Strathmore
UNIVERSITY

STRATHMORE UNIVERSITY

STRATHMORE INSTITUTE OF MATHEMATICAL SCIENCES

BACHELOR OF BUSINESS SCIENCE ACTUARIAL SCIENCE

BSA 2103: FINANCIAL ANALYSIS IN ACTUARIAL SCIENCE

END OF SEMESTER EXAM

Date: 13 July 2017 **Time: 2 hours**

INSTRUCTION: ANSWER QUESTION **ONE** AND ANY **OTHER TWO** QUESTIONS

Question One

a) Pritt Kenya Limited is a Kenya-based company, engaged in the manufacture and sale of industrial gases, medical gases and welding products. The Company operates through its subsidiaries LumoGas, Pritt Tanzania Limited, Pritt Uganda Limited and Mini-Pritt Limited. The LumoGas Company manufactures gases and other products on 41 different sites throughout southern Africa. The Pritt Tanzania Limited and Pritt Uganda Limited's principal activity of the companies is the sale of industrial and medical gases, and welding products. Pritt Kenya dominates the Kenyan market, where the company benefits from well-established route-to-customer infrastructure and cost-cutting strategies, such as diversifying their input markets. Well-established and armoured with an accolade of domestic and regional awards, the Kenyan based Manufacturer continues to capitalize on the growth in consumption and remains the dominant gas manufacturer in the Kenyan market. Pritt ensures nationwide distribution and increased bargaining power for customers. The following are the financial statements and ratio analysis of Pritt Kenya:

Pritt Ltd: INCOME STATEMENT (KSH m)	*FY13*	*FY14*	*FY15*
NSV	892,017	979,651	1,073,124
Cost of Sales	-449,827	-477,113	-544,742
Gross Profit	**442,190**	**502,538**	**528,382**
Other Income	-3,803	-39	-185
SGA	-142,189	-164,273	-162,784
EBITDA	**296,198**	**338,226**	**365,413**
Depreciation & Amortization	-33,006	-40,432	-47,074
EBIT (Operating Profit)	**263,192**	**297,794**	**318,339**
Net Finance Costs	-9,379	-5075	-9,408
Earnings Before Tax (EBT)	**253,813**	**292,719**	**308,931**
Tax Expense	-76,685	-89,012	-92,376
Net Income	**177,128**	**203,707**	**216,555**

Pritt Ltd: BALANCE SHEET (KSH m)	*FY13*	*FY14*	*FY15*
Cash & Bank Balances	49,442	11,090	35,767
Receivables	86,357	96,985	157,028
Inventories	126,448	145,195	120,309
Others	0	2,104	7,404
Current Assets	**262,247**	**255,374**	**320,508**
Property Plant & Equipment	426,662	474,670	503,359
Others	49,431	49,069	49,174
Fixed Assets	**476,093**	**523,739**	**552,533**
Total Assets	**738,340**	**779,113**	**873,041**
Payables	129,505	117,849	144,439
Bank Overdraft	0	0	0
Short Term Borrowings	71,724	54,642	56,630
Others	5,772	3,315	4,499
Short Term Liabilities	**207,001**	**175,806**	**205,568**
Long Term Borrowings	1,875	2,250	1,500
Corporate Bond	0	0	0
Others	41,862	48,454	53,178
Long Term Liabilities	**43,737**	**50,704**	**54,678**
Shareholders' Equity	**487,602**	**552,603**	**612,795**
Total Equity + Liabilities	**738,340**	**779,113**	**873,041**

Pritt Ltd: CASH FLOW STATEMENT (KSH m)	*FY13*	*FY14*	*FY15*
Cash from Operating Activities		201,004	
Cash from Investing Activities		-12,572	
Cash from Financing Activities		-88,078	
Free Cash Flow		**100,354**	**181,040**
Real Cash Change		**-38,352**	**24,677**
Difference		-138,706	-156,363
Retained Earnings		65,001	
N/I		203,707	216,555
Dividends		138,706	
Others (e.g. Shares: New Issue/Buy Back)		**0**	**0**

