100
							400	5.5	2200
23-Oct				100	5.2	520	500	5.1	2550

				500	5.1	2550	400	5.5	2200
27-Oct				500	5.1	2550	100	5.5	550
				300	5.5	1650			
29-Oct	300	5.6	1680				100	5.5	550
							300	5.6	1680
				2600		**13370**	**400**		**2230**

Store Ledger Card Under LIFO Costing Method

Date	**Received**			**Issued**			**Balance**		
	Qty	Rate	Amount	Qty	Rate	Amount	Qty	Rate	Amount
01-Oct	700	5	3500				700	5	3500
03-Oct				400	5	2000	300	5	1500
04-Oct	300	5.2	1560				300	5	1500
							300	5.2	1560
08-Oct	300	5.2	1560				300	5	1500
							300	5.2	1560
							300	5.2	1560
09-Oct				300	5.2	1560	300	5.2	1560
				200	5.2	1040	100	5.2	520
11-Oct				100	5.2	520	100	5.2	520
				200	5.2	1040			
13-Oct	1000	5.1	5100				100	5.2	520
							1000	5.1	5100
21-Oct	400	5.5	2200				100	5.2	520
							1000	5.1	5100
							400	5.5	2200
23-Oct				400	5.5	2200	100	5.2	520
				200	5.1	1020	800	5.1	4080
27-Oct				800	5.1	4080	100	5.2	520
29-Oct	300	5.6	1680				100	5.2	520
							300	5.6	1680
				2600		**13460**	**400**		**2200**

Exercise 7.13

Normal

1	W.I.P	60900	
	D.M		24000
	Payroll		18000
	FOH		18900
2	FOH	2750	
	WIP		2750
3	Spoiled goods	2500	
	WIP		2500

Abnormal

1	W.I.P	60000	
	D.M		24000
	Payroll		18000
	FOH		18000
2	Spoiled goods	2500	
	WIP		2500
3	Finished Goods	58400	
	WIP		58400

4	Finished Goods	55650	
	WIP		55650

Per Unit Cost= 55650 / 5500 = **10.12**

Per Unit Cost= 58400 / 5500 = **10.62**

Exercise 7.14

Normal

1	W.I.P	50000	
	D.M		20000
	Payroll		16000
	FOH		14000
2	FOH	1650	
	WIP		1650
3	Spoiled goods	2100	
	WIP		2100
4	Finished Goods	46250	
	WIP		46250

Per Unit Cost= 46250 / 3700 = **12.50**

Abnormal

1	W.I.P	48000	
	D.M		20000
	Payroll		16000
	FOH		12000
2	Spoiled goods	2100	
	WIP		2100
3	Finished Goods	45900	
	WIP		45900

Per Unit Cost= 45900 / 3700 = **12.41**

Problem7.7

Normal

1	W.I.P	96000	
	D.M		40000
	Payroll		32000
	FOH		24000
2	FOH	4800	
	WIP		4800
3	Spoiled goods	2400	
	WIP		2400
4	Finished Goods	88800	
	WIP		88800

Per Unit Cost= 88800 / 7400 = **12.00**

Abnormal

1	W.I.P	90400	
	D.M		40000
	Payroll		32000
	FOH		18400
2	Spoiled goods	240	
	WIP		240
3	Finished Goods	90160	
	WIP		90160

Per Unit Cost= 90160 / 7400 = **12.18**

CHAPTER 8

EXERCISES

Exercise 8.1

		Units	Units
	Jan Production Schedue	5,000	
	Feb ……..	4,950	
	March …….	5,550	
	Desire Inv Level of March: (75% of Jan (5600))	4,200	
	Total To be Provided		19,700
Less:			
	Quantity on Hnad	5,600	
	On order for jan	4,100	
	……. Feb	5,100	
	Total		14,800
	Qty to order for march		**4,900**

Exercise 8.2

1

	Forecast Usage		**Units**	**Units**
	Jan	4,800		
	Feb	5,000		
	March	5,600	15,400	
Add:	Desired Inv or Safety Stock		4,800	
	To be Provided			**20,200**
	Less: Schedule Supply			
	Jan & Feb Inv		6,000	
Add	On oreder for jan & Feb		8,400	**(14,400)**
	Total Qty to order			**5,800**

2

		Units
	Jan Inv	6,000
Add:	On order for jan	8,400
		14,400
Less:	Forecasted use for jan & Feb	(9,800)
(a).	March 1, Inv	4,600
Add:	To order for March	5,800
		10,400
Less:	Forecasted usage for march	(5,600)
(b).	March 31, Inv	**4,800**

Exercise 8.3 (K)

cc=Annual Cc(20%)*mfg Cst ($50) * Avg Annual Inv.
Production Initiation=# of runs * Cost to initiate (300)

Current Situation:

2 Production run of 3000 units per run
Avg Inv=3000/2=1500 Units

Present Cost

cc=0.20*$50*1500	15,000	
Production Initiation=2*300	600	
	15,600	

Proposed Situation:

Production Qty=EOQ= (2*Ar*OC/UC*CC)^.5	600	Units
Avg Inv=600/2	300	
# of run= 6000 / 600	10	run

Proposed cost

C.C.=0.20*$50*300	$3,000	
Production initaion cost=10*$300	$3,000	
Expected Annual Saving ($1560-$6000)		**$9,600**

Exercise 8.3-f

UC	$20		
AR	48000		
Int	10%	$2.00	(UC*Int%)
CC	$0.40		
OC	$10		
CC$=CC+INT			

EOQ=	633	Units	
AOC=	AR*OC/800		$600
ACC=	400*CC$		$960

Answers				
A	11			
B	100			
c	300			
d	300			
e	500	15		
f	633	600	960	1560
g	2500			
h	2000			
i	462	26	360	
j	49	55.5	67.5	
k	9600			

Exercise 8.4

Data:

Unit cost	$3			
Monthly usage	1500	Units	AR	18000
O.C	$50			
C.C	40%			

Reqd:

1 EOQ

sqrt(2*AR*OC/UC*CC)

1225	**Units**

2

	EOQ	**Given**
	(Units)	(Units)
Order size	1225	2000
# of Order per year (=AR/EOQ)	15	9
Price Per Unit	$3	2.85
CC=UC*CC%	1.20	1.14
Avg Inv (EOQ/2)	612	1000

	$	**$**
Purchase Price (AR*Purchase Price per Unit)	54000	51300
Cost of Placing Order	735	450
Carrying Cost		
(avg inv*(UC*40%))	735	1140
Total Cost	**55470**	**52890**

Company should place order of 2000 units to avail discount because it minimizes its cost.

Exercise 8.5

Data:

Unit cost	$5			**1**	
				Total Odering cost	**Total CC**
Annual usage	3000	Units			
O.C	$380			$2,280	$250
C.C	$1	20%		AR/Q*OC	Q/2*CC

Reqd:

2 EOQ

Ordering Cost	**Carrying Cost**
$755	$755

sqrt(2*AR*OC/UC*CC)

1510	**Units**

3

	EOQ	**Given**
	(Units)	(Units)
Order size	**1510**	**3000**
# of Order per year (=AR/EOQ)	2.0	1.0
Price Per Unit	$5.00	$4.75
CC$	$1.00	$0.95
Avg Inv (EOQ/2)	755	1500

	$	**$**
Inventory Cost (AR*UC)	$15,000	$14,250
Cost of Placing Order	755	380
Carrying Cost		
(avg inv*(UC*CC%))	755	1425
Total Cost	**16510**	**16055**

Company should order 3000 Units

Exercise 8.6

Saftety Stock & Order Point

Order point=opening Inv+on order=Lead Time qty (ie.Normal use*LT)+Safety Stock Qty

Order point = I+DQ=LTQ+SSQ

Data:

Normal Usage	7200	Units		Daily Usage=	7200/240
Working days	240	days per year			30
Normal LT.	20	days			
Max LT.	45	days			

