LEBANESE ASSOCIATION OF
CERTIFIED PUBLIC ACCOUNTANTS

MANAGERIAL ACCOUNTING

JULY 2015

MULTIPLE CHOICE QUESTIONS (37.5%)

Choose the correct answer

1. All of the following statements concerning standard costs are correct **except** that
   - a. time and motion studies are often used to determine standard costs.
   - b. standard costs are usually set for one year.
   - c. standard costs can be used in costing inventory accounts.
   - d. standard costs are usually stated in total, while budgeted costs are usually stated on a per-unit basis.

2. Which one of the following will allow a better use of standard costs and variance analysis to help improve managerial decision-making?
   - a. Company A does not differentiate between variable and fixed overhead in calculating its overhead variances.
   - b. Company B uses the prior year's average actual cost as the current year's standard.
   - c. Company C investigates only negative variances.
   - d. Company D constantly revises standards to reflect learning curves.

3. XYZ Company has three possible investment opportunities. The controller calculated the payoffs and probabilities, as follows.

	Probabilities		
Payoffs	Investment A	Investment B	Investment C
$(20,000)	0.3	0.2	0.3
(10,000)	0.1	0.2	0.1
30,000	0.3	0.2	0.2
70,000	0.2	0.2	0.3
100,000	0.1	0.2	0.1

The cost of investments A, B, and C are the same. Using the expected-value criterion, which one of the following rankings of these investments, from highest payoff to lowest payoff, is correct?

- a. A, B, C.
- b. B, A, C.
- c. C, A, B.
- d. B, C, A.

4. Stock X has the following probability distribution of expected future returns.

Probability	Expected Return
0.10	-20%
0.20	5%
0.40	15%
0.20	20%
0.10	30%

The expected rate of return on stock X would be

a. 10%.
b. 12%.
c. 16%.
d. 19%.

5. When compared to static budgets, flexible budgets
   a. offer managers a more realistic comparison of budget and actual fixed cost items under their control.
   b. provide a better understanding of the capacity variances during the period being evaluated.
   c. encourage managers to use less fixed costs items and more variable cost items that are under their control.
   d. offer managers a more realistic comparison of budget and actual revenue and cost items under their control.

6. Over the past several years, XYZ Industries has experienced the following regarding the company's shipping expenses.

Fixed costs	$16,000
Average shipment	15 pounds
Cost per pound	$0.50

Shown below are XYZ's budget data for the coming year.

Number of units shipped	8,000
Number of sales orders	800
Number of shipments	800
Total sales	$1,200,000
Total pounds shipped	9,600

XYZ's expected shipping costs for the coming year are

a. $4,800.
b. $16,000.
c. $20,000.
d. $20,800.

7. Given the following data for ABC Company, what is the cost of goods sold?

Beginning inventory of finished goods	$100,000
Cost of goods manufactured	700,000
Ending inventory of finished goods	200,000
Beginning work-in-process inventory	300,000
Ending work-in-process inventory	50,000

a. $500,000.
b. $600,000.
c. $800,000.
d. $950,000.

8. A company is concerned that its divisional managers are not making decisions that are in the **best** interests of the overall corporation. In order to prevent this, the company should use a performance evaluation system that focuses on
   a. flexible budget variances.
   b. operating income.
   c. controllable costs.
   d. residual income.

9. A summary of the Income Statement of ABC Company is shown below.

Sales	$15,000,000
Cost of sales	9,000,000
Operating expenses	3,000,000
Interest expense	800,000
Taxes	880,000
Net income	$ 1,320,000

Based on the above information, ABC's degree of financial leverage is
   a. 0.96.
   b. 1.36.
   c. 1.61.
   d. 2.27.

10. Three years ago, ABC Company purchased stock in XYZ Inc. at a cost of $100,000. This stock was sold for $150,000 during the current fiscal year. The result of this transaction should be shown in the Investing Activities Section of ABC' Statement of Cash Flows as
   a. Zero.
   b. $50,000.
   c. $100,000.
   d. $150,000.

