Chapter 9: Profit Planning, Activity-Based Budgeting, and e-Budgeting

MULTIPLE CHOICE QUESTIONS

1. Generally speaking, budgets are not used to:
   A. identify a company's most profitable products.
   B. evaluate performance.
   C. create a plan of action.
   D. assist in the control of profit and operations.
   E. facilitate communication and coordinate activities.

   Answer: A   LO: 1   Type: RC

2. Which of the following choices correctly denotes managerial functions that are commonly associated with budgeting?

	Planning	Performance Evaluation	Coordination of Activities
A.	Yes	Yes	No
B.	Yes	Yes	Yes
C.	Yes	No	No
D.	Yes	No	Yes
E.	No	Yes	No

   Answer: B   LO: 1   Type: RC

3. A formal budget program will almost always result in:
   A. higher sales.
   B. more cash inflows than cash outflows.
   C. decreased expenses.
   D. improved profits.
   E. a detailed plan against which actual results can be compared.

   Answer: E   LO: 1   Type: RC, N

4. A budget serves as a benchmark against which:
   A. actual results can be compared.
   B. allocated results can be compared.
   C. actual results become inconsequential.
   D. allocated results become inconsequential.
   E. cash balances can be compared to expense totals.

   Answer: A   LO: 1   Type: RC

5. The comprehensive set of budgets that serves as a company's overall financial plan is commonly known as:
   A. an integrated budget.
   B. a pro-forma budget.
   C. a master budget.
   D. a financial budget.
   E. a rolling budget.

   Answer: C LO: 1 Type: RC

6. A company's plan for the acquisition of long-lived assets, such as buildings and equipment, is commonly called a:
   A. pro-forma budget.
   B. master budget.
   C. financial budget.
   D. profit plan.
   E. capital budget.

   Answer: E LO: 1 Type: RC

7. Wilson Corporation is budgeting its equipment needs on an on-going basis, with a new quarter being added to the budget as the current quarter is completed. This type of budget is most commonly known as a:
   A. capital budget.
   B. rolling budget.
   C. revised budget.
   D. pro-forma budget.
   E. financial budget.

   Answer: B LO: 1 Type: RC

8. An organization's budgets will often be prepared to cover:
   A. one month.
   B. one quarter.
   C. one year.
   D. periods longer than one year.
   E. all of the above.

   Answer: E LO: 1 Type: RC

9. A manufacturing firm would begin preparation of its master budget by constructing a:
   A. sales budget.
   B. production budget.
   C. cash budget.
   D. capital budget.
   E. set of pro-forma financial statements.

   Answer: A LO: 1, 4 Type: RC

10. Which of the following budgets is based on <u>many</u> other master-budget components?
    A. Direct labor budget.
    B. Overhead budget.
    C. Sales budget.
    D. Cash budget.
    E. Selling and administrative expense budget.

    Answer: D LO: 1, 4 Type: N

11. The budgeted income statement, budgeted balance sheet, and budgeted statement of cash flows comprise:
    A. the final portion of the master budget.
    B. the depiction of an organization's overall actual financial results.
    C. the first step of the master budget.
    D. the portion of the master budget prepared after the sales forecast and before the remainder of the operational budgets.
    E. the second step of the master budget.

    Answer: A LO: 1, 4 Type: RC

12. Which of the following budgets is prepared at the end of the budget-construction cycle?
    A. Sales budget.
    B. Production budget.
    C. Budgeted financial statements.
    D. Cash budget.
    E. Overhead budget.

    Answer: C LO: 1, 4 Type: N

13. Which of the following would depict the logical order for preparing (1) a production budget, (2) a cash budget, (3) a sales budget, and (4) a direct-labor budget?
    A. 1-3-4-2.
    B. 2-3-1-4.
    C. 2-1-3-4.
    D. 3-1-4-2.
    E. 3-1-2-4.

    Answer: D LO: 1, 4 Type: N

14. The master budget contains the following components, among others: (1) direct-material budget, (2) budgeted balance sheet, (3) production budget, and (4) cash budget. Which of these components would be prepared first and which would be prepared last?

	First	Last
A.	1	4
B.	1	2
C.	3	4
D.	3	2
E.	4	1

Answer: D LO: 1, 4 Type: N

15. A company's sales forecast would likely consider all of the following factors except:
    A. political and legal events.
    B. advertising and pricing policies.
    C. general economic and industry trends.
    D. top management's attitude toward decentralized operating structures.
    E. competition.

Answer: D LO: 1 Type: RC

16. Which of the following would be considered when preparing a company's sales forecast?

	Anticipated Advertising Campaigns	General Economic Trends	Expected Competitive Actions
A.	Yes	Yes	No
B.	Yes	No	Yes
C.	Yes	No	No
D.	Yes	Yes	Yes
E.	No	No	Yes

Answer: D LO: 1 Type: RC

17. Which of the following statements best describes the relationship between the sales-forecasting process and the master-budgeting process?
    A. The sales forecast is typically completed after completion of the master budget.
    B. The sales forecast is typically completed approximately halfway through the master-budget process.
    C. The sales forecast is typically completed before the master budget and has no impact on the master budget.
    D. The sales forecast is typically completed before the master budget and has little impact on the master budget.
    E. The sales forecast is typically completed before the master budget and has significant impact on the master budget.

Answer: E LO: 1 Type: N

18. Which of the following organizations is not likely to use budgets?
    A. Manufacturing firms.
    B. Merchandising firms.
    C. Firms in service industries.
    D. Nonprofit organizations.
    E. None of the above, as all are likely to use budgets.

    Answer: E   LO: 2   Type: RC

19. Activity-based budgeting:
    A. begins with a forecast of products and services to be produced, and customers served.
    B. ends with a forecast of products and services to be produced, and customers served.
    C. parallels the flow of analysis that is associated with activity-based costing.
    D. reverses the flow of analysis that is associated with activity-based costing.
    E. is best described by choices "A" and "D" above.