Solution:

		Units	
	Daily usage	30	LTQ+SSQ=ROP
	* LT (max)	45	975+X= 1530
	Order Point	1350	X= 375
a Less:	Normal LTQ	975	
	SSQ	**375**	Normal LT= (Max LT-Min LT)/2
			32.5

Exercise 8.7

1	**EOQ=**	1500	Units
	AR= 500*250	125000	Units
2	**Safety Stock:**	**Units**	Units
	Max use per day	600	
Less:	Normal ……..	500	
		100	
	Safety Stock(Max)=100*5	**500**	

3 **Order Point =(Normal Use * Lead Time)+Safety Stock**

(500 * 5) + 500

3000 Units

4 **Normal Max Inv**

	Units
Order Point	3,000
Normal Use During L.T (500*5)	(2,500)
On Hand @ the ime of order	500
Qty Ordered (EOQ)	1,500
Normal Max Inv.	**2,000**

5 **Absolute Max Inv.**

Order Point	3,000
Min Use During L.T (500*5)	(500)
On Hand @ the ime of order	2,500
Qty Ordered (EOQ)	1,500
Absolute Max Inv.	**4,000**

6 **Avg Inv= EOQ / 2 +Safety stock**

= 1500/2+500

= **1250 Units**

Exercise 8.8

SSQ	Annual # of Orders	*	Probabilty of Stock out	=	Expected Annual Stock out	*	Cost Per Stck out ($)	=	Annual Stock out Cost	+	Annual Stock out Ordering Cost	=	Annual Combined Cost
10	5	*	0.4	=	2	*	75	=	150	+	10	=	160
20	5	*	0.2	=	1	*	75	=	75	+	20	=	95
40	**5**	*****	**0.1**	**=**	**0.5**	*****	**75**	**=**	**37.5**	**+**	**40**	**=**	**77.5**
80	5	*	0.05	=	0.25	*	75	=	18.75	+	80	=	98.75

Recommeded Level of Safety Stock is 40

Exercise 8.9

Data

n	=	9
df=n-1		8
$\sum(X-X')^2$	=	2888
$\sum(X-X')$	=	0
LT	=	1

Solution

$ó=\sqrt{[\sum(X-X')^2-(\sum(X-X'))^2/n]/(n-1)}$

ó = 19

SSQ= $(df * ó * L)-(\sum(X-X')^2 * L/n)$

= (2.306*19*1)-(0*1/9)

= 43.814 Units

Order Point=LTQ+SSQ

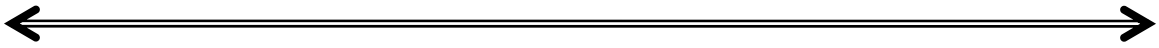
= 262+44

= 306 Units

Exercise 8.10

ABC PLAN

Material Stock #	Quarterly Usage (Units)	% of total Usage		Unit cost ($)	Total Cost ($)	% of Total Cost	
26	5,600	4.52	14.10	10.50	58,800	21.44	57.48
24	2,000	1.61		20.00	40,000	14.58	
27	1,000	0.81		30.00	30,000	10.94	
30	8,880	7.16		3.25	28,860	10.52	
35	8,220	6.63	59.97	2.50	20,550	7.49	32.09
29	7,560	6.10		2.50	18,900	6.89	
28	18,600	15.00		1.00	18,600	6.78	
33	30,000	24.19		0.50	15,000	5.47	
34	9,980	8.05		1.50	14,970	5.46	
32	6,840	5.52	25.94	2.00	13,680	4.99	10.43
31	4,920	3.97		2.00	9,840	3.59	
25	20,400	16.45		0.25	5,100	1.86	
Total	**124,000**	**100.00**			**274,300**	**100.00**	



PROBLEMS

Problem 8-1

AR	$5,000	Units	
OC	$250	per order	
CC	$4	per unit per order	

1

QTY	OC	CC	# of Order	Annual OC	Annual CC	Total
5000	$250	$4	1	$250	$20,000	$20,250
2500	$250	$4	2	$500	$10,000	$10,500
1250	$250	$4	4	$1,000	$5,000	$6,000
800	$250	$4	6	$1,563	$3,200	$4,763
500	$250	$4	10	$2,500	$2,000	$4,500
250	$250	$4	20	$5,000	$1,000	$6,000
100	$250	$4	50	$12,500	$400	$12,900

2 EOQ SQRT(2*AR*OC/CC) **791** **Units**

Problem 8-2

UC	$12	per order
Avg Use	100	units per month
Lead Time	1	month
OC	$50	
CC	25%	of avg inv

1 EOQ= SQRT(2*AR*OC/CC) **200** **units**

2 Order Point=Average use during Lead Time

1200*1

1200 **Units or 100 units per month**

Problem 8-3

AR	480,000	cans	=	20,000	cases
1 case contains 24 cans					
UC	$4.80	per case		$0.20	Per Can
INT Rate	10%				
OC	$15.00				
CC	$0.08	per can		40%	

1 EOQ = SQRT(2*480000*15/.08+.1*4.80/24)

12000 **cans** or 500 Cases

2

12000	Units

			EOQ	Given	
			(cans)	(Cans)	
Order size			12,000	72,000	
# of Order per year (=AR/EOQ)			40.0	7	
Price Per Unit			$0.20	$0.18	
CC$	UC*CC%	$0.08			0.072
Add Int	UC*INT%	$0.02	$0.10	$0.09	0.018
Avg Inv	(EOQ/2)		6,000	36,000	

	$	$
Inventory Cost (AR*UC)	96,000	86,400
Cost of Placing	600	100
Carrying Cost	600	3,240
Total Cost	97,200	89,740

Problem 8-4

			per
	UC	$12	carton
	AR	15000	cartons
	Cash Disct	5%	in excess of 1000 cartons
	OC	$64.80	
	CC	20%	of avg inv

1 EOQ (without considering disct)

EOQ= SQRT(2*AR*OC/CC) **900 cartons**

2 **900** **Units**

	EOQ (CARTONS)	**Given** (CARTONS)
Order size	900	5000
# of Order per year (=AR/EOQ)	17	3
Purchase Price Per Unit	$12.00	$11.40
CC$=UC*CC%	$2.40	$2.28
Avg Inv (EOQ/2)	450	2500

	$	**$**	
Inventory Cost (AR*UC)	180,000	172,800	3000*12+12000*11.40
Cost of Placing Order: (# of ord * OC)	1,080	194	
Carrying Cost=(Avg Inv*CC)	1,080	5,760	500*2.40+2000*2.28
Total Cost	182,160	178,754	

Problem 8-5

	AR	15000	units or 1000 Lots
	OC	$20	per order
	CC	25%	
	UC	$5	per unit

1 Annual OC=AR*OC/EOQ **$300**

Annual CC= UC*CC*EOQ/2 **$625**

3 EOQ= SQRT(2*AR*OC/CC) **693 units**

2

Ord.Size	**AR**	**# of Order**	**annual OC**	**Annual CC**	**Total**	
250	15000	60	1200	156	1356	
500	15000	30	600	313	913	
750	**15000**	**20**	**400**	**469**	**869**	**EOQ**
1000	15000	15	300	625	925	
1250	15000	12	240	781	1021	
1500	15000	10	200	938	1138	

4

	EOQ	**Given**
Order size	693	3000
Price Per Unit	$5.00	$4.75

	$	**$**
Inventory Cost	75,000	71,250

Cost of Placing Order	433	100
Carrying Cost	433	1,781
	75,866	**73,131**

Problem 8-6

1 # of Production Run=100,000/X
AC=$144(100,000/X)+(.20/2)X
AC=144(100,000)X^{-1}+.01X
Taking Derivative
d(AC)/dx=d/dx (144*100000X^{-1}+0.10X)
d/dX (AC)= -144*100000X^{-2}+0.1

where Total CC= 0.20X/2 Total OC= 144(100,000/X)