11. Selected financial information for ABC Company for the year just ended is shown below.

Net income	$2,000,000
Increase in accounts receivable	300,000
Decrease in inventory	100,000
Increase in accounts payable	200,000
Depreciation expense	400,000
Gain on the sale of available-for-sale securities	700,000
Cash receivable from the issue of common stock	800,000
Cash paid for dividends	80,000
Cash paid for the acquisition of land	1,500,000
Cash received from the sale of available-for-sale securities	2,800,000

Assuming the indirect method is used, ABC's cash flow from operating activities for the year is

a. $1,700,000.
b. $2,000,000.
c. $2,400,000.
d. $3,100,000.

12. An investment decision is acceptable if the

a. net present value is greater than or equal to $0.
b. present value of cash inflows is less than the present value of cash outflows.
c. present value of cash outflows is greater than or equal to $0.
d. present value of cash inflows is greater than or equal to $0.

13. XYZ Manufacturing is analyzing a capital investment project that is forecasted to produce the following cash flows and net income.

Years	After-Tax Cash Flows	Net Income
0	$(20,000)	$ 0
1	6,000	2,000
2	6,000	2,000
3	8,000	2,000
4	8,000	2,000

If XYZ's cost of capital is 12%, the net present value for this project is

a. $(1,600).
b. $924.
c. $6,074.
d. $6,998.

14. XYZ Manufacturing is analyzing a capital investment project that is forecasted to produce the following cash flows and net income.

Year	After-Tax Cash flow	Net Income
0	($20,000)	$ 0
1	6,000	2,000
2	6,000	2,000
3	8,000	2,000
4	8,000	2,000

The payback period of this project will be

a. 2.5 years.
b. 2.6 years.
c. 3.0 years.

d. 3.3 years.

15 - The following information is given for Hemadeh SAL.:

Unit sales price	$ 10
Variable cost per unit	6
Total fixed costs	50,000

Based on the information above, choose the correct answer in each of the following:

15-1) The contribution margin ratio is:

a. 40%
b. 50%
c. 60%
d. 70%
e. 80%

15 – 2) Break-even sales in units is:

a. 16,666 units
b. 14,444 units
c. 12,500 units
d. 10,000 units
e. 8,888 units

15-3) Break-even sales in dollars is:

a. $80,000
b. $95,000
c. $100,000
d. $115,000
e. $125,000

15-4) Sales in units required to achieve a net income of $4,000:

a. 15,500 units
b. 14,700 units
c. 14,300 units
d. 13,500 units
e. 13,150 units

15-5) Sales in units required to achieve a net income of 15 percent of sales:

a. 19,000 units
b. 20,000 units
c. 22,000 units
d. 23,000 units
e. 24,000 units

16 - Which one of the following statements concerning debt instruments is **correct**?

a. The coupon rate and yield of an outstanding long-term bond will change over time as economic factors change.

b. A 25-year bond with a coupon rate of 9% and one year to maturity has more interest rate risk than a 10-year bond with a 9% coupon issued by the same firm with one year to maturity.

c. For long-term bonds, price sensitivity to a given change in interest rates is greater the longer the maturity of the bond.

d. A bond with one year to maturity would have more interest rate risk than a bond with 15 years to maturity.

17 - Thomas Company's capital structure consists of 30% long-term debt, 25% preferred stock, and 45% common equity. The cost of capital for each component is shown below.

Long-term debt	8%
Preferred stock	11%
Common equity	15%

If Thomas pays taxes at the rate of 40%, what is the company's after-tax weighted average cost of capital?

a. 7.14%.

b. 9.84%.

c. 10.94%.

d. 11.90%.

18 - Shown below are selected data from Fortune Company's most recent financial statements.

Marketable securities	$10,000
Accounts receivable	60,000
Inventory	25,000
Supplies	5,000
Accounts payable	40,000
Short-term debt payable	10,000
Accruals	5,000

What is Fortune's net working capital?

a. $35,000.

b. $45,000.

c. $50,000.

d. $80,000.

19 - A summary of the Income Statement of Sahara Company is shown below.

