



**TECHNICAL UNIVERSITY OF MOMBASA**  
**Faculty of Business & Social Studies**

DEPARTMENT OF BUSINESS STUDIES

UNIVERSITY EXAMINATIONS FOR  
MASTERS OF SCIENCE IN FINANCE

**BMF 5103: FINANCE THEORY AND PRACTICE**

END OF SEMESTER EXAMINATIONS

**SERIES:** APRIL 2015

**TIME:** 3 HOURS

**INSTRUCTIONS:**

- Attempt question **ONE (Compulsory)** and any other **THREE** questions
- Do not write on the question paper.

*This paper consists of THREE printed pages*

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**QUESTION 1 (Compulsory)**

- a) A company is considering **TWO** mutually exclusive projects. The company uses certainty equivalent approach. The estimated cashflow and certainty equivalent for each project are as follows:

	Project X		Project Y	
	Cashflows	Certainty equivalents	Cashflows	Certainty Equivalent
Year	Sh.	Sh.	Sh.	Sh.
0	-300,000	1.00	-40,000	1.00
1	15,000	0.95	25,000	0.90
2	15,000	0.85	20,000	0.80
3	10,000	0.70	15,000	0.70
4	10,000	0.65	10,000	0.60

**Required**

Compute the NPV for both projects and conclude.

(15 marks)

- b) Lamu Ltd is considering two mutually exclusive projects with different lives. The cashflows for the projects are given below:

Project	C <sub>0</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>
X	-150	60	60	60	60
Y	-75	40	40		

Cost of capital: 10%

**Required:**

Which project should be selected and why?

(10 marks)

**QUESTION 2**

Idaho Slopes (IS) and Dakota Stepped (DS) are both seasonal businesses. IS is a downhill skiing facility, while (DS) is a tour company that specializes in walking tours and camping. The return on each company over the next year is expected to be:

Economy	IS	DS
Strong down turn	-10%	2%
Mild down turn	-4%	7%
Slow growth	4%	6%
Moderate growth	12%	4%
Strong growth	20%	4%

**Required:**

- Find the mean and variance of returns of each company.
- Find the coefficient of variation of each company.
- If IS and DS are combined in a portfolio with 50% invested in each, find the portfolio expected return and standard deviation.

(25 marks)

### QUESTION 3

Assume you are in a Modiglian Miller World (MM Propositions I and II Ltd). AB Corporation is a unlevered and is valued at sh. 640,000. AR is currently deciding whether including debt in their capital structure would increase their value. Under consideration is issuing sh. 300,000 in new debt with an 8% interest rate. AB would repurchase sh. 300,000 of stock with the proceeds of the debt issue. There are currently 32,000 shares outstanding and their effective marginal tax bracket is zero.

#### **Required:**

- a) Compute the value of the firm after change.
- b) What will be the share price and how many shares will be outstanding after the change. **(25 marks)**

### QUESTION 4

You run a regression of XYZ stock returns against the market returns using monthly observation over a five year period. You had an intercept of 0.20% and a slope of 1.2. Over this time period, XYZ stock return had an annualized standard deviation of 40% whereas the market standard deviation was only 20%. The risk free rate has been 6% on average over the last five years, and currently it is at 7%. The historical risk premium has been 8.5%. the annualized dividend per share currently is sh. 2.00, and the stock is currently selling at sh. 50. There are 100,000 shares outstanding.

#### **Required:**

- a) What portion of XYZ risk is diversifiable?
- b) What would you expect XYZ's stock price to be one year from today. **(25 marks)**

### QUESTION 5

Using relevant illustrations, discuss the following in details:

- a) Agency theory
- b) Market efficiency theory. **(25 marks)**