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CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

FRIDAY: 27 November 2020. 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)   Explain the meaning of the following terms as used in equity markets:

      (i)   Circuit breaker. (2 marks)

      (ii)   Trading halt. (2 marks)

      (iii)   Program trading. (2 marks)

      (iv)   Short selling. (2 marks)

(b)   Discuss two forms of abuse that could be found in the initial public offering (IPO) market. (4 marks)

(c)   As a member of the Institute of Certified Investment and Financial Analysts (ICIFA), you have been invited to give a talk to a graduate class of a local university on investment styles that portfolio managers could use in stock picking.

      Required:
      With reference to above statement, discuss four types of investment styles that you would include in your presentation.
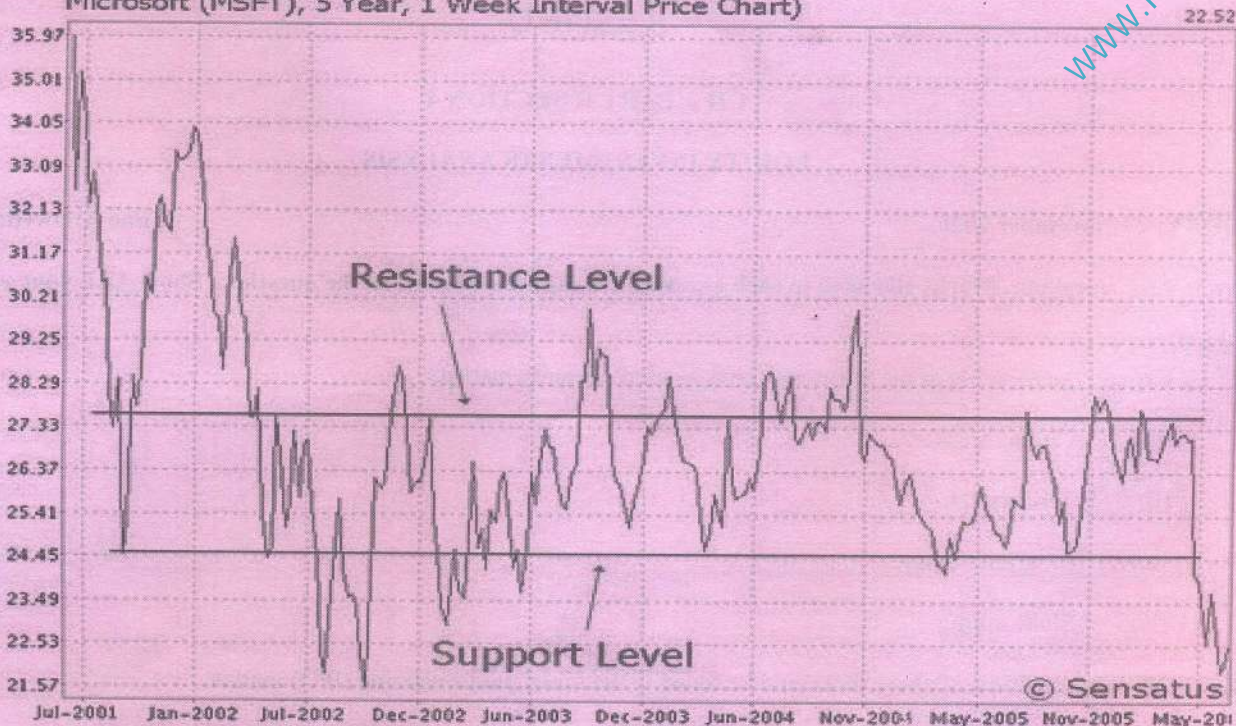
(8 marks)
(Total: 20 marks)

QUESTION TWO

(a)   Explain the following terms in relation to technical analysis:

      (i)   Uptrend in market. (2 marks)

      (ii)   Downward trend in market. (2 marks)

(b)   The following technical analysis chart was obtained from a trading channel in one of the leading Securities Exchanges in the world:

Support and Resistance Trading Channel
Microsoft (MSFT), 5 Year, 1 Week Interval Price Chart)

Required:
Using the chart above, interpret the following:

(i)   Resistance level.   (2 marks)

(ii)   Support level.   (2 marks)

(iii)   Describe the investment strategy that an investor should apply at resistance level and support level in (b) (i) and (b) (ii) above.   (2 marks)

(c)   An equity analyst has gathered the following data for Pioneer Manufacturing Ltd.:

- Beta   1.15
- Market price per share   Sh.30
- Risk-free rate   4.50%
- Expected market return   14.50%
- Recent year dividend per share   Sh.1.72
- Earnings per share (EPS) and dividend growth rate:
    - First 3 years   12% per annum
    - Years thereafter   9% per annum

The analyst seeks to use a two-stage dividend discount model (DDM) and the capital asset pricing model (CAPM) to value the company's shares.

Required:
(i)   Estimate the intrinsic value of the company's share.   (5 marks)

(ii)   Advise an investor on whether the share should be purchased by comparing the intrinsic value in (c) (i) above with the current market price per share of the company.   (2 marks)

(iii)   Describe one strength of the two-stage dividend discount model (DDM) in comparison with constant growth DDM.   (2 marks)

(iv)   Describe one weakness inherent in all dividend discount models.   (1 mark)

(Total: 20 marks)

QUESTION THREE

(a) You are a financial analyst at Fedha Financial Consultancies Limited. The Chief Investment Officer (CIO) has presented you with the following information regarding Zanplom Limited, a leading soft drinks manufacturer in the East Africa Region:

1. In the current financial year (year 0) Zanplom Limited is expected to generate net income of Sh.25 million. Depreciation is expected to be Sh.18 million, gross investments in tangible assets will be Sh.26 million and net working capital is expected to increase by Sh.4 million.

2. In the next three years, Zanplom's free cash flows to the firm (FCFF) are expected to grow by 8% per annum.

3. After year 4, FCFF is expected to grow in perpetuity at 6% per annum.

4. The company is financed with 40% debt and 60% equity which is expected to be maintained in foreseeable future.

5. Two years ago, Zanplom Limited had issued a bond with a notional value of Sh.250 million. The bond is currently trading at 80% of its par value. Annual interest expenses on the bond are Sh.15 million. The company has no other interest-bearing debts.

6. The corporate tax rate is 30%.

7. The cost of debt is 7% while the cost of equity is 11%.

8. The company has 21.5 million ordinary shares issued and outstanding.

Required:
Using two-stage FCFF, determine:

(i) The total value of the firm. (7 marks)

(ii) The market value of equity. (2 marks)

(iii) The equity value per share. (2 marks)

(iv) Advise an investor whether to buy the company's share assuming that they are trading at Sh.28.50 at the Securities Exchange. (1 mark)

(b) The following information relates to two companies quoted at the Securities Exchange of your country:

Company	Return on asset (ROA)	Dividend retention rate	Equity multiplier
Solaiz Limited	12%	40%	1.65
Talino Limited	12%	66.7%	2.00

Required:

(i) Sustainable dividend growth rates for both Solaiz Limited and Talino Limited. (3 marks)

(ii) Explain your results in (b) (i) above. (1 mark)

(c) The yield on a 10-year A rated corporate bond is 7.5%. The long-term sustainable earnings growth rate is 5% and the weighting factor for the importance of earnings growth is 0.15. The current trailing price to earnings (P/E) ratio for the equity market is 15.