Sales	$15,000,000
Cost of sales	9,000,000

Operating expenses	3,000,000
Interest expense	800,000
Taxes	880,000
Net income	$ 1,320,000

Based on the above information, Sahara's times interest earned is

a. 1.65
b. 3.75
c. 0.55
d. 18.75

20 - Parts (a) and (b) are based on the following information pertaining to Gladstone Manufacturing for Year 2.

Raw materials used in production	$ 2,800
Total manufacturing costs added	16,000
Applied factory overhead	6,600
Selling and administrative expenses	4,300

Inventories:

Raw materials, January 1	$ 960	Work in process, December 31	$ 1,300
Raw materials, December 31	1,040	Finished goods, January 1	960
Work in process, January 1	1,460	Finished goods, December 31	920

(20 -1) For Year 2, what was the cost of raw materials purchased?

a. $2,720
b. $2,800
c. $2,880
d. $3,760

(20 – 2) For Year 2, what predetermined overhead rate was used (overhead is applied on the basis of direct labour costs)?

a. 80%
b. 100%
c. 120%
d. 200%

EXERCISES (62.5%)

I - XYZ is a cosmetics company that produces perfume. The perfume market is very competitive and subject to frequent changes.

The finance team at XYZ prepare monthly budgets as part of their planning and management control process.

The data for the forthcoming new budget period are as follows:

The variable cost of producing a bottle of perfume is $21.

The planned selling price of a bottle of perfume is $45 and at this selling price the demand for perfume is expected to be 125,000 bottles. Information from the marketing division at XYZ suggests that for every $3 increase in the selling price the customer demand would reduce by 10,000 bottles, and that for every $3 decrease in the selling price the customer demand would increase by 10,000 bottles.

Note: If P = a - bx then MR = a - 2bx

Equations to use for calculations are:

P = a – bx

MR = a – 2bx

Where:

P = Optimum price

a = current price

b = change in price per unit

x = number of units

MR = marginal revenue

Required:

Calculate the revenue that XYZ would earn if the selling price of a bottle of perfume was set so that profits would be maximised for the forthcoming budget period. (8%)

Revenue = $5,304,375

To calculate the marginal revenue function the demand function must first be established.

P = a – bx

b = 3 / 10,000 = 0.0003

45 = a - 0.0003*125,000. Therefore, a = 82.50

P = 82.50 – 0.0003x

MR = a – 2bx, MR = 82.50 – 2*0.0003x

Profit is maximised when MR = MC

MC = $21

21 = 82.50 – 2*0.0003x. Therefore x = 102,500

Substitute the value of x into the demand function to get price

82.50 – 0.0003*102,500 = $51.75

Revenue = $51.75 * 102,500 = $5,304,375

II - You were given the following information to prepare cash budget for the first half of the year (N) in RABICO:

RABICO: balance sheet as on 1/1/N	
Assets	
Tangible fixed assets	200,000
Accumulated depreciation of tangible fixed assets	(27,000)
Net of tangible fixed assets	173,000
Stock of goods	40,000
Clients (collected in January)	233,750
Other accounts receivable (see appendix)	39,250
Security placement (marketable securities)	32,950
Cash	53,250
	572,200

RABICO: balance sheet as on 1/1/N	
Liabilities & Equity	
Capital	237,000
Long-term loan (to be settled in April with no interest)	70,000
Suppliers/ accounts payable (to be settled in January)	112,100
Social security (to be settled in January)	26,400
VAT to be paid (to be settled in January)	60,000
Other accounts payable (see appendix)	30,700
	572,200

Appendix: collecting or settling accounts during the months of January through June (N).