    Answer: E   LO: 3   Type: RC

20. A company that uses activity-based budgeting performs the following:

    1—Plans activities for the budget period.
    2—Forecasts the demand for products and services as well as the customers to be served.
    3—Budgets the resources necessary to carry out activities.

    Which of the following denotes the proper order of the preceding activities?
    A. 1-2-3.
    B. 2-1-3.
    C. 2-3-1.
    D. 3-1-2.
    E. 3-2-1.

    Answer: B   LO: 3   Type: RC

21. Santa Fe Corporation has a highly automated production facility. Which of the following correctly shows the two factors that would likely have the most direct influence on the company's manufacturing overhead budget?
    A. Sales volume and labor hours.
    B. Contribution margin and cash payments.
    C. Production volume and management judgment.
    D. Labor hours and management judgment.
    E. Management judgment and indirect labor cost.

    Answer: C   LO: 4   Type: N

22. May Production Company, which uses activity-based budgeting, is in the process of preparing a manufacturing overhead budget. Which of the following would likely appear on that budget?
    A. Batch-level costs: Production setup.
    B. Unit-level costs: Depreciation.
    C. Unit-level costs: Maintenance.
    D. Product-level costs: Insurance and property taxes.
    E. Facility and general operations-level costs: Indirect material.

    Answer: A LO: 4 Type: N

23. FastTec, which sells electronics in retail outlets and on the Internet, uses activity-based budgeting in the preparation of its selling, general, and administrative expense budget. Which of the following costs would the company likely classify as a unit-level expense on its budget?
    A. Media advertising.
    B. Retail outlet sales commissions.
    C. Salaries of web-site maintenance personnel.
    D. Administrative salaries.
    E. Salary of sales manager employed at store no. 23.

    Answer: B LO: 4 Type: N

24. Which of the following would have <u>no</u> effect, either direct or indirect, on an organization's cash budget?
    A. Sales revenues.
    B. Outlays for professional labor.
    C. Advertising expenditures.
    D. Raw material purchases.
    E. None of the above, as all of these items would have some influence.

    Answer: E LO: 4 Type: N

25. Atlanta Sporting Goods sells bicycles throughout the southeastern United States. The following data were taken from the most recent quarterly sales forecast:

	Expected Sales	End-of-Month Target Inventory
April	1,700 units	200 units
May	1,850 units	270 units
June	2,000 units	310 units

    On the basis of the information presented, how many bicycles should the company purchase in May?
    A. 1,780.
    B. 1,920.
    C. 2,050.
    D. 2,120.
    E. Some other amount.

    Answer: B LO: 4 Type: A

26. Swanson plans to sell 10,000 units of a particular product during July, and expects sales to increase at the rate of 10% per month during the remainder of the year. The June 30 and September 30 ending inventories are anticipated to be 1,100 units and 950 units, respectively. On the basis of this information, how many units should Swanson purchase for the quarter ended September 30?
    A. 31,850.
    B. 32,150.
    C. 32,950.
    D. 33,250.
    E. Some other amount.

    Answer: C LO: 4 Type: A, N

27. York Corporation plans to sell 41,000 units of its single product in March. The company has 2,800 units in its March 1 finished-goods inventory and anticipates having 2,400 completed units in inventory on March 31. On the basis of this information, how many units does York plan to produce during March?
    A. 40,600.
    B. 41,400.
    C. 43,800.
    D. 46,200.
    E. Some other amount.

    Answer: A LO: 4 Type: A

28. Coleman, Inc., anticipates sales of 50,000 units, 48,000 units, and 51,000 units in July, August, and September, respectively. Company policy is to maintain an ending finished-goods inventory equal to 40% of the following month's sales. On the basis of this information, how many units would the company plan to produce in August?
    A. 46,800.
    B. 49,200.
    C. 49,800.
    D. 52,200.
    E. Some other amount.

    Answer: B LO: 4 Type: A

29. Telcer & Company had 3,000 units in finished-goods inventory on December 31. The following data are available for the upcoming year:

	January	February
Units to be produced	9,400	10,200
Desired ending finished-goods inventory	2,500	2,100

The number of units the company expects to sell in January is:
A. 6,900.
B. 8,900.
C. 9,400.
D. 9,900.
E. 11,900.

Answer: D LO: 4 Type: A

30. Tidewater plans to sell 85,000 units of product no. 794 in May, and each of these units requires three units of raw material. Pertinent data follow.

	Product No. 794	Raw Material
Actual May 1 inventory	11,000 units	29,000 units
Desired May 31 inventory	17,000 units	20,000 units

On the basis of the information presented, how many units of raw material should Tidewater purchase for use in May production?
A. 228,000.
B. 246,000.
C. 264,000.
D. 282,000.
E. Some other amount.

Answer: C LO: 4 Type: A

31. An examination of Short Corporation's inventory accounts revealed the following information:

Raw materials, June 1: 46,000 units
Raw materials, June 30: 51,000 units
Purchases of raw materials during June: 185,000 units

Short's finished product requires four units of raw materials. On the basis of this information, how many finished products were manufactured during June?
A. 45,000.
B. 47,500.
C. 57,750.
D. 70,500.
E. Some other amount.

Answer: A LO: 4 Type: A

32. Nguyen plans to sell 40,000 units of product no. 75 in June, and each of these units requires five square feet of raw material. Pertinent data follow.

	Product No. 75	Raw Material
Actual June 1 inventory	5,500	18,000 square feet
Estimated June 30 inventory	4,300	? square feet

If the company purchases 201,000 square feet of raw material during the month, the estimated raw-material inventory on June 30 would be:
A. 11,000 square feet.
B. 13,000 square feet.
C. 23,000 square feet.
D. 25,000 square feet.
E. some other amount.