2 Optimum Qty
-144(100,000x^{-2})+0.10=0
144(100,000x^{-2})=0.10
1/x^2 =14400000/.10
x^2 = 12000 Units

Problem 8-7

1 EOQ=sqrt(2*24000*$1.20/(10*.1)) **240 Units**
2 # of Orders=AR/EOQ 24000/240 **100 Orders**
3 Annual OC= 100*$1.20= $120
Annual CC= 10*0.1*240/2 $120
Total Cost= 120+120 $240
4 # days for order= 360/no of order 360/100 3.6 days
No days supply left= units in inv*no of days in each order/EOQ
200/240*3.6
3 days left
Days before next order should place= supply days left-LT
3days -3 days
0 days
5 Inv usage does not remain constant which is the base of EOQ.
EOQ requires estimation of AR, OC,UC, CC which is very difficult to estimate

Problem 8-8

AR 400*250 100,000
OC $20

1. EOQ 4000
2. ROP=Max Usage during LT
600*8
4800
ROP=LTQ+SSQ
=Normal Usage During LT+SSQ
SSQ=ROP-LTQ
=4800-(400*8)
=1600

OR

Max Usage 600
Normal Usage 400

	200	
* SS (Max)	8 .	
SSQ	1600	

3. ROP=d*L+SSQ.
   400*8+1600
   4800

4.	Order Point	4800
	Less: Normal usage during LT	
	(400*8)	-3200
		1600
	Add: Order Size	4000
		5600
5.	Order Point	4800
	Less: Minimum Usage During LT	
	(100*8)	- 800
		4000
	Add: Order Size	4000
		8400

Avg Normal Inventory=EOQ/2+SSQ=4000/2+1600 = 3600

Problem 8-9

SSQ (a)	# of Order (b)	Probability ©	Equvalent Stockout (d=b*c)	Stockout cost Per Unit (e)	Total Stockout cost (f=d*e)	Inv Cost (g)	Total Cost (h=f+g)
10	5	0.5	2.5	80	200	20	220
20	5	0.4	2	80	160	40	200
30	5	0.3	1.5	80	120	60	180
40	5	0.2	37.5	80	3000	80	3080
50	5	0.1	0.5	80	40	100	140
55	**5**	**0.05**	**0.25**	**80**	**20**	**110**	**130**

CHAPTER 11

Exercise 1

Month	Machine Hours	Maintenance Expenses ($)	Variable Cost	Fixed Cost
January	2500	1250	990	260
February	2200	1150	890	260
March	2100	1100	840	260
April	2600	1300	1040	260
May	2300	1180	920	260
June	2400	1200	940	260

Total	14100	7180
Average	2350	1196.666667

High	2600	1300	1040	260
Low	2100	1100	840	260
Difference	500	200		

Variable Rate= 200/500 0.4

Exercise 3

	Total Cost of Calles=	500000/6250	80	
	Variable rate=	87000/1450	60	
	Fixed Cost=		**20**	
	No of Calls in a week=	200		
Veriable	Cost of Calls=	60*200	12000	$
Fixed	Cost of Calls=	20*200	4000	
				16000

Exercise 4

Month	Machine Hours	Maintenance Expenses ($)	x-meanx	y-meany	Sqrt(x-meanx)	Sqrt(y-meany)	(x-meanx)(y-meany)	Variable Cost	Fixed Cost
	x	y							
January	4500	1100	200	10	40000	100	2000	506	594
February	4700	1110	400	20	160000	400	8000	516	594
March	4000	1050	-300	-40	90000	1600	12000	456	594
April	5000	1200	700	110	490000	12100	77000	606	594
May	4100	1060	-200	-30	40000	900	6000	466	594
June	4600	1120	300	30	90000	900	9000	526	594
July	4900	1170	600	80	360000	6400	48000	576	594
August	3700	1020	-600	-70	360000	4900	42000	426	594
September	4700	1130	400	40	160000	1600	16000	536	594
October	3900	1040	-400	-50	160000	2500	20000	446	594
November	3400	1000	-900	-90	810000	8100	81000	406	594
December	4100	1080	-200	-10	40000	100	2000	486	594
Total	51600	13080	0	0	2800000	39600	323000		
Average	4300	1090							

Variable Rate 323000/2800000 0.115357

Fixed Cost

1090 =a+ 4300*.115357

1090	=a+	496.0357143			
a=	593.9643				
Fixed Cost	594				
	FOH		June	July	august
	Actual		9000	7500	5900
Budget			0	-500	850
	Budgeted		9000	7000	6750
Volume			-800	0	-750
	applied		8200	7000	6000
		9000	700	5250	3750
		7500	500	3750	3750
		1500	200		
	Variable Rate		7.5		
	FOH for august				
		Fixed		3750	
		Variable		3000	
				6750	

CHAPTER 12

CHAPTER 12

Exercise 1

W.I.P

Material	$ 23,800	Finish Goods	$ 48,600
Labor	20,160	Ending Balance	**11,200**
FOH	15,840		
	59,800		**59,800**

Ending WIP	11,200	Applied Rate=FOH/DL	
Less: Material	(4,560)	Applied Rate=15840/20160	
Conversion Cost	**6,640**	Applied Rate=	**0.7857**
Less: DL	(3,718.43)	CC=DL+FOH	
FOH	2,921.57	178.57%=100%+78.57%	
		$6,640	

Exercise 2

1	Work Force=	150 People	Hours per day= 8 Hours
	Days per week=	5 days	Total Weeks= 47 weeks
	Normal Capacity Direct Labur Hours=		150*8*5*47 = 282000 Hours
2	Work Force=	150 People	Hours per day= 10 Hours
	Days per week=	4 days	Total Weeks= 47 weeks
	Normal Capacity Direct Labur Hours=		150*10*4*47 = 282000 Hours

Exercise 3

Expected FOH=	$	276000	
Output=	Units	47500	
Material Cost=	$	400000	
Direct Labour Hours=	Hours	28750	
Direct Labour cost=	$	276000	
Machine Hours=	Hours	23000	
FOH Based On			
Output=	276000/47500		5.81 Per unit
Material Cost=	276000/400000		0.69 Per $
Direct Labour Hours=	276000/28750		9.6 Per Hour
Direct Labour cost=	276000/276000		1 Per $
Machine Hours=	276000/23000		12 Per Hour

Exercise 4

	Normal Capacity=		50000	Direct Labour Hours
	Actual Capacity=		43000	Hours
	expected actual capacity=		40000	Hours
	Fixed Cost=	$200000		
	Fixed Rate=	$200000/50000		$ 4
1	Variable Rate=			$ 6.69
a	Foh rate			$ 10.69
		or		
	Variable Cost=	$6.69*50000		$ 334500
	Total Cost	$200000+$334500		$ 534500
	FOH Rate=	$534500/50000		$ 10.69

b Fixed FOH Rate $ 4 per hour

c **Capacity Variance**

Foh Budgeted for actual			
	Fixed Cost	$ 200000	
	Variable Cost 6.69*43000	$ 287670	$ 487670
Applied FOH 43000*$ 10.69			$ 459670
	Capacity Variance Unfavourable=		**$ 28000**
	or		
Capacity Variance Unfavourable=	(50000-43000)*$4		$28000

2 a Fixed Cost= $ 200000

Fixed Rate= $ 200000/40000	$ 5	
Variable Rate=	$ 6.69	
FOH Rate	$ 11.69	
	or	
Variable Cost=	$6.69*40000	$ 267600
Total Cost	$200000+$267600	$ 467600
FOH Rate=	$467600/40000	$ 11.69

b Fixed FOH Rate $ 5 per hour

Exercise 5

Budgeted FOH=	$ 255,000	
Budgeted Volume=	100,000 Hours	
Actual FOH=	$ 270,000	
Actual Volume=	105,000 Hours	
Applied FOH Rate=	$255000/100000	$ 2.55 Per Hour
Applied FOH=	2.55*105000	$ 267750
Actual FOH=		270000
FOH Under Applied=		$ **2250**