	Jan.	Feb.	Mar.	Apr	May	Jun.
Accounts receivable	12,750	8,500	9,250	5,000	1,875	1,875
Accounts payable	3,300	6,800	5,300	10,600	3,750	950

Planned revenues and expenses during the budget 6 months: January through June (N)

	Jan.	Feb.	Mar.	Apr	May	Jun.
Sale of goods	450,000	500,000	525,000	575,000	612,500	675,000
Purchase of goods	180,000	200,000	210,000	230,000	245,000	270,000
External services	40,000	50,000	50,000	55,000	60,000	55,500
Salaries	40,000	40,000	40,000	50,000	50,000	50,000
Social expenses	8,000	8,000	8,000	10,000	10,000	10,000
Depreciation expenses	3,000	3,000	3,000	3,000	3,000	3,000

All sales, purchases and external services that appear in the above table are VAT excluded (HT) and all are subject to VAT at a rate of 10%.

Procedure of collecting or settling:

Sales of goods: collecting 50% cash and 50% the following month.
Purchase of goods: settling 50% cash and 50% the following month.
External services: cash.
Salaries: salaries are paid at the end of every month after deducting 2% for social security subscriptions from the employee.
Social expenses: represent social security subscriptions, are paid quarterly, with the deducted amounts of the employee share, during the first half of the month that follows the end of the quarter.
VAT to be paid for the period operations: the tax period is 3 months. It is paid on the operations of the quarter during the first half of the month that follows the end of the quarter.
Additional information

During May (N) a piece of land will be purchased for 100,800 and will be paid for starting from July (N) (land is not subject to VAT).

Note: All sums above are in USD.

Prepare:

1. Schedule of cash receipts from sales
2. Schedule of payments (disbursement)
3. VAT budget
4. Budget of cash receipts
5. Budget of payments (disbursement)
6. Cash budget

(18 %)

ذمم مدينة	متحصلات من المبيعات						المبيعات				
	6	5	4	3	2	1	TTC	TVA	HT		
					247,500	247,500	495,000	45,000	450,000	1	
				275,000	275,000		550,000	50,000	500,000	2	
			288,750	288,750			577,500	52,500	525,000	3	
		316,250	316,250				632,500	57,500	575,000	4	
	336,875	336,875					673,750	61,250	612,500	5	
371,250	371,250						742,500	67,500	675,000	6	
371,250	**708,125**	**653,125**	**605,000**	**563,750**	**522,500**	**247,500**	**3,671,250**	**333,750**	**3,337,500**		

جدول المدفوعات المرتقبة عن المشتريات

ذمم دائنة	مدفوعات عن المشتريات						مشتريات				
	6	5	4	3	2	1	TTC	TVA	HT		
					99,000	99,000	198,000	18,000	180,000	1	
				110,000	110,000		220,000	20,000	200,000	2	

	3	210,000	21,000	231,000			115,500	115,500			
	4	230,000	23,000	253,000				126,500	126,500		
	5	245,000	24,500	269,500					134,750	134,750	
	6	270,000	27,000	297,000						148,500	148,500
		1,335,000	**133,500**	**1,468,500**	**99,000**	**209,000**	**225,500**	**242,000**	**261,250**	**283,250**	**148,500**

موازنة الضريبة على القيمة المضافة

ضريبة القيمة المضافة	الفصل الأول	الفصل الثاني
محصلة	**147,500**	**186,250**
قابلة للتنزيل على المشتريات	**59,000**	74,500
قابلة للتنزيل على الخدمات الخارجية	**14,000**	17050
برسم الدفع	**74,500**	**94,700**

موازنة المقبوضات

	1	2	3	4	5	6	ذمم مدينة
الزبائن	233,750						
ذمم مدينة مختلفة	12,750	8,500	9,250	5,000	1,875	1,875	
مبيعات	247,500	522,500	563,750	605,000	653,125	708,125	371,250
	494,000	**531,000**	**573,000**	**610,000**	**655,000**	**710,000**	**371,250**

