

## Financial Accounting

Pin: 72521

### Question 1. (15%)

140,000\$

5,000\$

3 years

Residual value 25,000\$

#### Q1.1

The yearly depreciation under the straight-line method.

$$\text{Depreciation expense} = \frac{(140,000 + 5,000) - 25,000}{3} = 40,000$$

Therefore, for the calendar years beneath:

Year	Depreciation expense	Acc. Depr.	Book value
01.07.18	-	-	145.000
31.12.18	20.000	20.000	125.000
31.12.19	40.000	60.000	85.000
31.12.20	40.000	100.000	45.000
31.06.21	20.000	120.000	25.000

#### Q1.2

1,000 units per calendar month

Except December 4,000 units

Total units produced: 33,000 rest of the year + 12,000 December months  
= 45,000 units during the 3 years

$$\text{depreication expense per unit} = \frac{145,000 - 25,000}{45,000} = 2.667$$

Units produced in 2018: 5,000+4,000 =9,000

Units produced in 2019: 11,000+4,000 = 15,000

Units produced in 2020: 11,000+4,000 = 15,000

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Units produced in 2021: 6,000

Therefore, beneath is the depreciation expense, accumulated depreciation and book value of this PP&E under the units of production method shown:

Year	Depreciation expense	Acc. Depr.	Book value
01.07.18	-	-	145.000
31.12.18	24.000	24.000	121.000
31.12.19	40.001	64.001	80.999
31.12.20	40.001	104.001	40.999
31.06.21	16.000	120.002	24.999

There is minor differences due to rounding of the depreciation expense per unit value.

**Q1.3**

Date:	Transaction	DR	CR
31.12.20	Cash	32.000	
	PP&E		145.000
	Acc. Depreciation	100.000	
	Gain on sale	13.000	

Our book value using the straight-line method in dec. 31, 2020 is 45,000. Therefore, if we get 32,000 in cash we have a gain on sale of 13,000. The journal entry would be different, if the sale had occurred on September 30, 2020, as we would have another accumulated depreciation and henceforth also another book value of the PP&E. It is important to depreciate up to the date the asset is sold, which we would have done if it had been sold on September 30, 2020 instead. The book value of the asset would have been higher, as we had less of a depreciation expense on September 30, 2020 compared to December 31, 2020.

**Q1.4**

Changes its estimates on Jan. 1, 2020.

Now 4 years.

Residual value 10,000\$.

We can never go back, so we will have a new yearly depreciation expense going forward from Jan., 1, 2020. Therefore, under the straight-line method the new yearly depreciation expense is:

$$\frac{145,000 - 10,000}{2,5} = 30,000$$

Therefore, we will have a new table shown beneath displaying the depreciation expense, accumulated depreciation, and book value.

Year	Depreciation expense	Acc. Depr.	Book value
01.07.18	-	-	145.000
31.12.18	20.000	20.000	125.000
31.12.19	40.000	60.000	85.000
31.12.20	30.000	90.000	55.000
31.12.21	30.000	120.000	25.000
31.06.22	15.000	135.000	10.000

The years 2018 and 2019 has not changed but 2020 has.

### Q1.5

Another long-term asset could be patent or trademark. These differ as they are intangibles assets are they are not depreciated but instead amortized. This is a similar process. However, if they have infinite life, then they are not amortized. Here we calculate amortization based on its lifetime, and it is the shortest of its useful or legal life.

### Question 2. (15%)

MDI sells product for 5\$ and uses period inventory system.

Date	Transaction	Number of units	Unit Cost	Total
Jan 1	Beginning Inventory	200	\$4	\$800
March 1	Purchase	100	3	300
June 1	Sale	(250)		
July 1	Purchase	200	2	400
October 1	Sale	(150)		

Total units: 500

Total units sold: 400

Ending inventory: 100

Revenue: 2,000

### Q2.1

Weighted average:

Total goods available for sale: 500

Total costs of goods available for sale: 1,500

$$\text{weighted average cost} = \frac{1,500}{500} = 3$$

$$COGS = 400 * 3 = 1,200$$

Hence, our cost of goods sold using the weighted average costing method is 1,200\$.