Answer: D LO: 4 Type: A

Use the following to answer questions 33-34:

Northwest manufactures a product requiring 0.5 ounces of platinum per unit. The cost of platinum is approximately $360 per ounce; the company maintains an ending platinum inventory equal to 10% of the following month's production usage. The following data were taken from the most recent quarterly production budget:

	July	August	September
Planned production in units	1,000	1,100	980

33. The cost of platinum to be purchased to support August production is:
A. $195,840.
B. $198,000.
C. $200,160.
D. $391,680.
E. Some other amount.

Answer: A LO: 4 Type: A

34. If it takes two direct labor hours to produce each unit and Northwest's cost per labor hour is $15, direct labor cost for August would be budgeted at:
A. $16,500.
B. $31,200.
C. $33,000.
D. $34,800.
E. Some other amount.

Answer: C LO: 4 Type: A

35. Uno makes all sales on account, subject to the following collection pattern: 30% are collected in the month of sale; 60% are collected in the first month after sale; and 10% are collected in the second month after sale. If sales for October, November, and December were $70,000, $80,000, and $60,000, respectively, what were the firm's budgeted collections for December?
    A. $18,000.
    B. $66,000.
    C. $73,000.
    D. $74,000.
    E. Some other amount.

    Answer: C LO: 4 Type: A

36. Vern's makes all sales on account, subject to the following collection pattern: 20% are collected in the month of sale; 70% are collected in the first month after sale; and 10% are collected in the second month after sale. If sales for October, November, and December were $70,000, $60,000, and $50,000, respectively, what was the budgeted receivables balance on December 31?
    A. $40,000.
    B. $46,000.
    C. $49,000.
    D. $59,000.
    E. Some other amount.

    Answer: B LO: 4 Type: A

37. Drago makes all sales on account, subject to the following collection pattern: 30% are collected in the month of sale; 60% are collected in the first month after sale; and 10% are collected in the second month after sale. If sales for June July, and August were $120,000, $160,000, and $220,000, respectively, what were the firm's budgeted collections for August and the company's budgeted receivables balance on August 31?

	August Collections	August 31 Receivables Balance
A.	$162,000	$182,000
B.	$174,000	$170,000
C.	$190,000	$154,000
D.	$262,000	$ 82,000

    E. Some other combination of figures not listed above.

    Answer: B LO: 4 Type: A

38. Diego makes all purchases on account, subject to the following payment pattern:

    Paid in the month of purchase: 30%
    Paid in the first month following purchase: 60%
    Paid in the second month following purchase: 10%

    If purchases for January, February, and March were $200,000, $180,000, and $230,000, respectively, what were the firm's budgeted payments in March?
    A. $69,000.
    B. $138,000.
    C. $177,000.
    D. $197,000.
    E. Some other amount.

    Answer: D LO: 4 Type: A

39. Brooklyn makes all purchases on account, subject to the following payment pattern:

    Paid in the month of purchase: 30%
    Paid in the first month following purchase: 65%
    Paid in the second month following purchase: 5%

    If purchases for April, May, and June were $200,000, $160,000, and $250,000, respectively, what was the firm's budgeted payables balance on June 30?
    A. $175,000.
    B. $179,000.
    C. $183,000.
    D. $189,000.
    E. Some other amount.

    Answer: C LO: 4 Type: A

40. Wolfe, Inc., began operations on January 1 of the current year with a $12,000 cash balance. Forty percent of sales are collected in the month of sale; 60% are collected in the month following sale. Similarly, 20% of purchases are paid in the month of purchase, and 80% are paid in the month following purchase. The following data apply to January and February:

	January	February
Sales	$35,000	$55,000
Purchases	30,000	40,000
Operating expenses	7,000	9,000

If operating expenses are paid in the month incurred and include monthly depreciation charges of $2,500, determine the change in Wolfe's cash balance during February.

A. $2,000 increase.
B. $4,500 increase.
C. $5,000 increase.
D. $7,500 increase.
E. Some other amount.

Answer: B LO: 4 Type: A

Use the following to answer questions 41-43:

The Grainger Company's budgeted income statement reflects the following amounts:

	Sales	Purchases	Expenses
January	$120,000	$78,000	$24,000
February	110,000	66,000	24,200
March	125,000	81,250	27,000
April	130,000	84,500	28,600

Sales are collected 50% in the month of sale, 30% in the month following sale, and 19% in the second month following sale. One percent of sales is uncollectible and expensed at the end of the year.

Grainger pays for all purchases in the month following purchase and takes advantage of a 3% discount. The following balances are as of January 1:

Cash	$88,000
Accounts receivable*	58,000
Accounts payable	72,000

*Of this balance, $35,000 will be collected in January and the remaining amount will be collected in February.

The monthly expense figures include $5,000 of depreciation. The expenses are paid in the month incurred.

41. Grainger's expected cash balance at the end of January is:
   A. $87,000.
   B. $89,160.
   C. $92,000.
   D. $94,160.
   E. $113,160.

   Answer: D LO: 4 Type: A

42. Grainger's budgeted cash receipts in February are:
   A. $91,000.
   B. $95,000.
   C. $113,090.
   D. $113,640.
   E. $114,000.

   Answer: E LO: 4 Type: A

43. Grainger's budgeted cash payments in February are:
   A. $75,660.
   B. $94,860.
   C. $97,200.
   D. $99,860.
   E. $102,200.

   Answer: B LO: 4 Type: A

44. End-of-period figures for accounts receivable and payables to suppliers would be found on the:
   A. cash budget.
   B. budgeted schedule of cost of goods manufactured.
   C. budgeted income statement.
   D. budgeted balance sheet.
   E. budgeted statement of cash flows.

   Answer: D LO: 4 Type: RC

45. Which of the following statements about financial planning models (FPMs) is (are) false?
   A. FPMs express a company's financial and operating relationships in mathematical terms.
   B. FPMs allow a user to explore the impact of changes in variables.
   C. FPMs are commonly known as "what-if" models.
   D. FPMs have become less popular in recent years because of computers and spreadsheets.
   E. Statements "C" and "D" are both false.

