## BUF 2255 FINAL EXAM by Musarat Merchant

Part B.


| Month | Planned <br> Sales | Merchandise <br> On order $\$$ | Employee <br> Discount <br> $\%$ | Markdown <br> $\$$ | Shortages <br> $\%$ | End of <br> Month <br> $($ EOM $)$ | Beginning <br> of Month <br> $(B O M)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| February | $\$ 300,000$ | $\$ 125,000$ | $2 \%$ | $\$ 8,000$ | $2 \%$ | $\$ 200,000$ | $\$ 160,000$ |
| March | $\$ 200,000$ | $\$ 15,000$ | $3 \%$ | $\$ 12,000$ | $4 \%$ | $\$ 80,000$ | $\$ 200,000$ |
| April | $\$ 300,000$ | $\$ 145,000$ | $4 \%$ | $\$ 4,000$ | $5 \%$ | $\$ 110,000$ | $\$ 80,000$ |
| May | $\$ 200,000$ | $\$ 35,000$ | $0 \%$ | $\$ 3,000$ | $7 \%$ | $\$ 90,000$ | $\$ 110,000$ |
| June | $\$ 400,000$ | $\$ 170,000$ | $5 \%$ | $\$ 18,000$ | $2 \%$ | $\$ 210,000$ | $\$ 90,000$ |
| July | $\$ 200,000$ | $\$ 23,000$ | $7 \%$ | $\$ 25,000$ | $3 \%$ | $\$ 70,000$ | $\$ 210,000$ |

Using the figures provided you will calculate the following for the XYZ store.

1. Open to buy for each month
2. Average monthly sales
3. Average monthly on order
4. Mark down \% for each month

## Part B. \#1 Solution

For the month of February

| Planned sales | $\$ \mathbf{3 0 0 , 0 0 0}$ |
| ---: | ---: |
| + Planned reductions | $+\$ 20,000$ |
| +Planned EOM Stock | $+\$ 200,000$ |
| Total monthly needs | $\mathbf{\$ 5 2 0 , 0 0 0}$ |
| -BOM Stock | $-\$ 160,000$ |
| =Planned purchases | $=\$ \mathbf{3 6 0 , 0 0 0}$ |
| -Merchandise on order | $-\$ 125,000$ |
| = Open to buy (At Retail) | $=\$ 235,000$ |
| = Open to buy (At Cost) | $\mathbf{= 1 1 7 , 5 0 0}$ |

Note: Since cost is $\mathbf{5 0 \%}$ of the retail, we will divide Open to buy (Retail) by 2 (as this number represents half of Retail or 50\%) to get the Open to buy (At Cost) i.e. $\mathbf{\$ 2 3 5 , 0 0 0 / 2}=\mathbf{1 1 7 , 5 0 0}$.

Formula based scrap calculations
Employee Discount \$ = Employee Discount \% x Planned Sales = $0.02 \times \$ 300,000=\mathbf{\$ 6 , 0 0 0}$
Shortages $\$=$ Shortages \% x Planned Sales $=0.02 \times \$ 300,000=\$ 6,000$
Employee Discount \$ + Markdown \$ + Shortages \$ = Planned Reductions \$
$\$ 6,000+\$ 8,000+\$ 6,000=\$ 20,000$

For the month of March

| Planned sales | $\$ \mathbf{2 0 0 , 0 0 0}$ |
| ---: | ---: |
| + Planned reductions | $+\$ 26,000$ |
| +Planned EOM Stock | $+\$ 80,000$ |
| Total monthly needs | $=\$ \mathbf{3 0 6}, 000$ |
| - BOM Stock | $-\$ 200,000$ |
| =Planned purchases | $\mathbf{\$ 1 0 6 , 0 0 0}$ |
| -Merchandise on order | $-\$ 15,000$ |
| = Open to buy (At Retail) | $=\$ \mathbf{9 1 , 0 0 0}$ |
| O Open to buy (At Cost) | $\mathbf{= \$ 4 5 , 5 0 0}$ |

Note: Since cost is $\mathbf{5 0 \%}$ of the retail, we will divide Open to buy (Retail) by 2 (as this number represents half of Retail or $50 \%$ ) to get the Open to buy (At Cost) i.e. $\mathbf{\$ 9 1 , 0 0 0 / 2}=\mathbf{\$ 4 5 , 5 0 0}$.

