

# Lebanese Association of Certified Public Accountants – Managerial Accounting- 26 May 2023

## I- Multiple Choice Questions

Use the following information to answer questions 1 to 5.

Blake Company's net income for 20X2 was \$3 million. Of this amount, 40% will be used to purchase treasury stock. Currently, there are 1 million shares outstanding and the market price per share is \$9.

1. The number of stocks the company can buy back through a tender offer of 12\$ per share is:

- A. 50,000
- B. 100,000
- C. 80,000
- D. 70,000

2. The current earning per share is:

- A. \$2
- B. \$3
- C. \$4
- D. \$5

3. The current Price-Earnings (P/E) ratio is:

- A. 2 times
- B. 3 times
- C. 4 times
- D. 5 times

4. After the treasury stock acquisition, the earnings per share would be:

- A. \$4.444
- B. \$3.333
- C. \$5.555
- D. \$6.666

5. The following information pertains to the budget of Quality Products Inc., for the next year:

Sales	\$50,000,000
Variable costs	45,000,000
Fixed costs	3,000,000

If the company has a 10% increase in sales volume, the expected net income would be:

- A. \$1,800,000
- B. \$2,200,000
- C. \$2,500,000
- D. \$7,000,000

Use the following data to answer numbers 6, 7 & 8:

Daniel Corporation's balance sheet on December 31, N, shows the following:

Current Assets	
Cash	\$ 4,000
Marketable Securities	\$8,000
Accounts Receivable	\$100,000
Inventories	\$120,000
Prepaid Expenses	\$1,000
<b>Total Current Assets</b>	<b>\$233,000</b>

Current Liabilities	
Notes Payable	\$ 5,000
Accounts Payable	\$150,000
Accrued Expenses	\$20,000
Income Taxes Payable	\$1,000
<b>Total Current Liabilities</b>	<b>\$176,000</b>
Long-Term Liabilities	\$340,000

6. The working capital for Daniel Corporation is:

- A. \$409,000
- B. \$107,000
- C. \$57,000
- D. \$573,000

The correct answer is (A):

$$\text{Working capital} = \text{Current assets} - \text{Current liabilities} = \$233,000 - \$176,000 = \$57,000$$

7. The current ratio for Daniel Corporation is:

- A. 1.12
- B. 1.23
- C. 1.32
- D. 1.42

The correct answer is (C):

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} = \frac{\$233,000}{\$176,000} = 1.32$$

8. The quick ratio for Daniel Corporation is:

- A. 1.34
- B. 1.04
- C. 0.64
- D. 0.84

The correct answer is (D):

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Marketable securities} + \text{Accounts receivable}}{\text{Current liabilities}} = \frac{\$4,000 + \$8,000 + \$100,000}{\$176,000} = \frac{\$112,000}{\$176,000} = 0.64$$

9. Choose an action that will increase financial risk.
- A. Reducing sales commissions and increasing salaries paid to the sales staff.
  - B. Not updating anti-virus software.
  - C. Borrowing money and using the cash to pay a large dividend
  - D. Eliminating dividends to conserve cash.
10. Al-Wassim corporation has \$90 million in current assets. If the corporation has a current ratio of 1.2 and a quick ratio of 0.9, what is net working capital?
- A. \$10 million.
  - B. \$15 million.
  - C. \$81 million.
  - D. \$108 million.
11. If company X has a higher degree of operating leverage than company Y, then which of the following statements is true?
- A. Company X has higher variable expenses.
  - B. Company X is less risky.
  - C. Company X is more profitable.
  - D. Company X's profits are more sensitive to percentage changes in sales.
12. Which of the following costs is often important in decision making, but is omitted from conventional accounting records?
- A. Fixed cost.
  - B. Opportunity cost.
  - C. Sunk cost.
  - D. Indirect cost.
13. A stock began the month with a stock price of \$50 per share, paid a dividend of \$2 per share during the month, and ended the month with a price of \$52 per share. What total return did investors earn on the stock during this month?
- A. 8.00 %.
  - B. 4.00 %.
  - C. 7.69 %.
  - D. 0.00 %.
14. All of the following would appear on a projected schedule of cost of goods manufactured except for:
- A. beginning finished goods inventory.
  - B. ending work-in-process inventory.
  - C. applied manufacturing overhead.
  - D. the cost of raw materials used.

Correct answer a:

Beginning finished goods inventory would have been produced in a prior period and, therefore, should not be included on a projected schedule of cost of goods manufactured.

**15. Which one of the following capital budgeting techniques would always result in the same investment decision for a project as the net present value method?**

- A. Discounted Payback.
- B. Internal Rate of Return.
- C. Accounting Rate of Return.
- D. Profitability Index.

Correct answer d:

The profitability index is the ratio of the present value of a project's future cash flows to the project's initial cash outflow. A profitability index greater than 1.00 implies that the project's present value is greater than its initial cash outflow which, in turn, implies that the net present value is greater than zero.

