TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

Department of Mathematics & Physics

UNIVERSITY EXAMINATION FOR:

Type program name

Type unit code: BFI4456 FINANCIAL RISK MANAGEMENT

END OF SEMESTER EXAMINATION

SERIES: MARCH 2025

TIME:2HOURS

DATE:Pick DateMar2025

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of five questions. Attemptquestion ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question 1

a) Discuss the three broad alternatives for managing risk. (10mks)

b) Differentiate between Forwards and Futures and clearly show their importance in risk management. (10mks)

c) Assume we have an investment with the following assumptions and following outcomes and probabilities of income as shown.

Assumptions	outcome Shs000	Probability
Most unlikely	400	0.1
Likely	900	0.6
Very likely	1200	0.3

Required.

a) Calculate the standard deviation and make your conclusion (6mks)

b) Calculate the coefficient of variation and comment on the results (4mks)

Question 2

a) Operational risks are not diversifiable and cannot be laid off. Elaborate on this statement. (10mks)

b) Discuss any three types of financial instruments. (10mks)

Question 3

a) The following three, Sharpe ratio, value at risk and Beta are some of the methods used in the calculation of risk. Discuss each and explain how they are calculated. (10mks)

b) Discuss the following risk, Credit, liquidity, political and investment risk. (10mks)

Question 4

a) Discuss the different types of Securitization, (10mks)

b) Define a derivative, then discuss any three types of derivatives (10mks)

Question 5

a) Basel II divides the eligible regulatory capital of a bank into three tiers. Discuss these tiers. (10mks)

b) What is an equity index and how is its level determined? (10mks)