Formula based scrap calculations
Employee Discount \$ = Employee Discount \% x Planned Sales = $0.03 \times \$ 200,000=\$ 6,000$
Shortages $\$=$ Shortages \% x Planned Sales $=0.04 \times \$ 200,000=\$ 8,000$
Employee Discount \$ + Markdown \$ + Shortages \$ = Planned Reductions \$
$\$ 6000+\$ 12,000+\$ 8,000=\$ 26,000$

For the month of April

| Planned sales | $\$ \mathbf{3 0 0 , 0 0 0}$ |
| ---: | ---: |
| + Planned reductions | $+\$ 31,000$ |
| +Planned EOM Stock | $+\$ 110,000$ |
| Total monthly needs | $=\$ \mathbf{4 1 , 0 0 0}$ |
| -BOM Stock | $-\$ 80,000$ |
| =Planned purchases | $=\$ \mathbf{3 6 1 , 0 0 0}$ |
| -Merchandise on order | $-\$ 145,000$ |
| = Open to buy (At Retail) | $=\$ \mathbf{2 1 6 , 0 0 0}$ |
| Open to buy (At Cost) | $\mathbf{\$ 1 0 8 , 0 0 0}$ |

Note: Since cost is $\mathbf{5 0 \%}$ of the retail, we will divide Open to buy (Retail) by 2 (as this number represents half of Retail or $50 \%$ ) to get the Open to buy (At Cost) i.e. $\mathbf{\$ 2 1 6 , 0 0 0 / 2}=\mathbf{\$ 1 0 8 , 0 0 0}$.

Formula based scrap calculations
Employee Discount \$ = Employee Discount \% x Planned Sales = 0.04 x $\$ 300,000=\mathbf{1 2 , 0 0 0}$
Shortages \$ = Shortages \% x Planned Sales = $0.05 \times \$ 300,000=\$ 15,000$
Employee Discount \$ + Markdown \$ + Shortages \$ = Planned Reductions \$
$\$ 12,000+\$ 4,000+\$ 15,000=\$ 31,000$

For the month of May

| Planned sales | $\$ \mathbf{2 0 0 , 0 0 0}$ |
| ---: | ---: |
| + Planned reductions | $+\$ 17,000$ |
| +Planned EOM Stock | $+\$ 90,000$ |
| Total monthly needs | $=\$ 307,000$ |
| -BOM Stock | $-\$ 110,000$ |
| =Planned purchases | $=\$ 197,000$ |
| -Merchandise on order | $-\$ 35,000$ |
| = Open to buy (At Retail) | $=\$ 162,000$ |
| = Open to buy (At Cost) | $=\$ 81,000$ |

Note: Since cost is $\mathbf{5 0 \%}$ of the retail, we will divide Open to buy (Retail) by $\mathbf{2}$ (as this number represents half of Retail or 50\%) to get the Open to buy (At Cost) i.e. $\mathbf{\$ 1 6 2 , 0 0 0 / 2}=\mathbf{\$ 8 1 , 0 0 0}$.

Formula based scrap calculations
Employee Discount \$ = Employee Discount \% x Planned Sales = 0.00 + \$200,000 = \$0
Shortages \$ = Shortages \% x Planned Sales = 0.07 x \$200,000 = \$14,000
Employee Discount \$ + Markdown \$ + Shortages \$ = Planned Reductions \$
$\$ 0+\$ 3,000+\$ 14,000=\$ 17,000$

For the month of June

| Planned sales | $\$ 400,000$ |
| ---: | ---: |
| + Planned reductions | $+\$ 46,000$ |
| +Planned EOM Stock | $+\$ 210,000$ |
| = Total monthly needs | $\mathbf{= \$ 6 5 6 , 0 0 0}$ |
| -BOM Stock | $-\$ 90,000$ |
| =Planned purchases | $\mathbf{= 5 6 6 , 0 0 0}$ |
| -Merchandise on order | $-\$ 170,000$ |
| = Open to buy (At Retail) | $=\$ 396,000$ |
| = Open to buy (At Cost) | $\mathbf{\$ 1 9 8 , 0 0 0}$ |

Note: Since cost is $\mathbf{5 0 \%}$ of the retail, we will divide Open to buy (Retail) by 2 (as this number represents half of Retail or 50\%) to get the Open to buy (At Cost) i.e. $\mathbf{\$ 3 9 6 , 0 0 0 / 2 = \$ 1 9 8 , 0 0 0}$.