**16. Using the CAPM formula, calculate the required rate of return on a stock, assuming:**

$R_f = 7\%$  (the risk-free rate on a US Treasury security)

$\beta = 0.75$  (the beta coefficient for the company)

$K_m = 13\%$  (the estimated return on the market portfolio)

- A. 9%
- B. 11.5%
- C. 9.5%
- D. 13%

**17. If the U.S. dollar depreciated against the British pound, other things being equal, we would expect that**

- A. the British demand for U.S. products would decrease.
- B. the British demand for U.S. products would increase.
- C. U.S. demand for British products would increase.
- D. trade between the U.S. and Britain would decrease.

Correct answer b. If the U.S. dollar depreciates against the British pound, it will take fewer British pounds to purchase U.S. goods thus increasing the demand for these products.

**18. Which one of the following is NOT explicitly considered in the standard calculation of Economic Order Quantity (EOQ)?**

- A. Fixed ordering costs.
- B. Quantity discounts.
- C. Carrying costs.
- D. Level of sales.

Correct answer b. Quantity discounts are not explicitly considered in the EOQ model as purchase price does not affect the model.

19. To appraise a proposed project, the following measures have been calculated:

- The payback period is 4 years.
- The internal rate of return is 12%.
- The return on capital employed is 16%.

Which of the following statements is correct?

- A. The payback is less than 5 years so the project should go ahead.
- B. The IRR is lower than the return on capital employed so the project should not go ahead.
- C. The IRR is positive so the project should go ahead.
- D. The IRR is greater than the cost of capital so the project should go ahead.

The correct answer is (d) as the IRR must be greater than the cost of capital (the discount rate) used to appraise the project as the project has a return therefore a positive NPV at the company's cost of capital so the project should go ahead.

Statement A is not correct as there is no company policy to confirm the payback is appropriate.

Statement B is not correct as the IRR and ROCE are not comparable.

Statement C is not correct as the IRR is always a positive whether the project is acceptable or not.

20. Sally company is considering an investment of \$800,000 in new machinery. The machinery is expected to yield incremental profits over the next five years as follows:

<u>Year</u>	<u>Profit</u>
1	\$350,000
2	\$450,000
3	\$680,000
4	\$330,000
5	\$250,000

Thereafter, no incremental profits are expected and the machinery will be sold. It is company policy to depreciate machinery on a straight-line basis over the life of the asset. The machinery is expected to have a value of \$100,000 at the end of year 5.

What is the payback period of the investment in this machinery?

- A. 1.9 years
- B. 1.5 years
- C. 1.3 years
- D. 0.9 years

The correct answer is (b) as per the below calculation:

- ✓ Depreciation is not a cash flow so needs to be added back to profit to calculate cash flows.
- ✓ Depreciation on straight line basis =  $(\$800,000 - \$100,000)/5 = \$140,000$  per year

<u>Year</u>	<u>Profit (\$)</u>	<u>Cash flow (\$)</u>	<u>Cumulative cash flow (\$)</u>
0		(800,000)	(800,000)
1	350,000	490,000	(310,000)
2	450,000	590,000	280,000

Payback period =  $1 + 310/590$  years = 1.5 years to nearest 0.1 years

## II. Exercises

### Exercise 1

The following information is given for the Violette Company:

Fixed costs	\$60,000 per period
Variable cost	\$10/unit
Selling Price	\$16/unit

**Required: (show your calculations on your answer sheet)**

- Calculate the margin of safety at the 24,000-unit level.
- Find the net income when sales are \$240,000.
- Compute the sales in units required to produce a net income of \$20,000.
- Compute the sales in units required to produce a net income of 10% of sales.
- Find the break-even in units if variable costs are increased by \$2 per unit and if total fixed costs are decreased by \$10,000.

**Solution:**

- Calculate the margin of safety at the 24,000-unit level.

$$\text{Break-even point in units} = \frac{\$60,000}{\$16 - \$10} = 10,000 \text{ units}$$

$$\text{Margin of Safety} = \frac{24,000 \text{ units} - 10,000 \text{ units}}{24,000 \text{ units}} = 58.33\%$$

- Find the net income when sales are \$240,000

Sales	\$ 240,000
Variable costs	<u>150,000 (15,000 units @\$10)</u>
CM	\$ 90,000
Fixed costs	<u>60,000</u>
Net income	\$ 30,000

- Compute the sales in units required to produce a net income of \$20,000

$$\text{Target income volume} = \frac{\$60,000 + \$20,000}{\$16 - \$10} = 13,333 \text{ units}$$

- Compute the sales in units required to produce a net income of 10% of sales

$$\text{Target income volume} = \frac{\$60,000}{\$16 - \$10 - (10\%)(\$16)} = \frac{\$60,000}{\$4.4} = 13,636 \text{ units}$$

e. Find the break-even in units if variable costs are increased by \$2 per unit and if total fixed costs are decreased by \$10,000.

$$\text{Break-even in units} = \frac{\$50,000}{\$16 - \$12} = 12,500 \text{ units}$$

**Exercise 2**

Delight Corporation's financial statements appear below:

