MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF COMMERCE

UNIVERSITY ORDINARY EXAMINATION

2023/2024 ACADEMIC YEAR

FOURTH YEAR **FIRST** SEMESTER EXAMINATION FOR BACHELOR OF MATHEMATICS AND ECONOMICS

AMC 306 – FINANCIAL ECONOMICS

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer questions ONE and any other TWO questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

a) Highlight six reasons consumers may not have maximum utility from the consumption of a product or service (6 marks)

b) An investor is considering making an investment in share of Divine Home Company. The following are the attributes of five economic forces that influence the return of Divine's share. The risk-free rate of return on the Divine's share is 9 percent. (6 marks)

Factor	Beta	Expected Value (%)	Actual Value (%)
GNP	1.95	6.00	6.50
Inflation	0.85	5.00	5.75
Interest rate	1.2	7.00	8.00
Stock Market Index	2.50	9.50	11.50
Industrial production	2.20	9.0	10.00

c) There are several advantages of better risk management through hedging. Discuss any three. (6 marks)

d) Though the Black Scholes model is widely used, there are still some drawbacks to the model. Give three drawbacks of the model. (6 marks)

e) Discuss three types of derivatives. (6 marks)

SECTION B (40 MARKS): ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

IT enterprise has an investment capital of 2 million. It wishes to invest in 2 securities X and Y. In the following proportions 400,000 in security X and 1.6 million in security Y. The returns on these securities depend on the state of economy are shown below:

State of Economy	Probability	Return X	Return Y
Boom	0.4	18%	24%
Normal	0.5	14%	22%
Depressed	0.1	12%	21%

Required

i) Compute the expected return on the (2 marks)

ii) Compute the standard deviation of each security (3 marks)

iii) Determine the correlation co-efficient between security X and Y (3 marks)

iv) Calculate the portfolio risk (2 marks)

v) Discuss five key issues in arbitrage free pricing (10 marks)

QUESTION THREE (20 MARKS)

a) The following information relates to a portfolio of an investor holding shares of 4 quoted companies in the stock exchange.

Company	Beta	Weights	Expected Returns	Market value of shares
A Ltd	1.12	0.23	14.6%	1,300,000
B Ltd	0.89	0.26	13.45%	1,500,000
C Ltd	0.70	0.23	12.5%	1,350,000
D Ltd	1.60	0.28	17%	1,600,000

Required:

i. Determine the portfolio Beta. (3 marks)
ii. Compute the expected rate of return and the required rate of return of the portfolio. (3 marks)
iii. Calculate the required rate of return for each of the shares above (3 marks)
iv. State whether it is overvalue or undervalue. (3 marks)

b) Discuss four decisions of a finance manager. (8 marks)

QUESTION FOUR (20 MARKS)

Briefly explain the following:

i. Utility Theory (4 marks)
ii. Stochastic Dominance (4 marks)
iii. Portfolio Theory (4 marks)
iv. Mean Variance Portfolio Theory (4 marks)
v. Ilo Rule in Calculus (4 marks)