Answer Key

Question 1

1. D **(1 mark)**
2. D **(1 mark)**
3. C **(1 mark)**
4. A **(1 mark)**
5. B **(2marks)**
6. B **(1 mark)**
7. C **(1mark)**
8. D **(1mark)**
9. B **(2marks)**
10. D **(1mark)**
11. B **(2marks)**
12. C **(2marks)**

Question 2

		Support Departments		Producing Departments		
		Admin	**Services**	**Pilot Training**	**Main Training**	Total
ALLOCATION BASES						
Salaries and wages		800,000	560,000	640,000	400,000	2,400,000
	Percent		35.00%	40.00%	25.00%	100%
Proportion of of employee		24.00%	20.00%	24.00%	32.00%	100.00%
	Percent	30.00%		30.00%	40.00%	100%
		Admin	**Services**	**Pilot Training**	**Main Training**	
	Salaries	800,000	560,000	640,000	400,000	2,400,000
	Materials	150,000	100,000	1,300,000	200,000	1,750,000
	Others	500,000	300,000	600,000	300,000	1,700,000
Totals for All Departments		**$1,450,000**	**$960,000**	**$2,540,000**	**$ 900,000**	**$5,850,000**
First: Solve the simultaneous equations for Admin and Service (see Below)						
Second: Allocate to Producing Departments:						
Admin	Admin %	**(1,941,899.44)**	35.00%	40%	25%	
	Alloc. Amt		6,796,664.80	**776,759.78**	**485,474.86**	
Services	Service %	30%	**(1,639,664.80)**	30%	40%	
	Alloc. Amt	491899.44		**491,899.44**	**655,865.92**	
Totals for Production Departments				**3,808,659**	**2,041,341**	**5,850,000**
Number of trainee				**10 Pilots**	**100 Maint persons**	
Cost per Trainee				**$380,866**	**$20,413**	

Ser = 960,000 + 0.35Adm----- (1)
Adm = 1,450,000 + 0.30Ser--- (2)
Ser = 960,000 + .35 (1,450,000 + 0.30Ser)
Ser = 960,000 + 507,500 + 0.105Ser
0.895 Ser = 1,467,500
Ser = 1,639,664.80
Adm = 1,450,000 + 0.30(1,639,664.80)
Adm = 1,450,000+ 491899.44
Adm = 1,941,899.44

Question 3 **(25 marks)**

(a) **Job-Order Cost Sheets**

	CBS102 Cribs	PLP086 Playpens	DRS114 Dressers	STR077 Strollers	CRG098 Carriages
Beg WIP	$900,000	$420,000	250,000	-0-	-0-
Materials	$155,000	$253,800	$211,000	$143,750	$252,000
Labor	$122,400	$43,200	$200,500	$30,000	$138,000
Applied Overhead *	$90,000 (12,000 x 7.5)	$33,000 (4,400 x 7.5)	146,250 (19,500 x 7.5)	$26,250 (3,500 x 7.5)	$105,000 (14,000 x 7.5)
Total	$1,267,400	$750,000	$807,750	$200,000	$495,000
# units	20,000	25,000	25,000	10,000	5,000
Cost per unit	$63.37	$30	X	$20	$99

Predetermined Overhead Rate = 4,500,000/600,000 = $7.5

b.

	Actual Overhead
Indirect materials	15,000
Indirect Labor	29,400
Factory supervision	221,100
Factory Rent	30,000
Deprecation on Factory Equipment	100,000
Factory Utilities	40,000
Total Actual Overhead	435,500

Current period Applied OH at the end of month of May

Jobs	Applied OH	Work-in process	Cost of Goods Sold	Finished Goods
CBS102	90,000*		45,000	45,000
PLP086	33,000**		2,112	30,888
DRS114	146,250	146,250		
STR077	26,250***		2,625	23,625
CRG098	105,000			105,000
Total	400,500	146,250	49,737	204,513
Percentage	100.000%	36.517%	12.419%	51.064%

* 90,000 X (10,000/20,000) = 45,000; 90,000 X (10,000/20,000) = 45,000.
** 33,000 X (1,600/25,000) = 2,112; 33,000 X (23,400/25,000) = 30,888.
***26,250 X (1,000/10,000) = 2,625; 26,250 X (9,000/10,000) =23,625.