   Answer: D LO: 5 Type: RC

46. Consider the following statements about budget administration:

I. Regardless of size, the budgeting process is a very formal process in all organizations.
II. The budget manual is prepared to communicate budget procedures and deadlines to employees throughout an organization.
III. Effective internal control procedures require that the budget director be an individual other than the controller.

Which of the above statements is (are) true?
A. I only.
B. II only.
C. III only.
D. I and II.
E. I and III.

Answer: B LO: 6 Type: N

47. Which of the following statements concerning the budget director is <u>false</u>?
A. The budget director is often the organization's controller.
B. The budget director has the responsibility of specifying the process by which budget data will be gathered.
C. The budget director collects information and participates in preparing the master budget.
D. The budget director communicates budget procedures and deadlines to employees throughout the organization.
E. The budget director usually has the authority to give final approval to the master budget.

Answer: E LO: 6 Type: RC

48. E-budgeting:
A. often uses specialized software to streamline the budgeting process.
B. is an Internet-based budgeting procedure.
C. requires significant network security provisions.
D. is becoming more commonplace as businesses expand their operations throughout the world.
E. possesses all of the above attributes.

Answer: E LO: 6 Type: RC

49. Consider the following statements about zero-base budgeting:

    I. The budget for virtually every activity in an organization is initially set to the level that existed during the previous year.
    II. The budget forces management to rethink each phase of an organization's operations before resources are allocated.
    III. To receive funding for the upcoming period, individual activities must be justified in terms of continued usefulness to the organization.

    Which of the above statements is (are) true?
    A. II only.
    B. III only.
    C. I and II.
    D. II and III.
    E. I, II, and III.

    Answer: D LO: 6 Type: RC

50. Consider the following statements about companies that are involved with international operations:

    I. Budgeting for these firms is often very involved because of fluctuating values in foreign currencies.
    II. Multinational firms may encounter hyperinflationary economies.
    III. Such organizations often face changing laws and political climates that affect business activity.

    Which of the above statements is (are) true?
    A. I only.
    B. III only.
    C. I and II.
    D. II and III.
    E. I, II, and III.

    Answer: E LO: 6 Type: RC

51. The budgeting technique that focuses on different phases of a product such as planning and concept design, testing, manufacturing, and distribution and customer service is known as:
    A. cash-flow budgeting.
    B. zero-base budgeting.
    C. base budgeting.
    D. comprehensive budgeting.
    E. life-cycle budgeting.

    Answer: E LO: 7 Type: RC

52. Consider the following statements about budgeting and a product's life cycle:

I. Budgets should focus on costs that are incurred only after a product has been introduced to the marketplace.
II. Life-cycle costs would include those related to product planning, preliminary design, detailed design and testing, production, and distribution and customer service.
III. When a life cycle is short, companies must make certain that before a commitment is made to a product, the product's life-cycle costs are covered.

Which of the above statements is (are) true?
A. I only.
B. II only.
C. I and II.
D. II and III.
E. I, II, and III.

Answer: D LO: 7 Type: RC

53. The difference between the revenue or cost projection that a person provides, and a realistic estimate of the revenue or cost, is called:
A. passing the buck.
B. budgetary slack.
C. false budgeting.
D. participative budgeting.
E. resource allocation processing.

Answer: B LO: 8 Type: RC

54. If a manager builds slack into a budget, how would that manager handle estimates of revenues and expenses?

	Revenues	Expenses
A.	Underestimate	Underestimate
B.	Underestimate	Overestimate
C.	Overestimate	Underestimate
D.	Overestimate	Overestimate
E.	Estimate correctly	Estimate correctly

Answer: B LO: 8 Type: RC

55 The following events took place when Managers A, B, and C were preparing budgets for the upcoming period:

I. Manager A increased property tax expenditures by 2% when she was informed of a recent rate hike by local authorities.
II. Manager B reduced sales revenues by 4% when informed of recent aggressive actions by a new competitor.
III. Manager C, who supervises employees with widely varying skill levels, used the highest wage rate in the department when preparing the labor budget.

Assuming that the percentage amounts given are reasonable, which of the preceding cases is (are) an example of building slack in budgets?
A. I only.
B. II only.
C. III only.
D. I and II.
E. II and III.

Answer: C LO: 8 Type: N

56. Consider the following statements about budgetary slack:

I. Managers build slack into a budget so that they stand a greater chance of receiving favorable performance evaluations.
II. Budgetary slack is used by managers to guard against uncertainty and unforeseen events.
III. Budgetary slack is used by managers to guard against dollar cuts by top management in the resource allocation process.

Which of the above statements is (are) true?
A. I only.
B. II only.
C. I and II.
D. II and III.
E. I, II, and III.

Answer: E LO: 8 Type: RC

57. When an organization involves its many employees in the budgeting process in a meaningful way, the organization is said to be using:
A. budgetary slack.
B. participative budgeting.
C. budget padding.
D. imposed budgeting.
E. employee-based budgeting.

Answer: B LO: 8 Type: RC

58. Which of the following outcomes is (are) sometimes associated with participative budgeting?
    A. Employees make little effort to achieve budgetary goals.
    B. Budget preparation time can be somewhat lengthy.
    C. The problem of budget padding may arise.
    D. Financial modeling becomes much more difficult to undertake.
    E. Budget preparation time can be somewhat lengthy <u>and</u> budget padding may arise.

    Answer: E   LO: 8   Type: RC

59. Company A uses a heavily participative budgeting approach whereas at Company B, top management develops all budgets and imposes them on lower-level personnel. Which of the following statements is <u>false</u>?
    A. A's employees will likely be more motivated to achieve budgetary goals than the employees of Company B.
    B. B's employees may be somewhat disenchanted because although they will be evaluated against a budget, they really had little say in budget development.
    C. Budget padding will likely be a greater problem at Company B.
    D. Budget preparation time will likely be longer at Company A.
    E. Ethical issues are more likely to arise at Company A, especially when the budget is used as a basis for performance appraisal.

