

CPA PART III SECTION 5

ADVANCED FINANCIAL MANAGEMENT

THURSDAY: 23 May 2019.

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) Discuss four applications of the capital asset pricing model (CAPM).

(8 marks)

(b) Dzikunze Manufacturing Limited is considering to raise an extra Sh.10 million in order to finance an expansion programme.

The company's current capital structure is given as follows:

	Sh. "000"
Ordinary share capital (Sh.20 par value)	50,000
Reserves	20,000
14% debenture capital	20,000
10% preference share capital	_10,000
	100,000

Additional information:

1. The company is considering raising the funds using two alternative financing options namely:

Ontion I:

To raise all the funds through the issue of new ordinary shares at par.

Option II:

To raise half of the funds through the issue of new ordinary shares at par and the balance through the issue of new 12% debentures at par.

2. The corporation tax rate is 30%.

Required:

- (i) Earnings before interest and tax (EBIT) at the point of indifference in company's earnings for each financing option. (8 marks)
- (ii) Earnings per share (EPS) at the point of indifference in (b) (i) above.

(4 marks)

(Total: 20 marks)

QUESTION TWO

(a) The Unclaimed Financial Assets Authority (UFAA) was created under the Unclaimed Financial Assets Act, No.40 of 2011 to administer unclaimed financial assets.

Required:

With reference to the above statement, summarise six specific roles of the Unclaimed Financial Assets Authority or equivalent authority in your country. (6 marks)

(b) ABC Ltd. is a company listed in the local securities exchange. The company is foreseeing a growth rate of 12% per annum in the next two years. The growth rate is likely to be 10% per annum for the third and fourth year, then it will stabilise at 8% per annum in perpetuity.

The latest dividend to be paid was Sh.1.50 per share.

The required rate of return is 16%.

Required:

The intrinsic value of the share.

(4 marks)

CA53 Page 1 Out of 4 (c) Umoja Group of companies belongs to a risk class of which the appropriate capitalisation rate is 10%.

The company currently has in issue 200,000 ordinary shares selling at Sh.50 each. The company is contemplating the declaration of dividend at the rate of Sh.3 per share at the end of the current financial year which has just begun.

Required:

Using Modigliani and Miller proposition on dividend irrelevance, determine:

(i) The price of the ordinary shares at the end of the year, assuming a dividend is not declared.

(2 marks)

(ii) The price of the ordinary shares at the end of the year, assuming a dividend is declared.

(2 marks)

(iii) Assuming that the company generates a net income of Sh.2,000,000 and makes new investments of Sh.4,000,000 during the period.

Show that under the Modigliani and Miller's assumption, payment or non-payment of dividends has no effect on the company's value. (6 marks)

(Total: 20 marks)

QUESTION THREE

- (a) Discuss four types of risks associated with investment in real estate investment trust (REITs) securities. (8 marks)
- (b) Zomolo Limited is a firm operating in the manufacturing industry. The firm's current capital structure is given as follows:

	•			•
			Sh. "000"	
Ordii	nary share capita	al (Sh.10 par value)	80,000	10
Rese	rves	-	20,000	٠٥٠)
10%	irredeemable de	ebenture capital (Sh.100 par value)	30,000	
		capital (Sh.20 par value)	20,000	, O.D.
•		,	150,000	
Addi	tional informa	tion:		ebnotes.co.te
1.	The current	market price per share (MPS) of the	firm's ordinary shares is Sh. 34.80 cum-divides	
2.	The firm ad	onts a 60% dividend payout ratio	Titili 3 Ordinary shares is 311. 54.00 cum-divides	1.
3.	The most re	ecent earnings per share (EPS) of the	firm is Sh 8 00	
4.	The historic	al dividend per share (DPS) over the	last four years are given as follows:	
	Year	Dividend per share (DPS)	firm's ordinary shares is Sh. 34.80 cum-dividend firm is Sh.8.00. last four years are given as follows:	
		(Sh.)	•	
	2015	4.00		
	2016	4.20		
	2017	4.50		
	2018	4.80		
5.	The firm's i	management is contemplating to inve	est in a project which would cost Sh 40 million	The project

Additional information:

- 1.
- 2.
- 3.
- 4.

Year	Dividend per s
	(Sh.)
2015	4.00
2016	4.20
2017	4.50
2018	4.80

- 5. The firm's management is contemplating to invest in a project which would cost Sh.40 million. The project is expected to generate Sh.9 million each year in perpetuity.
- The project has an estimated beta of 1.50. 6.
- 7. The return from a well diversified market portfolio is 18%.
- 8. The debentures are considered to be risk-free and are valued at par.
- The existing 8% irredeemable preference shares are currently trading at Sh.25 each.
- 10. The corporation tax rate is 30%.

Required:

(i) The firm's return on equity (ROE) using Gordon's growth approximation method.

