SECTION B
Answer all questions in this section
40MARKS

1. Suppose a stock begins the year with a price of $50 per share and ends with a price of $65 per share. During that year $4 dividend with a price of $65 per share was paid. What is the

     i.   Dividend Yield   1mark

     ii.   Capital gain Yield   1mark

     iii.   Total return for the year   1mark

2. What is the main difference between weak sinking fund and strong sinking fund? 1mark

3. Lakamuun Company's current stock price is $56 and its last dividend was $3.40. In view of the strong financial position of Lakamuun coupled with its consequent low risk, its required rate of return is only 12 percent. If dividends are expected to grow at a constant rate 'g' in the future and if its required rate of return remains at 12 percent. What is Lakamuun's expected stock price 5 years from now?   3marks

4. If a bond has a par value of $1000, 10 years to maturity and a yield to maturity (YTM) of 12%,

     Calculate the duration of the bond if

     i.   12 percent coupon is paid   1mark

     ii.   10 percent coupon is paid   1mark

5. i. What is the main difference between immunized portfolio and a dedicated portfolio?   1mark

     ii.Briefly explain the barbell strategy of bond portfolio management   1mark

6. You are offered GHC 900 five years from now or GHC 150 at the end of each year for the next five years. If you can earn 6 percent on your funds, which offer will you accept? If you can earn 14 percent on your funds which offer will you accept? Why are your answers different?   2marks

7. What is the main difference between *aggressive beta* and *defensive beta*?   1mark

8. An individual stock has GHC 3500 invested in a stock which has a beta of 0.8 and GHC 4000 invested in a stock with a beta of 1.4. If these are the only two investments in her portfolio, what is her portfolio's beta?   1mark

9. i. What is the main difference between simple interest and compound interest?   1mark

     ii. State the factors which determine the future value of an investment security.   2marks

     iii. If GHC20 is deposited in an account for five years at an annual interest rate of 6percent. What is the future value of this amount?   3marks

10. Differentiate between the following pairs
   i.   Step-up bond and split coupon bond   3marks
   ii. Revenue bond and Income bond   3marks
   iii. Retractable bond and Extendible bond   3marks
   iv. Bearer bond and registered bond   3marks
   v.   Angel bond and junk bond   3marks
   vi. Weekend effect and neglected firm effect in the stock market   3marks

SECTION C (30MARKS)

ANSWER ONLY ONE QUESTION FROM THIS SECTION

QUESTION ONE

A. Define the following terms
   i.   Time Value of Money   1mark
   ii.   Nominal Interest rate   1mark
   iii. Effective Annual rate   1mark
   iv.   Spot market   1mark
   v.   Capital market   1mark

B. A saver wants GHC 100,000 per year after ten years and believes that it is possible to earn an annual rate of 8 percent on invested funds.
   i.   What amount must be invested each year to accumulate GHC 100,000 if the payments are made at
         δ. the beginning of each year   4marks
         β. the end of each year   4marks
   ii. How much must be invested annually if the expected yield is only 5 percent 4marks

C. Suppose you are the manager of a $4 million investment fund. The fund consists of 4 stocks with the following investment and betas:

Stock	Investment	Beta
A	400,000	1.50
B	600,000	(0.50)
C	1000,000	1.25
D	2,000,000	0.75

If the market rate of return is 14 percent and the risk-free rate is 6 percent, what is the fund's required rate of return?   5marks

D. A 10-year, 12 percent semi-annual coupon bond with a par value of $1000, may be called in 4years at a call price of $1060. The Bond sells for $1100. Assume that the bond has just been issued.

i.   What is the bond's yield to maturity?   2marks

ii.   What is the bond's current yield?   2marks

iii.   What is the bond's capital gain or loss yield?   2marks

iv.   What is the bond's yield to call?   2marks

QUESTION TWO

A.   Define the following terms

      i. Systematic risk   2marks

      ii. Idiosyncratic risk   2marks

      iii. Stock volatility   2marks

B.   Consider these four Bonds (A, B, C and D) on the market as follows

Bond A: Maturity 16years	Bond B: Maturity 14 years
$1000 7%	$1000 12%

Bond C: Maturity 9 years	Bond D: Maturity 15 years
$1000 19%	$1000 25%

    i.   Calculate the following of each bond using a market interest rate of 13%

         α. Capital gain/loss   3marks

         β. Capital gain/loss yield   3marks

         δ. Total Yield   2marks

         What general conclusion(s) can be made about the above deductions?   3marks

C. i.   What is bond duration?   1mark

     ii.   State four factors which affect a bond's duration   2marks

     iii Consider Bond Y

Bond C: Maturity 12 years
$1000   19%

Calculate the following (assume annual compounding and yield to maturity is 16%

δ. Bond price   2marks

β Duration   2marks

A. i. Differentiate between current yield and yield to maturity   2marks
    ii. What advantages do discount bonds offer to investors? Why a bond may be called

    if it is selling at a premium.   2marks

iii. Why is a barbell strategy more flexible than a laddered strategy if an investor
anticipates a decline in interest rates?   2marks

QUESTION THREE

A

i.   What is the beta coefficient of a stock?   3marks

ii. What is the main difference between efficient and inefficient portfolio?   3marks

B. Consider the following information on stocks A and B

State of economy	Probability of state of economy	Rate of return of state occur	
		Stock A	Stock B
Recession	0.20	0.04	-0.30
Normal	0.50	0.21	0.12
Irrational exuberance	0.30	0.12	0.44

The market risk premium is 7.5 percent and the risk-free rate is 4 percent. Which stock has
the most systematic risk? Which one has the most unsystematic risk? Which stock is riskier?
Explain   8marks

C. The table below shows the returns from Lakamuun common stock and the market
index returns from January to June of 2021.

Month	Lakamuun returns (%)	Market Index returns (%)
Jan	11	8
Feb	17	10
March	21	13
April	18	11
May	-8	-3
June	-12	-5

i.   Using the data above deduce the Beta of Lakamuun's common stock
       10marks

ii.   If the risk free-rate is 5 percent, calculate the required rate of return of
       Lakamuun's stock. *(Hint: use the market index returns average as the
       returns from the market)*   6marks