    Answer: C   LO: 8   Type: N

EXERCISES

Revenue and Labor Budgeting—University Setting

60. Virginia State University (VSU) is preparing its master budget for the upcoming academic year. Currently, 12,000 students are enrolled on campus; however, the admissions office is forecasting a 5% growth in the student body despite a tuition hike to $80 per credit hour. The following additional information has been gathered from an examination of university records and conversations with university officials:
    - VSU is planning to award 150 tuition-free scholarships.
    - The average class has 30 students, and the typical student takes 15 credit hours each semester.
    - Each class is three credit hours.
    - Each faculty member teaches five classes during the academic year.

    Required:
    A. Compute the budgeted tuition revenue for the upcoming academic year.
    B. Determine the number of faculty members needed to cover classes.
    C. In preparing the university's master budget, should the administration begin with a forecast of students or a forecast of faculty members? Briefly explain.

    LO: 4   Type: A, N

Answer:

A. Total student body: 12,000 + (12,000 x 5%) = 12,600;
Tuition-paying students: 12,600 - 150 = 12,450;
Forecasted tuition revenue: 12,450 students x 30 credit hours x $80 = $29,880,000

B. Each student generates 10 "enrollments" per year (15 credit hours x 2 semesters ÷ 3 credit hours per class). Thus, 126,000 "enrollments" (12,600 students x 10) must be covered.

Classes to be taught: 126,000 ÷ 30 students per class = 4,200 classes;
Faculty needed: 4,200 classes ÷ 5 classes per professor = 840 faculty

C. The university should begin with a forecast of the number of students. While the number of faculty may be a key driver for a variety of expenditures, the number of faculty is highly dependent on the number of students. Students (and tuition revenue) are akin to sales—the starting point in the budgeting process.

Production Budget

61. Thrifty Corporation has experienced a number of out-of-stock situations with respect to its finished-goods inventories. Inventory at the end of May, for example, was only 40 units—an all-time low.

Management desires to implement a policy whereby finished-goods inventory is 70% of the following month's sales. Budgeted sales for June, July, and August are expected to be 4,500 units, 5,100 units, and 4,900 units, respectively.

Required:
Determine the number of units that Thrifty must produce in June and July.

LO: 4 Type: A

Answer:

Budgeted sales in June (units)	4,500
Add: Desired ending finished-goods inventory (5,100 x 70%)	3,570
Total finished units needed	8,070
Less: Beginning finished-goods inventory	40
Number of units to be produced in June	8,030
Budgeted sales in July (units)	5,100
Add: Desired ending finished-goods inventory (4,900 x 70%)	3,430
Total finished units needed	8,530
Less: Beginning finished-goods inventory	3,570
Number of units to be produced in July	4,960

Direct-Material Purchases Budget

62. Turbo Manufacturing plans to produce 20,000 units, 24,000 units, and 30,000 units, respectively, in October, November, and December. Each of these units requires four units of part no. 879, which the company can purchase for $7 each. Turbo has 35,000 units of part no. 879 in stock on September 30.

Required:
Prepare a direct-material purchases budget for October and November if management desires to maintain an ending raw-material inventory equal to 40% of the following month's production usage.

LO: 4 Type: A

Answer:

	October	November
Planned production	20,000	24,000
Units of part no. 879	x 4	x 4
Units of part no. 879 used in production	80,000	96,000
Add: Desired ending inventory*	38,400	48,000
Total units of part no. 879 needed	118,400	144,000
Less: Beginning inventory of part no. 879	35,000	38,400
Units of part no. 879 to be purchased	83,400	105,600
Cost per unit	x $7	x $7
Cost of direct material purchases	$583,800	$739,200

*October: 24,000 x 4 x 40%; November: 30,000 x 4 x 40%

Production and Direct-Material Purchases Budgets

63. Scot Company plans to sell 400,000 units of finished product in July 20x1. Management (1) anticipates a growth rate in sales of 5% per month thereafter and (2) desires a monthly ending finished-goods inventory (in units) of 80% of the following month's estimated sales. There are 300,000 completed units in the June 30, 20x1 inventory.

Each unit of finished product requires four pounds of direct material at a cost of $1.50 per pound. There are 1,600,000 pounds of direct material in inventory on June 30, 20x1.

Required:

A. Prepare a production budget for the quarter ended September 30, 20x1. Note: For both part "A" and part "B" of this problem, prepare your budget on a quarterly (not monthly) basis.

B. Independent of your answer to part "A," assume that Scot plans to produce 1,200,000 units of finished product for the quarter ended September 30. If the firm desires to stock direct materials at the end of this period equal to 25% of current production usage, compute the cost of direct material purchases for the quarter.

LO: 4 Type: A

Answer:

A. Projected sales:

July	400,000
August (400,000 x 1.05)	420,000
September (420,000 x 1.05)	441,000
Quarterly total	1,261,000

Total quarterly sales	1,261,000
Add: Desired 9/30 inventory (463,050* x 80%)	370,440
Total units needed	1,631,440
Less: 6/30 inventory	300,000
Total quarterly production requirement	1,331,440

*October sales: 441,000 x 1.05 = 463,050

B.

Material to be used in production (1,200,000 x 4 pounds)	4,800,000
Add: Desired 9/30 inventory (4,800,000 x 25%)	1,200,000
Direct materials needed	6,000,000
Less: 6/30 inventory	1,600,000
Pounds to be purchased during the quarter	4,400,000
Direct material cost per pound	x $1.50
Total quarterly cost of purchases	$6,600,000

Budget Linkages: Production, Materials, Labor, Balance Sheet

64. Atlantic Corporation assembles bicycles by purchasing frames, wheels, and other parts from various suppliers. Consider the following data:
    - The company plans to sell 25,000 bicycles during each month of the year's first quarter.
    - A review of the accounting records disclosed a finished-goods inventory of 1,400 bicycles on January 1 and an expected finished-goods inventory of 1,850 bicycles on January 31.
    - Atlantic has 4,300 wheels in inventory on January 1, a level that is expected to drop by 5% at month-end.
    - Assembly time totals 30 minutes per bicycle, and workers are paid $14 per hour.
    - Atlantic accounts for employee benefits as a component of direct labor cost. Pension and insurance costs average $2 per hour (total); additionally, the company pays Social Security taxes that amount to 8% of gross wages earned.