### Q2.2

We have an ending inventory of 100. If we use LIFO, last in, first out under a periodic inventory system our dollar amount would be:

$$\text{ending inventory \$} = 100 * 4 = 400$$

### Q2.3

FIFO: first in, first out.

$$\text{ending inventory \$} = 100 * 2 = 200$$

$$\text{cost of goods available for sale} = 1,500$$

$$COGS = 1,500 - 200 = 1,300$$

$$\text{Sales} = 400 * 5 = 2,000$$

$$\text{gross profit} = 2,000 - 1,300 = 700$$

### Q2.4

30% tax rate

LIFO: net income before tax expense

FIFO: taxable income reported to tax authorities

### Q2.5

If the company instead had used the perpetual inventory system, the inventory and cost of goods sold would have been calculated perpetually instead of the end of the period.

Then, we would have used a moving average instead of the weighted average method in order to comply with the perpetual inventory system. This would have made our COGS slightly higher.

Our ending inventory under LIFO and perpetual would have been lower.

The perpetual inventory system does not have an impact when using FIFO.

### Question 3. (15%)

Zero coupon bond

\$2,000,000 face value jan 1, 2019

Maturity 3 years

Market determined bond yield 5%

**Q3.1**

Issue price:

2,000,000\$

Zero-coupon → no cash interest

$2,000,000 * 0.86384 (n=3, i=5\%) =$

1,727,680

At issuance:

Date:	Transaction	DR	CR
01.01.19	Cash	1.727.680	
	Bonds payable		2.000.000
	Discount on bonds	272.320	

Discount on bonds is a contra-liability account.

Date:	Transaction	DR	CR
31.12.19	Discount on bonds payable		86.384
	Interest expense	86.384	
31.12.20	Discount on bonds payable		90.703
	Interest expense	90.703	
31.12.21	Cash		2.000.000
	Discount on bonds		95.238
	Notes payable	2.000.000	
	Interest expense	95.238	

For the interest expense and repayment of bonds.

**Q3.2**

Year	Interest	Discount on bonds	Book value
01.01.19		272320	1.727.680
31.12.19	86.384	185.936	1.814.064
31.12.20	90.703	95.233	1.904.767
31.12.21	95.238	- 6	2.000.006

Small rounding errors.

Would be presented as the book value.

The long-term liability of notes payable of 2,000,000 and then the contra discount on notes payable.

### Q3.3

If the bond is purchased by another firm, the bond holder XYZ should report this under as long-term liability under bonds. However, if the company XYZ owned 90% of the shares in ABC company, then it would be under investment.

### Q3.4

Interest:

$$2,000,000 * 0.08 = 160,000$$

Issue price:

$$160,000 * 2,72325 = 435,720$$

$$200,000 * 0,86384 = 1,727,680$$

$$= 2,163,400$$

Bond is issued at premium.

I don't have time to do, so but instead, we would use our premium on bonds account (liability account that makes our long-term liabilities increase).

Date:	Transaction	DR	CR
01.01.19	Cash	2.163.400	
	Bonds payable		2.000.000
	Premium on notes		163.400

**Question 4. (30%)**

Allowance method aging accounts receivable approach

No discounts

Due within 30 days

Past due uncollectible is 10%

Perpetual inventory

Date:	Transaction	DR	CR
01.01.21	Cash	500.000	
	Common stock par 3\$		60.000
	Additional paid-in		440.000
Date:	Transaction	DR	CR
03.01.21	Cash		300.000
	Prepaid rent land	300.000	
Date:	Transaction	DR	CR
03.01.21	Accounts Payable		40.000
	Inventory	40.000	
Date:	Transaction	DR	CR
10.01.21	Revenue		5.000
	Accounts Receivable	5.000	
Date:	Transaction	DR	CR
10.01.21	Inventory		4.000
	COGS	4.000	
Date:	Transaction	DR	CR
31.01.21	Prepaid rent		25.000
	Land rent expense	25.000	

I adjust for the prepaid land expense by crediting the asset prepaid rent and expensing the rent for the period by debiting the land rent expense account.

