EXERCISE 1 Schedule of Expected Cash Collections

Midwest Products is a wholesale distributor of leaf rakes. Thus, peak sales occur in August of each year as shown in the company's sales budget for the third quarter, given below:

	July	August	September	Total
Budgeted sales (all on account) . .	$600,000	$900,000	$500,000	$2,000,000

From past experience, the company has learned that 20% of a month's sales are collected in the month of sale, another 70% are collected in the month following sale, and the remaining 10% are collected in the second month following sale. Bad debts are negligible and can be ignored. May sales totaled $430,000, and June sales totaled $540,000.

Required:

1. Prepare a schedule of expected cash collections from sales, by month and in total, for the third quarter.
2. Assume that the company will prepare a budgeted balance sheet as of September 30. Compute the accounts receivable as of that date.

EXERCISE 2 Production Budget

Crystal Telecom has budgeted the sales of its innovative mobile phone over the next four months as follows:

	Sales in Units
July	30,000
August	45,000
September	60,000
October	50,000

The company is now in the process of preparing a production budget for the third quarter. Past experience has shown that end-of-month finished goods inventories must equal 10% of the next month's sales. The inventory at the end of June was 3,000 units.

Required:

Prepare a production budget for the third quarter showing the number of units to be produced each month and for the quarter in total.

EXERCISE 3 Direct Materials Budget

Micro Products, Inc., has developed a very powerful electronic calculator. Each calculator requires three small “chips” that cost $2 each and are purchased from an overseas supplier. Micro Products has prepared a production budget for the calculator by quarters for Year 2 and for the first quarter of Year 3, as shown below:

	Year 2				Year 3
	First	Second	Third	Fourth	First
Budgeted production, in calculators	60,000	90,000	150,000	100,000	80,000

The chip used in production of the calculator is sometimes hard to get, so it is necessary to carry large inventories as a precaution against stockouts. For this reason, the inventory of chips at the end of a quarter must equal 20% of the following quarter's production needs. A total of 36,000 chips will be on hand to start the first quarter of Year 2.

Required:

Prepare a direct materials budget for chips, by quarter and in total, for Year 2. At the bottom of your budget, show the dollar amount of purchases for each quarter and for the year in total.

EXERCISE 4 Direct Labor Budget [LO5]
The production manager of Junnen Corporation has submitted the following forecast of units to be produced for each quarter of the upcoming fiscal year.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Units to be produced......	5,000	4,400	4,500	4,900

Each unit requires 0.40 direct labor-hours and direct labor-hour workers are paid $11 per hour.

Required:

1. Construct the company's direct labor budget for the upcoming fiscal year, assuming that the direct labor workforce is adjusted each quarter to match the number of hours required to produce the forecasted number of units produced.
2. Construct the company's direct labor budget for the upcoming fiscal year, assuming that the direct labor workforce is *not* adjusted each quarter. Instead, assume that the company's direct labor workforce consists of permanent employees who are guaranteed to be paid for at least 1,800 hours of work each quarter. If the number of required direct labor-hours is less than this number, the workers are paid for 1,800 hours anyway. Any hours worked in excess of 1,800 hours in a quarter are paid at the rate of 1.5 times the normal hourly rate for direct labor.

EXERCISE 5 Manufacturing Overhead Budget [LO6]
The direct labor budget of Krispin Corporation for the upcoming fiscal year includes the following budgeted direct labor-hours.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Budgeted direct labor-hours.....	5,000	4,800	5,200	5,400

The company's variable manufacturing overhead rate is $1.75 per direct labor-hour and the company's fixed manufacturing overhead is $35,000 per quarter. The only noncash item included in fixed manufacturing overhead is depreciation, which is $15,000 per quarter.

Required:

1. Construct the company's manufacturing overhead budget for the upcoming fiscal year.
2. Compute the company's manufacturing overhead rate (including both variable and fixed manufacturing overhead) for the upcoming fiscal year. Round off to the nearest whole cent.

EXERCISE 6 Selling and Administrative Expense Budget [LO7]
The budgeted unit sales of Haerve Company for the upcoming fiscal year are provided below:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Budgeted unit sales...........	12,000	14,000	11,000	10,000

The company's variable selling and administrative expenses per unit are $2.75. Fixed selling and administrative expenses include advertising expenses of $12,000 per quarter, executive salaries of $40,000 per quarter, and depreciation of $16,000 per quarter. In addition, the company will make insurance payments of $6,000 in the 2nd Quarter and $6,000 in the 4th Quarter. Finally, property taxes of $6,000 will be paid in the 3rd Quarter.

Required:
Prepare the company's selling and administrative expense budget for the upcoming fiscal year.