Exercise 6

Production Volume=		30000	Mixers
Estimated FOH=			
Indrect Material=		$ 220000	
Indirect Labour=		240000	
Light& Power=		30000	
Depreciation=		25000	
Miscellaneous=		55000	
		$ 570000	
FOH applied Rate=	570000/30000		$ 19 per Unit

1

Work in process	29000*19	551000	
FOH Applied			551000
FOH Applied		551000	
FOH Control			551000

2

Actual FOH=	559,600.00
Applied FOH=	551,000.00
FOH Under applied=	**8,600.00**

Exercise 7

Normal Capacity=60000 Units per Year or 5000 Units per Months

Applied Rate= 3.00

Spending Variance

Actual FOH		$ 15,500
Less: Budgeted FOH @ actual Cap		
Fixed FOH	2,500	
Variable Rate * Act cap		
4800*2.50	12,000	$ 14,500
Unfavourable		$ **1,000**

Idle Capacity Variance

Budgeted FOH @ act cap	$ 14,500
Less: Applied FOH @ act cap	
4800*3	$ 14,400
Unfavourable	$ **100**

Exercise 8

Normal Capacity=36000 DLH per year or 3000labor hrs per month

Fix FoH= Total/12= $ 1410

Applied Rate=	2.57			
Spending Variance				
Actual FOH				$ 7,959
Less: Budgeted FOH @ actual Cap				
Fixed FOH		1,410		
Variable Rate * Act cap				
2700*2.10			5,670.00	7,080
Unfavourable				**879**
Idle Capacity Variance				
Budgeted FOH @ act cap				$7,080
Less: Applied FOH @ act cap				
2700*2.57				6,939
Unfavourable				**141**

Exercise 9

Normal Capacity=200,000			
Applied Rate=	$ 3.00		
Variable Rate=	$ 1		
Fixed FOH=	$ 600000*2/3	$ 400,000	
Spending Variance			
Actual FOH			$ 631,000
Less: Budgeted FOH @ actual Cap			
Fixed FOH		$ 400,000	
Variable Rate * Act cap			
210000*1		$ 210,000	$ 610,000
Unfavourable			$ **21,000**
Idle Capacity Variance			
Budgeted FOH @ act cap			$ 610,000
Less: Applied FOH @ act cap			
210000*3			$ 630,000
favourable			$ **(20,000)**

Exercise 10

1	Fixed Rate	300000/150000		2 per hour	
2	Variable Rate	150000/150000		1 per hour	
	FOH Rate			3 per hour	
	FOH Applied=	=$ 3*140000		$ 420000	
	FOH Budgeted For actual				
	Fixed Cost=			$ 300000	
	Varable Cost=		140000*1	$ 140000	
					$ 440000
	Overall Variance				
	Actual FOH				$ 435,000
	Less: Applied FOH@ actual Cap				
	Applied rate * Act cap				
	3*140000			420,000.00	$ 420,000
	Unfavourable				$ **15,000**
	Spending Variance				
	Actual FOH				435,000
	Less: Budgeted FOH @ actual Cap				
	Fixed FOH			300,000	
	Variable Rate * Act cap				
	140000*1			140,000.00	440,000
	favourable				**(5,000)**
	Idle Capacity Variance				
	Budgeted FOH @ act cap				440,000
	Less: Applied FOH @ act cap				
	140000*3				420,000
	Unfavourable				**20,000**

Exercise 11

Spending Variance	
Actual FOH (2)	**15,847**
Less: Budgeted FOH @ actual Cap	14,968
Unfavourable	879

Idle Capacity Variance	
Budgeted FOH @ act cap (1)	**14,968**
Less: Applied FOH @ act cap	16,234
favourable	1,266

Overall Variance	
Actual FOH	15,847
Less: Applied FOH@ actual Cap	16,234
favourable	(387)

Problems

Problem 12.6

June:	capacity variance=	$800	Favourable
	Spending Variance=	0	
	Actual FOH=	$9,000	
	Capacity Level or actual cap=	700	Tons
July:	capacity variance=	$0	
	Spending Variance=	$500	Unfav
	Actual FOH=	$7,500	
	Capacity Level or actual cap=	500	Tons
August:	Capacity Level or actual cap=	400	Tons
	Actual FOH=	$5,900	
	Budgeted FOH=	$6,000	

JUNE(capacity level of 700 Tons)

Spending Variance	$
Actual FOH	9,000.
Less: Budgeted FOH	**9,000**
	0.00
Idle Capacity Variance	
Budgeted FOH	9,000
Less: Applied FOH	**9,800**
favourable	$800

JULY (capacity level of 500 Tons)

Spending Variance	$
Actual FOH	7,500
Less: Budgeted FOH	**7,000**
Unfavourable	500
Idle Capacity Variance	
Budgeted FOH	7,000
Less: Applied FOH	**7,000**
	$0

AUGUST (capacity level of 400 Tons)

Spending Variance	$
Actual FOH	5,900
Less: Budgeted FOH	6,000
favourable	**500**
Idle Capacity Variance	
Budgeted FOH	6,000
Less: Applied FOH	
(400*$14)	5,600
Unfavourable	**$400**

Note: when idle capacity vaiance is zero it means actual and normal capacities are the same, Thus Budgeted and applied FOH will be equal implies that applied rate is equal to actual rate

Working

Calculation of applied rate

Since july idle cap variance is zero, implies that june normal cap and actual cap are equal.

applied rate = budgeted FOH/Normal capacity

= 7,000.00 / 500

= $ 14

Problem 12.7

June:	capacity variance=	$0	Unfav
	Spending Variance=	$600	
	Actual FOH=	$7,000	
	Capacity Level or actual cap=	800	Tons
July:	capacity variance=	$800	
	Spending Variance=	$0	Unfav
	Actual FOH=	$5,600	
	Capacity Level or actual cap=	600	Tons

August: Capacity Level or actual cap= 900 Tons
Actual FOH= $7,100

JUNE(capacity level of 800 Tons)

Spending Variance	$
Actual FOH	7,000
Less: Budgeted FOH	**6,400**
Unfav	600
Idle Capacity Variance	
Budgeted FOH	6,400
Less: Applied FOH	
	6,400
	0

JULY (capacity level of 600 Tons)

Spending Variance	$
Actual FOH	5,600
Less: Budgeted FOH	**5,600**
Unfavourable	0
Idle Capacity Variance	
Budgeted FOH	5,600
Less: Applied FOH	
	4**,800**
Unfav	800

AUGUST (capacity level of 900 Tons)

Spending Variance		$
Actual FOH		7,100
Less: Budgeted FOH	(3200+(900*4)	6,800
Unfav		**300**
Idle Capacity Variance		
Budgeted FOH		6,800
Less: Applied FOH		
(900*$8)		7,200
favourable		**(400)**

Note: when idle capacity vaiance is zero it means actual and normal capacities are the same, Thus Budgeted and applied FOH will be equal implies that applied rate is equal to actual rate .however, we need budgeted FOH and actual are given:

Working

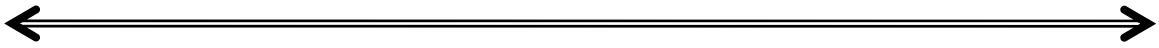
Calculation of Budgeted FOH

	Capacity	**Expanse**
June	800	$ 6,400
July	600	$ 5,600
	200	$ 800

V.FOH Rate=$800/200 =$4

	(800)	(600)
FOH	$6400	$ 5600
V.OH	$3200	$ 2400
Fix FOH	$3200	$ 3200

Budgeted FOH for Aug = Fix FOH + (Actual Capacity*Variable Rate) = $3200+(900*$4) = $6800
Applied Rate = $ 6400/800 = $ 8
As the idle cap variance for June is zero thus applied rate is computed on that basis.