Formula based scrap calculations
Employee Discount \$ = Employee Discount \% x Planned Sales = 0.05 x $\$ 400,000=\mathbf{2 0 , 0 0 0}$
Shortages $\$=$ Shortages \% x Planned Sales $=0.02 \times \$ 400,000=\$ 8,000$
Employee Discount \$ + Markdown \$ + Shortages \$ = Planned Reductions \$
$\$ 20,000+\$ 18,000+\$ 8,000=\$ 46,000$

For the month of July

| Planned sales | $\$ 200,000$ |
| ---: | ---: |
| + Planned reductions | $+\$ 45,000$ |
| +Planned EOM Stock | $+\$ 70,000$ |
| = Total monthly needs | $=\$ 315,000$ |
| -BOM Stock | $-\$ 210,000$ |
| =Planned purchases | $\mathbf{= 1 0 5 , 0 0 0}$ |
| -Merchandise on order | $-\$ 23,000$ |
| = Open to buy (At Retail) | $=\$ 82,000$ |
| = Open to buy (At Cost) | $\mathbf{= 4 1 , 0 0 0}$ |

Note: Since cost is $\mathbf{5 0 \%}$ of the retail, we will divide Open to buy (Retail) by $\mathbf{2}$ (as this number represents half of Retail or 50\%) to get the Open to buy (At Cost) i.e. $\mathbf{\$ 8 2 , 0 0 0 / 2}=\mathbf{\$ 4 1 , 0 0 0}$.

Formula based scrap calculations
Employee Discount \$ = Employee Discount \% x Planned Sales = 0.07 x $\$ 200,000=\$ 14,000$
Shortages $\$=$ Shortages \% x Planned Sales $=0.03 \times \$ 200,000=\$ 6,000$
Employee Discount \$ + Markdown \$ + Shortages \$ = Planned Reductions \$
$\$ 14,000+\$ 25,000+\$ 6,000=\$ 45,000$

## 1. Open to buy for each month

Therefore, the Open to Buy (Retail) for each month is
February = \$235,000
March $=\$ 91,000$
April $=\$ 216,000$
May $=\$ 162,000$
June $=\$ 396,000$
July $=\$ 82,000$

Therefore, the Open to Buy (Cost) for each month is
February $=\$ 117,500$
March $=\$ 45,500$
April $=\$ 108,000$
May $=\$ 81,000$
June $=\$ 198,000$
July $=\$ 41,000$
2. Average monthly sales

Average monthly sales $=\underline{\text { Sum of Planned Sales from February to July }}$ Sum of \# of months from February to July

$$
=\frac{\$ 300,000+\$ 200,000+\$ 300,000+\$ 200,000+\$ 400,000+\$ 200,000}{6}
$$

$$
=\frac{\$ 1,600,000}{6}
$$

= \$266,666.67
3. Average monthly on order

Average monthly on order $=\underline{\text { Sum of Merchandise on order } \$ \text { from February to July }}$ Sum of \# of months from February to July

$$
\begin{aligned}
& =\frac{\$ 125,000+\$ 15,000+\$ 145,000+\$ 35,000+\$ 170,000+\$ 23,000}{6} \\
& =\frac{\$ 513,000}{6} \\
& =\$ \mathbf{8 5 , 5 0 0}
\end{aligned}
$$

4. Mark down \% for each month

Markdown \% of a month $=\frac{\text { Markdown \$ of a month }}{\text { Planned Sales \$ of a month }} \quad \times 100$
Note: All values are rounded to the nearest tenth (1 decimal place)
Markdown \% for February $=(\$ 8,000 / \$ 300,000) \times 100=\mathbf{2 . 7 \%}$
Markdown \% for March $=(\$ 12,000 / \$ 200,000) \times 100=\mathbf{6 . 0 \%}$
Markdown \% for April $=(\$ 4,000 / \$ 300,000) \times 100=1.3 \%$
Markdown $\%$ for May $=(\$ 3,000 / \$ 200,000) \times 100=1.5 \%$
Markdown \% for June $=(\$ 18,000 / \$ 400,000) \times 100=4.5 \%$
Markdown \% for July $=(\$ 25,000 / \$ 200,000) \times 100=12.5 \%$

## Part C. Solve the following:

1. After careful analysis of the economic data from the U.S. Government the XYZ store set a sales plan increase for the next season (Feb-July) of $9.1 \%$. Based on this year's sales plan what is the companies new projected sales plan for the next season?

Given: Sales plan increase \% for the next season (Feb-July) $=9.1 \%$
To Find: XYZ company's new projected sales plan for the next season $=$ ?
Solution:

## Concept:

- First, I will find the average monthly planned increase for next sales period/season (based on this year)
- and then multiply it by the number of months in the sales period/ season
- to get the final answer that would be XYZ company's new projected sales plan for the next season
> Step \#1 Finding Increase

| Average Monthly Sales | $\$ 266,666.67$ |
| ---: | ---: |
| $(x)$ Increase \% for the next season | $(x) 0.091$ |
| Increase | $=\mathbf{\$ 2 4 , 2 6 6 . 6 6}$ |

$>$ Now, we will take $\mathbf{\$ 2 4 , 2 6 6 . 6 6}$ increase and add it to the Average monthly sales

| Average Monthly Sales | $\$ 266,666.67$ |
| ---: | ---: |
| $(+)$ Increase | $(+) \$ 24,266.66$ |
| = Average Monthly Increase \$ for the next season | $=\$ 290,933.337$ or $\mathbf{\$ 2 9 0 , 9 3 3 . 3 4}$ |