    Required:

    A. How many bicycles does Atlantic expect to produce (i.e., assemble) in January?
    B. How many wheels must be purchased to satisfy production needs?
    C. Compute Atlantic's total direct labor cost.
    D. Briefly explain how the company's purchasing activity would affect the end-of-period balance sheet.

    LO: 4 Type: A, N

    Answer:

    A. Finished-goods inventory is expected to increase by 450 units (1,850 - 1,400). Thus, the company will assemble 25,450 bicycles (25,000 + 450).

    B. Atlantic's production will require 50,900 wheels (25,450 x 2). Given that inventory will drop by 215 units (4,300 x 5%), the company must purchase 50,685 wheels (50,900 - 215).

    C. Assembly time: 25,450 bicycles x 30/60 = 12,725 hours
    Labor cost:

Wages: 12,725 hours x $14	$178,150
Pension and insurance: 12,725 hours x $2	25,450
Social Security taxes: $178,150 x 8%	14,252
Total	$217,852

    D. Purchasing activity would likely affect the balance sheet in several ways. Atlantic's Cash account would decrease and any end-of-period obligations to suppliers would be disclosed as accounts payable. In addition, the wheels on hand at the end of the period would affect raw-material inventories, and the cost of wheels acquired and used would influence the ending inventory of bicycles.

Production, Materials, and Labor Budgets

65. Jacobs manufactures two products: A and B. The firm predicts a sales volume of 10,000 units for product A and ending finished-goods inventory of 2,000 units. These numbers for product B are 12,000 and 3,000, respectively. Jacobs currently has 7,000 units of A in inventory and 9,000 units of B.

The following raw materials are required to manufacture these products:

		Required for Product	
Raw Material	Cost per Pound	A	B
X	$2.00	2 pounds	
Y	2.50	1 pound	1 pound
Z	1.25		3 pounds

Product A requires three hours of cutting time and two hours of finishing time; B requires one hour and three hours, respectively. The direct labor rate for cutting is $10 per hour and $18 per hour for finishing.

Required:

A. Prepare a production budget in units.
B. Prepare a materials usage budget in pounds and dollars.
C. Prepare a direct labor budget in hours and dollars for product A.

LO: 4 Type: A

Answer:

A.

	A	B
Sales volume in units	10,000	12,000
Add: Ending finished-goods inventory	2,000	3,000
Total units required	12,000	15,000
Less: Beginning finished-goods inventory	7,000	9,000
Total units to be produced	5,000	6,000

B.

Raw Material Usage	A	B
X: 2 pounds x 5,000	10,000	
Y: 1 pound x 5,000; 1 pound x 6,000	5,000	6,000
Z: 3 pounds x 6,000		18,000

X: 10,000 pounds x $2.00	$20,000
Y: (5,000 + 6,000) pounds x $2.50	27,500
Z: 18,000 pounds x $1.25	22,500
Total cost	$70,000

C. Cutting

Production in units	5,000
Direct labor hours per unit	x 3
Usage in direct labor hours	15,000
Direct labor rate	x $10
Direct labor cost	$150,000

Finishing

Production in units	5,000
Direct labor hours per unit	x 2
Usage in direct labor hours	10,000
Direct labor rate	x $18
Direct labor cost	$180,000
Total budgeted direct labor cost	$330,000

Cash Collections

66. Tara Company has the following historical collection pattern for its credit sales:

70% collected in month of sale
15% collected in the first month after sale
10% collected in the second month after sale
4% collected in the third month after sale
1% uncollectible

Budgeted credit sales for the last six months of the year follow.

July	$30,000
August	35,000
September	40,000
October	45,000
November	50,000
December	42,500

Required:
A. Calculate the estimated total cash collections during October.
B. Calculate the estimated total cash collections during the year's fourth quarter.

LO: 4 Type: A

Answer:

A.

Month of Sale	October Collections	
July	$30,000 x 4% =	$ 1,200
August	$35,000 x 10% =	3,500
September	$40,000 x 15% =	6,000
October	$45,000 x 70% =	31,500
Total		$42,200

B.

	Credit	Amount Collected		
Month of Sale	Sales	October	November	December
July	$ 30,000	$ 1,200		
August	35,000	3,500	$ 1,400	
September	40,000	6,000	4,000	$ 1,600
October	45,000	31,500	6,750	4,500
November	50,000		35,000	7,500
December	42,500			29,750
Total	$242,500	$42,200	$47,150	$43,350

Total collections in the fourth quarter $132,700

Cash Inflows and Cash Management

67. The accounting records of Backspace, Inc., revealed an accounts receivable balance of $195,000 on January 1, 20x6. Forty percent of the company's sales are for cash, and the remaining 60% are on account. Of the credit sales, 30% are collected in the month of sale and 70% are collected in the following month. Total sales in January and February are expected to amount to $500,000 and $530,000, respectively.

Assume that in the latter half of 20x6, Backspace hired a new sales manager who aggressively tried to maximize the company's market share. She implemented a compensation system for the sales force that was 100% commission based, with the commission calculated on the basis of gross sales dollars. Sales volume increased dramatically in a very short period of time, and the sales and collection patterns changed, as follows:

Cash sales: 20%	
Credit sales: 80%	
Collected in the month of sale	15%
Collected in the month following sale	75%
Uncollectible	10%

Required:

A. Compute the company's cash inflows for January and February, 20x6.
B. Determine the outstanding receivables balance at the end of February.
C. Compare the sales and collection patterns before and after the arrival of the new sales manager. Have things improved or deteriorated? Explain.
D. On the basis of the information presented, determine what likely caused the improvement or deterioration in collection patterns.

