STRATHMORE BUSINESS SCHOOL

BACHELOR OF FINANCIAL SERVICES

END OF SEMESTER EXAMINATION

BFS 2202: FINANCIAL MANAGEMENT II

DATE: Tuesday, 10th December 2024 **TIME:** 08:00 – 10:00

Instructions

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

QUESTION ONE

Question one A

(i) Explain the differences between the Capital Market Line (CML) and the Security Market Line (SML) as used in portfolio and investments analysis. **(5 marks)**

(ii) A company is considering investing in one of the following two portfolios. Each portfolio consists of four short-term investments. The market return (ERM) is 15%. The risk free rate is 5%. The Expected Return (ER), the Amount invested ***(in millions)*** and the betas of each investment is shown below;

Portfolio 1				***Portfolio 2***			
Investment	***Amount invested***	***Beta***	***ER %***	***Investment***	***Amount invested***	***Beta***	***ER %***
A	10	0.7	20%	A	20	0.8	18
B	40	1.2	22%	B	40	1.1	20
C	30	1.3	24%	C	20	1.2	22

D	20	1.4	26%	D	20	1.4	16

Required:

Estimate the returns of the two portfolios using the principle of both, portfolio theory and CAPM and decide which to portfolio to be selected. **(7 marks)**

Question One B

In the recent past there have been an increase in the number of reported mergers and acquisition deals. Despite their popularity, there have been cases of failed mergers and acquisitions. Explain **Four** reasons why mergers and acquisitions fail. **(4 marks)**

Question One C

Kizito Ltd. and Zawadi Ltd. are firms operating in the same industry and are considered to be in the same risk class. Each firm has an operating profit of Sh350,000,000 per annum. The capital structures of the two firms are as follows:

	Kizito Ltd.	**Zawadi Ltd.**
	Sh."million"	Sh. "million"
Equity (market value)	2,625	1,500
8% debt (Trading at par	-	1,500
	2,625	3,000

The two companies have a 100% dividend payout ratio.

Required: Use Modigliani and Miller Theories without taxes to determine the following;

(i) The weighted average cost of capital (WACC) of each of the two firms. **(3 marks)**

(ii) Comment on the equilibrium position of the equity shares of the two firms. **(2 marks)**

(iii) Advise Montero, who holds 4% of Zawadi Ltd.'s equity shares, on the arbitrage opportunities available to him. *(Ignore taxation).* **(5 marks)**

Question One D

The return on Oil Limited's ordinary shares has been found to be influenced by three risk factors, X1, X2 and X3.

These factors are explained below:

X1= Changes in an index reflecting energy

X2=Changes in Industrial production

X3= Changes in inflation

The risk premium and the beta associated with each factor are shown below:

Risk factor	Risk premium	Beta
X1	4.5%	0.7
X2	7.5%	0.3
X3	11.25%	1.1

The risk-free rate/expected return on an asset with zero systematic risk is 8.25%

Required:
Using the arbitrage pricing model (APT), compute the expected return of Oil Ltd shares.
(4 marks)
(TOTAL 30 MARKS)

QUESTION TWO

(a) The modern portfolio theory (MPT) is a practical method for selecting investments in order to maximize their overall returns within an acceptable level of risk.

Required:
Outline **FIVE** assumptions of modern portfolio theory (MPT). **(5 marks)**

(b) The distribution of returns of security F and that of the market portfolio P is given below;

Probability	Security F (Returns %)	Market Portfolio Return(%)
0.30	30	-10
0.40	20	20
0.30	0	30

Required;

(i) The standard deviation of security F. **(2marks)**

(ii) The expected return of the market Portfolio P. **(1 marks)**

(iii) The Beta of the security. **(4 marks)**

(iv) What is the interpretation of the beta calculated above? **(2 marks)**

(c) Dan has an investment capital of Sh. 1,000,000. He wishes to invest the fund in two securities in the following proportion; Sh.200,000 in security X and Sh.800,000 in security Y.

The return on these two securities depend on the state of the economy, as shown below;

State of economy	Probability	Returns on security X	Returns on security Y
Boom	0.4	18%	24%
Normal	0.5	14%	22%

Recession	0.1	12%	21%

Required:

(i) Calculate the Expected return of the portfolio. **(3marks)**

(ii) Calculate the Portfolio standard deviation. **(3marks)**

Total: 20 Marks

QUESTION THREE

(a) Evaluate any **five** assumptions on which the capital asset pricing model (CAPM) is based on. **(5 marks)**

(b) The Arbitrage Pricing Theory (APT) and the Capital Asset Pricing Model (CAPM) have received much attention from practitioners and academics for use in asset pricing and valuation.

Required:

Explain **Five** conceptual differences between the (APT) and the CAPM. **(5 marks)**

(c) H ltd has a portfolio of capital projects which yield an average expected rate of return of 15 per cent per annum. This return is subject to risk and this is estimated as a standard deviation of the probabilities of expected returns of 2.5 per cent. The risk free rate of return is 6 per cent per annum.

Three projects have come up for consideration by the board of directors and these are designated M, N and O. Details of the estimates made for them appear below:

	PROJECT		
	M	**N**	**O**
Expected Return	10%	8%	6%
Risk (Standard deviation).	1%	1.2%	2.4%
Correlation coefficient of project returns with portfolio returns	0.58	0.89	-0.1

Required: Using the Capital Asset Pricing Model (CAPM), advise H Ltd on the project (s) to accept or reject. **(10 marks)**

Total: 20 Marks

QUESTION FOUR

(a) You have recently been appointed as a Financial analyst for a project that your company intends to invest in. The details of the project are as follows; Initial Cost of the project is $500,000. Additional modification costs on the equipment will be $100,000. The estimated useful life of the project is 5 years and the salvage value will be zero. The company uses straight line method of depreciation. The following are the projected revenues and costs during the five years;

YEAR	**1**	**2**	**3**	**4**	**5**
Selling Price per unit ($.)	60	80	85	90	105
Variable Cost per Unit($)	12	10	10	8	8
Number of Units	3,000	2,000	2,500	3,000	2,000

The Company's cost of Capital is 10% and the tax bracket is 30%.

Required;

Using Net Present Value (NPV) approach, advise the company on whether they should invest in the project or not. **(10 marks)**

(b) A Ltd and B Ltd are identical in all respect with the exception that A ltd is unlevered while B ltd has issued Sh10 million 5% Corporate bond. The Earnings before Interest and Tax (EBIT) for the two companies are Sh2 million per annum and the cost of equity of A ltd is 10%

Required; *Using Modigliani and Miller without taxes,*

(i) Determine the value of each company. **(2 marks)**

(ii) Determine the cost of equity of B ltd. **(2 marks)**

(iii) Determine the weighted average cost of capital of each company. **(2 marks)**

(iv) Suppose the value of A ltd is Sh.20million and that of B ltd is Sh22 million, determine the arbitrage opportunity available to a shareholder who owns 10% of the ordinary shares in B ltd. **(4 marks)**

Total: 20 Marks

QUESTION FIVE

The ABC manufacturing company has hired you as a financial consultant to advise the company with respect to its dividend policy.

Required

(a) Explain **five** factors that you are likely to consider on the dividends' decisions of company ABC. **(5 marks)**

(b) Explain briefly the following dividend theories.

(i) Information signaling effect theory **(3 marks)**

(ii) Clientele effect theory **(3 marks)**

(iii) Bird in hand theory **(3 marks)**

(iv) Modigliani and Miller dividend irrelevance theory. **(3 marks)**

(c) State the implications of the above theories on the value of ABC Ltd **(3 marks)**

Total: 20 Marks