Pritt Ltd: RATIO ANALYSIS	*FY13*	*FY14*	*FY15*
Growth Rates			
NSV		9.8%	9.5%
EBITDA		14.2%	8.0%
EBIT		13.1%	6.9%
Efficiency			
Collection Period		34	

Days Payables Outstanding		95	88
Inventory Turnover		3.5	
Cash Conversion Cycle		43	
Total Asset Turnover		1.3	1.3
Liquidity			
Current Ratio	1.27	1.45	
Quick Ratio	0.66	0.63	
Cash Ratio	0.24	0.06	0.17
Solvency			
Debt to Equity	25%	20%	
Debt to Total Assets	16%	14%	13%
Degree of Operating Leverage		1.3	
Profitability			
Gross Margin	50%	51%	49%
EBITDA Margin	33%	35%	34%
EBIT Margin	30%	30%	30%
Net Income Margin	20%	21%	20%
ROE	36%	37%	35%
ROA	24%	26%	25%
Effective Tax rate	43.3%	43.7%	42.7%
ROIC	30.0%	31.2%	

Required:

i. Fill in the missing positions in Pritt's cash flow statement for 2015. **(8 Marks)**
ii. Calculate the missing ratios in Pritt's ratio analysis for 2015. **(8 Marks)**
iii. What do the cash conversion cycles tell us about working capital (WC) management in Pritt? **(2 Marks)**
iv. How did return on invested capital (ROIC) change during the last year and what is the main driver behind the change? **(2 Marks)**

b) Cash budget projects the cash change over forecasted period as difference between expected cash inflow and outflow. It relies on cash rather than accrual accounting. Explain what each means and why it is so that it relies on Cash accounting **(4 marks)**

c) Comment on whether the following statements (i) to (iii) below are True or False. Make sure to provide explanation backing your answer. No marks will be awarded for simply answering True of False **(6 marks)**

i) If a company increases its dividend, its net income will decrease.
ii) You can construct a cashflow statement for 2014 if you have a company's balance sheet for year-end 2013 and 2014.
iii) The "goodwill" account on the balance sheet is an attempt by accountants to measure the benefits that result from a company's public relations efforts in the community.

Question Two

PART A

a) Using the information below, construct a monthly cash budget for January through March 2015. What is the total cash (need) in March 2015 taking into account the annual interest rate of 12% payable monthly? **(16 Marks)**

Wages payable monthly	180
Principal payment on debt due March	210
Interest due in March	90
Dividend payable in March	300
Taxes payable in February	180
Addition to accumulated depreciation in March	30

	Oct. 14	Nov.14	Dec. 14	Jan. 15	Feb.15	Mar. 15
Net Sales	**360**	**420**	**1,200**	**600**	**240**	**240**
+Cash (20% sales)	72	84	240			
+Receivables (30 D)	288	336	960			
Receivables		-288	-336			
Receivables End		336	960			
Cash Change		**372**	**576**			

Purchases	**510**	**540**	**1,200**	**300**	**120**	**120**
+Payables (60 D)	510	540	1,200			
-Payables			-510			
Payables End		1,050	1,740			
Cash Change			**-510**			

Wages						
Debt						
Dividends						
Tax						
Depreciation						
Cash Needs						

Cash Beginning						
Cash Change						
Cash End			**234**			

Desirable Cash Balance	150
Cash surplus/deficit	

Interest						
Total Cash (Needs)						

PART B

b) Precision Corporation had net income of $5 million this year on net sales of $125 million per year. At the beginning of this year, its debt-to-equity ratio was 1.5 and it held $75 million in total liabilities. It paid out $2 million in dividends for the year. What is Precision Corporation's sustainable growth rate? (4 marks)