(3 marks)

(ii) The firm's existing weighted average cost of capital (WACC).

(6 marks)

(iii) The project's risk adjusted discounting rate (RADR).

(3 marks)

(Total: 20 marks)

OUESTION FOUR

Kadzenga Limited is a Kenyan company with a substantial proportion of its trade with companies in the United States (US). Kadzenga Ltd. invoiced a US firm 60,000 United States Dollars (USD) receivable 3 months from now.

Additional information:

- 1. The borrowing rate is 3% above the bank base rate while the investing rate is 2% below the bank base rate. These rates apply both in Kenya and the United States.
- 2. The bank base rates in Kenya and the US are 15% and 10% per annum respectively.
- 3. The exchange rates in the forex market between the Kenya Shilling (Ksh) and the United States Dollar (USD) are as follows:

	Ksh/1 US (\$)
Spot exchange rate:	103-105
One month forward rate:	102-103
3-months forward rate:	101-102

Required:

Calculate the amount to be received by Kadzenga Limited using:

(i) Forward contract hedge.

(ii) Money market hedge. (6 marks)

- (iii) Using the results obtained in (a) (i) and (a) (ii) above, advise the management of Kadzenga Limited on the best hedging strategy. (2 marks)
- (b) Ziani Limited, an unlevered firm has in issue 10 million ordinary shares that are currently selling at the securities It is expected that the firm's future dividends in each year will remain constant in perpetuity.

 The firm is considering to issue 12% new debentures to raise Sh.50 million in order to finance an expension programme. This will effectively change the status of the firm from unlevered to a levered firm. The firm pays corporation tax at the rate of 30%.

 d:
 odigliani and Miller's propositions, determine:

 The cost of equity before and after issue of the long-term debt. exchange for Sh.20 each.

Additional information:

- 1.
- 2.
- 3.
- 4.

Required:

Using Modigliani and Miller's propositions, determine:

(i)

(ii)

The current market value of the firm before and after issue of the debt. (iii) (2 marks)

(iv) Advise the management of Ziani Limited on whether to change its capital structure. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Jeza Tours and Travel is a private limited company in the tourism industry. In order to improve customer service and provide the management with timely and quality information, the company is contemplating to purchase 8 micro-computers at a cost of Sh.100,000 each.

Installation cost for all the computers will amount to Sh.80,000. It is estimated that once installed, the computers will increase the company's earnings before depreciation and tax from Sh.12,000,000 to Sh.12,500,000 annually.

The computers are expected to last for 10 years after which they will be obsolete with no resale value.

The Operations Manager proposes that the computers will be useful for 15 years with no resale value.

The Marketing Manager, on the other hand argues that the company needs the computers for only 5 years, after which they can be disposed of at Sh. 50,000 each.

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(2 marks)

The probability distribution of the useful life of the computers is given as follows:

Probability	Useful life of computers (years)
0.20	5
0.50	10
0.30	15

The company is in the 30% tax bracket.

The company's cost of capital is 24% and uses the straight-line method of depreciation.

Required:

(i) The expected net present value of the project.

(4 marks)

(ii) The standard deviation of the expected net present value.

(3 marks)

(iii) If the net present value (NPV) of the project is less than Sh.200,000, the firm will be exposed to a financial distress.

Determine the probability that the firm will avoid financial distress. (Assume normal distribution).

(3 marks)

(b) Excellent Ltd. is considering acquiring Best Ltd. a firm in the same industry in order to consolidate its market share. Best Ltd. has been less profitable, so it has paid an average of only 20% in taxes during the last several years. In addition, it has used little debt having a debt ratio of 25%. If the acquisition would be implemented, Excellent Ltd. could operate Best Ltd. as a separate, wholly owned subsidiary. This will increase Excellent Ltd.'s gearing ratio to 40%.

The following is a forecasted financial data for Best Ltd. over the next five years:

Year	1	2	3	4	5 6
	Sh. "million"				
Net sales	50	60	75	70	650
Operating costs	5	10	15	15	6
Selling and administration costs	01	10	8	9	
Acceptable investment project cost	s 0.5	0.70	1.60	1.20	0.20

Additional information:

- 1. The risk-free rate of return is 8% and debt is considered to be risk-free.
- 2. Expected return of the market portfolio is 13%.
- 3. The firm's levered equity beta after acquisition is estimated at 0.80.
- 4. After 5 years, the net cash flows of Best Ltd. shall increase at a constant rate of 6% per annum in perpetuity.
- 5. Corporation tax rate is 30%.
- 6. The firm's gross profit margin is 40%.
- 7. Best Ltd. incurs fixed financing cost of Sh.2 million per annum.
- 8. The firm's equity shares and bonds are currently trading at par.

