Strathmore
UNIVERSITY

STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES

BACHELOR OF BUSINESS SCIENCE IN ACTUARIAL SCIENCE

END OF SEMESTER EXAMINATION

BSA 2103: FINANCIAL ANALYSIS FOR ACTUARIAL SCIENCE

DATE: 22nd July 2019 Time: 2 Hours

Instructions

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

QUESTION 1 **30 MARKS**

East African Breweries Limited (EABL) is a regional leader in beverage alcohol with an exceptional collection of brands across beer and spirits. Although their business is concentrated in three core markets of Kenya, Uganda and Tanzania, their products are sold in more than 10 countries across Africa and beyond.

Here is the excerpt of the "Managing director's statement" from East Africa Breweries Limited (EABL) Annual Report for 2018 followed by corresponding B/S, P&L and Cashflow statements.

'EABL achieved a solid year on year performance driven by continued strong mainstream spirits performance, improved bottled beer growth and a resilient Scotch delivery. However, the performance was muted by decline of Senator keg and electoral uncertainty in Kenya in the first half coupled with a challenging and competitive trading environment in Uganda and Tanzania.

Significant business resilience throughout the year and growth across most of our categories delivered Ksh 73.5 billion in revenue, a growth compared to the prior year. Selling and distribution costs grew by 20% as we invested in rejuvenating bottled beer and accelerating momentum in innovation during the year in line with our strategy and commitment. Administrative expenses increased by 3% in line with inflation and securing our growth plans with the right resources.

EABL's continued investment into the future growth through increased capacity and operational efficiency saw capital expenditure of Ksh 13 billion in the year (7.8bn Kisumu brewery, DPVs – 1.0bn, spirits line – 0.6bn, returnable bottles – 1.4m, keg rackers – 0.3m, coolers – 0.3m, other – 1.6bn). The new brewery in Kisumu, a Ksh 15 billion investment is scheduled to commence its operations in the first half of the new financial year.

INCOME STATEMENT		
Ksh '000'	**2018**	**2017**
Revenue	73,456,832	70,247,065
Cost of sales	41,052,409	39,116,742
Gross profit	**32,404,423**	**31,130,323**
Other income	81,949	81,686
SGA Expenses	17,303,495	14,649,274
EBIT	**15,182,877**	**16,562,735**
Net Finance costs	3,441,067	3,255,402
EBT	11,741,810	13,307,333
Income Tax expense	4,486,255	4,792,765
Net Income	7,255,555	8,514,568

BALANCE SHEET		
Ksh '000'	**2018**	**2017**
Bank and cash balances	3,588,370	3,907,473
Tax recoverable	2,108,505	826,033
Trade and other receivables	7,946,481	9,928,000
Inventories	7,882,606	7,473,094
Total current assets	21,525,962	22,134,600
Other non-current assets		
Deferred income tax assets	726,114	3,304,578
Other Investments	10,000	10,000
Prepaid operating lease rentals	7,351	14,992
Intangible assets	3,613,555	3,884,696
Property, plant and equipment	45,363,844	37,317,446
Total non-current assets	49,720,864	44,531,712
Total assets	**71,246,826**	**66,666,312**
Trade and other payables	25,191,910	21,301,120
Finance lease liabilities	-	93,228
Derivative financial liabilities	71,946	-
Bank overdraft	401,245	589,366
Loans and borrowings ST	118,667	-
Total current liabilities	25,783,768	21,983,714
Finance lease liabilities	-	110,116
Deferred tax liability	3,264,233	5,095,988
Loans and borrowings LT	30,546,789	27,488,274
Total non-current liabilities	33,811,022	32,694,378
Total liabilities	59,594,790	54,678,092
Share capital	1,581,547	1,581,547
Share premium	1,691,151	1,691,151
Other reserves	- 3,874,224	- 2,571,084
Proposed dividends	4,349,259	4,349,259
Retained earnings	1,933,212	7,334,750
Non-controlling interests	5,971,091	- 397,403
Total equity	11,652,036	11,988,220
Total equity and liabilities	**71,246,826**	**66,666,312**

