



**Kasarani Campus**  
**Off Thika Road**  
**Tel. 2042692 / 3**  
**P. O. Box 49274, 00100**  
**NAIROBI**  
**Westlands Campus**  
**Pamstech House**  
**Woodvale Grove**  
**Tel. 4442212**  
**Fax: 4444175**

**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATION, 2019/2020 ACADEMIC YEAR**  
**FIRST YEAR, SECOND SEMESTER EXAMINATION**  
**FOR THE DEGREE OF BACHELOR OF SCIENCE**  
**BUSINESS ADMINISTRATION**

Date: 13<sup>th</sup> December, 2019  
Time: 2.30 – 4.30pm

**KFI 001 - INTRODUCTION TO FINANCIAL MANAGEMENT**

**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE (30 MARKS)**

- a) XYZ Company Ltd. Borrows Sh. 3,000, 000 to be repaid in five equal installments at the end of each year. The bank is to receive 20% on the loan outstanding at the end of every year compounded semi-annually. Prepare a loan amortization schedule. (8 marks)
- b) The initial cash outlay of a project is sh. 100,000 and it can generate net cash flows of sh. 50,000, sh. 30,000, sh. 50,000 and sh. 20,000 in year one through year 4. Assume a discount rate of 11.5%. Calculate the project's profitability index. (6 marks)
- c) The following is the capital structure of a company:

Source	Amount (Shs)
Ordinary share	2,000,000
10% preference shares	1,000,000
6% debentures	800,000
Bank loan	1,200,000
<b>TOTAL</b>	<b>5,000,000</b>

The following additional information is available:

1. Ordinary shares are sh. 10 each with a market price of sh. 16 per share.
2. Preference share nominal and market price is sh. 10.
3. Debenture nominal price is sh.12 while the market price is sh. 10.
4. Ordinary shares floatation cost per share is sh. 1.
5. Corporation tax rate is currently at 30%.
6. Bank loan interest is 14%.
7. Equity dividend is currently sh. 1 per share and is expected to grow at 6% p.a.

**Required:**

- i) Compute the component of each cost of capital (8 marks)
- ii) Compute the company's weighted average cost capital. (4 marks)
- d) An investor can get an annual interest rate of 12% on a deposit in a bank. Assuming he deposits sh. 10,000 and leaves it for 3 years what is the amount at the end of the third year if interest is compounded:
- i) Semi-annually (2 marks)
- ii) Quarterly (2 marks)

**QUESTION TWO (20 MARKS)**

- a) PKG Ltd. maintains a minimum cash balance of Sh.500, 000. The deviation of the company's daily cash changes is Sh.200, 000. The annual interest rate is 14%. The transaction cost of buying or selling securities is Sh.150 per transaction.

**Required:**

Using the Miller-Orr cash management model, determine the following:

- i) Upper cash limit (4 marks)
- ii) Average cash balance (2 marks)
- iii) The return point. (2 marks)
- b) The following information relates to Mafuta Safi Limited:

	<b>Shs. '000'</b>
Purchase of raw materials	6,700
Usage of raw materials	6,500
Sale of finished goods (all on credit)	25,000
Cost of sales (finished goods)	18,000
Average creditors	1,400
Average raw materials stock	1,200
Average work in progress	1,000
Average finished goods stock	2,100
Average debtors	4,700

Assume a 365 days year.

**Required:**

The length of the operating cash cycle (12 marks)

### **QUESTION THREE (20 MARKS)**

- a) Briefly explain how the Miller-Orr cash management model operates. (4 marks)
- b) Magma Ltd. wishes to make a choice between two mutually exclusive projects. Each of these projects requires Sh.400, 000,000 in initial cash outlay. The details of the two projects are as follows:

#### **Project A**

This project is made up of two sub-projects. The first sub-project will require an initial outlay of Sh.100, 000,000 and will generate Sh.25, 600,000 per annum in perpetuity. The second sub-project will require an initial outlay of Sh.300, 000,000 and will generate Sh.85,200,000 per annum for the 8 years of its useful life. This sub-project does not have a residual value at the end of the 8 years. Both sub-projects are to commence immediately.

#### **Project B**

This project will generate Sh.87, 000,000 per annum in perpetuity.

The company has a cost of capital of 16%.

#### **Required:**

- i) Determine the net present value (NPV) of each project. (6 marks)
- ii) Compute the internal rate of return (IRR) for each project. (6 marks)
- iii) Advise Magma Ltd. on which project to invest in, and justify your choice.(4 marks)

### **QUESTION FOUR (20 MARKS)**

Assume you have the opportunity of investing your wealth in assets P and Q. The possible outcomes of the two assets in different states of the economy are as follows:

		<b>Returns (%)</b>	
<b>State of the economy</b>	<b>Probability</b>	<b>P</b>	<b>Q</b>
<b>High growth</b>	0.20	-6	10
<b>Normal growth</b>	0.30	12	-6
<b>Slow growth</b>	-	6	9
<b>Stagnation</b>	0.10	7	13
<b>Decline</b>	0.20	-1	18

#### **Required:**

- i) Compute the expected return of individual securities P and Q. (5 marks)
- ii) The expected return of the portfolio when 40% of your total wealth is invested in asset P and 60% in asset Q. (3 marks)
- iii) The portfolio risk given that the correlation coefficient between asset P and asset Q is -0.612. (12 marks)

**QUESTION FIVE (20 MARKS)**

The city council of Nairobi uses 100 replacement lamps a month for its streetlights. Each lamp costs the city Ksh. 8. Ordering costs are estimated at Sh. 27 per order and the holding costs are 25%. The city council currently orders according to the EOQ. The supplier has now offered the city a 2% discount if the city will buy 600 lamps at a time. Should the city council accept the offer?

(10 marks)

KK Ltd. makes cash payments of Shs.10, 000 per week. The interest rate on marketable securities is 12% and every time the company sells marketable securities, it incurs a cost of Shs.20.

**Required**

- a) Determine the optimal amount of marketable securities to be converted into cash every time the company makes the transfer. (3 marks)
- b) Determine the total number of transfers from marketable securities to cash per year. (2 marks)
- c) Determine the total cost of maintaining the cash balance per year. (3 marks)
- d) Determine the firm's average cash balance. (2 marks)