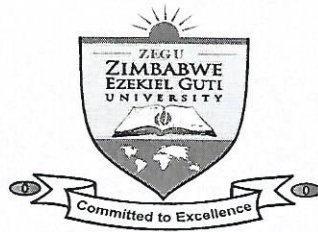


ZIMBABWE EZEKIEL GUTI UNIVERSITY



**DEPARTMENT OF ACCOUNTING AND FINANCE
B. COM ACCOUNTING**

COURSE: FINANCIAL MANAGEMENT

COURSE CODE: CAC209

DURATION: 3 HOURS

23 January 2019

INSTRUCTIONS TO CANDIDATES

1. No cell phones are allowed in the examination venue.
2. Answer **ALL FOUR** questions
3. Begin each question on a new page.
4. The number of marks allocated to each question or part question is shown in brackets
5. Hand-held, self-powered, non-programmeable, silent calculators are allowed into the examination.

Question 1

Part A

- i) Define the following terms:
 - a. Allocative efficiency (2 marks)
 - b. Pricing/information efficiency (2 marks)
 - c. The Law of One Price (2 marks)
- ii) Describe the various forms of market efficiency in accordance with the Market Efficiency Hypothesis (MEH) and explain whether it is possible for institutions to outperform the market. (6 marks)
- iii) Explain systematic and unsystematic risks and their implications on investments. (4 marks)
- iv) Describe and explain the relationship between the Capital Market Line (CML) and the Security Market Line (SML). (6 marks)

Part B

How many years will it take for \$197,000 to grow to be \$554,000 if it is invested in an account with a quoted annual interest rate of 8% with monthly compounding of interest? (3 marks)

[Total: 25 marks]

Question 2

Part A

Consider the information below relating to the monthly rates of return for two companies X and Y over a period of 4 months:

	X	Y
	Rate of return %	Rate of Return %
Date		
Month 1	-4.76	-4.75
Month 2	5.34	7.65
Month 3	12.09	6.98
Month 4	-2.98	9.65

Required:

Calculate the covariance of returns between the two companies? (5 marks)

Part B

The directors of Ebro Ltd are considering which one of the three projects (X, Y or Z) to add to their current portfolio of projects. The following information is available:

Condition	Probability	X returns	Y returns	Z returns	Current Portfolio
Recession	0.30	8%	27%	6%	10%
Stable	0.40	20%	15%	6%	17%
Boom	0.30	21%	8%	6%	22%

The covariance between the current portfolio and Project X is 24.72.

Project Z is risk free

The new project will comprise 25% of the portfolio.

Required:

- Calculate the expected return and risk for projects X and Y. (6 marks)
- Calculate the covariance between the current portfolio and project Y. (5 marks)
- With relevant calculations, which of the three projects should be added to the current portfolio? Discuss the results of your calculations. (3 marks)
- Explain what is meant by an efficient frontier in portfolio analysis. (3 marks)
- What are the conditions required for total elimination of portfolio risk? (3 marks)

[Total: 25 marks]

Question 3

The management of Flocks is trying to decide which of two machines to purchase, to help with production. Only one of the two machines will be purchased.

Machine X costs \$63,000 and machine Y costs \$110,000. Both machines would require a working capital investment of \$12,500 throughout their operational life, which is four years for machine X and six years for machine Y. The expected scrap value of either machine would be zero.

The estimated pre-tax operating net cash inflows with each machine are as follows:

Year	Machine X	Machine Y
	\$	\$
1	25,900	40,300
2	28,800	32,900
3	30,500	32,000
4	29,500	32,700
5	—	48,500
6	—	44,200

With machine Y, there is some doubt about its design features, and consequently there is some risk that it might prove unsuitable. Because of the higher business risk with machine Y, the machine Y project cash flows should be discounted at 15%, whereas machine X cash flows should be discounted at only 13%.

Flocks intends to finance the machine it eventually selects, X or Y, by borrowing at 10%. Tax is payable at 30% on operating cash flows one year in arrears. Capital allowances are available at 25% a year on a reducing balance basis.

Required:

For both machine X and machine Y, calculate:

- (i) The (undiscounted) payback period (4 marks)
- (ii) The net present value and (12 marks)
- (iii) Recommend which of the two machines Flocks should purchase. (4 marks)
- (iv) Critically discuss the advantages of Net Present Value (NPV) over the Payback Period. (5 marks)

[Total: 25 marks]

Question 4

Part A

- i. Discuss the factors that influence investment decisions. (2 marks)
- ii. Under what circumstances do the net present value (NPV) and internal rate of return (IRR) methods differ? Which method would you prefer and why? (4 marks)
- iii. Do the NPV and Profitability Index (PI) always lead to the same investment decision? Discuss (2 marks)

Part B

- 1) If you wish to accumulate \$140,000 in 13 years, how much must you deposit today in an account that pays an annual interest rate of 14%? (2 marks)
- 2) What will \$247,000 grow to be in 9 years if it is invested today in an account with an annual interest rate of 11%? (2 marks)
- 3) How many years will it take for \$136,000 to grow to be \$468,000 if it is invested in an account with an annual interest rate of 8%? (4 marks)
- 4) At what annual interest rate must \$137,000 be invested so that it will grow to be \$475,000 in 14 years? (4 marks)
- 5) If you wish to accumulate \$197,000 in 5 years, how much must you deposit today in an account that pays a quoted annual interest rate of 13% with semi-annual compounding of interest? (5 marks)

[Total: 25 marks]

*****END OF EXAMINATION PAPER*****