موازنة المدفوعات

	1	2	3	4	5	6	ذمم دائنة
إقتراض				**70,000**			
الموردون	112,100						
الضمان الإجتماعي	26,400						
الدولة- ضريبة القيمة المضافة برسم الدفع	60,000						
ذمم دائنة خارج التشغيل	3,300	6,800	5,300	10,600	3,750	**950**	
مشتريات	99,000	209,000	225,500	242,000	261,250	283,250	148,500
خدمات خارجية	44,000	55,000	55,000	60,500	66,000	61,050	
رواتب وأجور	39,200	39,200	39,200	49,000	49,000	49,000	
اقتطاع ضمان صحي				2,400			3,000
أعباء إجتماعية				24,000			30,000
ضريبة القيمة المضافة				74,500			94,700
	384,000	**310,000**	**325,000**	**533,000**	**380,000**	**394,250**	**276,200**

الموازنة النقدية

	1	2	3	4	5	6
رصيد النقدية أول الشهر	53,250	163,250	384,250	632,250	709,250	984,250
+ مقبوضات الشهر	494,000	531,000	573,000	610,000	655,000	710,000
– مدفوعات الشهر	384,000	310,000	325,000	533,000	380,000	394,250
= **رصيد النقدية آخر الشهر**	**163,250**	**384,250**	**632,250**	**709,250**	**984,250**	**1,300,000**

III - Star Corporation is the leading retailer and roaster of specialty coffee in Lebanon, selling freshly brewed coffee, pastries, and coffee beans. Data from the company's financial statements are as follows:

Star Corporation Comparative Balance Sheet (dollars in millions)	This Year	Last Year
Assets		
Current assets:		
Cash	$ 281	$ 313
Marketable securities	$ 157	$ 141
Accounts receivable	$ 288	$ 224
Inventories	$ 692	$ 636
Other current assets	$ 278	$ 216
Total current assets	$1,696	$1,530
Property and equipment, net	$2,890	$2,288
Other assets	$ 758	$ 611
Total assets	$5,344	$4,429

Liabilities and Stockholders' Equity (dollars in millions)	This Year	Last Year
Current liabilities:		
Accounts payable	$ 391	$ 341
Short-term bank loans	$ 710	$ 700
Accrued payables	$ 757	$ 662
Other current liabilities	$ 298	$ 233
Total current liabilities	$2,156	$1,936
Long term liabilities	$ 904	$ 265
Total liabilities	$3,060	$2,201
Stockholders' equity:		
Preferred stock	$ 0	$ 0
Common stock and additional paid-in capital	$ 40	$ 40
Retained earning	$2,244	$2,188
Total stockholder equity	$2,284	$2,228
Total liabilities and stockholders' equity	$5,344	$4,429

Star Corporation Income Statement (dollars in millions)	This Year
Sales	$9,411
Cost of goods sold	$3,999
Gross margin	$5,412
Selling and administrative expenses:	
Store operating expenses	$3,216
Other operating expenses	$ 294
Depreciation and amortization	$ 467
General and administrative expenses	$ 489
Total selling and administrative expenses	$4,466

Net operating income	$ 946
Plus interest and other income	$ 110
Interest expenses	$ 0
Net income before taxes	$1,056
Income taxes (about 36%)	$ 384
Net income	$ 672

Required:

1. Compute the return on total assets.
2. Compute the return on common stockholders' equity.
3. Compute the current ratio.
4. Compute the acid-test ratio.
5. Compute the inventory turnover.
6. Compute the average sale period.
7. Compute the debt-to-equity ratio. (14 %)

Answers:

1. Return on total assets:

$$\text{Return on total assets} = \frac{\text{Net income} + [\text{Interest expenses} \times (1 - \text{Tax rate})]}{\text{Average total assets}}$$

$$= \frac{\$672 + [\$0 \times (1 - 0.36)]}{(\$5,344 + \$4,429) / 2} = 13.8\% \text{ (rounded)}$$