Date:	Transaction	DR	CR
10.02.21	Cash		25.000
	Treasury Stock	25.000	
Date:	Transaction	DR	CR
20.02.21	Accounts Receivable	24.000	
	Revenue		24.000
Date:	Transaction	DR	CR
20.02.21	COGS	16.000	
	Inventory		16.000
Date:	Transaction	DR	CR
28.02.21	Prepaid rent		25.000
	Rent expense	25.000	

Date:	Transaction	DR	CR
24.03.21	Accounts receivable	14.000	
	Revenue		14.000

Date:	Transaction	DR	CR
24.03.21	COGS	8.000	
	Inventory		8.000

Date:	Transaction	DR	CR
30.03.21	Cash	4.000	
	Unearned revenue		4.000

Date:	Transaction	DR	CR
31.03.21	Bad debt expense	2.900	
	Allowance for doubtful accounts		2.900

Date:	Transaction	DR	CR
31.03.21	Rent Expense	25.000	
	Prepaid Rent		25.000

I make an adjusting entry by following the allowance method with the balance sheet approach. This is based on the below table.

Date	Status	Amount	Uncollectible	Bad debt
Jan. 10	Past due	5000	10%	500
Feb. 20	Past due	24,000	10%	2,400
Mar. 24	Not due	XX	XX	XX
Total				2,900

**Q4.2**



Trial Balance Q1		
Accounts	DR	CR
Cash	179.000	
Accounts receivable	43.000	
Allowance for doubtful accounts		2.900
Prepaid rent	225.000	
Inventory	12.000	
Accounts payable		40.000
Unearned Revenue		4.000
Common stock		60.000
Additional paid-in capital		440.000
Treasury Stock	25.000	
Revenue		43.000
COGS	28.000	
Land Rent Expense	75.000	
Bad debt expense	2.900	
Total	589.900	589.900

Allowance for doubtful accounts is contra-asset.

Treasury stock is contra-equity.

#### Q4.3

Income Statement Q1	
<i>Revenues</i>	
Revenue	43.000
<i>Expenses</i>	
COGS	28.000
Land Rent Expense	75.000
Bad debt expense	2.900
Total expenses	105.900
Net income	- 62.900

We have a loss of 62,900.

**Q4.4**

Statement of cash flows Q1	
<i>Cash from operational activities</i>	
Sales	4.000
Prepaid Rent	- 300.000
<b>Total cash flows from operations</b>	<b>- 296.000</b>
<i>Cash from investing</i>	
	0
<i>Cash from financing</i>	
Common stock	60.000
Additional paid-in capital	440.000
Treasury Stocks	- 25.000
<b>Total cash flows from financing</b>	<b>475.000</b>
BB:	0
<b>Total Cash flows</b>	<b>179.000</b>
EB:	<b>179.000</b>

We use the direct method, where it is based on cash proceeds and cash payments. (cash inflows and cash outflows). This is presented in the above cash flow statement.

Prepaid rent is categorized as an operational activity as it is not the actual purchase of land, only the rent for operations. Therefore, it is under operational activities in the cash flow statement. It is a current asset. We have no dividends paid, but we bought our own shares back, treasury stock, hence a cash outflow under financing.

**Q4.5**

Balance Sheet as of March 2021			
Assets		Liabilities and Stockholders' Equity	
<i>Current Assets</i>		<i>Current liabilities</i>	
Cash	179.000	Accounts payable	40.000
Accounts Receivable	43.000	Unearned revenue	4.000
Allowance for doubtful accounts	- 2.900	<b>Total current liabilities</b>	<b>44.000</b>
Prepaid rent	225.000	<i>Non-current</i>	-
Inventory	12.000	<i>Equity</i>	
<b>Total current assets</b>	<b>456.100</b>	Common stock	60.000
		Additional paid-in capital	440.000
<i>Non-current Assets</i>	-	Treasury stock	- 25.000
		Retained earnings	- 62.900
		<b>Total equity</b>	<b>412.100</b>
<b>Total Assets</b>	<b>456.100</b>	<b>Total liabilities + stockholders equity</b>	<b>456.100</b>

**Q4.6**

This is not allowed, due to the revenue recognition principle. Regarding customer D, we are yet to deliver the goods, therefore, we cannot recognize revenue for the period of Q1. For Customer E, we are to recognize revenue for Q2. We cannot “move” revenues to the periods that please. This is strictly forbidden.