CHAPTER 15

CHAPTER 15 EXERCISES

EXERCISE 1

Whatley Borthers
Sales Budget
For the period 19 A

Product	Sales (In Pound)	Average Sale Price Per Pound	Total Sale Price	Cost of Sale/Pound	Cost of Sales	Gross Profit Per Pound	Total Gross Profit
Barb	10000	30	300000	21	210000	9	90000
Shir	7500	18	135000	16	120000	2	15000
Bett	7500	23	172500	21	157500	2	15000
	25000		**607500**		**487500**		**120000**

Whatley Borthers
Sales Budget
For the period 19 B

Product	Sales (In Pound)	Average Sale Price Per Pound	Total Sale Price	Cost of Sale/Pound	Cost of Sales	Gross Profit Per Pound	Total Gross Profit
Barb	20000	37	740000	28	560000	9	180000
Shir	10500	18.72	196560	18	189000	0.72	7560
Bett	7500	23.92	179400	23.1	173250	0.82	6150
	38000		**1115960**		**922250**		**193710**

Exercise 2

Swisher Company
Sales Budget
For the Period Year 5

Press Model Number	Sales in Units Year1	Year2	Year3	Year4	**Year5**
222	100	110	120	130	**140**
333	100	120	160	240	**400**
444	100	95	85	70	**50**

Swisher Company
Production Budget
For the Period Year 5

Press Model Number	Units Sales	Desired Ending Inventory	Opening Inventory	Production Required
222	140	4	2	**142**
333	400	5	5	**400**
444	50	5	4	**51**

Exercise 3

Schwankenfelder Company
Production Budget

For the Next Year

Product Model	Units: Sales	Desired Ending Inventory	Opening Inventory	Production Required
Ceno	21000	6200	5800	**21400**
Nepo	37500	10500	11000	**37000**
Teno	54300	12200	14500	**52000**

Exercise 4

Magic Enterprises
Production Budget
For the Next Year

Product Model	Units: Finished Goods: Sales	Desired Ending Inventory	Opening Inventory	Production Required	Work in process: Ending	Opening	Production Required
Moon Glow	250000	15000	16000	**249000**	4200	2000	251200
Enchanting	175000	10000	12000	**173000**	2000	1800	173200
Day Dream	300000	20000	25000	**295000**	6000	6400	294600

Exercise 5

Magic Enterprises
Production Budget
For Next six months

Product Model	Units: Sales	Desired Ending Inventory	Opening Inventory	Production Required
1001	200	40	50	**190**
1002	150	25	25	**150**
1003	425	60	75	**410**
2001	175	20	15	**180**
2002	325	35	35	**325**
2003	215	20	20	**215**

Magic Enterprises
Material Purchase requirement
For Next six months

Product Model	Material: x: Units: Production Required	Material in 1 Unit	Total Material	y: Units: Production Required	Material in 1 Unit	Total Material
1001	190	5	950	190	2	380
1002	150	7	1050	150	2	300
1003	410	10	4100	410	3	1230
2001	180	4	720	180	1.5	270
2002	325	6	1950	325	2	650
2003	215	8	1720	215	2.5	537.5
Total			10490			3367.5

Units

Material	Production Require-ment	Desired Ending Inventory	Opening Inventory	Purchase Required
X	10490	7000	5000	**12490**
Y	3367.5	1500	2000	**2867.5**

Exercise 6

Provence Company
Production Budget

	Units			
Product Model	Sales	Desired Ending Inventory	Opening Inventory	Production Required
Tribolite	80000	6000	5000	**81000**
Polycal	40000	2000	4000	**38000**
Powder X	100000	8000	10000	**98000**

Provence Company
Material Purchase requirement

	Material					
	A			B		
	Units					
Product Model	Production Required	Material in 1 Unit	Total Material	Production Required	Material in 1 Unit	Total Material
Tribolite	81000	1	81000	81000	2	162000
Polycal	38000	2	76000	38000	0	0
Powder X	98000	0	0	98000	1	98000
Total			157000			260000

	Units					
Material	Production Require-ment	Desired Ending Inventory	Opening Inventory	Purchase Required	Unit Cost	Total Purchase Price
A	157000	12000	10000	**159000**	0.2	**31800**
B	260000	15000	12000	**263000**	0.1	**26300**
						58100

Provence Company
Manufacturing Cost Budget

		Tribolite	Polycal	Pwdr X
Material				
A	1 x 0.2	0.2		
	2 x 0.2		0.4	
	0 x 0.2			0
Unist to be manufactured		81000	38000	98000
Cost of Material A in Total		16200	15200	0
B	2 x 0.1	0.2		
	0 x 0.1		0	
	1 x 0.1			0.1
Unist to be manufactured		81000	38000	98000

Cost of Material A in Total	16200	0	9800
Total Cost of Material	32400	15200	9800
Labour Cost			
Hour per Unit	0.05	0.125	0.0125
Units to be produced	81000	38000	98000
Labour Hours	4050	4750	1225
Rate per Hour	8	8	8
Direct Labour Cost	32400	38000	9800
FOH Cost			
Labour Hours Required	4050	4750	1225
FOH Rate	6	6	6
	24300	28500	7350
Total Cost by Products	89100	81700	26950

Total Variable Manufacturing Cost		**197750**
Fixed manufacturing cost (Not allocted to products)		40000
Total Manufacturing Cost		**237750**

Exercise 7

Sandersen Inc.
Projected Cost of Goods Sold Statement
For the Period Ended on

			$	$
Materials:				
	Beginning Inventory		500000	
Add	Purchases	(5)	2400000	
	Material Available for use		2900000	
Less	Ending Inventory		400000	
	Cost of Material Used			2500000
Add	Labour			4340000
Add	Factory Overhead			1840000
	Total Factory Cost			8680000
Add	Beginning Work in process inventory			100000
	Cost of Goods to be manufactured			8780000
Less	Ending work in process inventory			300000
	Cost of goods Manufactured			8480000
Add	Opening Finished Goods inventory			800000
	Cost of Goods available for Sale			9280000
Less	Closing Finished Goods Inventory			1000000
	Cost of Goods Sold			8280000

Workings;

Earnings(6% of $20000000= $1200000)	10	% of Sales

Marketing, administrative, and financial expenses	21	% of Sales
	31	% of Sales
Cost of goods sold($8280000)	69	% of Sales
	100	% of Sales

Cost of Goods sold +	Ending Finished Goods Inventory-	Beginning Finished goods Inventory	=	Cost of goods Manufactured
		$800000		8480000
Cost of goods manufactured+	Ending Work in process inventory-	Beginning work in process inventory	=	total manufacturing cost(materials, labour,and factor overhead)
8480000	300000	100000		8680000
Total manufacturing cost-	Labour(50% of manufacturing cost)-	Cost of materials consumed	=	factory ovehed
8680000	4340000	2500000		1840000
Cost of materials consumed+	Ending materials inventory-	Beginning Materials Inventory	=	Material purchases
2500000	400000	500000		2400000

Exercise 8

Starnes Company
Budgeted Income Statement
For the Second Quarter

					$	$
	Sales					720000
Less	***Cost of Goods Sold***	(70%)				504000
	Gross Profit					216000
	Operating Expneses					
	Marketing Expenses					
	Variable	72000				
	Bad Debts	14400				
	Total Variable Marketing expe		86400			
	Fixed Marketing Expenses	48000				
	Depreciation	5000				
	Total Fixed Marketing Expenses		53000			
	Total Marketing Expenses			139400		
	Admn Expenses					
	Variable		21600			
	Fixed Admn expenses	34200				
	Depreciation	5000	39200			
	Total Admn Expenses			60800		
	Total Expenses					200200
	Net profit before taxes					15800