Question 3

a) The Board of Directors of Interscope Records Inc., has been pressuring its CEO and CIO to boost ROE. During a recent interview on BusinessWatch, he announces his plan to improve the firm's financial performance. He will raise prices on all of the company's releases on Tidal (an online music purchasing platform) by 20%. He justifies the plan by observing the 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)**

b) Which company would you expect to have a higher price-to-earnings ratio, technology-oriented company or railroad construction company ? Why? **(3 marks)**

c) Which company would you expect to have the higher debt-to-equity ratio, a financial institution or a high-technology company with a new invention released to the market? Why? **(3 marks)**

d) You are responsible for labor relations in your company. During heated labor negotiations, the General Secretary of your largest union exclaims, "*Look, this company has $15 billion in assets, $7.5 billion in equity, and made a profit last year of $300 million-due largely, I might add, to the effort of the union employees. So don't tell me you can't afford our wage demands.*" How would you reply? **(3 marks)**

e) Which company would you expect to have a higher profit margin, an appliance manufacturer or a grocer? Why? **(3 marks)**

f) To estimate Missed Places Inc.'s (MP) external financing needs, the CFO needs to figure out how much equity her firm will have at the end of next year. At the end of the most recent fiscal year, MP's retained earnings were $158,000. The Controller has estimated that over the next year, gross profits will be $360,700, earnings after tax will total $23,400, and MP will pay $12,400 in dividends. What are the estimated retained earnings at the end of next year? **(5 marks)**

Question 4

a) Calculate sustainable growth ratio for each year presented in the table below and compare it with actual ones. **(4 marks)**

b) What is the problem and how can the company cope with it? Mention and clearly explain four potential solutions in the context of this business (**10 marks)**

Year	**2009**	**2010**	**2011**	**2012**
Profit margin	12.5%	14%	16%	14%
Retention percentage	99%	97.5%	98.8%	93.2%
Asset turnover	1.25	1.14	1.11	0.9
Assets (end of the year)	250000	310000	398600	489200
Equity (end of the year)	110000	176000	213000	306000
Growth rate (sales) (%)	17.6	16.4	21.3	8.6

c) "Cash is king" is a common phrase in financial analysis that is used to reiterate the importance of cash flows over earnings. Explain how you would go about analyzing a company's cash flow generating capacity by examining the earnings before interest, tax, depreciation and amortisation (EBITDA). **(3 marks)**

d) Proforma Financial statements by definition are predictions of the company's financial statements at a future point in time. Why is it important to analyze the historical performance of the company before constructing pro-forma financial statements

(3 marks)

Question 5

a) Kilimani Mining's equity has a market value of $25 million with 800,000 share outstanding. The book value of its equity is $15 million. What is Kilimani's stock price per share? What is its book value per share? **(4 marks)**

b) 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? **(2 marks)**

c) Your firm is considering the acquisition of a thriving commercial and services company. One executive argues against the move, pointing out that because the commercial and services company is presently losing money, the acquisition will cause your firm's return on equity to fall.
   i. Is the executive correct in predicting that ROE will fall? **(3 marks)**
   ii. How important should changes in ROE be in this decision? **(2 marks)**

d)

Financial Statements for Royal Corporation
Actual 2013 and Pro Forma 2014 ($ millions)

Income Statement	2013	2014	Balance Sheet	2013	2014
Net sales	$47,616	$52,378	Cash & securities	$951	$1,046
Cost of goods sold	40,718	44,790	Accounts receivable	5,666	6,233
Other expenses	5,171	5,688	Inventories	4,236	4,660
Depreciation expense	1,000	1,100	Net fixed assets	4,048	
EBIT	727	800	Total assets	$14,901	
Interest expense	215	215			
Earnings before tax	512	585	Bank loan (short-term)	$392	$431
Tax	154	176	Accounts payable	7,419	8,161
Net income	$359	$409	Long-term debt	2,148	
			Total liabilities	9,959	
Dividends paid	90	102	Shareholders' equity	4,942	
Add. to retained earnings	$269		Total liabilities & equity	$14,901	

i. In the above financial statements, Royal Corporation has prepared (incomplete) pro forma financial statements for 2014, based on actual financial statements for 2013. Royal Corp. used the percent-of-sales method assuming a sales growth rate of 10% for 2014. If capital expenditures are planned to be $1,615 in 2014, then what would be the appropriate projection for net fixed assets in 2014? **(3 marks)**

ii. If Royal Corporation plans to issue $100 in new equity in 2014, what should be the projection for shareholders' equity for 2014? **(3 marks)**

iii. Assume that net fixed assets are projected to be 5,000 for 2014 and that shareholders' equity is projected to be 5,500 for 2014. If long-term debt is the plug figure, what should be the projection for long-term debt for Royal Corporation in 2014? **(3 marks)**