Required:

(i) Determine whether the equity market is properly valued using the Yardeni model. (3 marks)

(ii) Outline one limitation of the Yardeni model. (1 mark)

(Total: 20 marks)

QUESTION FOUR

(a) In the context of residual income model:

(i) Examine three circumstances in which it is appropriate to use the residual income model in equity valuation. (3 marks)

(ii) Highlight three weaknesses of residual income model in equity valuation. (3 marks)

(b) Kangaloo Ltd.'s shares are currently selling for Sh.38.50, with trailing twelve month (TTM) earnings per share (EPS) and dividends per share (DPS) of Sh.1.36 and Sh.0.91 respectively. The company's price to earnings (P/E) ratio is 28.3, price to book (P/B) is 7.1 and price to sales (P/S) is 2.9. The return on equity (ROE) is 27% and the profit margin on sales is 10.24%. The risk free rate is 4.9%, the equity risk premium is 5.5 and company's beta is 1.2. The dividend and earnings growth rate is 9%.

Required:

Calculate the following multiples:

(i) Justified trailing price to earnings (P/E). (3 marks)

(ii) Justified price to book (P/B). (3 marks)

(iii) Justified price to sales (P/S). (3 marks)

(iv) Determine, based on fundamentals, whether Kangaloo Limited is fairly valued, overvalued or undervalued. (1 mark)

(c) An analyst notes that for the year just ended, Bingwa Ltd. cost of goods sold was 30% of sales. To forecast the firm's income statement for the current financial year, the analyst assumes that all companies in the same industry will experience an inflation rate of 8% on the cost of goods sold.

The analyst also forecast on the price and volume changes as follows:

- Average price increase per unit   5.00%
- Volume growth   –3.00%

Required:

The firm's forecasted gross profit margin for the current financial year. (4 marks)

(Total: 20 marks)

QUESTION FIVE

(a) HQ Limited has invested Sh.100 million in assets. The after tax operating income on the assets in place is Sh.15 million. The return on capital of 15% is expected to continue in the future. The company's cost of capital is 10%. At the beginning of each of the next five years, the company is expected to make an investment of Sh.10 million each year. These investments are also expected to earn 15% as a return on capital and the cost of capital is expected to remain at 10%. After year 5, the company will continue to make investments and earnings will grow at a rate of 5% per annum, but the new investments will have a return on capital of only 10% which is also the cost of capital. All assets and investments are expected to have infinite lives.

Required:

The value of the company using the economic value added (EVA) valuation approach. (8 marks)

(b) The following information has been extracted by Hiza Securities Limited from Panda Food Processors Limited:

- Working capital balance   Sh.2,000,000
- Fair value of fixed assets   Sh.5,500,000
- Book value of fixed assets   Sh.4,000,000
- Normalised earnings of firm   Sh.1,000,000
- Required return on working capital   5%
- Required return on fixed assets   8%
- Weighted average cost of capital   15%
- Long-term growth rate of residual income   5%

Required:

Using an Excess Earnings Method:

(i) Determine the value of Panda Food Processors Limited's intangible assets. (2 marks)

(ii) Determine the market value of invested capital. (2 marks)

(c) Lately, ABC Limited has experienced financial difficulties due to prolonged Corona Virus Pandemic in the country. As a result, dividends are expected to grow at a reduced rate of 2% for the next 2 years and return to its historical rate of 5% there after. The last dividend paid was Sh.2 per share and the cost of equity capital is 15%.

Required:

The market value of ABC Limited's share today. (4 marks)

(d) HornBill Limited just reported earnings of Sh.11 per share, giving the company a book value of Sh.91.50 per share. The required rate of return on the share is 11%. The company's dividend payout ratio is 40%. The company adopts a constant dividend growth rate.

Required:

The company's intrinsic value. (4 marks)

(Total: 20 marks)

....