CASH FLOW STATEMENT		
Ksh '000'	**2018**	**2017**
Operating Activities		
Cash generated from operations	21,717,296	21,523,606
Interest received	81,949	81,686
Interest paid	- 3,429,018	- 3,255,402
Income tax paid	- 4,810,885	- 4,435,419
Net cash flow from operating activities	13,559,342	13,914,471
Investing Activities		
Purchase of prepaid lease rentals	-	- 5,066
Proceeds from sale of property, plant, and equipment	2,539,228	1,031,397
Purchase of property, plant and equipment	- 13,028,734	- 5,662,510
Purchase of intangible assets	- 2,627	- 31,388
Net cash used in investing activities	- 10,492,133	- 4,667,567
Financing Activities		
Proceeds of loans and borrowings	4,907,194	-
Repayment of loans and borrowings	- 5,492,942	- 2,500,000
Dividends paid	- 6,698,123	- 6,991,541
Purchase of treasury shares	- 9,272	-
Short term bank loan	3,800,000	8,500,000
Net cash flows used in financing activities	- 3,493,143	- 991,541
Net increase in cash and cash equivalents	- 425,934	8,255,363
Cash and cash equivalents at 1 January	3,318,107	- 3,954,090
Foreign exchange impact on translation	294,952	- 983,166
Net (decrease)/increase during the year	- 425,934	8,255,363
Cash and cash equivalents as at 31 December 20	3,187,125	3,318,107

1. The table below shows financial ratios from 3 companies for the year 2018. The first 2 columns represent the same ratios for Bralirwa Breweries Limited (RBL) and Tanzania Breweries Limited (TBL). Fill in the table by calculating the missing ratios (grey cells) for East African Breweries Limited (EABL).

(Each ratio carries 0.5 mark – 10 in total)

RBL	TBL		EABL	2018
15%	23%		Revenue growth	
33%	38%		Gross margin	
25%	97%		EBIT growth	
19%	20%		EBIT margin	
43%	167%		Net income growth	
7%	12%		Net income margin	
10.9	7.8		Avr. Rec t/o	
3.3	6.7		Avr. Inv t/o	
2.3	2.0		Avr. Pay t/o	
-11	-78		CCC	
10%	-9%		Change in Receivables	
-2%	2%		Change in Inventory	
4%	10%		Change in Payables	
3.4	1.8		Leverage	
5%	13%		Return On Assets	
19%	23%		Return On Equity	
0.6	0.9		Current Ratio	
0.3	0.7		Quick Ratio	
21%	24%		Net Op. CF/ Sales	
113%	124%		Net Op. Cf/ EBIT	

2. Compare the ROA and ROE of EABL with those of RBL and TBL. What do they tell about the efficiency with which the company employs its resources? What is the approximate leverage level of each of these companies? What kind of risk is related to it? What can you comment on the fact that over 50% of EABL's liabilities are related to 3rd party borrowing (mainly long-term credit from major shareholders)? (7 Marks)

3. Comment on the cash conversion cycle of EABL. Giving a brief explanation of what the cash conversion cycle is, discuss on the management of receivables, payables and inventory by EABL. (4 Marks)

4. EABL's income statement shows that operating profit has decreased between 2017 and 2018. As an analyst what would you advice EABL to do to improve this position in 2019? (3 Marks)

5. The table below shows the gearing ratio of EABL from 2014 – 2018. As the Credit Risk Manager of the bank, would you be willing to give more debt to EABL? Why? What would you recommend EABL does so that you can approve additional debt? (3 Marks)

	2014	**2015**	**2016**	**2017**	**2018**
Debt/Equity Ratio	591%	401%	504%	456%	511%

6. What effect does the 13 billion capital expenditure have on the financial statements of EABL? (3 Marks)

QUESTION 2 — 20 MARKS

1. Differentiate between bad growth and good growth. Why does the difference matter? (2 Marks)

2. Your friend, with a background in Biology, just started a business. As a free tip he was advised: 'Ensure you don't grow beyond the sustainable growth rate'. Defining what the sustainable growth rate is, explain what this statement means. (3 Marks)

3. The company ABC recorded the following results in the last few years.

	2014	2015	2016	2017	2018
Profit margin (%)	14%	15%	16%	18%	17%
Asset turnover (x)	0.48	0.5	0.64	0.75	0.88
Assets (end of year, millions)	150	170	200	250	350
Equity (end of year, millions)	140	160	180	210	290
Sales growth rate (%)	25%	40%	50%	60%	30%
Sustainable growth rate (%)		6%	10%	11%	22%

Calculate leverage and retention ratio for each year. (8 Marks)