Under-applied OH = 435,500 – 400,500 = 35,000, below is the journal entry to close Overhead:

Work-in-process	**(35,000 X .36517)**	**12,780.95**	
Cost of Goods Sold	**(35,000 X .12419)**	**4,346.65**	
Finished Goods	**(35,000 X .51064)**	**17,872.40**	
Overhead			**35,000**

c.

	Adjusted Cost of Goods Sold
Cribs	
(7,500 X64)	480,000
(10,000 X63.37)	633,700
Playpens	
(19,400 X 35)	679,000
(1,600 X 30)	48,000
Strollers	
(13,000 X 23)	299,000
(1,000 X 20)	20,000
Dressers(18,000 X 55)	990,000
Carriages (6,000 X 102)	612,000
Add the share of under-applied OH	4,346.65
Adjusted cost of goods sold	3,766,046.65

Question 4 **(18 marks)**

Production cost report for the Assembly Department

	Physical units
Total units to account for:	
Beginning inventory	3,000
Units started during the year	45,000
Units to account for	48,000
Accounted for as follows:	
Units transferred out from beginning WIP	3,000
Units started & transferred out during the year	40,000
Units in ending WIP inventory	5,000
Units accounted for	48,000

Equivalent units of production:	Trans In	Materials	Labor	Overheard
Completed from beginning inventory:				
3,000 x (100% -100%)	-0-			
3,000 x (100% -70%)		900		
3,000 x (100% -30%)			2,100	
3,000 x (100% -80%)				600
Units started and transferred out	40,000	40,000	40,000	40,000
Ending inventory:				
5,000 x 100%	5,000			
5,000 x 60%		3,000		
5,000 X 40%			2,000	
5,000 X 70%				3,500
Equivalent units of production	45,000	43,900	44,100	44,100

	Trans In	Material	Labor	Overhead	Total
Prior costs	$ 82,200	$6,660	8,000	$11,900	108,760
Current costs	1,237,500	96,580	149,940	260,190	1,744,210
Total					1,852,970
Less Scrap					(5,000)
Total					1,847,970

Cost per equivalent unit this period:

	Trans In	Materials	Labor	Overheard	Total
Current Costs	$1,237,500	$96,580	$149,940	260,190	
Equivalent units	45,000	43,900	44,100	44,100	
Cost per equivalent unit	$27.50	$2.20	$3.40	$5.90	$39.00

Schedule of cost of goods transferred out and costs in ending inventory:

Cost of goods transferred:		
Costs in beginning inventory	$108,760	
Costs to complete beginning inventory		
Trans In (-0- X 27.5)	-0-	
Direct Materials (900 X $2.2)	1,980	
Direct Labor (2,100 X 3.40)	7,140	
Overhead (600 X 5.90)	3,540	
Less Scrap (5,000 X 3,000/43,000)	(348.84)	
Cost of units transferred out from beginning inventory		121,071.16
Started and Transferred out (40,000 X $39)	1,560,000	
Less Scrap (5,000 X 40,000 / 43,000)	(4,651.16)	
Costs of units started and transferred out		1,555,348.84
Total cost of goods transferred out		$1,676,420.00
Cost of ending inventory:		
Trans In (5,000 X 27.50)	137,500	
Direct Materials (3,000 X 2.20)	6,600	
Direct Labor (2,000 X 3.40)	6,800	
Overhead (3,500 X 5.90)	20,650	171,550.00
Total cost accounted for:		$1,847970.00

