

Question:1

The accounting information system for Textbook Inc. reported the following cost And inventory data for the year.

Costs Incurred:

Raw Material Purchased	110,000	
Direct Labour	40,000	
Indirect Labour	18,000	
Equipment Maintenance (Factory)	9,000	
Insurance (Factory)	15,000	
Rent (90% Factory / 10% Selling & Admin)	30,000	
Amortization (Factory Equipment)	18,000	
Factory Supplies	5,000	
Advertising Expense	18,000	
Selling and Admin Expenses	20,000	
Revenue (net):		475,000

**Inventories:**

	Beginning Balance	Ending Balance
Raw Materials	10,000	13,000
Work in Process	15,000	17,000
Finished Goods	35,000	30,000

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- Prepare Schedule of Cost of Goods Manufactured
- Prepare Income Statement (including Cost of Goods Sold)

Answer 1

(a)

Workings:**Computation of raw materials consumed****Amount
in \$**

Opening	10,000
Add: Raw material purchases	110,000
Less: Closing	-13,000
Raw materials consumed	<u>107,000</u>

Rent

30,000

Factory rent (90%)	27,000
Selling and admin expenses	3,000

Textbook Inc.
Cost Sheet

	<u>Amount</u> <u>in \$</u>
Direct raw materials consumed	107,000
Direct labor	40,000
Prime Costs	<u>147,000</u>
<u>Factory Overhead</u>	
Indirect Labour	18,000
Equipment Maintenance	9,000
Insurance	15,000
Factory rent	27,000
Amortization (Factory Equipment)	18,000
Factory Supplies	5,000
Add: Opening work in process	15,000
Less: Closing work in process	-17,000
Cost of goods manufactured	<u>237,000</u>
Add: Opening finished goods	35,000
Less: Closing finished goods	-30,000
Cost of goods sold	<u>242,000</u>
<u>Selling and administration overhead</u>	
Rent	3,000
Advertising Expense	18,000
Selling and Admin Expenses	<u>20,000</u>
Cost of sales	<u><u>283,000</u></u>

(b)

Income Statement
Cost Sheet

	<u>Amount</u> <u>in \$</u>
Revenue	475,000

Less: cost of goods sold	242,000
Gross profit	233,000
Less:	
Rent	3,000
Advertising Expense	18,000
Selling and Admin Expenses	20,000
Net Profit	192,000



Questions: 2

Part A: Mixed Costs - High/Low

Workman's Shoes accumulated the following production and cost data for the past 5 months.

	Production (units)	Overhead Costs
January	1,000	\$ 11,980
February	1,800	16,200
March	1,400	14,200
April	1,650	15,500
May	900	11,520
June	1,150	12,500
July	1,200	13,000

- Using the high/low method calculate the variable cost per unit and the fixed costs for Workman's Shoes
- What is the cost equation?
- What are estimated total overhead costs for production of 1,500 units?

Part B: Mixed Costs - Regression

Given the following regression data (below)

- i) What is the cost equation?
- ii) Using this cost equation estimate total overhead costs for production of 1,500 units.
- iii) Comment on how well this regression and the cost equation explain these costs.

Regression Statistics	
Multiple R	0.9963
R Square	0.9927
Adjusted R Square	0.9914
Standard Error	149.4357
Observations	8

	Coefficients	Standard Error	t Stat	P-value	Lower 95%
Intercept	6,313.2658	259.7389	24.3062	0.0000	5,677.7076
Cost Variable 1	5.6196	0.1971	28.5056	0.0000	5.1372



Answer2:

Computation of variable cost per unit and fixed cost using high-low method:

	Units	Overhead
High Activity is in the month of february	1,800	16,200
Low Activity is in the month of february	900	11,520

$$\text{Variable Cost per Unit} = (y_2 - y_1)/(x_2 - x_1)$$

Where,

y_2 is the total cost at highest level of activity = 16,200

y_1 is the total cost at lowest level of activity = 11,520

x_2 are the number of units/labor hours etc. at highest level of activity

$$= 1,800$$

x_1 are the number of units/labor hours etc. at lowest level of activity = 900

$$\begin{aligned}\text{Variable cost per unit} &= (16,200 - 11,520) / (1,800 - 900) \\ &= 4,680 / 900 = 5.2\end{aligned}$$

$$\text{Variable cost per unit} = \$5.2 \text{ per unit}$$

$$\text{Fixed cost} = \text{Total overhead} - (\text{units} * \text{variable cost per unit})$$

$$\begin{aligned}\text{Fixed cost} &= 16,200 - 1,800 * 5.2 \\ &= 16,200 - 9,360 = 11,520\end{aligned}$$

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$$\text{Fixed cost} = \$6,840$$

Cost equation:

The cost equation for overhead is $Y = \$6,840 + \$5.2X$ where

Y = estimated factory overhead and

X = units produced

Fixed cost = \$6,840

$$\begin{aligned}\text{Total estimated costs for production of 1500 units} &= \$6,840 + 5.2 * 1500 \\ &= \$6,840 + \$7,800 = \$14,640\end{aligned}$$

$$\text{Total estimated costs for production of 1500 units} = \$14,640.$$

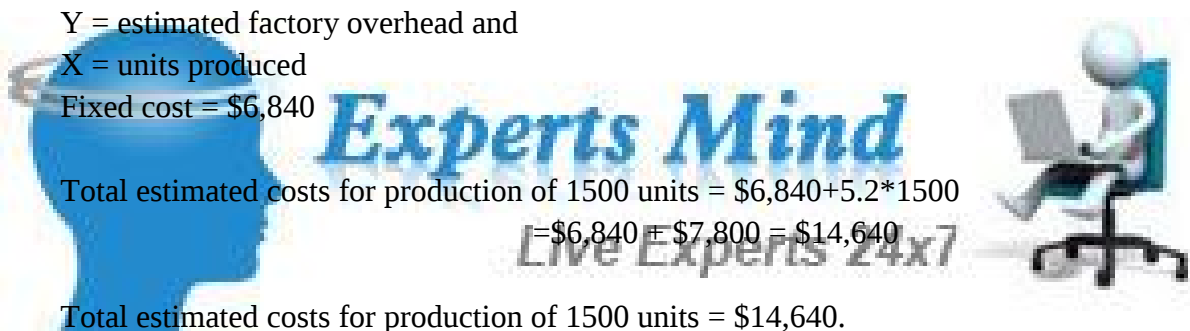
Part B

$$\text{Cost equation} = 6313.2658 + 28.5056(\text{Production}).$$

Using this cost equation estimate total overhead costs for production of 1,500 units.

$$\text{Cost} = 6313.2658 + 28.5056 * 1500 = 49071.67$$

The cost equation is based on the regression line. The first part represents the fixed costs and the second part the variable costs. More the production, more the variable costs and more the total costs





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