kasneb

CIFA PART II SECTION 3

CORPORATE FINANCE

TUESDAY: 26 November 2019. **Time Allowed: 3 hours.**

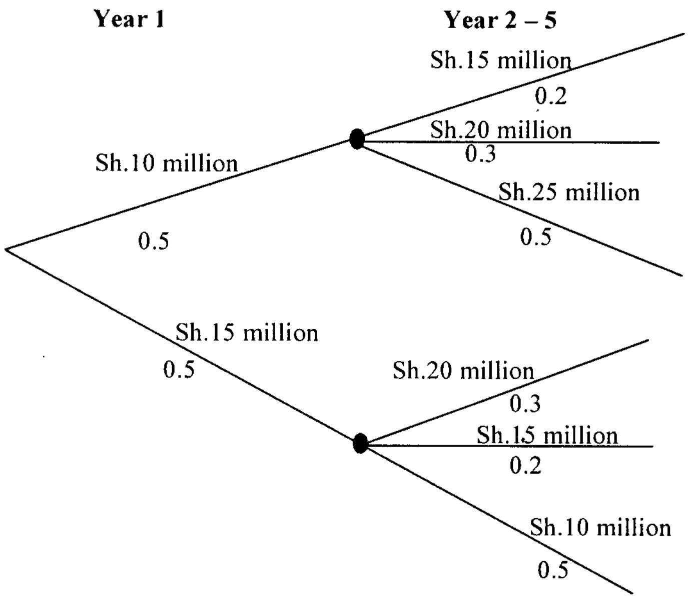
Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

(a) With reference to agency theory, highlight four causes of agency problems that could arise between shareholders and government. (4 marks)

(b) Zimco Limited is considering acquiring a new machine at a cost of Sh.20 million. The machine is expected to have a useful life of five years with a nil salvage value after five years.

The expected net cash flows and associated probabilities of occurrence are summarised below:



The company's required rate of return for this investment is 11%.

Required:

(i) Expected net present value (ENPV) of the project using decision tree analysis. (6 marks)

(ii) Expected standard deviation of the project. (4 marks)

(iii) If the net present value of the project is less than Sh.2 million, the firm will be exposed to financial distress.

Determine the probability that the firm will avoid financial distress (Assume a normal distribution). (2 marks)

(c) Nevok Industries Ltd. is currently an all equity financed firm. The firm expects to generate earnings before interest and taxes (EBIT) of Sh.10 million over the next year. Currently, Nevok Industries Ltd. has 10 million outstanding ordinary shares. The shares are currently trading at a price of Sh.7.50 per share at the security exchange. The firm is considering changing its capital structure by borrowing Sh.15 million at an interest rate of 8% per annum and use the proceeds to purchase 2 million ordinary shares at a price of Sh.7.50 each.

Assume that the firm's EBIT is not expected to grow in the future and that all earnings are paid as dividends.

Required:
Using Modigliani and Miller (MM) propositions I and II, show that an increase in expected earnings per share (EPS) for Nevok Industries Ltd. will not lead to an increase in the share price. (4 marks)
(Total: 20 marks)

QUESTION TWO

(a) Baobab Limited has not been paying dividends since inception. The Chief Finance Officer (CFO) of the company has been directed by the Board to develop a dividend policy to guide on the payments of dividends in the future.

Required:
In light of the above statement, explain three advantages and three disadvantages of dividend payments to shareholders. (6 marks)

(b) (i) Distinguish between "permanent working capital" and "seasonal working capital". (2 marks)

(ii) Xee Ltd. currently sells goods on terms of "net 30". The firm is considering adoption of terms "3/15 net 45". This change will effectively increase its average collection period from 35 days to 40 days.

The firm's current turnover is an average of Sh.50 million per annum. However, the relaxation of the terms of sale will increase annual sales by 20%.

The firm's cost of sales is 40% of turnover. 80% of the sales are made on credit basis. All credit customers will take advantage of the 3% discount offer.

Bad debts are estimated at 5% of credit sales and inventory levels are 10% of gross turnover.

The minimum required rate of return is 12% and the firm pays corporation tax at a rate of 30% per annum.

(Assume 365 days in a year).

Required:
Using suitable calculations, advise Xee Ltd. on whether to adopt the revised credit policy. (9 marks)

(c) SLM Ltd. has cash out flows of Sh.100,000 every day, seven days a week. The interest rate is 5% and the fixed cost of replenishing cash balance is Sh.100 per transaction.

The year has 365 days.

Required:
The optimal initial cash balance using the Baumol-Allias-Tobin (BAT) model. (3 marks)
(Total 20 marks)

QUESTION THREE

(a) Identify three symptoms of financial distress in a firm. (3 marks)

(b) Eagle Limited is considering acquiring Pelican Limited, a firm in the same industry, so as to consolidate its market share. Given below are financial data for both firms:

	Eagle Limited	**Pelican Limited**
Number of issued ordinary shares	10 million	5 million
Earnings per share (EPS)	Sh.4	Sh.2
Market price per share (MPS)	Sh.50	Sh.25
Price to earnings (P/E) ratio	12.5 times	12.5 times

Eagle Limited is considering financing acquisition of Pelican Limited on a share for share exchange. It is considering offering 2 new shares to the shareholders of Pelican Limited in exchange of 4 shares held.