EXERCISE 7 Cash Budget [LO8]
Forest Outfitters is a retailer that is preparing its budget for the upcoming fiscal year. Management has prepared the following summary of its budgeted cash flows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Total cash receipts	$340,000	$670,000	$410,000	$470,000
Total cash disbursements . .	$530,000	$450,000	$430,000	$480,000

The company's beginning cash balance for the upcoming fiscal year will be $50,000. The company requires a minimum cash balance of $30,000 and may borrow any amount needed from a local bank at a quarterly interest rate of 3%. The company may borrow any amount at the beginning of any quarter and may repay its loans, or any part of its loans, at the end of any quarter. Interest payments are due on any principal at the time it is repaid.

Required:
Prepare the company's cash budget for the upcoming fiscal year.

EXERCISE 8 Budgeted Income Statement [LO9]
Seattle Cat is the wholesale distributor of a small recreational catamaran sailboat. Management has prepared the following summary data to use in its annual budgeting process:

Budgeted unit sales	380
Selling price per unit	$1,850
Cost per unit	$1,425
Variable selling and administrative expenses (per unit)	$85
Fixed selling and administrative expenses (per year)	$105,000
Interest expense for the year	$11,000

Required:
Prepare the company's budgeted income statement using an absorption income statement format

EXERCISE 9 Budgeted Balance Sheet [LO10]
The management of Academic Copy, a photocopying center located on University Avenue, has compiled the following data to use in preparing its budgeted balance sheet for next year:

	Ending Balances
Cash	?
Accounts receivable	$6,500
Supplies inventory	$2,100
Equipment	$28,000
Accumulated depreciation	$9,000
Accounts payable	$1,900
Common stock	$4,000
Retained earnings	?

The beginning balance of retained earnings was $21,000, net income is budgeted to be $8,600, and dividends are budgeted to be $3,500.

Required:
Prepare the company's budgeted balance sheet.

EXERCISE 10 Sales and Production Budgets [LO2, LO3]
The marketing department of Graber Corporation has submitted the following sales forecast for the upcoming fiscal year.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Budgeted unit sales	16,000	15,000	14,000	15,000

The selling price of the company's product is $22.00 per unit. Management expects to collect 75% of sales in the quarter in which the sales are made, 20% in the following quarter, and 5% of sales are expected to be uncollectible. The beginning balance of accounts receivable, all of which is expected to be collected in the first quarter, is $66,000.

The company expects to start the first quarter with 3,200 units in finished goods inventory. Management desires an ending finished goods inventory in each quarter equal to 20% of the next quarter's budgeted sales. The desired ending finished goods inventory for the fourth quarter is 3,400 units.

Required:

1. Prepare the company's sales budget and schedule of expected cash collections.
2. Prepare the company's production budget for the upcoming fiscal year.

EXERCISE 12 Direct Labor and Manufacturing Overhead Budgets [LO5, LO6]

The Production Department of Harveton Corporation has submitted the following forecast of units to be produced by quarter for the upcoming fiscal year.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Units to be produced	16,000	15,000	14,000	15,000

Each unit requires 0.80 direct labor-hours and direct labor-hour workers are paid $11.50 per hour.

In addition, the variable manufacturing overhead rate is $2.50 per direct labor-hour. The fixed manufacturing overhead is $90,000 per quarter. The only noncash element of manufacturing overhead is depreciation, which is $34,000 per quarter.

Required:

1. Prepare the company's direct labor budget for the upcoming fiscal year, assuming that the direct labor workforce is adjusted each quarter to match the number of hours required to produce the forecasted number of units produced.
2. Prepare the company's manufacturing overhead budget.

EXERCISE 15 Cash Budget Analysis [LO8]

A cash budget, by quarters, is shown on the following page for a retail company (000 omitted). The company requires a minimum cash balance of $5,000 to start each quarter.

	Quarter				
	1	2	3	4	Year
Cash balance, beginning	$ 9	$?	$?	$?	$?
Add collections from customers	?	?	125	?	391
Total cash available	85	?	?	?	?
Less disbursements:					
Purchases of inventory	40	58	?	32	?
Operating expenses	?	42	54	?	180
Equipment purchases..............	10	8	8	?	36
Dividends	2	2	2	2	?
Total disbursements	?	110	?	?	?
Excess (deficiency) of cash available over disbursements....................	(3)	?	30	?	?
Financing:					
Borrowings	?	20	—	—	?
Repayments (including interest)*......	—	—	(?)	(7)	(?
Total financing......................	?	?	?	?	?
Cash balance, ending	$?	$?	$?	$?	$?

*Interest will total $4,000 for the year.

Required:

Fill in the missing amounts in the table above.

