DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

UNIVERSITY EXAMINATIONS 2021/2022 ACADEMIC YEAR

END OF SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION & MANAGEMENT

DBA 5207: THEORY OF FINANCE

DATE: 01/02/2022   **TIME: 02.00-05.00 P.M.**

Instructions: Answer question one and any other two

Question 1

a) Greg Morris (2015) notes that Modern Finance is the general term used to cover Modern Portfolio Theory, Capital Asset Pricing Model, Efficient Market Hypothesis, Fama and French three factor model, arbitrage pricing model, option pricing model and a few others. These theories began in the early 1950s and basically theoretical background of modern finance theory rests on three arguments / assumptions. Using illustrations explain the assumptions of modern finance theory.   6Marks

b) "Efficient Markets Hypothesis" (EMH) is a powerful idea that can be traced back to Paul Samuelson, whose contribution is neatly summarized by the title of his article: ''Proof that Properly Anticipated Prices Fluctuate Randomly. Discuss this concept.   9Marks

c) What do you mean by immunization of bond portfolio and how can this be achieved?

                                                         5Marks

d) A portfolio has four securities and the expected return from the four securities are as follows;

R1	15%
R2	12%
R3	14%
R4	20%

The funds invested in the four securities are Ksh 2,000,000, Ksh 2,800,000, Ksh 3,200,000 and Ksh 4,000,000. Find the expected return from the portfolio.

4Marks

e) Compare the following two portfolios on the basis of Sharpe ratio and Treynor ratio offer your comments. 6Marks

Portfolio	Return from the portfolio	Standard deviation (%)	Beta
A	10%	13	0.4
B	20%	26	3
Market portfolio	14%	18	1

Question 2

a) Modern finance theory is not just some theories that are taught in class only; it is an area that has greatly impacted the society and the real world. Discuss. 10Marks

b) Explain the following two concepts as explained in portfolio analysis and construction.

5Marks

    i.   Efficient frontier

    ii.   Optimal portfolio

   iii.   Investors indifference curve

Question 3

a) The risk free return is 7% and the expected return from the market portfolio is 7%. The following are the beta coefficient of a security X.

β_1= Beta coefficient in relation to the market portfolio = 1.45

β_2 = Beta coefficient in relation to GDP growth rate = 0.40

β_3= Beta coefficient in relation to inflation = 0.30

Expected return due to GDP growth rate is 9% and due to inflation 3%. Find the expected return from the security according to arbitrage pricing theory. 3Marks

b) Capital asset pricing model is not always able to account for the difference in return from asset that has the same beta. This led to the development of an alternative approach to asset price called the arbitrage pricing model. Discuss. 9Marks

c) Distinguish between security market line and capital market line. 3Marks

Question 4

a) Explain five methods of measuring portfolio performance without asset pricing models.

5Marks

b) Dindy Co has a dividend payout ratio of 40% and has maintained this payout ratio for several years. The current dividend per share of the company is 50 cent per share and it expects that its next dividend per share, payable in one year's time, will be 52 cent per share.

Capital structure of the company is as follows:

	$	$
Equity		
Ordinary shares (par value $ per share)	25	
Reserves	35	
		60
debts		
Bond A (Par value $ 100)	20	
Bond B (par value $ 100)	10	
		30
		90

Bond A will be redeemed at par in ten years' time and pays annual interest of 9%. The cost of debt of this bond is 9·83% per year. The current ex interest market price of the bond is $95·08. Bond B will be redeemed at par in four years' time and pays annual interest of 8%. The cost of debt of this bond is 7·82% per year. The current ex interest market price of the bond is $102·01. Dindy Co has a cost of equity of 12·4%. Ignore taxation.

c) **Required:**
Discuss whether a change in dividend policy will affect the share price of Dindy Co.
10 Marks

Question 5

Grenarp Co. is planning to raise $ 11, 200,000 through its rights issues. The new shares will be offered at a 20% discount to the current share price of Grenarp Co., which is $ 3.50 per share. The right issue will be on a 1 for 5 basis and the issue cost of $ 280,000 will be paid out of the cash raised. The capital structure of Grenarp Co. is as follows;

	$	$
Equity		
Ordinary shares		
($0.50)	10m	
Reserves	75	
		85
Non curent liabilities		
8% loan notes		30
		115

The net cash raised by the rights issue will be used to redeem part of the loan note issue. Each loan note has a nominal value $100 and an ex interest market value of $104. A clause in the bond issue contract allows Grenarp Co. to redeem the loan notes at a 5% premium to market price at any time prior to their redemption date. The price earnings ratio of Grenarp Co. is not expected to be affected by the redemption of the loan notes. The earnings per shares of Grenarp Co. is currently $ 0.42 per share and total earnings are $ 8,400,000 per year. The company pays corporation tax of 30% per year.

Required:

a) Evaluate the effect on the wealth of the shareholders of Grenarp Co. of using the net rights issue funds to redeem the loan notes.   8Marks

b) Discuss whether Grenarp Co. might achieve its optimal capital structure following the rights issue.   7Marks