> Now, we will take $\mathbf{\$ 2 9 0}, \mathbf{9 3 3} . \mathbf{3 4}$ i.e. XYZ company's Average Monthly Increase \$ for the next season and multiply it by the number of months in the sales period/ season

| Average Monthly Increase \$ for the next season | $\$ 290,933.34$ |
| ---: | ---: |
| (x) total number of months in the sales period/ season | $(x) 6$ months |
| = New Projected Sales Planned for the next season | $\mathbf{= \$ 1 , 7 4 5 , 6 0 0 . 0 4}$ |

Therefore, the New Projected Sales Planned for the next season (Feb - July) for the XYZ company is $\mathbf{\$ 1 , 7 4 5 , 6 0 0 . 0 4}$ (One Million Seven Hundred Forty-Five Thousand Six Hundred Dollars and Four Cents)
2. In the prior year same sales period the XYZ store had actual sales of $\$ 1,740,000.00$. What was dollar increase/decrease for the sales period and suggest reasons for the change from one season to the next. What was the percentage increase/decrease?

Given: XYZ store's Actual Sales (for prior year same sales period) $=\$ 1,740,000.00$
To find: (a). Dollar increase/decrease for the sales period $=$ ?
(b). Percentage increase/decrease for the sales period $=$ ?

Solution:
(a).

| New Projected Sales Planned for the next season | $\$ 1,745,600.04$ |
| ---: | ---: |
| $(-)$ XYZ store's Actual Sales (for prior year same sales period) | $(-) \$ 1,740,000.00$ |
| = Dollar increase/decrease for the sales period | $\mathbf{= \$ 5 , 6 0 0 . 0 4}$ |

Since the $\$$ value found is a positive number, we can conclude that there was an Increase for the sales from one season to the next. Therefore, Dollar Increase for the sales period is $\mathbf{\$ 5 , 6 0 0 . 0 4}$ (b).

Percent of Increase for the sales period = Dollar Increase for the sales period XYZ store's Actual Sales (for prior year same sales period) $=\$ 5,600.04 / \$ 1,740,000.00 \times 100$

$$
=0.32 \%
$$

Therefore, XYZ company had an Increase \% of $\mathbf{0 . 3 2}$ for the sales period.
I chose Costco as a business that represents the situation of XYZ company. Just like XYZ company, Costco is a very profitable business especially now in the time of this global pandemic as it sells grocery-based items and affordable clothing brands. Costco's wide selection of goods and cheap prices are what attracts more customers. Even in the harsh times like this coronavirus outbreak, "the consumer spending trends are setting up well for the grocery-led retail sector", and Costco's "stock is thriving." (Team, 2020). A big reason why Costco has "already reported a $12 \%$ growth in sales in the month of March" is because the consumers rushed to their nearest supermarkets as we all had a fear that just like other stores Costco might be closed too at some point, and so everyone started buying in bulk to an extent that toilet paper rolls nearly went extinct in supermarkets.(Team, 2020). It is Costco's strategic location that saves it a lot of
money. As the business operates on an underground level, there is no need to spend money on window displays and paying for hiring the best visual merchandisers. Besides this, even the Black Lives Matter protests did not cause any harm to Costco as it is located underground. "Costco makes small margins on most of its items in its stores, while membership fees help offset these low margins." (Team, 2020). Another reason where Costco sees an increase in its sales as compared to other businesses that sell at cheap rates is because, apart from selling its products, Costco makes money from its membership fees too! Costco is an essential business, so it stays open and makes money both in-store as well as online! "Costco Wholesale Corp. late Wednesday said that its March net sales rose nearly $12 \%$, including a $48 \%$ jump in online sales, providing a window into stockpiling as the coronavirus pandemic began to keep most of the U.S. population confined to their homes." (Assis, 2020). There is a spike of $48 \%$ in the online sales as there is a group of people that is immunocompromised and is advised to strictly stay at home by their doctors and healthcare providers so this group has switched to online shopping in this quarantine and hence the rise in online sales.

## References

Team, T. (2020, April 22). What Is The Upside For Costco From \$312? Retrieved June 22, 2020, from https://www.forbes.com/sites/greatspeculations/2020/04/22/what-is-the-upside-for-costco-from-312/

Assis, C. (2020, April 08). Costco sales jumped by more than $\$ 1.5$ billion as coronavirus spread in March. Retrieved June 22, 2020, from https://www.marketwatch.com/story/costco-sales-jumped-by-more-than-15-billion-as-coronavirus-spread-in-march-2020-04-08