Assume a corporation tax rate of 30%.

Required:
(i) Non-diluting offer price. (2 marks)

(ii) Non-diluting maximum exchange ratio. (2 marks)

(iii) The post acquisition EPS of Eagle Limited at the exchange ratio they are considering offering. (3 marks)

(iv) If the price to earnings (P/E) ratio of Eagle Limited rises to 15 times after the acquisition, determine the post acquisition market price of a share of Eagle Limited. (2 marks)

(c) Double K Limited is concerned whether antitrust regulators would consider the acquisition of Tripple G Limited an antitrust violation. The market in which the two companies operate consist of eight competitors. The largest company has a 25% market share. Double K Limited has the second largest market share of 20%. Five companies including Tripple G Limited each have a market share of 10%. The smallest company has a 5% market share.

Required:

(i) Calculate the increase in the Herfindahl-Hirschman Index (HHI). (4 marks)

(ii) Explain the probable action by the antitrust regulator based on your answer in (c) (i) above. (2 marks)

(iii) Outline one strength and one weakness of the HHI model. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Explain four distinct features of Islamic Finance. (4 marks)

(b) Describe two sources of Islamic Finance that are an alternative to a right issue and a loan note. (4 marks)

(c) The following is an extract of the statement of financial position of Tausi Limited, a company quoted at the Securities Exchange:

	Sh."million"	Sh."million"
Equity and liabilities:		
Equity:		
Share capital	17	
Retained earnings	15	
Total equity		32
Liabilities:		
Long term liabilities	13	
Current liabilities	21	
Total liabilities		34
Total equity and liabilities		66

Additional information:

1. The share capital of the company consists of Sh.12 million of ordinary shares and Sh.5 million irredeemable preference shares.
2. The ordinary shares have a nominal value of Sh.0.50 per share, an ex-dividend market price of Sh.7.07 per share and a cum-dividend market price of Sh.7.52 per share.
3. The dividend for the year 2019 will be paid in the near future.
4. Dividends paid in recent years have been as follows:

Year	2018	2017	2016	2015
Dividend per share (Sh)	0.43	0.41	0.39	0.37

5. The 5% preference shares have a nominal value of Sh.0.50 per share and an ex-dividend market price of Sh.0.31 per share.
6. The long-term borrowings for the company consist of Sh.10 million of loan notes and a Sh.3 million bank loan. The bank loan has variable interest rate.
7. The 7% loan notes have a nominal value of Sh.100 per loan note and a market price of Sh.102.34 per loan note. Annual interest has just been paid and the loan notes are redeemable in four year's time at a 5% premium to nominal value.
8. The corporation tax rate is 30%.

Required:

The after tax weighted average cost of capital (WACC) on a market value basis. (12 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Explain the following terms as used in corporate restructuring:

(i) Management buyout (MBO). (1 mark)

(ii) Leveraged buyout (LBO). (1 mark)

(iii) Employee buyout. (1 mark)

(iv) Spin out. (1 mark)

(b) Ndovu Limited is considering the purchase of a new machine with an operating life of three years. The new machine could be leased for three payments of Sh.55,000 payable annually in advance.

Alternatively, the machine could be purchased for Sh.160,000 using a bank loan at a cost of 8% per year. If the machine is purchased, Ndovu Limited will incur maintenance costs of Sh.8,000 per year, payable at the end of each year of operation. The machine would have a residual value of Sh.40,000 at the end of its three year life.

The company's production manager estimates that if maintenance cost routines were upgraded, the new machine could be operated for a period of four years with maintenance costs increasing to Sh.12,000 per year payable at the end of each year of operation. If operated for four years, the machine's residual value would fall to Sh.11,000.

The cost of capital is 8%.

Required:

(i) Advise Ndovu Limited on whether it should lease or purchase the machine assuming that it is operated for a period of three years. (6 marks)

(ii) Calculate the equivalent annual cost of purchasing and operating the machine for both three years and four years and recommend which replacement interval should be adopted. (6 marks)

(c) A company's present capital structure consists of Sh.20,000,000 shares of equity stock. The company requires Sh.100,000,000 of external financing for which it is considering two alternatives:

Alternative A. Issue 5,000,000 equity shares of Sh.10 par at Sh.20 each.

Alternative B Issue 3,000,000 equity shares of Sh.10 par at Sh.20 each and 4,000,000 preference shares of Sh.10 par carrying 11% dividend.

The company tax rate is 30%.

Required:

Determine the earnings per share-profit before interest and taxes (EPS-PBIT) indifference point for alternative A and alternative B. (4 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	.5674	.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:

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

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	1.8084	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