PROBLEM 9.57a

DATA SECTION: BUDGET ALLOCATIONS AT BEGINNING OF PERIOD (BOP)

	-----SERVICE DEPARTMENTS-----			------BILLING DEPARTMENTS------		
	CAFETERIA	ADMIN	LAUNDRY	OUT-PATIENT	OB	GENERAL
BUDGETED DVOH	$75,000	$8,000	$5,000	$15,280	$5,600	$35,120
BUDGETED MEALS	28,700	0	0	0	8,000	20,700
BUDGETED FILES		24,125	0	3,800	8,000	12,325
BUDGETED LOADS			11,000	2,000	2,000	7,000
BUDGETED PATIENT-DAYS				6,000	3,000	48,000
BUDGETED DFOH	$60,000	$17,500	$20,000	$39,766	$99,696	$315,038
CAPACITY MEALS	48,500	0	0	0	8,500	40,000
CAPACITY FILES		31,500	0	7,000	10,500	14,000
CAPACITY LOADS			12,000	2,400	2,400	7,200

SOLUTION SECTION: BUDGET ALLOCATIONS AT BEGINNING OF PERIOD (BOP)

		-----SERVICE DEPARTMENTS-----			------BILLING DEPARTMENTS------		
VOH ALLOCATIONS:		CAFETERIA	ADMIN	LAUNDRY	OUT-PATIENT	OB	GENERAL
BUDGETED DVOH		$75,000	$8,000	$5,000	$15,280	$5,600	$35,120
MEAL RATE	$2.61						
MEAL ALLOCATION		(75,000)	0	0	0	20,906	54,094
FILE RATE	$0.33						
FILE ALLOCATION			(8,000)	0	1,260	2,653	4,087
LAUNDRY RATE	$0.45						
LAUNDRY ALLOCATION				(5,000)	909	909	3,182
TOTAL VOH		$0	$0	$0	$17,449	$30,068	$96,483
VOH POR/PATIENT-DAY					$2.91	$10.02	$2.01
FOH ALLOCATIONS:							
BUDGETED DFOH		$60,000	$17,500	$20,000	$39,766	$99,696	$315,038
MEAL CAPACITIES		100%	0%	0%	0%	18%	82%
MEAL ALLOCATION		(60,000)	0	0	0	10,515	49,485
FILE CAPACITIES			100%	0%	22%	33%	44%
FILE ALLOCATION			(17,500)	0	3,889	5,833	7,778
LAUNDRY CAPACITIES				100%	20%	20%	60%
LAUNDRY ALLOCATION				(20,000)	4,000	4,000	12,000
TOTAL FOH		$0	$0	$0	$47,655	$120,045	$384,300
FOH POR/PATIENT-DAY					$7.94	$40.01	$8.01
TOH BUDGETED		$0	$0	$0	$65,104	$150,113	$480,783
TOH POR/PATIENT-DAY					$10.85	$50.04	$10.02

PROBLEM 9.57b

DATA SECTION: ACTUAL COST ALLOCATIONS AT END OF PERIOD (EOP)

	SERVICE DEPARTMENTS			BILLING DEPARTMENTS		
	CAFETERIA	ADMIN	LAUNDRY	OUT-PATIENT	OB	GENERAL
ACTUAL DVOH	$80,000	$5,200	$5,000	$15,000	$10,000	$25,000
ACTUAL MEALS	38,000	0	0	0	8,000	30,000
ACTUAL FILES		16,720	0	4,000	1,500	11,220
ACTUAL LOADS			10,000	1,500	500	8,000
ACTUAL PATIENT DAYS				6,500	4,000	45,000
ACTUAL DFOH	$60,000	$17,000	$22,000	$41,766	$95,000	$340,000

SOLUTION SECTION: ACTUAL COST ALLOCATIONS AT END OF PERIOD (EOP)

