TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING AND FINANCE

UNIVERSITY EXAMINATION FOR:

BACHELOR OF COMMERCE

UNIT CODE: 4402

UNIT TITLE: PORTFOLIO AND INVESTMENT ANALYSIS

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2024

TIME: 2HOURS

DATE: DECEMBER 2024

Instructions to Candidates

You should have the following for this examination

-*Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

QUESTION One

a) An investor wishes to construct a portfolio of two securities A & B in proportion of 60% to 40% respectively. The expected return from Security A is 20% with standard deviation of 5%. The expected return from security B is 30% with standard deviation of 8%. What is the expected return from the portfolio and the standard deviation under the following scenarios? **(10Marks)**

(i) Perfectly positive correlation = 1

(ii) r = 0.5

(iii) No correlation = 0

(iv) Negatively correlated = -1

b) Importance of Portfolio Theory to the Investor. **(10 Marks)**

c) An investor owns a portfolio composed of five securities with the following characteristics:

Security	**Beta**	**Random error term standard deviation (%)**	**Proportion**
AP	1.35	5	0.10
GTB	1.05	b9	0.20
BCC	0.80	4 0	.15
UACN	1.50	12	0.30
IEI	1.12	8	0.25

If the-standard deviation of the market index is 20 per cent, what is the total risk of the portfolio? **(10Marks)**

QUESTION Two

Wisdom Plc wishes to determine its historic beta coefficient in order to decide the cost of capital. Its financial manager has decided to use linear regression using a sample of 6 months' data about the return on Wisdom PLC ordinary shares and the market as a whole. The sample data for the first 6 months are given below:

Monthly Return on: -

Month	**Market Index (%)**	**Wisdom's shares (%)**
1	+7	+4
2	+5	+3
3	- 2	-5
4	0	-3
5	+1	+2
6	+2	+4

A dividend of 15k per share was paid by Wisdom plc in six months. The month-end price is shown ex-div,

Required

a). Use the data above to calculate a beta value for Wisdom Plc. **(10Marks)**

b). If the risk free rate of return is 8% per annum, calculate the required return on the shares of Wisdom Plc. **(10Marks)**

QUESTION Three

a) State the factors to Consider in Portfolio Planning. **(10Marks)**

b) State the stock Selection Strategies. **(10Marks)**

QUESTION Four

a) State the assumptions of B-S Model. **(10Marks)**

b) Assume you have been given the following information on Taifa Industries:

Current Stock price	\$15	Strike price of Option	\$15
Time to maturity of Option	6 Months	Risk –free rate	6%
Variance of stock return	0.12	d_1	0.24495
Nd_2	0.0000	$N(d_1)$	0.59675
$N(d_2)$	0.50000		

Required:

Compute the value of the option using B-S model (10Marks)

QUESTION Five

Justine is considering allocating his portfolio funds to the following securities

Security	**Weight**	**Beta**
A	15%	0.85

B	10%	1.30
C	20%	1.181
D	25%	1.25
E	30%	0.70

If the risk free rate is 12% and the return on the market portfolio is 18%, calculate:

a) Portfolio Beta. **(10Marks)**

b) Expected Return on Jude's portfolio. **(10Marks)**

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