kasneb

CPA ADVANCED LEVEL

PILOT PAPER

ADVANCED FINANCIAL MANAGEMENT

December 2021. **Time Allowed: 3 hours.**

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) GLD Building Group is contemplating a takeover of Diarim Enterprise Ltd., a manufacturer of earthmoving equipment.

The following information is available about the two companies.

	GLD	**Diarim**
Number of shares in issue	6,000,000	4,000,000
Dividend per share	Sh.0.30	Sh.0.09
Price per price	Sh.8.91	Sh.3.20

Additional information.

1. The cost of equity capital for both firms is 10%.
2. From a level of Sh.0.06 per share 6 years ago, GLD's dividends has grown to the current level of Sh. 0.09 per share.
3. GLD'S management is confident that managerial synergies arising as a result of proposed takeover will enable them to increase Diarim Ltd's past dividends growth rate by a further 1%.
4. The merger will involve transactions cost of Sh.500000.

Required:

Based on the approximate dividend growth rate, estimate the post-acquisition value of Diarims Ltd. using the dividend growth model, and evaluate the value gain arising as a result of the takeover. (7 marks)

(b) (i) Discuss the main economic and financial justification advanced for mergers and acquisitions. (4 marks)

(ii) According to evidence, to what extent do the shareholders of the companies tend to benefit from such an activity? (2 marks)

(iii) According to the evidence, to what extent do the managers of companies tend to benefit from such activity? (2 marks)

(iv) Explain what are referred to as "managerial" motives for mergers and acquisitions (M&A). (5 marks)

(Total: 20 marks)

QUESTION TWO

Arkard, an investment specialist has been entrusted with Sh.10 million by a collective investment scheme (unit trust) and instructed to invest the money optimally over a two-year period.

Parts of the instruction are that:

1. The funds be invested in one or more of four specified projects and the money market.
2. The four projects are not divisible and cannot be postponed.
3. The unit requires a return of 24% over the two years. The following are details of the investment in the projects and the money market.

	Initial Cost	**Return over two years**	**Expected Standard deviation of returns over the two years**
	Sh."000"	**%**	**%**
Project 1(p1)	6,000	22	7
Project 2(p2)	4,000	26	9
Project 3(p3)	6,000	28	15
Project 4(p4)	6,000	34	13
Money market (MM)	1,000 (minimum)	18	5

The correlation coefficients of returns over the two years are as follows:

Between Projects	Between projects &market portfolio (MP)	Between projects and the money market (mm)	Between money market and market portfolio
P1&p2=0.70	p1&mp=0.68	p1&mm=0.40	MM&MP=0.4
P2&p3=0.0	p2&mp=0.65	p2&mm=0.45	
P1&p3=0.62	p3&mp=0.75	p3&mm=0.55	
P1&p4=0.56	p4&mp=0.88		
P2&p4=0.57			
P3&p4=0			

Over the two year period, the risk free rate is estimated to be 16%, the market portfolio return is 27% and the variance of the return on the market 100%.
By analyzing the two assets portfolios:

(a) Use the mean variance dominance rule to evaluate how Arkard should invest the Sh.10 million. (8 marks)

(b) Determine the betas and required rates of return for the portfolios then use the capital assets pricing model to evaluate how Arkard should invest the Sh.10 million. (8 marks)

(c) Examine four criticisms of the Modigliani and Miller (MM) hypothesis without taxes. (4 marks)

(Total: 20 marks)

QUESTION THREE

An investor is considering introducing a new product code named super pad into the market. This would involve purchasing a plant costing Sh.300 million.

Additional information:

1. The plant has a useful life of five years and is to be depreciated on a straight line basis.
2. The salvage value is nil.
3. Due to market uncertainties, the sale price, variable cost and sales volume of the super pad have been estimated stochastically as follows:

Selling price		**Variable Cost**		**Sales Volume**	
Value	**Probability**	**Value**	**Probability**	**Value**	**Probability**
Sh.		**Sh.**		**units**	
30	0.20	10	0.20	4 million	0.20
40	0.60	20	0.50	6 million	0.50
50	0.20	30	0.30	8 million	0.30

4. The company's cost of capital is 12% and the corporate tax rate is 30%.

Required:

(a) The expected net present value (NPV) of the new product using expected values for each variable. (4 marks)

(b) The expected NPV by performing ten runs using the following random numbers for each variable.

Selling price:	76	64	02	53	16	16	55	54	23	36
Variable cost:	20	82	74	08	01	69	36	35	52	99
Sales volume:	55	50	29	58	51	14	86	24	39	47

Required:
Determine the expected NPV as simulated. (10 marks)

(c) The probability that this product will be a success. (1 mark)

(d) Discuss the advantage (merits) and disadvantages (limitations) of simulation analysis. (5 marks)
(Total: 20 marks)

QUESTION FOUR

(a) Unbundling is the process of selling off incidental non-core businesses to release funds, to reduce gearing in order to allow management to concentrate on their chosen core business.

In relation to corporate restructuring and reorganization, briefly explain the following forms of unbundling:

(i) Management buyout (MBO). (2 marks)

(ii) Management buy in (MBI). (2 marks)

(iii) Spin off or demerger. (2 marks)

(iv) Sell off or divestment. (2 marks)

(b) Rhinox LTD is planning to invest in an expansion plan. The company has estimated Sh.20 million as the initial investment for the expansion.

The plan is expected to generate Sh.5 million annual after tax cash inflow for the next 5 years. Cost of capital is 10%.

Required:

(i) The NPV of the project. (2 marks)

(i) The value of the call option to delay if the risk free rate of return is 7% and standard deviation of returns is 30%.
(6 marks)

(c) In relation to financial risk management, briefly explain four advantages of financial derivatives. (4 marks)
(Total: 20 marks)

QUESTION FIVE

(a) Alpha will receive US dollars 400,000 in 3 month's time. The company treasurer has determined the following:

Spot rate	Dollars 1.8250-Dollars 1.8361
3 months forward	Dollars 1.8338-Dollars 1.8452

Money market rates	Borrowing	Deposit
US Dollars	5.1%	4.2%
Sterling	5.75%	4.5%

The money market rates are annual rates.

Required:

Determine whether a forward contract hedge or a money market hedge should be undertaken. (8 marks)

(b) Explain four advantages of investing in Real Estate Investment Trusts. (8 marks)

(c) Explain the meaning of the term crypto currency and give an example. (4 marks)

(Total: 20 marks)