		SERVICE DEPARTMENTS			BILLING DEPARTMENTS		
VOH ALLOCATIONS:		CAFETERIA	ADMIN	LAUNDRY	OUT-PATIENT	OB	GENERAL
ACTUAL DVOH		$80,000	$5,200	$5,000	$15,000	$10,000	$25,000
MEAL RATE	$2.61						
MEAL ALLOCATION		(99,303)	0	0	0	20,906	78,397
FILE RATE	$0.33						
FILE ALLOCATION			(5,544)	0	1,326	497	3,721
LAUNDRY RATE	$0.45						
LAUNDRY ALLOCATION				(4,545)	682	227	3,636
TOTAL VOH		($19,303)	($344)	$455	$17,008	$31,631	$110,754
LESS: PATIENT CHARGES					(18,903)	(40,090)	(90,453)
ENDING VOH BALANCE		($19,303)	($344)	$455	($1,895)	($8,460)	$20,301
FOH ALLOCATIONS:							
ACTUAL DFOH		$60,000	$17,000	$22,000	$41,766	$95,000	$340,000
MEAL CAPACITIES		100%	0%	0%	0%	18%	82%
MEAL ALLOCATION		(60,000)	0	0	0	10,515	49,485
FILE CAPACITIES			100%	0%	22%	33%	44%
FILE ALLOCATION			(17,500)	0	3,889	5,833	7,778
LAUNDRY CAPACITIES				100%	20%	20%	60%
LAUNDRY ALLOCATION				(20,000)	4,000	4,000	12,000
TOTAL FOH		$0	($500)	$2,000	$49,655	$115,349	$409,262
LESS: PATIENT CHARGES					(51,626)	(160,060)	(360,282)
ENDING FOH BALANCE		$0	($500)	$2,000	($1,971)	($44,711)	$48,981
ENDING TOH BALANCE		($19,303)	($844)	$2,455	($3,866)	($53,171)	$69,282

PROBLEM 9.58a-c

DATA SECTION:

	--SERVICE DEPARTMENTS-- MAINTENANCE	ENGINEERING	------PRODUCTION DEPARTMENTS----- PRODUCT A	PRODUCT B	PRODUCT C
MAINTENANCE HOURS	1,200	0	800	200	200
ENGINEERING HOURS		1,600	800	400	400

SOLUTION SECTION:

COST ALLOCATIONS:	--SERVICE DEPARTMENTS-- MAINTENANCE	ENGINEERING	------PRODUCTION DEPARTMENTS----- PRODUCT A	PRODUCT B	PRODUCT C
DIRECT COSTS	$12,000	$54,000			
MAINTENANCE RATIOS	100%	0%	67%	17%	17%
MAINTENANCE ALLOCATIONS	(12,000)	0	8,000	2,000	2,000
ENGINEERING RATIOS		100%	50%	25%	25%
ENGINEERING ALLOCATIONS		(54,000)	27,000	13,500	13,500
TOTAL SERVICE DEPARTMENT COSTS ALLOCATED	$0	$0	$35,000	$15,500	$15,500

PROBLEM 9.58d-h

DATA SECTION:

	--SERVICE DEPARTMENTS-- MAINTENANCE	ENGINEERING	------PRODUCTION DEPARTMENTS----- PRODUCT A	PRODUCT B	PRODUCT C
MAINTENANCE HOURS	1,600	400	800	200	200
ENGINEERING HOURS		1,600	800	400	400

SOLUTION SECTION:

COST ALLOCATIONS:	--SERVICE DEPARTMENTS-- MAINTENANCE	ENGINEERING	------PRODUCTION DEPARTMENTS----- PRODUCT A	PRODUCT B	PRODUCT C
DIRECT COSTS	$12,000	$54,000			
MAINTENANCE RATIOS	100%	25%	50%	13%	13%
MAINTENANCE ALLOCATIONS	(12,000)	3,000	6,000	1,500	1,500
ENGINEERING RATIOS		100%	50%	25%	25%
ENGINEERING ALLOCATIONS		(57,000)	28,500	14,250	14,250
TOTAL SERVICE DEPARTMENT COSTS ALLOCATED	$0	$0	$34,500	$15,750	$15,750