Exercise 9

Sales	Assumed			
	Units	Price		
	1	1	1	
	1.05	1.1	1.155	1.155
CGS	Units	Price		
	1	1	1	
	1.05	1.04	1.092	1.092

Calcor Company
Income Statement
For the Year ended 19B

			$	$
Net Sales	8400*1.155			9702
Expenses				
	Cost of Goods Sold	6300*1.092	6879.6	
	Marketing expenses	780+420	1200	
	Administrative Expneses		900	
	Interest Expenses	140+30	170	
	Total Expenses			9149.6
	Income before Income Tax			552.4
	Income Tax			220.96
	Net Income			331.44

CHAPTER 16

Problem 16-1

1

_____Co
Cash Disbursement Budget
For the Month June

			$
June Payments	54%		
May Payments	46%		
wages and Salaries			38,000
Marketing exp	15% of sale	51,300	
Less: Dep		(2,000)	49,300
CGS	$342000 *	$20	6,840,000
Total Cash Disbursement			**6,927,300**

2

_____Co
Cash Collection Budget
For the Month May

			$
April Collection	60%	97%	211,266
April Collection	25%		90,750
March Collection	9%		31,860
Total Cash Receipt			**333,876**

3

_____Co
Purchase Budget
For the Month July

		Units
Production reqd for july		11,400
Add: end inv for july	130% of Aug	15,860
Inv needed		27,260
Less: op Inv	130% of july	(15,600)
Purchase Required		**11,660**

Problem 16-2

1

_____Co
Cash Collection Budget
For the Month July

			$
July Collection	80%	98%	548,800
June Collection	18%		108,000
Total Cash Receipt			**656,800**

2 Cash Collection For Sep from Aug Sale **126,000**

3	Aug Ending Inv=25% next month Sale		**100,000**

4 **_____Co**
Purchase Budget
For the Month June

		Units
CGS	80% of sales	480,000
Add: end inv for july	25% of july sale	175,000
Inv needed		655,000
Less: op Inv	25% of june sale	(150,000)
Purchase Required		**505,000**

Problem 16-4

_____Co
Cash Budget
For the Month of Sep

			$
Op Cash Bal			13,000
Add: Expected Cash Receipts			
cash Sales			40,000
ON ACCOUNT			
Current Month Sales		38750	
Aug month Sale		48000	
July Sales		10000	96,750
Total cash available			**149,750**
Less: Expected Cash Payements			
cash Purchases		20000	
Payment to ON ACCOUNT		92000	
expanses Paid		46500	
Total			**158,500**
Financing Required			**(8,750)**

_____Co
Cash Budget
For the Month of OCT

			$
Op Cash Bal			(8,750)
Add: Expected Cash Receipts			
cash Sales			60,000
ON ACCOUNT			
Current Month Sales		47500	
Sep month Sale		31000	
Aug Sales		12000	90,500
Total cash available			**141,750**
Less: Expected Cash Payements			
cash Purchases		20000	

Payment to ON ACCOUNT	86000	
expanses Paid	10000	
Total		**116,000**
Expected cash Balance After Payments		**25,750**

	Sep A/P	**OCT A/P**
opening	10000	12000
purchases	100000	80000
ending	(12,000)	(9,000)
disct	(6,000)	3,000
Payments	**92000**	**86000**

CHAPTER 16 EXERCISES

Exercise 16.1

Salvey Company
Budgeted Cash Receipts for April

	$
Feburary Sales(40000 x 12%)=	4800
March Sales (70000x97% x 60%)	407404.7
March Sales (70000x x 25%)	17500
Total=	**429704.7**

Exercise 16.2

1 Budgeted Cash Collections in May

May Sales(150000 x 20%)	30000
April Sales(180000 x 50%)	90000
March Sales(100000 x 25%)	25000
Total Cash Collections	**145000**

2 **Balance of Accounts Receivable on April 30th**

April Receivable(180000 x 80%)	1440000
March Receivable(100000 x 30%)	30000
Less Bad Debts (100000 x 5%)	-5000
Receivalbes on April 30th	1465000

3 **Balance of Accounts Receivable on May 31st**

May Receivable(150000 x 80%)	1200000
April Receivable(180000 x 30%)	54000
Less Bad Debts (180000 x 5%)	-9000
Receivalbes on April 30th	1245000

Exercise 16.3

			$
Marketing, General, and Admn Expenses			
Fixed	(71000-40000)	31000	
Variable	(700000*15%)-(700000*1%)	98000	
			129000
Cost of Goods Sold(700000*70%)			490000
Increase in Inventory during the month			10000
Estimated June cash disbursement			**629000**

Exercise 16.4

Production requriement of Par in July

July Sale Requirement=	30000
Closing Stock requried=	3000
Total Stock needed=	33000
Opening Stock=	3000
Units to be produced	30000

Units of Tee required for production of par in july= 30000*3= 90000

Purchase requirment of Tee

Production requirement in july=			90000	
Closing inventory required=			11000	
Total Inventory required=			101000	
Less available opening Stock			14000	
Units to be purchaes			87000	
Cost of July Purchases	87000*5=		435000	Dollars

Production requriement of Par in June

June Sale Requirement=	50000	
Closing Stock requried=	3000	
Total Stock needed=	53000	
Opening Stock=	5000	
Units to be produced	48000	

Units of Tee required for production of par in july= 48000*3= 144000

Purchase requirment of Tee			
Production requirement in june=		144000	
Closing inventory required=		14000	
Total Inventory required=		158000	
Less available opening Stock		20000	
Units to be purchaes		138000	
Cost of July Purchases	138000*5=	690000	Dollars

Cash required in July for purchase of Tee

Payment of June Purchases= 690000*98%*1/3	225400
Payment of July Purchases=435000*98%*2/3	284200
Total Cash required	**509600**

Exercise 16.5

Crockett Company
Cash Budget
For the Month of July

Opening Balance		5000
Exepected Receipts		
Current Receivalbe	20000	
Last Month Receivable	14700	34700
Total Cash Available		**39700**
Expected Payments		
Income Tax		1600
Payment of Payables		

Current payable	3750	
Last Month Payable	7500	11250
Marketing & Admn Expenses		10000
Dividneds		15000
Total Expected Payments		**36250**
Balance after payments		3450
Fianacing required		1550
Desired Closing Balance		**5000**

Exercise 16.12 Flexible Budget at 100% Capacity

	Fixed cost	Variable Cost	Total Cost
Direct Materials		20000	20000
Direct Laobur		11250	11250
Supervision	500	0	500
Indirect materials	250	1500	1750
Property tax	300	0	300
Maintenance	600	1000	1600
Power	200	100	300
Insurance	175	0	175
Depreciation	1600	0	1600

Flexible Budget at 192% Capacity

	Fixed	Variable Cost	Total Cost
Direct Materials		18400	18400
Direct Laobur		10350	10350
Supervision	500	0	500
Indirect materials	250	1380	1630
Property tax	300	0	300
Maintenance	600	920	1520
Power	200	92	292
Insurance	175	0	175
Depreciation	1600	0	1600

Exercise 16.13

The Birch Company
Assembly department
Flexible Budget for one month

Units	60% Capcity 2280	75% Capacity 2850
3800		
Direct Labour Hours	1920	2400
3200		
Direct Material	2856	3570
Direct Labour	17280	21600
Fixed Factor Overhead	670	670
Supplies	441	552
Indrect labour	2160	2700
Other Charges	345	432
Total	23752	29524

Cost per Unit	10.42	10.36

Exercise 16.14

Albanese Inc.
Flexible Budget for one month

	60%	80%	Normal Capacilty
	of N.C	of N.C	(N.C)
Units	1440	1920	2400
Direct labour Hours	960	1280	1600
Direct Material	2880	3840	4800
Direct Labour	6048	8064	10080
Fixed Factor Overhead	960	960	960
Supplies	240	320	400
Indrect labour	1008	1344	1680
Other Charges	432	576	720
Total manufacturing Cost	11568	15104	18640
Manufacturing cost per unit	8.03	7.87	7.77

