



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF THE BUILT ENVIRONMENT

DEPARTMENT OF QUANTITY SURVEYING

CONSTRUCTION FINANCE

AQS4203

Main Examination Paper

May 2015

This examination paper consists of 8 pages

Time Allowed: 3 hours

Total Marks: 100

Examiner's Name: Mr T L Mutambanadzo

INSTRUCTIONS

1. Answer any four (4) questions
2. Each question carries 25 marks

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25

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AQS4203

QUESTION 1

- a) Distinguish over-the-counter markets from formal/organised markets. [4 marks]
- b) Explain why preference shares are called hybrid instruments. [3 marks]
- c) You strongly believe that the price of Sushi Limited stock will rise substantially from its current level of \$137, and you are considering buying shares in the company. You currently have \$13,700 to invest. As an alternative to purchasing the stock itself, you are also considering buying call options on Sushi Limited stock that expire in three months and have an exercise price of \$140. These call options cost \$10 each.
- i. Compare and contrast the size of the potential payoff and the risk involved in each of these alternatives. [4 marks]
 - ii. Calculate the three-month rate of return on both strategies assuming that at the option expiration date Sushi's stock price has increased to \$155 or decreased to \$135. [6 marks]
 - iii. At what stock price level will the person who sells you the Sushi call option break even? Can you determine the maximum loss that the call option seller may suffer, assuming that he does not already own Sushi? [3 marks]
 - iv. Draw a well-labelled diagram showing the trader's (buyer) pay off on the call option assuming that at option expiration date Sushi's stock price is \$155 and \$135 respectively. [5 marks]

[25 MARKS]

QUESTION 2

a) You are given the following information:

	USD market	£ market
Company A	9%	12.6%
Company B	11%	13%

Current exchange rate £/USD1.5000

Principal amount £12 million

Bank commission 0.5% (shared equally)

Required;

- i) Calculate the gross savings [1 mark]
 - ii) Calculate the net savings [1 mark]
 - iii) Diagrammatically illustrate the swap using both the interest rates and actual funds movement. [12 marks]
- b) With the aid of examples, explain the difference between debt and equity instruments. [5 marks]
- c) State and explain any two (2) market forces that can be used to manage the agency problem. [6 marks]

[25 MARKS]

QUESTION 3

Assume you are the Financial Manager at AQS Construction (Private) Limited and you are presented with the following financial information.

STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2013

FUNDS EMPLOYED	2012 USD	2013 USD
Share Capital	6,908	6,908
Retained earnings	22,489	37,120
	<hr/>	<hr/>
	29,397	44,028
	<hr/> <hr/>	<hr/> <hr/>

EMPLOYMENT OF CAPITAL

Fixed assets

Buildings	20,213	23,750
Motor vehicles	2,842	5,353
Office Furniture, fittings and equipment	3,028	6,210
	<hr/>	<hr/>
	26,083	35,314
	<hr/>	<hr/>

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Current assets

Stock	1,830	5,588
Debtors	1,326	3,594
Bank and Cash	920	920
	<hr/>	<hr/>
	4,076	10,102

Current liabilities

Creditors	167	167
Taxation	595	1,221
	<hr/>	<hr/>
	761	1,388

Net Current Assets

3,314 8,714

29,397 44,028

**STATEMENT OF INCOME FOR THE PERIOD ENDED 31
DECEMBER 2013**

	2012	2,013
	USD	USD
SALES	59,553	62,530
COST OF SALES	27,261	27,521
GROSS PROFIT	32,292	35,009
GP MARGIN %	54%	56%

OPERATING EXPENSES

	13,060	14,828
Consultancy Fees	133	220
Rent	2,525	2,685
Depreciation	1,834	1,696
Salaries & Wages	5,299	5,880
Directors allowances	1,193	1,516
Travelling/Fuels	189	236
Freight/Duty	855	1,188
Advertising	47	104
Repairs and Maintenance	793	858
Sundry expenses	192	446

PROFIT BEFORE TAX	19,232	20,181
Taxation	5,289	5,550
PROFIT AFTER TAX	13,943	14,631
Retained profit brought forward	8,546	22,489
Retained profit at end of period	<u>22,489</u>	<u>37,120</u>

Required;

- a) Calculate and interpret any two of the following ratios;
- i) Liquidity [3 marks]
 - ii) Profitability [3 marks]
 - iii) Efficiency [3 marks]
 - iv) Leverage [3 marks]

- b) Calculate the Weighted Average Cost of Capital (WACC) Jojo Construction company given that its capital comprise \$400,000,000, 5-year 10% coupon bonds and retained earnings \$500,000,000. The interest rate prevailing on treasury bills is 8%, the beta of ABC stock is 1.6, the market return is 12% and corporate tax is 25%. [5 marks]
- c) Distinguish a promissory note from a banker's acceptance. [3 marks]
- d) State and explain any five cash management techniques. [5 marks]

[25 MARKS]

QUESTION 4

a) Answer the following by either stating True/Disagree and then Explain

- i. According to the NPV criterion, you should choose all projects with NPV >0. [2 marks]
- ii. According to the IRR criterion, you should choose projects with IRR < cost of financing. [2 marks]
- iii. A NPV > 0 project might not be undertaken because of its high risk, despite the manager's confidence in the accuracy of the CF estimates. [2 marks]
- iv. If a company is expanding, then it is necessarily creating additional value to shareholders. [2 marks]
- b) Given the following;

	PROJECT A	PROJECT B
Cost	\$10,000	\$25,000
Annual Benefits	\$4,000	\$8,000
No of years	5	5
Cost of capital	14%	14%

Which of these mutually exclusive projects is better based on?

- i) Net Present Value [3 marks]
- ii) Internal Rate of Return [6 marks]
- c) Outline the steps involved in capital budgeting process. [8 marks]

[25 MARKS]

QUESTION 5

- a) Evaluate the financial decisions that construction managers must make.
[15 marks]
- b) How much interest on interest is earned in an account by the end of 5 years if \$100,000 is deposited and interest is 4% per year, compounded continuously?
[1 marks]
- c) Bigcat has \$42,180.53 in brokerage account, and plans to contribute an additional \$5,000 every year at an annual interest rate of 12 percent. If Bigcat has to accumulate \$250,000, how many years will it take for him to reach his goal.
[4 marks]
- d) John is considering the purchase of a lot. He can buy the lot today and expects the price to rise to \$15,000 at the end of 10 years. He believes that he should earn an investment yield of 10 percent annually on this investment. The asking price for the lot is \$7,000. Should he buy it? What is the annual yield (internal rate of return) of the investment if John purchases the property for \$7,000 and is able to sell it 10 years later for \$15,000?
[2 marks]
- e) Rachel wants a car that costs \$12,000. She arranged to borrow the total purchase price of the car from a finance company at a simple interest of 12 percent. The loan requires quarterly payments for a period of three years. If the first payment is due three months after purchasing the car, what will be the amount of her quarterly payments on the loan?
[3 marks]
[25 MARKS]

QUESTION 6

Examine the reasons why there are a few Public-Private- Partnerships (PPPs) in Zimbabwe despite the prevailing stable economic environment that is attributable to the adoption of the multi-currency regime.

[25 MARKS]