PROBLEM 9.59a,b

DATA SECTION:

	----SERVICE DEPARTMENTS-----		PRODUCTION DEPARTMENTS	
	QUALITY CONTROL	MAINTENANCE	MACHINING	ASSEMBLY
QUALITY CONTROL HOURS	28,000	0	21,000	7,000
MAINTENANCE HOURS		30,000	18,000	12,000

SOLUTION SECTION:

	----SERVICE DEPARTMENTS-----		PRODUCTION DEPARTMENTS	
COST ALLOCATIONS:	QUALITY CONTROL	MAINTENANCE	MACHINING	ASSEMBLY
DIRECT COSTS	$350,000	$200,000	$400,000	
QUALITY CONTROL RATIOS	100%	0%	75%	25%
QC ALLOCATIONS	(350,000)	0	262,500	87,500
MAINTENANCE RATIOS		100%	60%	40%
MAINTENANCE ALLOCATIONS		(200,000)	120,000	80,000
TOTAL SERVICE DEPARTMENT COSTS ALLOCATED	$0	$0	$782,500	$167,500

b: TOH POR per Mhr $15.65

PROBLEM 9.59c

DATA SECTION:

	----SERVICE DEPARTMENTS-----		PRODUCTION DEPARTMENTS	
	QUALITY CONTROL	MAINTENANCE	MACHINING	ASSEMBLY
QUALITY CONTROL HOURS	35,000	7,000	21,000	7,000
MAINTENANCE HOURS		30,000	18,000	12,000

SOLUTION SECTION:

	----SERVICE DEPARTMENTS-----		PRODUCTION DEPARTMENTS	
COST ALLOCATIONS:	QUALITY CONTROL	MAINTENANCE	MACHINING	ASSEMBLY
DIRECT COSTS	$350,000	$200,000		
QUALITY CONTROL RATIOS	100%	20%	60%	20%
QC ALLOCATIONS	(350,000)	70,000	210,000	70,000
MAINTENANCE RATIOS		100%	60%	40%
MAINTENANCE ALLOCATIONS		(270,000)	162,000	108,000
TOTAL SERVICE DEPARTMENT COSTS ALLOCATED	$0	$0	$372,000	$178,000

PROBLEM 9.59d

Quality control costs = $350,000 + (0.25 x Maintenance costs)
Maintenance costs = $200,000 + (0.20 x Quality control costs)

Quality control costs = $350,000 + {0.25 x [$200,000 + (0.20 x QC costs)]}

Quality control costs = $421,053

PROBLEM 9.60 (a1)

	Direct Charges	Systems Development	Computer Processing	Report Generation	Budget Totals
WAGES AND BENEFITS:					
Administration		$60,000	$20,000	$20,000	$100,000
Computer operators			11,000	44,000	55,000
Analysts/programmers		165,000			165,000
MAINTENANCE:					
Hardware			18,000	6,000	24,000
Software			20,000		20,000
OUTPUT SUPPLIES				50,000	50,000
PURCHASED SOFTWARE	$45,000				45,000
UTILITIES			28,000		28,000
DEPRECIATION:					
Mainframe computer			325,000		325,000
Printing equipment				60,000	60,000
Building improvements			10,000		10,000
TOTALS	$45,000	$225,000	$432,000	$180,000	$882,000
PORs		$50 per hour	$1,200 per CPUhr	$0.036 per page	

PROBLEM 9.60 (a2)

FINANCE		$5,000	$9,600	$21,600	$36,200
MARKETING		12,500	14,400	12,960	39,860
PERSONNEL		10,000	14,400	3,888	28,288
PRODUCTION	$16,000	20,000	38,400	2,592	76,992
R&D		2,500	19,200	2,160	23,860
	$16,000	$50,000	$96,000	$43,200	$205,200