KASNEB

CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

THURSDAY: 24 November 2016. **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) Describe the following types of orders which could be made while trading in equity securities at the securities exchange of your country:

(i) Market order. (1 mark)

(ii) Limit order. (1 mark)

(iii) Sell-stop order. (1 mark)

(iv) Stop-limit order. (1 mark)

(v) Fill or Kill (FOK) order. (1 mark)

(b) Consider an order-driven system that allows hidden orders. The following four sell orders on a particular stock are currently in the system's limit order book:

Order Number	Time of arrival (HH:MM:SS)	Limit price (Sh.)	Special instructions (if any)
W	9:42:01	20.33	None
X	9:42:08	20.29	Hidden order
Y	9:43:04	20.29	None
Z	9:43:49	20.29	None

Where: HH → Hours

MM → Minutes

SS → Seconds

Required:

Citing appropriate reasons, determine which of these orders would have precedence over others based on the commonly used order precedence hierarchy. (3 marks)

(c) Philip Kisero purchased 1,000 shares of Kilimo Limited at a price of Sh.32 per share. The shares were bought on 75 percent margin. One month later, Philip Kisero had to pay interest on the amount borrowed at the rate of 2 percent per month. At that time, Philip Kisero received a dividend of Sh.0.50 per share. Immediately after that, he sold the shares at a price of Sh.28 per share. He paid a commission of Sh.500 on the purchase and a commission of Sh.500 on the sale of the shares.

Required:

The rate of return on this investment for the one-month period. (5 marks)

(d) An analyst has gathered the following information about Surex Limited's shares trading at the securities exchange:

1.	Current market price per share	Sh.22.56
2.	Current annual dividend per share (DPS)	Sh.1.60
3.	Annual dividend growth rate for years 1 – 4	9%
4.	Annual dividend growth rate for years 5 to perpetuity	4%
5.	Required rate of return	12%

Required:

Using dividend discount model, determine whether the shares of the company are undervalued, fairly valued or overvalued. (7 marks)

(Total: 20 marks)

QUESTION TWO

(a) Highlight five characteristics of private equity that make it attractive as an investment vehicle for high net worth investors in your country. (5 marks)

(b) John Odhiambo, an investment analyst at Coblar Capital Investment Limited has gathered the following information relating to a private company that he intends to analyse:

1.	Risk-free rate	1.00%
2.	Beta of the company	1.50%
3.	Equity risk premium	6.00%
4.	Small stock premium	4.00%
5.	Company-specific risk premium	1.50%
6.	Industry risk premium	1.20%

Required:

The required rate of return of the private company using:

(i) Capital asset pricing model (CAPM). (1 mark)

(ii) Expanded CAPM. (2 marks)

(iii) Build-up approach. (2 marks)

(c) (i) Explain four strengths of residual income valuation model that is used in determining the value of shares. (4 marks)

(ii) The following information relates to Fuji Limited, a company quoted at ISDAQ stock exchange:

1.	Current book value per share	Sh.12.90
2.	Current market price per share	Sh.32.41
3.	Expected long-term return on equity (ROE)	10%
4.	Expected growth rate per year	8%

Assume that the cost of equity is 9%.

Required:

The intrinsic value of the company's share using the residual income model. (3 marks)

(d) Explain the following terms in relation to equity securities valuation:

(i) Blue Chip stocks. (1 marks

(ii) Income stocks. (1 mark)

(iii) Cyclical stocks. (1 mark)

(Total: 20 marks)

QUESTION THREE

(a) Evaluate four advantages of fundamental analysis. (4 marks)

(b) The following information relates to Pepino Limited, a global food retailer specialising in hypermarkets and supermarkets:

1.	Current market price per share (MPS)	Sh.56.94
2.	Dividend growth rate	8.18%
3.	Risk-free rate	5.34%
4.	Equity risk premium	5.32%
5.	Equity beta	0.83
6.	Current dividend per share (DPS)	Sh.0.575
7.	Earnings per share (EPS)	Sh.1.837

Required:

(i) Justified trailing and leading price earnings (P/E) ratio based on the Gordon growth model. (4 marks)

(ii) Based on the justified trailing P/E ratio and actual P/E ratio computed in (b) (i) above, determine whether the firm is fairly valued, overvalued, or undervalued. (2 marks)

(c) Momentum Enterprises Limited has free cash flow to the firm (FCFF) of Sh.700 million and free cash flow to equity (FCFE) of Sh.620 million. The company's before-tax cost of debt is 5.7% and its required rate of return for equity is 11.8%. The company expects a target capital structure consisting of 20% debt financing and 80% equity financing.

The tax rate is 30% and FCFF is expected to grow forever at a rate of 5.0% per annum. The company has an outstanding debt with a market value of Sh.2.2 billion and has 200 million outstanding ordinary shares.

Required:

(i) The weighted average cost of capital (WACC) of the company. (2 marks)

(ii) The value of Momentum Enterprise Limited's equity using the FCFF Valuation approach. (3 marks)

(iii) The value per share using FCFF approach. (2 marks)

(d) Examine three limitations of Gordon growth model (GGM). (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) In the context of industry analysis, discuss four stages of the industry life cycle. (8 marks)

(b) Simon Mwenda, a financial analyst from Fincap capital has analysed that Jimliza Holdings has after-tax operating cash flows of Sh.90 million, non-current assets of Sh.650 million and non-cash working capital of Sh.100 million. The non-current assets are five years old and the inflation rate during the last five years has been 2%.

The remaining useful life for the assets is 10 years.

Required:

The company's cash flow return on investment (CFROI). (5 marks)

(c) Explain the term "sustainable growth rate". (2 marks)

(d) An investment analyst has gathered the following information regarding two companies; company A and company B:

Company	Return on assets (%)	Dividend Payout ratio (%)	Equity Multiplier
A	12	75	1.20
B	12	50	1.65

Required:

(i) The sustainable growth rate for each company. (4 marks)

(ii) Identify the factors that could cause the difference in the sustainable growth rates between the two companies. (1 mark)

(Total: 20 marks)

QUESTION FIVE

(a) The model selected by a financial analyst has a significance effect on equity valuation.

In relation to the above statement, highlight the broad criteria that could be used in selecting equity valuation model. (3 marks)

(b) (i) Explain the term "technical analysis" as used in equity valuation. (1 mark)

(ii) Discuss three principles underlying technical analysis. (6 marks)

(c) Hills Ltd's current share price is Sh.49.86. It also has a price-to-book (P/B) value of 3.57 and book value per share of Sh.13.97. Assume that the single stage growth model is appropriate for valuing the company. The firm's beta is 0.80, the risk-free rate is 5.0%, and the equity risk premium is 5.50%.

Required:

(i) If the growth rate is 6.0% and the return on equity (ROE) is 20.0%, determine the justified price-to-book (P/B) value for the company. (2 marks)

(ii) If the growth rate is 6.0%, determine the ROE required to yield the company's current P/B value. (2 marks)

(iii) If the ROE is 20.0%, determine the growth rate that is required to have the company's current P/B value. (2 marks)

(d) Rehema Mwatate, a CIFA graduate, is using economic value added (EVA) and market value added (MVA) to measure the performance of Minet Ltd.

Additional information:

1. Adjusted net operating profit after tax (NOPAT) is Sh.100 million.
2. Total capital is Sh.700 million (no debt).
3. Closing market price per share is Sh.26.
4. Total shares outstanding is 84 million.
5. The cost of equity is 14%.

Required:

Calculate the following for Minet Ltd.:

(i) Economic value added (EVA). (2 marks)

(ii) Market value added (MVA). (2 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:

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

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