GRETSA UNIVERSITY - THIKA

UNIVERSITY EXAMINATIONS

MAY - AUGUST 2023 SEMESTER

BACHELOR OF COMMERCE

COURSE CODE: BCFI403

COURSE TITLE: PORTFOLIO THEORY AND MANAGEMENT

DATE: **TIME:**

INSTRUCTIONS TO CANDIDATES

1. SECTION A IS **COMPULSORY.**
2. SECTION B: ANSWER ANY OTHER **THREE** QUESTIONS.
3. **DO NOT** WRITE ANYTHING ON THIS QUESTION PAPER AS IT WILL BE AN EXAM IRREGULARITY.
4. ALL ROUGH WORK SHOULD BE AT THE BACK OF YOUR ANSWER BOOKLET AND CROSSED OUT.

CAUTION: *All exam rooms are under CCTV surveillance during the examination period.*

SECTION A: COMPULSORY

Question One

a) An underlying Asset Price is Kes 68.5, the Exercise Price is Kes 65, the continuously compounded risk free rate is 4%, the Option expires in 110 days and the volatility is 0.38.
Required: Use the Black and Scholes model to:

i) Calculate the call option **[5 marks]**

ii) Calculate the Put option **[4 marks]**

iii) Should an investor take the call option or the put option **[3 marks]**

b) Explain the advantages of Intertemporal Capital Asset Pricing Model (ICAPM) **[8 marks]**

c) Explain the effect of interest rate capping on investments **[8 Marks]**

d) Explain the limitations of Production Based Asset Pricing Theory **[12 Marks]**

SECTION B: ANSWER ANY THREE QUESTIONS

Question Two

Peter Kamau wants to invest in securities of 3 companies that is ABC Limited, XYZ Limited and MNO limited. If the portfolio value is sh.50 million. All the three companies have the following information

	ABC LTD	**XYZ LTD**	**MNO LTD**
Standard deviation	18%	20%	14%
weight of ABC and XYZ	60%	40%	0
weight of ABC and MNO	50%	0	50%
Weight of XYZ and MNO	0	80%	20%
market rate of return	20%	14%	16%
risk free rate	12%		
correlation coefficient:			

between ABC and XYZ	50%		
between ABC and MNO	-80%		
between of XYZ and MNO	30%		
Significance level (2 tailed)	1.64		

Required:

a) Calculate the portfolio risk of all the two assets combinations **[9 marks]**

b) Calculate the VaR of the two possible assets combinations **[6 marks]**

c) Calculate the minimum profit that the two assets combinations will yield **[5 marks]**

a)

Question three

a) Explain four factors that influence Active Portfolio management strategies **[12 marks]**

b) Discuss four Limitations of Arbitrage Pricing Theory **[8 marks]**

Question Four

Make short notes on the following

i) American Option **[4 marks]**

ii) Bermuda Options **[4 marks]**

iii) Brownian Motion in Finance **[4 marks]**

iv) Risk averse **[4 marks]**

v) Forward contract **[4 marks]**

Question Five

a) Critique the Black and Scholes model of calculating Option Prices **[12 marks]**

b) Explain the four types of risk in finance [**8 marks**