<b>Delight Corporation Balance Sheet December 31, N</b>		
<b>Assets:</b>		
<b>Current Assets</b>		
Cash	\$200,000	
Marketable Securities	400,000	
Inventory	600,000	
<b>Total Current Assets</b>		<b>\$1,200,000</b>
<b>Noncurrent Assets</b>		
Fixed Assets		1,000,000
<b>Total Assets</b>		<b>\$2,200,000</b>
<b>Liabilities and Stockholders' Equity:</b>		
Current liabilities	\$400,000	
Long-Term liabilities	200,000	
<b>Total liabilities</b>		<b>\$ 600,000</b>
<b>Stockholders' Equity</b>		
Common stock, \$2 par value, 100,000 shares	\$200,000	
Premium on Common Stock	1,000,000	
Retained Earnings	400,000	
<b>Total Stockholders' Equity</b>		<b>1,600,000</b>
<b>Total Liabilities and Stockholders' Equity</b>		<b>\$2,200,000</b>

<b>Delight Corporation Income Statement For the Year Ended December 31, N</b>	
Net Sales	\$20,000,000
Cost of Goods Sold	12,000,000
<b>Gross Profit</b>	<b>\$ 8,000,000</b>
Operating Expenses	2,000,000
<b>Income before Taxes</b>	<b>\$ 6,000,000</b>
Income Taxes (50% rate)	3,000,000
<b>Net Income</b>	<b>\$ 3,000,000</b>

Additional information available is a market price of \$300 per share of common stock and total dividends of \$1,200,000 for common shareholders for the year 'N', and \$500,000 of inventory as of December 31, 'N - 1'.

**Required:**

**Compute the following ratios:**

- (a) Inventory turnover
- (b) Average age of inventory (Days sales in Inventory)
- (c) Debt-equity ratio
- (d) Earnings per share (EPS)

- (e) Dividends per share (DPS)  
 (f) Dividend payout ratio (DPR)

**Solution:**

$$\text{a- Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}} = \frac{\$12,000,000}{(\$500,000 + \$600,000) / 2} = 21.82$$

$$\text{b- Average age of inventory (Days sales in Inventory)} = \frac{365}{\text{Inventory turnover}} = \frac{365}{21.82} = 16.7 \text{ days}$$

$$\text{c- Debt-equity ratio} = \frac{\text{Total liabilities}}{\text{Stockholders' equity}} = \frac{\$600,000}{\$1,600,000} = 0.375$$

$$\text{d- Earnings per share (EPS)} = \frac{\text{Net income}}{\text{Outstanding common shares}} = \frac{\$3,000,000}{100,000 \text{ shares}} = \$30$$

$$\text{e Dividends per share (DPS)} = \frac{\text{Dividends}}{\text{Outstanding shares}} = \frac{\$1,200,000}{100,000 \text{ shares}} = \$12$$

$$\text{f- Dividend payout ratio (DPR)} = \frac{\text{Dividends per share}}{\text{Earnings per share}} = \frac{\$12}{\$30} = 0.4$$

**Exercise 3**

Lana Company is considering a project that would have an eight-year life and require a \$4,800,000 investment in equipment. At the end of the eight years, the project would terminate and the equipment would have no salvage value. The project would provide net operating income each year as follows:

Sales	\$6,000,000
Variable expenses	\$3,600,000
Contribution margin	\$2,400,000
<b>Fixed expenses:</b>	
Advertising, salaries, and other fixed out-of-pocket costs	\$1,400,000
Depreciation	\$600,000
Total fixed expenses	\$2,000,000
Net operating income	\$ 400,000

Present value of an annuity of \$1 in arrears.

Period	4 %	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
8	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487

The company's discount rate is 12%

**Required:**

1. Compute the annual net cash inflow from the project.
2. Compute the project's net present value. Is the project acceptable?
3. Find the project's internal rate of return to the nearest whole percent.



**Solution:**

1. The annual net cash inflow can be computed by deducting the cash expenses from sales:

Sales	\$6,000,000
Variable expenses	3,600,000
Contribution margin	2,400,000
Advertising, salaries, and other fixed out-of-pocket costs	1,400,000
Annual net cash inflow	\$ 1,000,000

Or the annual net cash inflow can be computed by adding depreciation back to net operating income:

Net operating income	\$400,000
Add: Noncash deduction for depreciation	600,000
Annual net cash inflow	\$1,000,000

2. The net present value is computed as follows:

Item	Year(s)	Amount of Cash Flows	12% Factor	Present Value of Cash Flows
Cost of new equipment	Now	\$(4,800,000)	1.000	\$(4,800,000)
Annual net cash inflow	1—8	\$1,000,000	4.968	<u>4,968,000</u>
Net present value				\$ 168,000

Yes, the project is acceptable because it has a positive net present value.

3. The formula for computing the factor of the internal rate of return is:

$$\text{Factor of the internal rate of return} = \frac{\text{Investment required}}{\text{Annual net cash inflow}} = \frac{\$4,800,000}{\$1,000,000} = 4,800$$

A factor of 4,800 represents a rate of return of about 13%