Study Questions

1. Electron Company manufactures an innovative automobile transmission for electric cars. Management predicts that ending inventory for the first quarter will be 35,800 units. The following unit sales of the transmissions are expected during the rest of the year: second quarter 221,000 units; third quarter, 497,000 units; and fourth quarter, 243,500 units. Company policy calls for the ending inventory of a quarter to equal 40% of the next quarters budgeted sales. Prepare a production budget for both the second and third quarters that show the number of transmission to manufacture.

2.) Beck company set the following standard unit costs for its single product.

Direct materials (26lbs. @4 per lb.)……………………………………………..$104.00

Direct labor (8hrs.@ $8 per hr.)……………………………………………………. 64.00

Factory overhead—variable (8hrs. @ $5 per hr)…………………………….. 40.00

Factory overhead—fixed (8hrs. @ $7 per hr.)……………………………….. 56.00

Total standard cost………………………………………………………………………. $264.00

The predetermined overhead rate is based on a planned operating volume of 70% of the productive capacity of 50,000 units per quarter. The following flexible budget information is available.

Operating levels\_\_\_\_\_\_\_\_\_\_\_\_\_

60% 70% 80%

Production in units………………………….. 30,000 35,000 40,000

Standard direct labor hours………………. 240,000 280,000 320,000

Budgeted overhead

Fixed factory overhead………….. $1,960,000 $1,960,000 $1,960,000

Variable factory overhead……… $1,200,000 $1,400,000 $1,600,000

During the current quarter, the company operated at 80% of capacity and produced 40,000 units of product; actual direct labor totaled 178,000 hours. Units produced were assigned the following standard costs:

Direct materials (1,040,000 lbs. @ $4 per lb)………………………………… $4,160,000

Direct labor (320,000 hrs @ $8 per hr)…………………………………………. 2,560,000

Factory overhead (320,000 hrs @ $12 per hr)………………………………. 3,840,000

Total standard cost………………………………………………… $10,560,000

Actual costs incurred during the current quarter follow

Direct materials (1,035,000 lbs @ $4.10)………………………………… $4,243,500

Direct labor (327,000 hrs @ $7.75)………………………………………. 2,543,250

Fixed factory overhead costs………………………………………………… 1,875,000

Variable factory overhead costs……………………………………….. 1,482,717

Total actual cost…………………………………………………………. $10,135,467

1. Compute the direct materials cost variance, including its price and quantity variances
2. Compute the direct labor variance, including its rate and efficiency variances.
3. Major Companies 2009 master budget includes the following fixed budget report. It is based on an expected production and sales volume of 15,000 units

|  |  |  |
| --- | --- | --- |
| MAJOR COMPANY  Fixed Budget Report  For Year Ended December 31, 2009 | | |
| Sales |  | $3,300,000 |
| Cost of good sold | | |
| Direct materials | $960,000 |  |
| Direct labor | 240,000 |  |
| Machinery repairs (variable cost) | 60,000 |  |
| Depreciate—plant equipment | 300,000 |  |
| Utilities ($60,000 is variable) | 180,000 |  |
| Plant management salaries | 210,000 | 1,950,000 |
| Gross profit |  | 1,350,000 |
| Selling expenses | | |
| Packaging | 75,000 |  |
| Shipping | 105,000 |  |
| Sales salary (fixed annual amt) | 235,000 | 415,000 |
| General and administrative expenses | | |
| Advertising expense | 100,000 |  |
| Salaries | 241,000 |  |
| Entertainment expense | 85,000 | 426,000 |
| Income from operations |  | $509,000 |

1. Classify all items listed in the fixed budget as variable or fixed. Also determine their amounts per unit or their amounts for the year, as appropriate.
2. Prepare flexible budgets for the company at sales volumes of 14,000 and 16,000 units.
3. The company’s business conditions are improving. One possible result is a sales volume of approximately 18,000 units. The company president is confident that this volume is within the relevant range of existing capacity. How much would operating income increase over the 2009 budgeted amount of 4509,000 if this level is reached without increasing capacity?
4. An unfavorable change in business is remotely possible; in this case, production and sales volume for 2009 could fall to 12,000 units. How much income (or loss) from operations would occur if sales volume falls to this level?