CHAPTER 17

Exercise 1

Std Cost Per Unit	$13.50	
Actual Qty Purchased	4500	Pounds
Actual Puchase Price	$60,975	
Actual Qty Used	3900	Pounds
Std Qty	3800	Pounds
Actual Rate	$ 13.55	

Material Purhase Price Variance

Actual Qty Purchased @ actual Rate	$60,975
Less:	
Actual Qty Purchased @ Std Rate	$60,750
Unfav Variance	**$225**

Price Usage Variance

	$
Actual Qty Used @ actual Rate	52,845
Less:	
	$
Actual Qty Used @ Std Rate	52,650
	$
Unfav Variance	**195**

Quantity Variance

	$
Actual Qty Usd @ Std Rate	52,650
Less:	
Std Qty Used @ Std Rate	$51,300
Unfav Variance	**$1,350**

Exercise 2

Labor Rate Variance

	$
Actual Hrs @ Std Rate	6,500
	$
Act Hrs @ actual Rate	6,435
	$
Favorable	**65**

Efficiency Variance

	$
Actual Hrs used @ std rate	6,500
	$
Std Hrs Used @ Std Rate	6,000
	$
Unfavorable	500

Overall Labor Variance

	$
Actual Hrs @ Act Rate	6,435
	$
Std Hrs used @ std rate	6,000
Unfav	$

	435

Exercise 3

Material Purhase Price Variance

Actual Qty Purchased @ actual Rate	$5,700
Less:	
Actual Qty Purchased @ Std Rate	$6,000
fav Variance	**$300**

Price Usage Variance

Actual Qty Used @ actual Rate	$ 5,130
Less:	
Actual Qty Used @ Std Rate	$ 5,400
fav Variance	**270**

Quantity Variance

Actual Qty Usd @ Std Rate	$ 5,400
Less:	
Std Qty Used @ Std Rate	$4,080
Unfav Variance	**$1,320**

Labor Rate Variance

Actual Hrs @ Std Rate	$ 3,720
Act Hrs @ actual Rate	$ 3,751
unFavorable	**$ (31)**

Labor Efficiency Variance

Actual Hrs used @ std rate	$ 3,720
Std Hrs Used @ Std Rate	$ 4,080
favorable	**360**

Exercise 4

Normal Capacity	12000	MHR
Std Rate	$12.50	Per MHR
Budgeted FIX FOH	$96,000	
Variable Rate	$4.50	Per MHR
Actual Capacity	12500	MHR
Actual FOH	$166,000	
Std Capacity Attained	11000	MHR

CONTROLBLE VARIANCE

ACTUAL FOH		$166,000
Less: Budgeted@ std		
Fix FOH	$96,000	
Variable FOH		
Std cap*v.rate		
11000*4.50	$49,500	$145,500
Unfavaorable		**$20,500**

VOLUME VARIANCE

Normal Capacity	12000	MHR
Less: Std Capacity	11000	MHR
Capacity not utilized	1000	MHR
* FIX RATE	$8	
UNFAVORABLE	**$8,000**	

Reconciliation of Variances

Actual FOH	$166,000
Less:Std Cap*Std Rate	$137,500
Unfav	**$28,500**

20500+8000 **$28,500**

EXERCISE 4

Normal Cap	16000	DLH
Std Rate	$10.40	Per DLH
Budgeted FIX	$64,000	
		PER
Variable Rate	$6.40	DLH
Actual Cap	15000	DLH
Actual FOH	$157,000	
Std Cap Attained	15300	DLH

Spending Variance

Actual FOH		$157,000
Less: Budgeted FOH@ Act Cap		
FIX FOH	$64,000	
Variable	$96,000	$160,000
Fav		$3,000

Idle Capacity Variance

Normal Cap	16000	DLH
Less: Actual Cap	15000	DLH
Excess of std overactual	1000	DLH
* Fix Rate	$4	
Unfav	$4,000	

Overall Variance

Actual FOH	$157,000
Std cap * Std Rate	
15300*10.4	$159,120
Fav	$2,120

Exercise 17.10

Mix Variance

Material	Pounds	Std Cost	Amount
A	20	14	280
B	5	2	10
C	25	5	125
Total	50		415

Price of Input	415/50	8.3	
Price of Out put	415/40	10.375	
Input/Output ratio	40/50	4/5	

Actual quantities at standard price

Material	Pounds	Std Cost	Amount
A	230000	14	3220000
B	50000	2	100000
C	220000	5	1100000
Total	500000		4420000

Actual Quantity at weighted average price 500000*8.3		4150000	
Mix Variance		270000	unfaverable

Yield Varience

Actual input quantity at weighted average of standard material cost=		4150000	
Actual output quantity at weignther average of standard material cost= 390000*10.375		4046250	
or 390000*5/4*8.3	4046250	103750	Unfaverable

Exercise 17.11

1 Tone=	1000	kg
1 Tonne=	0.9842	Ton
1 Kg=	2.2046	lbs
1 Ton=	2170	lbs

Mix Variance

Material	Pounds	Std Cost	Amount
Cocoa	800	0.45	360
Milk	3700	0.5	1850
Sugar	500	0.25	125
Total	5000		2335

Out Put 2170 lbs

Price of Input	2335/5000	0.467
Price of Out put	2335/2170	1.076037
Input/Output ratio	2170/5000	217/500

Actual quantities at standard price

Material	Pounds	Std Cost	Amount
A	225000	0.45	101250
B	1400000	0.5	700000
C	250000	0.25	62500
Total	1875000		863750

Actual Quantity at weighted average price 1875000*.467		875625

Mix Variance		11875	faverable		
Out Put	387*2170	839790	lbs		
Yield Varience					
Actual input quantity at weighted average of standard material cost=				875625	
Actual output quantity at weignther average of standard material cost=	839790*1.076037			903645	
				28020	Faverable

CHAPTER 20

CHAPTER 20 EXERCISES

Exercise 20.1

Woliver Company

Fixed Cost		6000		
C.M Per Unit	2*60%	1.2		
Break Even in Units=	6000/1.2	5000	Units	
Break Even in Dollars=	6000/.6	10000	Dollars	

Exercise 20.2

		$			
	Sales	7640000			
	Variable Cost	4736800			
1	Contribution Margin	2903200			
	Fixed Cost	2451000			
	Profit	452200			
2	Contribution Margin Ratio		2903200/7640000	38	%
3	Break Even point in Dollars		2451000/.38	6E+06	

Exercise 20.3

	Sale Price per unit	2.5			
	Variable Cost	1.675			
	Contribution Margin	0.825			
	Contribution Margin Ratio	.825/2.5		33	%
	Fixed Cost	4290			
1	Break Even Point in Dollars=	4290/.33		13000	Dollars
2	Break Even Pint in Units=	4290/.825		5200	Units
3	Target Sales=	4290+8250/.825		38000	Dollars

Exercise 20.4

	Sale Price per unit	5			
	Variable Cost	3			
	Contribution Margin	2			
	Contribution Margin Ratio	2/5		0.4	%
	Fixed Cost	26000			
1	Break Even Point in Dollars=	26000/.4		65000	Dollars
2	Break Even Pint in Units=	26000/2		13000	Units
3	Target Units to be sold=	26000+10000/2		18000	Units
4	Target Sales=	26000+10000/.4		90000	Dollars

Exercise 20.9

At 100 Capacity Units=	350	
Variable Cost=	742	

Variable Cost at 90%=	667.8		315 Units
Fixed Cost	1008		
Total Cost	1675.8		
Unit Cost	5.32	per Unit	

