UNIVERSITY OF FORT HARE
DEPARTMENT OF ECONOMICS

EAST LONDON CAMPUS

ECF514E

MAIN EXAMINATION
JUNE 2023

Time: 3 Hours

Subject: Financial Economics **Marks: 100**

This paper consists of 5 pages including the cover page

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Instructions

- **This paper consists of Sections A and B.**
- **Answer all questions in Section A.**
- **Choose ANY FOUR questions in Section B.**
- **Use of a non-programmable calculator is permitted.**

SECTION A: MULTIPLE CHOICE QUESTIONS [20 Marks]

1. Assume that you can invest in any of the following three securities today. You will hold them for a year, however, there is uncertainty about how well your investments will do over the ensuing year. This uncertainty is represented by the three "states of nature" that can potentially occur with probabilities of 1/3, 1/3, 1/3. The returns for each security in the three states of nature are given in the table below.

Probability	Stock A	Stock B	S&P 500
1/3	19%	0%	5%
1/3	3%	12%	10%
1/3	23%	20%	15%

The expected returns for stock A and stock B are:

   a. 15%, 10.67%
   b. 45%, 32%
   c. 13.2%, 9.7%
   d. 19%, 12%

2. The variances of stock A and stock B's returns are:
   a. $112\%^2$, $101.33\%^2$
   b. 8.64%, 8.22%
   c. $74.67\%^2$, $67.56\%^2$
   d. 6.67%, 6.25%

3. The standard deviation of stock A and stock B's returns are:
   a. 8.64%, 8.22%
   b. $74.67\%^2$, $67.56\%^2$
   c. $899\%^2$, $544\%^2$
   d. 15%, 10.67%

4. Assume that you invest 40% of your wealth in stock A and 60% of your wealth in the S&P 500. The expected return of your portfolio will be:
   a. 11%
   b. 12%
   c. 13%
   d. 14%

5. Assume that you invest 40% of your wealth in stock A and 60% of your wealth in the S&P 500. The variance of your portfolio's return will be:
   a. $66.67\%^2$
   b. $50.92\%^2$
   c. $48.36\%^2$

d. $21.15\%^2$

6. Which of the following is not a classification of financial markets?

   a. The means of settlement.

   b. The maturity of the asset traded.

   c. The initial public offering of the security traded.

   d. The date of issue of the assets traded.

7. What is financial innovation?

   a. Is the need for new information technology, such as computers and software, to work with older technology in order to service existing clients.

   b. Is the tendency of financial institutions and their customers to move beyond their domestic markets around the globe.

   c. Is the design of new financial securities and methods of delivering financial services.

   d. Is the process of identifying and reducing risks facing an institution or individual.

8. What is hedging?

   a. Is the process of exploiting pricing anomaly to make riskless guaranteed profits.

   b. Is the undertaking for a long or short position in the financial markets in the hope of making a profit.

   c. Is the undertaking of a transaction to reduce or eliminate risk.

   d. Is the process of finding the fundamental value of a security.

9. The functions of the reserve bank include all except for one.

   a. Acting as a sole issuer of cheques to the corporate sector.

   b. The management of the national debt.

   c. The lender of last resort.

   d. The supervisor of the banking sector.

10. Which of the following is a development factor in the financial markets.

   a. Venture capital

   b. Term structure of interest rates.

c. Globalisation of financial markets.

d. Participants in financial markets.

SECTION B: ANSWER ANY FOUR QUESTIONS [80 Marks]

Question Two (20)

a) Explain the difference between Type I, Type II, Type III and Type IV liabilities with examples for each. [12]

b) What is meant by globalisation of financial markets? Refer to South African financial markets for examples and discuss the pros and cons. [8]

Question Three (20)

a) A market portfolio is made up entirely if the following securities.

	Total value in millions	standard deviation	Correlation metrics				
				A	B	C	D
Security A	80	10%	A	1.0	0	0	0
Security B	60	20%	B	0	1.0	0	0
Security C	70	30%	C	0	0	1.0	0
Security D	100	40%	D	0	0	0	1.0

i) What is the standard deviation for the market portfolio? [6]

ii) If the risk free interest is 4 %, and the expected return on the market portfolio is 10%, draw a diagram to depict the relevant market capital line. [4]

iii) What investment strategy would you advise someone who is looking for a 20% return to use in order to achieve this. What standard deviation can they expect? [10]

Question Four (20)

a) What distinguishes uncertainty from risk? [4]

b) Differentiate between the state preference and the expected utility hypotheses approached to explaining uncertainty and risk. [6]

c) Outline three types of risk that commercial banks face. [6]

d) How do the mean and variance help to understand risk? [4]

Question Five (20)

a) There are three observations about perfectly efficient markets, citing examples, fully discuss these in the context of information efficiency. [20]

Question Six (20)

a) Over the years, certain data anomalies have been observed that challenges two forms of the efficient market hypothesis. Name and explain the anomalies. [7]

b) Suppose you have a risky asset that provides you with an expected return of 10% a year with 15% volatility (standard deviation). You also have a risk-free asset that provides you with a 4% risk-free return.

   i) If you have R1m and invest 60% into the risky asset and 40% into the risk-free asset, what is the expected return and risk of your portfolio? [5]

   ii) How much would your portfolio be worth if they realized return on the risky asset is 15%? [4]

   iii) If you are allowed to borrow money at the risk-free rate, how can you get a portfolio with 20% expected return and what is the risk of this portfolio? [4]