LO: 4 Type: A, N

Answer:

A. January: Accounts receivable ($195,000) + January cash sales ($500,000 x 40%)
+ January credit sales collected in January ($500,000 x 60% x 30%) = $485,000
February: January credit sales collected in February ($500,000 x 60% x 70%) + February cash sales ($530,000 x 40%) + February credit sales collected in February ($530,000 x 60% x 30%) = $517,400

B. Since credit sales are collected over two months, 70% of February's credit sales are still outstanding: $530,000 x 60% x 70% = $222,600

C. Although sales have increased, the credit and collection patterns have deteriorated. One of the company's likely objectives is to accelerate cash inflows. Notice that in percentage terms, cash sales have declined (40% vs. 20%); credit customers now take longer to pay as judged by collections in the month of sale (30% vs. 15%); and high levels of uncollectibles have arisen (0% vs. 10%).

D. The data reveal that total sales increased as did the percentage of sales made on credit. It appears that the sales manager's emphasis on market share may have led to sales being made to poor credit risks [as judged by the high rate of uncollectibles and reduced percentages of sales being settled in the month of sale (both cash and credit)]. These actions may have been triggered by a commission system based on gross sales, thus "encouraging" employees to increase sales despite the credit worthiness and profitability of the customer.

Cash Budgeting

68. Renson Corporation, a wholesaler, provided the following information:

Month	Merchandise Purchases	Sales
January	$142,000	$172,000
February	148,000	166,000
March	136,000	165,000
April	154,000	178,000
May	160,000	166,000

Customers pay 60% of their balances in the month of sale, 30% in the month following sale, and 10% in the second month following sale. The company pays all invoices in the month following purchase and takes advantage of a 3% discount on all amounts due. Cash payments for operating expenses in May will be $119,500; Renson's cash balance on May 1 was $127,800.

Required:
Determine the following:
A. Expected cash collections during May.
B. Expected cash disbursements during May.
C. Expected cash balance on May 31.

LO: 4 Type: A

Answer:

A.

Month	Sales	Percent	Collections
March	$165,000	10%	$ 16,500
April	178,000	30%	53,400
May	166,000	60%	99,600
Total			$169,500

B.

April purchases to be paid in May	$154,000
Less: 3% cash discount	4,620
Net amount	$149,380
Add: Cash payments for expenses	119,500
Total expected cash disbursements	$268,880

C.

Balance, May 1	$127,800
Add: Expected collections	169,500
Subtotal	$297,300
Less: Expected payments	268,880
Expected balance, May 31	$ 28,420

Interpretation of Budget Data

69. Stiles Enterprises reported the following cash collections in July and August from credit sales:

	July	August
From June receivables	$ 33,000	
From July sales	105,000	$ 45,000
From August sales		168,000

The company sells a single product for $20, and all sales are collected over a two-month period.

Required:

A. Determine the number of units that were sold in July.
B. Determine the percent of credit sales collected in the month of sale and the percent of sales collected in the month following sale.
C. How many units were sold in August?
D. Determine the accounts receivable balance as of August 31.

LO: 4 Type: A, N

Answer:

A. July sales: $105,000 + $45,000 = $150,000; $150,000 ÷ $20 = 7,500 units

B. July sales collected in July: $105,000 ÷ $150,000 = 70%

Seventy percent of credit sales are collected in the month of sale; the remaining 30% are collected in the month following sale.

C. Seventy percent of August sales were collected in August; thus, total August sales = $168,000 ÷ 0.70, or $240,000. August sales in units: $240,000 ÷ $20 = 12,000

D. $240,000 - $168,000 = $72,000

Cash and the Budgeting Process

70. Sherman Company provides services in the retail flooring industry. The following information is available for 20x5:
    - Twenty percent of the firm's services are for cash and the remaining 80% are on account. Of the credit services, 40% are collected in the month that the service is provided, with the remaining 60% collected in the following month.
    - Services provided in January are expected to total $250,000 and grow at the rate of 5% per month thereafter.
    - January's cash collections are expected to be $240,400, and month-end receivables are forecast at $120,000.
    - Monthly cash operating costs and depreciation during the first quarter of the year are approximated at $250,000 and $15,000, respectively.
    - Sherman's December 31, 20x4 balance sheet revealed accounts payable balances of $28,000. This amount is related to the company's operating costs and is expected to grow to $36,000 by the end of 20x5's first quarter. All operating costs are paid within 30 days of incurrence.
    - Company policy requires that a $20,000 minimum cash balance be maintained, and Sherman's 20x4 year-end balance sheet showed that the firm was in compliance with policy by having cash of $23,000.

    Required:

    A. Determine the sales revenue earned that will appear on the income statement for the quarter ended March 31, 20x5.
    B. Compute the company's first-quarter cash collections.
    C. Compute the cash balance that would appear on the March 31, 20x5 balance sheet.
    D. What are some possible actions the company could pursue if, at any time during the quarter, it finds that the cash balance has fallen below the stated minimum.

    LO: 4 Type: A, N

    Answer:

    A. The income statement will report revenues earned of $788,125 [$250,000 + ($250,000 x 1.05 = $262,500) + ($262,500 x 1.05 = $275,625)].

    B. Collections for the first quarter total $766,225 ($240,400 + $256,500 + $269,325):

January:		
Given		$240,400
February:		
January receivables	$120,000	
February cash services: $262,500 x 20%	52,500	
February credit services: $262,500 x 80% x 40%	84,000	$256,500
March:		
February credit services: $262,500 x 80% x 60%	$126,000	
March cash services: $275,625 x 20%	55,125	
March credit services: $275,625 x 80% x 40%	88,200	$269,325

C. The ending cash balance is $47,225: $23,000 (January 1 balance) + $766,225 (collections) - $28,000 (December payables) - $750,000 (monthly cash expenses x 3) + $36,000 (March payables).