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Determine the maximum price payable to acquire Best Ltd. using the discounted free cash flow basis. (10 marks)

(Total: 20 marks)

Present Value of 1 Received at the End of *n* Periods:

PVIF =	$1/(1+r)^n =$	(1+r)-"
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Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%	
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	8772	.8696	.8621	.8475	.8333	.8065	.7813	.7576	.7353	
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	5739	5407	
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	6575	.6407	.6086	.5787	.5245	.4768	.4348	3975	
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	2923	
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	5194	.4972	.4761	.4371	.4019	.3411	.2910	2495	.2149	
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	1890	.1580	
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	:1776	.1432	.1162	
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854	
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628	
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462	
. 11	8963	8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340	
12 -	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	3186	.2567	.2076	.1869	1685	.1372	.1122	.0757	.0517	.0357	.0250	
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184	
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135	
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	0099	
16	8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073	
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	0054	
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	2502	.2120	.1799	.1300	.0946	8080.	.0691	.0508	.0376	.0208	.0118	.0068	.0039	
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029	
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021	
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	0005	
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001	
40	.6717	4529	3066	.2083	.1420	.0972	.0668	0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001			•
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001					\circ
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	•	٠	• *	•		•	ال ا
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																		\L	0		
						1-	. <u> </u>	_										1.6			
				n	1	_	(1+r)	y'									1/2	72.			
		Р	VIF	$= \sum$. - 	- =											1/2				
		1	, , , ,	t /=	1 (1+	r)′	·										"				65.00
1%	2%	3%	41	4 5	5%	6%	7%	8%	9%	10%	129	4 14	4% 1	5%	16%	18%	20%	24%	28%	4 325	y .
.9901	0.9804	0.970	9 0.96	15 0.9	524 0.	9434 (0.9346	0.9259	0.9174	0 909	1 0.89	29 N.R	772 0	9696 7	0024	0.0475	0.0000	0.000			

$$PVIF_{rt} = \sum_{r=1}^{n} \frac{1}{(1+r)^r} = \frac{1-\frac{1}{(1+r)^n}}{r}$$

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payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.0005		
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1,6901	1.6467	1.6257	1.6052	1.5656	1.5278	0.8065	0.7813	0.7576
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743		1.4568	1.3916	1.3315
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872		3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.1065	1.9813	1.8684	1,7663
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002		3.8897		3.6048	3.4331	3.3522	3.2743		2.5887	2.4043	2.2410	2.0957
					•						0.0040	5.4551	3.3322	3.2143	3.1272	2.9906	2.7454	2.5320	2.3452
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3 6047	2 4070	3 2055			
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5,3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	3.6847	3.4976	3.3255	3.0205	2.7594	2 5342
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
9	8.5660	8,1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464		4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
10	9.4713	8.9826	8,5302		7.7217	7.3601	7.0236			6,1446	5.6502		4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
							1,0200	0.1101	0.4177	0,1440	3.6302	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304
11	10.3676	9.7868	9.2526	8,7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5 0277	6 4507							
12	11.2551	10.5753		9.3851	8.8633	8.3838	7.9427	7.5361	7.1607		5.9377	5.4527	5.2337	5.0286	4.6560		3.7757	3.3351	2.9776
13		11.3484			9.3936	8.8527	8.3577	7.9038		6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
14				10.5631		9.2950	8.7455		7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
15						9.7122		8.2442		7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
••	13.0031	12.0433	11.5575	11.1104	10.3757	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4.6755	4.0013	3.4834	3.0764
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0000
17	15.5623	14.2919	13,1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0882
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732				3.0971
19						11.1581			8.9501		7.3658	6.5504	6.1982	5.8775	5.3162		4.0799	3.5294	3 1039
20						11.4699					7.4694	6.6231	6.2593	5.9288	5.3527		4.0967	3.5386	3.1090
								-12.21		0.0100	7.500	0.0231	0.2333	3.3200	3.3321	4.8696	4.1103	3.5458	3 1129
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10 6748	9 8226	9.0770	7.8431	6.8729	C 4C4+	C 0074	£ 4000				
30	25.8077	22,3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10 2737	9.4269	8.0552	7.0027	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
40	32.8347	27.3555	23,1148	19,7928	17.1591	15.0463	13 3317	11 9246	10.7574	0.7751	8.2438		6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3 1242
50	39,1961	31.4236	25,7298	21.4822	18.2559	15.7619	13.8007	12 2335	10.7374	0.0140	8.3045	7.1050	6.6418	6.2335	5.5482		4.1659	3.5712	3.1250
60	44.9550	34.7609	27.6756	22.6235	18 9293	16.1614	14 0392	12 3766	11.0400	0.0670	0.3045	7.1327	6.6605	6.2463	3.5541	4.9395	4.1666	3.5714	3 1250
							14.0332	12.3700	11,0480	3.3072	c.3240	7.1401	6.6651	6.2402	5 5553	4.9999	4.1667	3.5714	3 1250