**Question 5. (25%)**

**Q5.1**

$$\text{dividend payout ratio} = \frac{\text{common dividends per share}}{\text{earnings per share}}$$

Dividends declared per common share: 5.04\$

Earnings per share – basic: 6.35\$

$$\text{dividend payout ratio 2020} = \frac{5.04}{6.35} = 0.794\$$$

**Q5.2**

ROE 2020:

$$ROE = \frac{\text{net income} - \text{preferred dividends}}{\text{average common stockholders' equity}}$$

We have no preferred stocks.

$$ROE\ 2020 = \frac{4,730.5}{\frac{-7,824.9 - 8,210.3}{2}} = \frac{4,730.5}{-8017,6} = -0.59$$

**Q5.3**

Due to a large amount of common stock in treasury, the total shareholders' equity becomes negative, which impacts the return on equity ratio. As McD has such a large portion of treasury stocks, the ROE does not satisfactory capture the performance of McDonalds Corp.

**Come Back**

**Q5.4**

ROA unadjusted:

$$ROA = \frac{\text{net income}}{\text{average total assets}}$$

$$ROA\ 2020 = \frac{4,730.5}{\frac{57,626.8 + 47,510.8}{2}} = \frac{4,730.5}{52,568.8} = 0,08999$$

The ratio differs from ROE, as the average total assets are not equal to the average common stockholders' equity. This is because of our liabilities.

**Q5.5.**

ROA adjusted:

$$ROA = \frac{\text{net income} + \text{interest expense, net of tax}}{\text{average total assets}}$$
$$ROA\ 2020 = \frac{4,730.5 + 1218,1}{\frac{57,626.8 + 47,510.8}{2}} = \frac{5,948,6}{52,568,8} = 0.1132$$

**Q5.6**

Adjusted for interest expense is the best measure of Mc Donald's performance. As McDonald's has relatively huge amounts of long-term liabilities, they assumably spent a lot on interest expenses. Therefore, by adjusting for it, it better reflects the actual performance of McD.

**Q5.7**

$$\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

$$\text{current ratio 2020} = \frac{6,243.2}{6,181.2} = 1.01$$

$$\text{current ratio 2019} = \frac{3,557.9}{3,621} = 0.983$$

The rule of thumb is a 2-1. Therefore, Mcdonald's a below rule of thumb and they may have trouble paying their short-term liabilities.

**Q5.8**

Calculate cash flow from operations to current liabilities ratio for 2020

$$= \frac{\text{net cash provided by operating activities}}{\text{average current liabilities}}$$
$$= \frac{6,265,2}{\frac{6,181.2 + 3,621}{2}} = \frac{6,265.2}{4,901.1} = 1.278$$

**Q5.9**

Because in Q7, the current ratio shows that McDonald's may have trouble paying its short-term debts in time. They may have to raise cash. However, as they have a large holding of treasury stocks, they are able to sell these to get cash in bank and pay its debts. It is also interesting because the cash flow from operations to current liabilities is above 1, which is a good sign.

**Q5.10**

$$\text{profit margin} = \frac{\text{net income}}{\text{net sales}}$$
$$\text{profit margin 2020} = \frac{4,730.5}{19,207.8 - 342,5} = 0.2508$$

I choose to include total revenues, as it would be the most representative for McDonald's considering their large amounts of revenues coming from franchised restaurants. However, I do not include other revenues.

**Q5.11**

McDonald's has a very big brand and its goodwill presents a large amount of value, also seen in the balance sheet. This must be tested every year for impairment, which could signify an accounting challenge for McDonald's and impact the overall performance of McDonald's looking at a snapshot of their financial position. They may also have trademarks that are amortized which impacts its net income, and henceforth if done incorrectly, could influence its "performance" measured in net income.