D. Several possible actions include securing a short-term loan or line of credit, working with clients in an attempt to accelerate inflows, and working with vendors to temporarily delay payments. The goal is to have added funds on hand so that operations continue smoothly and are not disrupted because of sporadic or ongoing shortages.

Budgeted Income Statement; Partial Balance Sheet

71. The following information relates to DFW Corporation:
- All sales are on account and are budgeted as follows: February, $350,000; March, $360,000; and April, $400,000. DFW collects 70% of its sales in the month of sale and 30% in the following month.
- Cost of goods sold averages 60% of sales. Purchases total 65% of the following month's sales and are paid in the month following acquisition.
- Cash operating expenses total $60,000 per month and are paid when incurred. Monthly depreciation amounts to $18,000.
- Selected amounts taken from the January 31 balance sheet were: accounts receivable, $115,000; plant and equipment (net), $107,000; and retained earnings, $85,000.

Required:

A. Prepare a budgeted income statement that summarizes activity for the two months ended March 31, 20x1.

B. Compute the amounts that would appear on the March 31 balance sheet for accounts receivable, plant and equipment (net), and retained earnings.

LO: 4 Type: A

Answer:

A. Income Statement for the Two Months Ended March 31, 20x1

Sales revenue ($350,000 + $360,000)		$710,000
Cost of goods sold ($710,000 x 60%)		426,000
Gross margin		$284,000
Operating expenses:		
Cash operating expenses ($60,000 x 2)	$120,000	
Depreciation ($18,000 x 2)	36,000	156,000
Net income		$128,000

B. Accounts receivable: $115,000 - $115,000 + $350,000 - ($350,000 x 70%) + $360,000 - ($350,000 x 30%) - ($360,000 x 70%) = $108,000
Plant and equipment (net): $107,000 - $18,000 - $18,000 = $71,000
Retained earnings: $85,000 + $128,000 = $213,000

DISCUSSION QUESTIONS

Purposes of Budgeting Systems

72. Discuss the importance of budgeting and identify five purposes of budgeting systems.

    LO: 1   Type: RC

    Answer:
    Budgets aid in determining how to acquire resources, and when and how these resources should be used. In plain and simple terms, a formal budgeting program is a key ingredient to effective management. The five purposes of budgeting are to:
    1. develop a plan of action.
    2. facilitate communication of the plan and coordinate various views within an organization.
    3. allocate limited resources effectively and efficiently.
    4. serve as a benchmark to control profit and operations.
    5. evaluate performance and provide incentives to managers.

Sales Forecast

73. List several factors that an organization might consider when developing a sales forecast.

    LO: 1   Type: RC

    Answer:
    - Past sales levels and economic trends for the firm as well as for the industry as a whole
    - General conditions in the economy such as growth or decline, recession or boom, etc.
    - External forces such as weather or potential strikes
    - Political or legal factors such as litigation or new legislation
    - Pricing policies of the organization
    - Advertising and promotion plans
    - Competitors' actions
    - Potential for new product lines
    - Market research studies

Budgetary Slack

74. Tara Pineno, new-accounts manager at East Bank of Clarion, has been asked to project how many new accounts she will open during 20x2. The local economy has been growing, and the bank has experienced a 10% increase in the number of new accounts over each of the past five years. In 20x1, the bank had 10,000 accounts.

    Tara is paid a salary, plus a bonus of $20 for every new account above the budgeted amount. Thus, if the annual budget calls for 1,000 new accounts, and 1,080 new accounts are obtained, her bonus will be $1,600 (80 x $20).

    Pineno believes that the local economy will continue to grow at the same rate in 20x2 as it has in recent years. She decided to submit a projection of 700 new accounts for 20x2.

    Required:
    Your consulting firm has been hired by the bank president to make recommendations for improving the bank's operation. Write a memorandum to the president defining and explaining the negative consequences of budgetary slack. Also discuss the bank's bonus system for the new-accounts manager and how the bonus program tends to encourage budgetary slack.

    LO: 8 Type: RC

    Answer:
    Memorandum
    Date: Today
    To: President, East Bank of Clarion
    From: I.M. Student and Associates
    Subject: Budgetary slack

    Budgetary slack is the difference between a budget estimate that a person provides and a realistic determination of the amount. The practice of creating budgetary slack is called padding the budget. The primary negative consequence of slack is that it undermines the credibility and usefulness of the budget as a planning and control tool. When a budget includes slack, the amounts in the budget no longer portray a realistic view of future operations.

    The bank's bonus system for the new-accounts manager tends to encourage budgetary slack. Since the manager's bonus is determined by the number of new accounts opened in excess of the budgeted number, there is an incentive for the manager to understate her activity projections. There is evidence of this behavior, as a 10% increase over the bank's current 10,000 accounts would be 1,000 new accounts in 20x2. Tara's projection, however, is only 700.

Participative Budgeting

75. James Corporation, headquartered in Chicago, has a manufacturing plant in Dallas. Plant managers desire to participate in the company's budget efforts, which, for the past 10 years, have been handled solely by top executives in Chicago. Dallas managers feel that by becoming involved, they can make great strides in terms of improving operating performance of their aging facility.

    Required:
    Briefly discuss this situation, focusing on the benefits and problems of letting Dallas managers participate in the company's budgetary efforts.

    LO: 8 Type: RC, N

    Answer:
    Participative budgets will make the plant managers feel that their opinions are valued by top management and, generally speaking, the plant managers will have a better attitude about trying to achieve the budget. Additionally, it is possible in this case that the participative approach will result in a more realistic budget document. Chicago personnel may be too far removed from daily activities in Dallas to get an accurate picture of on-going operations.

    On the negative side, a participative budget may take longer to prepare and may lead to some local in-fighting when compared with one that is imposed from corporate headquarters. Also, participative budgets may have some padding or slack, as the Dallas managers are faced with an aging facility. This facility may be inefficient and, with their participation, managers may bend the numbers a bit to improve appearance.