Near the end of 2009, the management of Nygaard Sports Co., a merchandising company, prepared the following estimated balance sheet for December 31, 2009.  
  
NYGAARD SPORTS COMPANY  
Estimated Balance Sheet  
December 31, 2009  
  
Assets:  
Cash: $35,000   
Accounts receivable 520,000   
Inventory 142,500   
Total current assets 675,500   
Equipment $540,000   
Less accumulated depreciation 67500 =472,500  
Total Assets= $1,170,000

Liabilities and Equity  
Accounts payable $345000  
Bank Loan Payable 14000  
Taxes payable ( due 3/15/2010) 91,000  
Total liabilities $450,000  
Common Stock 473000  
Retained earnings 247,000  
Total Stockholders? equity 720,000  
Total Liabilites&Equity= $1,170,000  
  
  
To prepare a master budget for January, February, and March of 2010, management gathers the following information.  
  
a. Nygaard Sports single product is purchased for $30 per unit and resold for $53 per unit. The expected inventory level of 4,750 units on December 31, 2009, is more than management’s desired level for 2010, which is 20% of the next months expected sales (in units). Expected sales are: January, 7,500 units; February, 9250 units; March, 10,750 units; and April, 10,500 units.  
b. Cash sales and credit sales represent 20% and 80%, respectively, of total sales. Of the credit sales, 57% is collected in the first month after the month of sale and 43% in the second month after the month of sale. For the December 31, 2009, accounts receivable balance, $130,000 is collected in January and the remaining $390,000 is collected in February.  
c. Merchandise purchases are paid for as follows: 20% in the first month after the month of purchase and 80% in the second month after the month of purchase. For the December 31, 2009, accounts payable balance, $70,000 is paid in January and the remaining $275,000 is paid in February.  
d. Sales commissions equal to 20% of sales are paid each month. Sales salaries (excluding commissions) are $72,000 per year.  
e. General and administrative salaries are $156,000 per year. Maintenance expense equals $2,100 per month and is paid in cash.  
f. Equipment reported in the December 31, 2009, balance sheet was purchased in January 2009. It is being depreciated over eight years under the straight-line method with no salvage value. The following amounts for new equipment purchases are planned in the coming quarter: January, $36,000; February, $96,000; and March, $28,800. This equipment will be depreciated under the straight-line method over eight years with no salvage value. A full months depreciation is taken for the month in which equipment is purchased.  
g. The company plans to acquire land at the end of March at a cost of $155,000, which will be paid with cash on the last day of the month.  
h. Nygaard Sports has a working arrangement with its bank to obtain additional loans as needed. The interest rate is 12% per year, and interest is paid at each month-end based on the beginning balance. Partial or full payments on these loans can be made on the last day of the month. The company has agreed to maintain a minimum ending cash balance of $25,000 in each month.  
i. The income tax rate for the company is 43%. Income taxes on the first quarters income will not be paid until April 15.  
  
Prepare a master budget for each of the first three months of 2010; include the following component budgets (show supporting calculations as needed, and round amounts to the nearest dollar):  
  
1) Monthly Sales Budgets (showing both unit sales and dollar sales)  
  
  
2) Monthly Merchandise purchase budgets  
  
  
3) Monthly Selling expense budgets  
  
  
4) Monthly general and administrative expense budgets  
  
  
5) Monthly capital expenditures budgets  
  
  
6) Monthly cash budgets  
  
  
7) Budgeted income statement for the entire 1st quarter (not for each month)  
  
  
8) Budgeted balance sheet as of March 31, 2010