PROBLEM 16 Schedules of Expected Cash Collections and Disbursements [LO2, LO4, LO8]
Calgon Products, a distributor of organic beverages, needs a cash budget for September. The following information is available:

a. The cash balance at the beginning of September is $9,000.
b. Actual sales for July and August and expected sales for September are as follows:

	July	August	September
Cash sales	$ 6,500	$ 5,250	$ 7,400
Sales on account	20,000	30,000	40,000
Total sales	$26,500	$35,250	$47,400

Sales on account are collected over a three-month period as follows: 10% collected in the month of sale, 70% collected in the month following sale, and 18% collected in the second month following sale. The remaining 2% is uncollectible.

c. Purchases of inventory will total $25,000 for September. Twenty percent of a month's inventory purchases are paid for during the month of purchase. The accounts payable remaining from August's inventory purchases total $16,000, all of which will be paid in September.
d. Selling and administrative expenses are budgeted at $13,000 for September. Of this amount, $4,000 is for depreciation.
e. Equipment costing $18,000 will be purchased for cash during September, and dividends totaling $3,000 will be paid during the month.
f. The company maintains a minimum cash balance of $5,000. An open line of credit is available from the company's bank to bolster the cash balance as needed.

Required:

1. Prepare a schedule of expected cash collections for September.
2. Prepare a schedule of expected cash disbursements for inventory purchases for September.
3. Prepare a cash budget for September. Indicate in the financing section any borrowing that will be needed during September. Assume that any interest will not be paid until the following month.

PROBLEM 20 Cash Budget; Income Statement; Balance Sheet [LO2, LO4, LO8, LO9, LO10]
The balance sheet of Phototec, Inc., a distributor of photographic supplies, as of May 31 is given below:

Phototec, Inc.
Balance Sheet
May 31

Assets	
Cash	$ 8,000
Accounts receivable	72,000
Inventory	30,000
Buildings and equipment, net of depreciation	500,000
Total assets	$610,000
Liabilities and Stockholders' Equity	
Accounts payable	$ 90,000
Note payable	15,000
Capital stock	420,000
Retained earnings	85,000
Total liabilities and stockholders' equity	$610,000

The company is in the process of preparing a budget for June and has assembled the following data:

a. Sales are budgeted at $250,000 for June. Of these sales, $60,000 will be for cash; the remainder will be credit sales. One-half of a month's credit sales are collected in the month the sales are made, and the remainder is collected the following month. All of the May 31 accounts receivable will be collected in

June.

b. Purchases of inventory are expected to total $200,000 during June. These purchases will all be on account. Forty percent of all inventory purchases are paid for in the month of purchase; the remainder are paid in the following month. All of the May 31 accounts payable to suppliers will be paid during June.
c. The June 30 inventory balance is budgeted at $40,000.
d. Selling and administrative expenses for June are budgeted at $51,000, exclusive of depreciation. These expenses will be paid in cash. Depreciation is budgeted at $2,000 for the month.
e. The note payable on the May 31 balance sheet will be paid during June. The company's interest expense for June (on all borrowing) will be $500, which will be paid in cash.
f. New warehouse equipment costing $9,000 will be purchased for cash during June.
g. During June, the company will borrow $18,000 from its bank by giving a new note payable to the bank for that amount. The new note will be due in one year.

Required:

1. Prepare a cash budget for June. Support your budget with a schedule of expected cash collections from sales and a schedule of expected cash disbursements for inventory purchases.
2. Prepare a budgeted income statement for June. Use the absorption costing income statement format as shown in Schedule 9.
3. Prepare a budgeted balance sheet as of June 30.

PROBLEM 21 Additional Review Exercises

Answer the following four independent questions:

1. Santypal Company has budgeted production for next year as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Production in units	80,000	96,000	128,000	112,000

Ten pounds of raw materials are required for each unit produced. Raw materials on hand at the beginning of the year total 20,000 lbs. The raw materials inventory at the end of each quarter should equal 10% of the next quarter's production needs. What would budgeted purchases of raw materials in the second quarter be?

2. Daley Company plans to sell 96,000 units during the month of August. If the company has 20,000 units on hand at the start of the month, and plans to have 16,000 units on hand at the end of the month, how many units must be produced during the month?

3. Fifty percent of Java Company's sales are for cash; the rest are on credit. Seventy percent of the credit sales are collected in the month of sale, twenty percent in the month following sale, and five percent in the second month following sale. The remainder is expected to be uncollectible. The following are budgeted sales data:

	October	November	December
Total sales	$280,000	$240,000	$320,000

Part (a) How much of the December sales are expected to be collected during December?
Part (b) What is the budgeted amount of total cash receipts in December?

4. Whitefish Company budgets its cash two months at a time. Budgeted cash disbursements for March and April, respectively, are: for inventory purchases, $90,000 and $82,000; for selling and administrative expenses (includes $5,000 depreciation each month), $75,000 and $70,000; for equipment purchases, $15,000 and $6,000; and for dividend payments, $5,000 and $-0-. Budgeted cash collections from customers are $150,000 and $185,000 for March and April, respectively. The company will begin March with a $10,000 cash balance on hand. There should be a minimum cash balance of $5,000 at the end of each month. If needed, the company can borrow money at 12% per year. All borrowings are at the beginning of a month, and all repayments are at the end of a month. Interest is paid only when principal is being repaid. Prepare the cash budget for March and April.