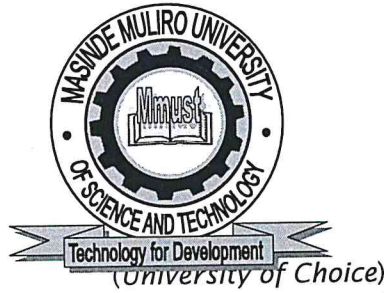# MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY MAIN EXAMINATIONS 2022/2023 ACADEMIC YEAR

END OF SEMESTER MAIN EXAMINATIONS FOR

COURSE CODE: BCF 336

COURSE TITLE: FINANCIAL RISK MANAGEMENT

DATE: Tuesday 13th December 2022   **TIME:** 12.00pm-2.00 pm

INSTRUCTIONS TO CANDIDATES

Attempt **QUESTION ONE** and any other **TWO** questions

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over. ▶

QUESTION ONE (30 MARKS)

a) Define following types of risk(**4 marks**)
   i) Market risk
   ii) Operational risk
   iii) Credit risk
   iv) Liquidity risk

b) What is a financial swap explain how it may be used as a hedging strategy giving one example. **(5 marks)**

c) Assuming a settlement period of 180 days and a semiannual fixed payment rate of 7% and semiannual floating rate of 6.25. Determine the gain or loss on the interest rate swap. **(6 marks)**

d) Briefly explain the five benefits of financial risk management in and organization.(**5 marks**)

e) Mumias Sugar Co. has a Beta of 1.35 and a risk-free rate of 14% .Expected return of the market portfolio is 1.8%, Mumias Sugar Co. currently pays a dividend of Ksh. 20 a share and this is expected to grow at a rate of 10% per annum in the foreseeable future. Calculate the stocks expected rate of return **(6 marks)**

f) Stress- testing evaluates the portfolio under large moves in financial variables.

Required:
Identify the major goals of stress-testing (**4 marks**)

QUESTION TWO (20 MARKS)

The Financial Risk Manager, uses Econometric Models, to depicted events
Required:
   i) Discuss some of these econometric models (**15 marks**)
   ii) Clearly state which one of them is a better model in measuring performance of stocks in a market(**5 marks**)

QUESTION THREE (20 MARKS)

a) An investor makes an average profit of Ksh.70, 000 through trading desk on each day with a standard deviation of $30,000 and normally distributed. Calculate the relative and absolute VaR for a confidence level of 95% and 99%. **(10 marks)**

b) In 1988, the Basel I Capital Accord was created, the general purpose was to: Strengthen the stability of international banking system, Set up a fair and a consistent international banking system in order to decrease competitive inequality among international banks

Required:
   i) Define the two tier capital as per Basel 1 Capital Accord **(3 marks)**
   ii) Explain the achievement by the Basel 1 Capital accord agreement(**3 marks**)
   iii) An Interest Rate Swap, as a pure derivative, emerged in the early 1980s and has more far reaching and fundamental impact than any other financial innovation". Define IRS (**4 marks**)

QUESTION FOUR (20 MARKS)

Suppose you have a portfolio with a long position of $2 million in BAA bonds and short $1m in T-notes. Volatilities are 1.58% and 1.90% per month, respectively, with a correlation of 0.9654.

a. Compute the 95% monthly VAR for each position individually **(5 marks)**
b. Compute the 95% portfolio VAR and diversification effect **(3 marks)**
c. Compute the component VAR and discuss whether some positions hedge the portfolio risk. **(5 marks)**
d. Your bank makes a $100m loan to an AAA-rated company. The interest rate (net of expected default losses) is 6%. The bank's funding cost is 5.65%. The bank is subject to the current Basel capital requirement. Based on this information, what will the return to equity capital be? **(7 marks)**