2. Return on common stockholders' equity:

$$\text{Return on a common stockholders' equity} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Average common stockholders' equity}}$$

$$= \frac{\$672 - \$0}{(\$2,284 + \$2,228) / 2} = 29.8\% \text{ (rounded)}$$

3. Current ratio:

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

$$= \frac{\$1,696}{\$2,156} = 0.79 \text{ (rounded)}$$

4. Acid-test ratio:

$$\text{Acid-test ratio} = \frac{\text{Cash} + \text{Marketable securities} + \text{Accounts receivable} + \text{Short-term notes receivable}}{\text{Current liabilities}}$$

$$= \frac{\$281 + \$157 + \$288 + \$0}{\$2,156} = 0.34 \text{ (rounded)}$$

5. Inventory turnover:

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory balance}}$$

$$= \frac{\$3,999}{(\$692 + \$636) / 2} = 6.02 \text{ (rounded)}$$

6. Average sale period:

$$\text{Average sale period} = \frac{\text{365 days}}{\text{Inventory turnover}}$$

$$= \frac{\text{365 days}}{6.02} = \text{61 days (rounded)}$$

7. Debt-to-equity ratio:

$$\text{Debt-to-equity ratio} = \frac{\text{Total liabilities}}{\text{Stockholders' equity}}$$

$$= \frac{\$2,156 + \$904}{\$2,284} = 1.34 \text{ (rounded)}$$

IV - The ROBOT SAL makes a product called Z. Some of the manufacturing expenses are easily identified as fixed or variable directly with production. The cost accountant of the company is confronted with the problem of preparing a flexible budget for the coming year and wishes to determine the fixed and variable elements of the mixed factory overhead. The following details are provided for the first 10 months of the past year:

Month	Number of Units Produced *x*	Mixed Factory Overhead *y*
1	1,500	$ 800
2	2,000	1,000
3	3,000	1,350
4	2,500	1,250
5	3,000	1,300
6	2,500	1,200

7	3,500	1,400
8	3,000	1,250
9	2,500	1,150
10	1,500	800
	25,000	$11,500

Required:
Determine the fixed and variable elements of the mixed factory overhead using the high-low method. (8.5 %)

Answer:

	x	y
High	3,500 units	$1,400
Low	1,500	800
Difference	2,000 units	$ 600

Variable rate: $600/2,000 units = $0.30/unit.

Fixed element:

	High	Low
Mixed overhead	$1,400	$800
Variable ($0.30/unit)	1,050	450
	$ 350	$350

Therefore the formula is:

$350 fixed + $0.30 per unit

V - The Smart Co. SAL reports the following balance sheet data:

Current liabilities	$280,000
Bonds payable, 16%	120,000
Preferred Stock, 14%, $100 par value	200,000
Common Stock, $25 par value, 16,800 shares	420,000
Premium on common stock	240,000
Retained Earnings	180,000

Income before taxes is $160,000. The tax rate is 40%. Common stockholders' equity in the previous year was $800,000. The market price per share of common stock is $35. Calculate:

a) Net income
b) Preferred dividends
c) Return on common stock
d) Earnings per share
e) Price-earnings ratio
f) Book value per share (14%)

Solution

(a)

Income before taxes	$160,000
Taxes (40% rate)	64,000
Net income	$ 96,000

(b) 14% x$200,000 = $28,000

(c) Common stockholders' equity:

Common stock	$420,000
Premium on common stock	240,000
Retained earnings	180,000
Common stockholders' equity	$840,000

$$\text{Return on common stock} = \frac{\text{Net income} - \text{preferred dividends}}{\text{Average common stockholders' equity}}$$

$$= \frac{\$96{,}000 - \$28{,}000}{(\$800{,}000 + \$840{,}000)/2} = \frac{\$68{,}000}{\$820{,}000} = 0{,}08$$

(d) $$\text{Earnings per share} = \frac{\text{Net income} - \text{preferred dividends}}{\text{Common stock outstanding}}$$

$$= \frac{\$96{,}000 - \$28{,}000}{16{,}800 \text{ shares}} = \$4{,}05$$

(e) $$\text{Price – earnings ratio} = \frac{\text{Market price per share}}{\text{Earnings per share}} = \frac{\$35{,}00}{\$4{,}05} = 864 \text{ times}$$

(f) $$\text{Book value per share} = \frac{\text{stockholders' equity} - \text{preferred stock}}{\text{Common stock outstanding}}$$

$$= \frac{\$840{,}000}{\$16{,}800 \text{ shares}} = \$50 \text{ per share}$$