KASNEB

CPA PART III SECTION 5

ADVANCED FINANCIAL MANAGEMENT

THURSDAY: 26 November 2015. **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) In the context of financial management, explain what is meant by "stakeholder theory". (6 marks)

(b) A company is considering whether to purchase equipment to increase its production and sales volumes. The equipment costs Sh.500,000,000 and has a useful life of three years after which it can be sold as scrap for Sh.80,000,000. For each of the three years of usage, the equipment is expected to increase both sales revenue and operating costs by Sh.600,000,000 and Sh.390,000,000 respectively. The company's cost of capital is 10%.

Required:

Compute the percentage change required in each of the following factors for the project to be rejected:

(i) Initial cost of the equipment. (4 marks)
(ii) Scrap value of the equipment. (2 marks)
(iii) Sales revenue. (4 marks)

(c) Evaluate four advantages of employing organic growth strategies. (4 marks)

(Total: 20 marks)

QUESTION TWO

(a) In most cases, the assumption is that investors are risk-averse, that is, they like returns and dislike risk.

With reference to the above statement, explain why it is argued that only systematic risk and not total risk is important. (4 marks)

(b) In the context of portfolio theory, explain the meaning of "beta coefficient". (2 marks)

(c) The following data have been provided with respect to three shares traded on the Nairobi Securities Exchange (NSE):

	Share A	Share B	Share C
Risk-free rate of return	12%	12%	12%
Beta coefficient	1.340	1.000	0.750
Return on the NSE index	0.185	0.185	0.185

Required:

(i) Interpret the beta coefficients of shares A, B and C. (3 marks)
(ii) Using the capital asset pricing model (CAPM), compute the expected return on shares A, B and C. (3 marks)

(d) The following information relates to portfolios P and N:

	Portfolio P	Portfolio N
Average return	35%	28%
Beta	1.25	1.00
Standard deviation	42%	30%
Non-systematic risk	18%	10%

Assume that the risk free rate is 6% and the average market return is 15%.

Required:

(i) Sharpe's performance measure for portfolios P and N. (2 marks)
(ii) Treynor's performance measure for portfolios P and N. (2 marks)
(iii) Jensen's performance measure for portfolios P and N. (2 marks)
(iv) The appraisal ratio for portfolios P and N. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) Comment on the assertion that capital structure is strongly influenced by managerial behaviour. (4 marks)

(b) The finance director of Nyuki Ltd. wishes to estimate what impact the introduction of debt finance is likely to have on the company's overall cost of capital. The company is currently financed by equity only.

Nyuki Ltd.- Summarised capital structure

	Sh."000"
Ordinary shares (Sh.2.5 par value)	5,000
Reserves	11,000
	16,000

The company's current share price is Sh.4.20 and up to Sh.4 million of fixed rate five-year debt could be raised at an interest rate of 10% per year. The corporate tax rate is 30%.

Nyuki Ltd.'s current earnings before interest and tax are Sh.2.5 million. These earnings are not expected to change significantly for the foreseeable future.

The company is considering raising either Sh.2 million in debt finance or Sh.4 million in debt finance. In either case, the debt finance will be used to repurchase ordinary shares.

Required:

Using Modigliani and Miller's model in a world with corporate tax, estimate the impact on Nyuki Ltd.'s weighte average cost of capital of raising:

(i) Sh.2 million in debt finance. (6 marks)
(ii) Sh.4 million in debt finance. (6 marks)

(c) Comment on the accuracy of the estimates produced in (b) (i) and (ii) above. (4 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i) Define the term "free cash flow to equity". (2 marks)
(ii) Explain how free cash flow to equity could be used for valuation. (4 marks)

(b) Discuss two advantages and two disadvantages of economic value added (EVA). (4 marks)

(c) The following information relates to Jasho Ltd.:

Statement of profit or loss extracts for the year:

	2013 Sh."million"	2014 Sh."million"
Revenue	326	380
Pre-tax accounting profit	67	84
Taxation	23	29
Profit after tax	44	55
Dividends	15	18
Retained earnings	29	37

Statement of financial position extracts for the year:

	2013 Sh."million"	2014 Sh."million"
Non-current assets	120	156
Net current assets	130	160
	250	316
Financed by:		
Shareholders' funds	195	236
Medium and long-term bank loans	55	80
	250	316

Additional information:

1. Jasho Ltd. had non-capitalised leases valued at Sh.10 million in each year from 2012 to 2014.
2. Capital employed as per the year 2012 financial statements was Sh.223 million.
3. The pre-tax cost of debt was estimated to be 9% in year 2013 and 10% in year 2014.
4. Jasho Ltd.'s cost of equity was estimated to be 15% in year 2013 and 17% in year 2014.
5. The pre-tax accounting profit is obtained after deducting the economic depreciation of the company's non-current assets. This is also the depreciation used for tax purposes.
6. The target capital structure for Jasho Ltd. is 60% equity and 40% debt.
7. The effective tax rate was 30% in both year 2013 and year 2014.
8. Economic depreciation was Sh.30 million in year 2013 and Sh.35 million in year 2014.
9. Other non-cash expenses were Sh.10 million per year in both 2013 and 2014.
10. Interest expense was Sh.4 million in year 2013 and Sh.6 million in year 2014.

Required:

(i) Stating any assumptions made, estimate the economic value added (EVA) of Jasho Ltd. for both year 2013 and year 2014. (8 marks)

(ii) Comment on the performance of Jasho Ltd. (2 marks)

(Total: 20 marks)

QUESTION FIVE

(a) The main driver of option valuation is the volatility of returns of the associated asset.

Support the above statement. (4 marks)

(b) Explain how triangular arbitrage ensures that currency values are essentially the same in different markets around the world at any given moment. (4 marks)

(c) Granada Ltd., a UK-based company, imports computer components from the Far East. The trading currency is the Singapore dollar (S$) and the value of the deal is S$28 million. Three month's credit is given. The current spot exchange rate is S$2.8 to one sterling pound (£). Because of recent volatility in the foreign exchange markets, Granada Ltd.'s directors are worried that a rise in the value of the S$ could wipe out the profits on the deal. Three alternative hedging methods have been suggested as follows:

- A forward market hedge.
- A money market hedge.
- An option hedge.

Granada Ltd.'s treasurer has provided the following information:

1. The three-month forward rate is S$2.79:£1.
2. Granada Ltd. can borrow Singapore dollars at 2% interest rate per annum and sterling pounds at 5% per annum.
3. Deposit rates are 1% per annum in Singapore and 3% per annum in the UK.
4. A three-month American call option to buy S$28 million at an exercise rate of S$2.785:£1 could be purchased at a premium of £200,000 on the London OTC option market.

Required:

(i) Indicate which would be a better hedge between the forward market hedge and the money market hedge. (6 marks)

(ii) Evaluate the option hedge if the following spot rates were applicable in three months' time:

- S$2.78:£1.
- S$2.82:£1.

(6 marks)

(Total: 20 marks)

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

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

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	.0808	.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	.	.	.	.
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001	.	.	.	.	.	.

* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for n Periods:

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

number of 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	0.8065	0.7813	0.7576
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	1.4568	1.3916	1.3315
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	2.1065	1.9813	1.8684	1.7663
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.0957
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	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	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342
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	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
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	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
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	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	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	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
15	13.8651	12.8493	11.9379	11.1184	10.3797	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	3.0882
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	3.0971
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	4.8122	4.0799	3.5294	3.1039
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	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	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
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	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	7.1050	6.6418	6.2335	5.5482	4.9966	4.1659	3.5712	3.1250
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9995	4.1666	3.5714	3.1250
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9999	4.1667	3.5714	3.1250