Exercise 20.10

Fixed Cost

Fixed FOH	990	
Fixed Marketing Exp	1000	
Fixed Admn Exp	1000	
Total Fixed Cost		2990

Variable Cost

Direct Labour	1500	
Direct Material	1400	
Variable FOH	1000	
Variable Marketing	1000	
Variable Admin	500	
Total Variable Cost		5400

	Sales		10000	
	Contribution		4600	
	C.M Ratio		46	%
1	Break Even Point in Units	2990/46	65	Units

2	Incrase in Sales	10000*125%	12500
	Increase in Variable Cost	5400*125%	6750
	Contribution Margin		5750
	Fixed Cost		2990
	Profit		2760

3	Break Even Point in Dollars	2990+690/.46	8000	Dollars

Exercise 20.5

Margin of Safety=	2000000-1500000	500000	Dollars
Margin of Safety Ratio	(2000000-1500000)/2000000*100	25	%

Exercise 20.6

Fixed Cost=	9300		
CM Ratio=	62%		
Break Even Sales=	9300/.62	15000	Dollars
Actual Sales=	15000*100/75	20000	Dollars

Profit For The Month=

Sales	20000
Variable Cost	7600

Contribution Margin	12400
Fixed Cost	9300
Profit	3100

Or

Profit Ratio= Margin of safety Ratio* CM Ratio 15.500%

20000*15.5% 3100

Exercise 20.7

Fixed Cost= 30000

CM Ratio= 60%

Break Even Sales= 30000/.6 50000 Dollars

Actual Sales= 50000*100/80 62500 Dollars

Profit For The Month=

Sales	62500
Variable Cost	25000
Contribution Margin	37500
Fixed Cost	30000
Profit	7500

Or

Profit Ratio= Margin of safety Ratio* CM Ratio 12.000%

62500*12% 7500

Exercise 20.8

		A		B	Total
Sales	100000*4	400000	200000*3	600000	1000000
Variable Cost		280000		480000	760000
Contribution Margin					240000
Fixed Cost					**100000**
Planned Profit					140000

Exercise 20.11

		Table		Chair	Total
Sale Price of Package	60*1	60	30*2	60	120
Variable Cost of Package	35*1	35	20*2	40	75
Contribution Margin of Package					45
Total Fixed Cost					675000
C.M Ratio	45/120	37.5	%		

Break Even Point in Dollars 675000/.375 1800000 Dollars

Break Even point in Units 675000/45 15000 Package

Tables	15000	60	900000
Chairs	30000	30	900000
			1800000

Exercise 20.12

		L		M	Total
Sale Price of Package	20*2	40	15*3	45	85
Variable Cost of Package	12*2	24	10*3	30	54
Contribution Margin of Package					31
Total Fixed Cost					372000

	C.M Ratio	31/85	36.47059 0.364706	%	
1	Break Even Point in Dollars	372000/.3647		1020000	Dollars
2	Break Even point in Units	372000/31		12000	Package
		L	24000	20	480000
		M	36000	15	540000
					1020000
3	Target Sales	372000+93000/.364		1275000	Dollars
4	Target Units	372000+93000/31		15000	Packages
		L	30000	20	600000
		M	45000	15	675000
					1275000

CHAPTER 21

CHAPTER 21 EXERCISES

Exercise 21.1

1	Normal Capaciity	75000	Units			
	Fixed Cost	225000	Dollars			
	Variable cost	10	per Units			
	Cost at 90 % of Normal Capacity			67500		
	Fixed Cost		225000			
	Variable Cost		675000			
	Total Cost				900000	
	Cost at 80 % of Normal Capacity			60000		
	Fixed Cost		225000			
	Variable Cost		600000			
	Total Cost				825000	
	Differential Cost between 80% &90 of Capacilty				**75000**	
2						
a	**The differntial Production cost of 5000 Units**					
	Fixed Cost		10000			
	Variable Csot		50000			
	Total Cost			**60000**		
b	**Per Unit total Production cost**					
	Fixed Cost					
	Actual		225000			
	Extended		10000			
	Total			235000		
	Variable Cost	80000*10		800000		
	Total Cost of Production				1035000	
	Unit Cost of Production(80000)				12.9375	
c	Per Unit differential Cost of 5000 Units					
	Cost			60000		
	Units			5000		
	Differential Cost				**12**	

Exercise 21.2

Saugus Insecticide Company
Income Statement for New Business
For the Month Ended----

Sales(1.8*5000)				9000
Cost to Manufacture				
Direct Material (.6+.01)*5000			3050	
Direct Labour(.5*5000)			2500	
Factory Over Head				
Indrect labour(.2*5000)		1000		
Power(600/30000)*5000		100		
Supplies(.02*5000)		100		
Maintenance and Repair(.027*5000)		135		
Depreciation(3000/24)		125		

Insurance (.007*5000)	35		
Payroll Taxes	210		
Total FOH		1705	
Total Manufacturing Costs			7255
Gross Profit Contribution			1745
Administrative Expenses			150
Profit Contribution form accepting new business			**1595**

Exercise 21.4

Mininum Selling Price

Direct Material	4
Direct Labour	5
Variable Factory over head	2
Shipping expneses	2
Minimum Selling Prince should be greater than or equal to $13	13

Exercise 21.5

Current Cost of Manufacturing 10000 Units			190000
Cost of Purchasing 10000 Units			
Cost Purchase	10000*18	180000	
Fixed Cost		30000	
		210000	
Less Saving in Cost			
Rent of facilities		15000	
Cost of Purchasing 10000 Units			195000
Loss on Purchase			5000

Exercise 21.3

Income statement at 10000 units level

Sales	10000*15		150000
Cost of Sales			
Direct Material	10000*2	20000	
Direct Labur	10000*3.5	35000	
Variable FOH	10000*1.5	15000	
Fixed FOH		24000	
Varialbe Marketing & Admn Exp	15000*1	10000	
Fixed Marketing & Admn Exp		13000	
Total Cost of sales			117000
Profit			33000

1 The company should accept the special order because the proposed $9 sale price covers all variable

Sale Price		9
Direct material	2	
Direct Labour	3.5	
Variable factory overhead	1.5	
Total	**7**	

Less Variable Marketing & Admn Expenses					
	Current	1			
	Special order	0.3			
				1.3	8.3
Profit per unit on special order					0.7
Total Profit on accepted order		5000*.7			3500

Combined Income statement will be as follows

Sales	10000*15		150000	
	5000*9		45000	
Total Sales				195000
Cost of Sales				
Direct Material		15000*2	30000	
Direct Labur		15000*3.5	52500	
Variable FOH		15000*1.5	22500	
Fixed FOH			24000	
Varialbe Marketing & Admn Exp		15000*1	15000	
Fixed Marketing & Admn Exp			13000	
Special order Marketing & Admin Exp			1500	
Total Cost of sales				158500
Profit				36500

2 If Total Plant Capacity is 13000 Units

Sales	8000*15		120000	
	5000*9		45000	
Total Sales				165000
Cost of Sales				
Direct Material		15000*2	30000	
Direct Labur		15000*3.5	52500	
Variable FOH		15000*1.5	22500	
Fixed FOH			24000	
Varialbe Marketing & Admn Exp		15000*1	15000	
Fixed Marketing & Admn Exp			13000	
Special order Marketing & Admin Exp			1500	
Total Cost of sales				158500
Profit				6500

So there is loss of profit if the total plant capacity is 13000 units and 5000 units are accepted at 9 per unit

Exercise 21.6

Current Cost of Manufacturing 100000					
	Direct Material	260*1000		260000	
	Direct Labour	100*1000		100000	
	Varialbe FOH	120*1000		120000	
	Fixed FOH	160*1000		160000	
Total Cost					640000
Cost of Purchasing 100000 Units					
	Cost Purchase		1000*600	600000	
	Fixed Cost(160000-90000-50000)			20000	620000
Profit on Purchase					20000