Cash	**5,000**	
WIP-Assembly		**5,000**
(To record the sale of scrap)		
WIP- Packaging	**1,676,420**	
WIP- Assembly		**1,676,420**

(To record the transfer of goods from Assembly into Packaging)

Question 5 **(25 marks)**

Total units to account for:	
Beginning inventory	3,000
Units started during current period	8,000
Units to account for	11,000
Accounted for as follows:	
Units completed	9,000
Units spoiled	250 (75%)
Units in ending WIP inventory	1,750 (90%)
Units accounted for	11,000

# of units inspected for rework	11,150
Less the number of physical units	(11,000)
Rework "effort" units	150
# of units survived the inspection for rework	11,000
Normal rework percentage	1%
Normal rework "effort" units	110

Abnormal rework = 150 – 110 = 40"effort" units

# of units reach inspection for spoilage	11,000
Normal spoilage percentage	2%
Normal spoiled units	220

Abnormal spoilage = 250 – 220 = 30 units

Equivalent units of production:	Material	Labor	Conversion
Completed (9,000 X 100% all)	9,000	9,000	9,000
Normal Rework			
DL (110X 100%)	-0-	110	
OH (110 X 40%)			44
Abnormal Rework			
DL (40X 100%)	-0-	40	
OH (40 X 40%)			16
Normal spoilage #1			
DM & DL (220X 100%)	220	220	
OH (220X75%)			165
Abnormal spoilage			
DM & DL (30X 100%)	30	30	
OH (30X75%)			22.50
Ending WIP			
DM & DL (1,750 X 100%)	1,750	1,750	
OH (1,750 X 90%)			1,575
Total equivalent units	11,000	11,150	10,822.50

	Material	Labor	Overhead	Total
Beginning	6,000	9,000	10,000	25,000
Current	16,000	24,450	44,112.5	84,562.50
Total	22,000	33,450	54,112.5	109,562.50
Equivalent units	11,000	11,150	10,822.50	
Cost per equivalent unit	$ 2.00	$ 3.00	$ 5.00	$10,00

b)

Cash	(250 X 2)		500	
	WIP	(220 X 2)		440
	Loss from Abnormal Spoilage	(30X2)		60
(To record Salvage value)				
Finished Goods	(see below)		$91,702.45	
Loss from Abnormal Spoilage	(see below)		264.00	
Loss from Abnormal Rework	(see below)		200.00	
	WIP			92,166.45
(To record the transfer of finished goods, loss from AS, and loss from AR)				

	Completed	Normal Rework	Abnormal Rework	Normal Spoilage	Abnormal Spoilage	Ending WIP
Completed (9,000 X 10)	$90,000					
Normal Rework						
DL (110X3)		330				
OH (44X 5)		220				
Allocate Normal Rework*	450	(550)		11	1.50	87.50
Abnormal Rework						
DL (40X3)			120			
OH (16X 5)			80			
Normal Spoilage						
DM & DL (220 X [2+3])				1,100		
OH (165 X 5)				825		
Less Salvage (220 X2)				(440)		
Allocate Normal spoilage **	1,252.45			(1,496)		243.55
Abnormal Spoilage						
DM & DL (30 X [2+3])					150	
OH (22.50 X 5)					112.50	
Less Salvage (30 X2)					(60.00)	
Ending Work in process						
DM & DL (1,750 X [2 + 3])						8,750
OH (1,575 X53)						7,875
Total	$91,702.45	-0-	$200	-0-	$204	$16,956.05-

*

	Completed	Normal Spoilage	Abnormal Spoilage	Ending Work in process	Total
Physical units	9,000	220	30	1,750	11,000
Percentages to allocate Normal Rework	81.82%	2%	.27%	15.91%	100%

**

	Completed	Ending WIP	Total
Physical units	9,000	1,750	10,750
Percentages to allocate Normal Rework	83.72%	16.28%	100%