	2014	**2015**	**2016**	**2017**	**2018**
Leverage(x)					
Retention ratio (%)					

4. State and explain what a company should do when its actual growth exceeds its sustainable growth rate. (7 Marks)

QUESTION 3 **20 MARKS**

1. ROE suffers from three critical deficiencies as a measure of financial performance. State and briefly explain what these deficiencies are. (3 Marks)

2. The financial data for JKL Ltd is as follows:

	Year 1	**Year 2**
Sales	270,000	450,000
COGS	240,000	340,000
Net income	(160,000)	(400,000)
Cash flow from operations	(58,000)	(20,400)
Balance Sheet		
Cash	340,000	260,000
Marketable securities	300,000	36,900
Accounts receivable	21,500	35,100
Inventories	6,500	72,000
Accounts payable	28,900	22,700
Accrued liabilities	44,100	123,000

a) Calculate the current and quick ratio at the end of each year. How has the company's short-term liquidity changed over this period? (3 Marks)

b) Assuming a 365-day year for all calculation, compute the following:
   i. The collection period each year based on sales. (1 Marks)
   ii. The inventory turnover, and the payables period for each year. (2 Marks)
   iii. The days' sales in cash each year. (1 Marks)
   iv. The gross margin and profit margin each year. (2 Marks)

c) What do these calculations suggest about the company's performance? (5 Marks)

3. The board of directors of Siwaka Ltd has been pressuring its CEO to boost ROE. During a recent interview on NTV, he announces his plan to improve the firm's financial performance. He will raise prices on all of the company's products by 8%. He justifies the plan by observing that ROE can be decomposed into the product of profit margin, asset turnover and financial leverage. By raising prices, he will increase the profit margin and thus ROE. Does this plan make sense to you? Why or why not? (3 Marks)

QUESTION 4 (20 MARKS)

1. Suppose you constructed a pro forma balance sheet for a company and the estimate for external financing required was negative. How would you interpret this result? (2 Marks)

2. Pro forma financial statements, by definition, are predictions of a company's financial statement at a future point in time. So why is it important to analyse the historical performance of the company before constructing pro forma financial statements? (2 Marks)

3. Consider the information in the table below.

Year	2018	2019
Net sales	30,000	
Growth rate in sales		25%
COGS/ Net sales		80%
SGA/Net sales		12%
Long-term debt		700
Current portion of LT debt		100
Interest expense		80
Tax rate		30%
Dividend/ earnings after tax		50%
Current assets/ net sales		22%
Net fixed assets		300
Current liabilities/ net sales		12%
Owners' equity		1700

a) Construct a pro forma income statement and balance sheet for 2019. (8 Marks)

b) What is the projected external funding required for 2019? How would you interpret this result? (2 Marks)

4. State and explain 3 ways used to cope with uncertainty inherent in financial projections. (6 Marks)

QUESTION 5 (20 MARKS)

1. Answer the following questions:
   a) What does it mean when cash flow from operations on a company's cash flow statement is negative? Is this bad news? Is it dangerous? (3 Marks)
   b) What does it mean when cash flow from investing activities on a company's cash flow statement is negative? Is this bad news? Is it dangerous? (3 Marks)
   c) What does it mean when cash flow from financing activities on a company's cash flow statement is negative? Is this bad news? Is it dangerous? (3 Marks)

2. The following are summary cash flow statements for three roughly equal-sized companies.

	(Ksh Millions)		
	X	**Y**	**Z**
Net cash flow from operating activities	(400)	(400)	400
Net cash flow from investing activities	(800)	(30)	(80)
Net cash flow from financing activities	1150	250	(300)
Cash balance at beginning of year	250	250	250

   a) Calculate each company's cash balance at the end of the year. (3 Marks)
   b) Looking at companies X and Y, which company would you prefer to own? Why? (2 Marks)
   c) Is company Z's cashflow statement cause for any concern on the part of Z's management or shareholders? Why or why not? (3 Marks)

3. Suppose an acquiring firm pays Ksh 100 million for a target firm. The target company's assets have a book value of only Ksh 40 million and an estimated replacement value of only Ksh 60 million. How will the accountant of the acquiring firm record this transaction in their balance sheet? (1 Marks)
4. ABC Ltd.'s equity has market value of Ksh 15 million with 700,000 shares outstanding. The book value of its equity is Ksh 9 million. What is ABC's stock price per share? What is its book value per share? (2 Marks)