Present Value Interest factor of 1 Received at the End of n Periods at r Percent:

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

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944	0.6504	0.6400	0.5917
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787	0.5245	0.5120	0.4552
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823	0.4230	0.4096	0.3501
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019	0.3411	0.3277	0.2693
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349	0.2751	0.2621	0.2072
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791	0.2218	0.2097	0.1594
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326	0.1789	0.1678	0.1226
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938	0.1443	0.1342	0.0943
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615	0.1164	0.1074	0.0725
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346	0.0938	0.0859	0.0558
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122	0.0757	0.0687	0.0429
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935	0.0610	0.0550	0.0330
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779	0.0492	0.0440	0.0254
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649	0.0397	0.0352	0.0195
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541	0.0320	0.0281	0.0150
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451	0.0258	0.0225	0.0116
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376	0.0208	0.0180	0.0089
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313	0.0168	0.0144	0.0068
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261	0.0135	0.0115	0.0053
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217	0.0109	0.0092	0.0040
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181	0.0088	0.0074	0.0031
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151	0.0071	0.0059	0.0024
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126	0.0057	0.0047	0.0018
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105	0.0046	0.0038	0.0014
30	0.7419	0.5521	0.4120	0.3083	0.2314	0.1741	0.1314	0.0994	0.0754	0.0573	0.0437	0.0334	0.0256	0.0196	0.0151	0.0116	0.0042	0.0016	0.0012	*
35	0.7059	0.5000	0.3554	0.2534	0.1813	0.1301	0.0937	0.0676	0.0490	0.0356	0.0259	0.0189	0.0139	0.0102	0.0075	0.0055	0.0017	0.0005	*	*
36	0.6989	0.4902	0.3450	0.2437	0.1727	0.1227	0.0875	0.0626	0.0449	0.0323	0.0234	0.0169	0.0123	0.0089	0.0065	0.0048	0.0014	*	*	*
40	0.6717	0.4529	0.3066	0.2083	0.1420	0.0972	0.0668	0.0460	0.0318	0.0221	0.0154	0.0107	0.0075	0.0053	0.0037	0.0026	0.0007	*	*	*
50	0.6080	0.3715	0.2281	0.1407	0.0872	0.0543	0.0339	0.0213	0.0134	0.0085	0.0054	0.0035	0.0022	0.0014	0.0009	0.0006	*	*	*	*

Present Value Interest factors for Annuity of 1 Discounted at r Percent for n Periods:

$$PVIFA_{r,n} = [1 - 1/(1+r)^n]/r$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%	24%	25%	30%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333	0.8065	0.8000	0.7692
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278	1.4568	1.4400	1.3609
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065	1.9813	1.9520	1.8161
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887	2.4043	2.3616	2.1662
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906	2.7454	2.6893	2.4356
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255	3.0205	2.9514	2.6427
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046	3.2423	3.1611	2.8021
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372	3.4212	3.3289	2.9247
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310	3.5655	3.4631	3.0190
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925	3.6819	3.5705	3.0915
11	10.368	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271	3.7757	3.6564	3.1473
12	11.255	10.575	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392	3.8514	3.7251	3.1903
13	12.134	11.348	10.635	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327	3.9124	3.7801	3.2233
14	13.004	12.106	11.296	10.563	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106	3.9616	3.8241	3.2487
15	13.865	12.849	11.938	11.118	10.380	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755	4.0013	3.8593	3.2682
16	14.718	13.578	12.561	11.652	10.838	10.106	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296	4.0333	3.8874	3.2832
17	15.562	14.292	13.166	12.166	11.274	10.477	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746	4.0591	3.9099	3.2948
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122	4.0799	3.9279	3.3037
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435	4.0967	3.9424	3.3105
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696	4.1103	3.9539	3.3158
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913	4.1212	3.9631	3.3198
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094	4.1300	3.9705	3.3230
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245	4.1371	3.9764	3.3254
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.7066	9.0847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371	4.1428	3.9811	3.3272
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476	4.1474	3.9849	3.3286
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.4269	8.6938	8.0552	7.4957	7.0027	6.5660	6.1772	4.9789	4.1601	3.9950	3.3321
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.6442	8.8552	8.1755	7.5856	7.0700	6.6166	6.2153	4.9915	4.1644	3.9984	3.3330
36	30.108	25.489	21.832	18.908	16.547	14.621	13.035	11.717	10.612	9.6765	8.8786	8.1924	7.5979	7.0790	6.6231	6.2201	4.9929	4.1649	3.9987	3.3331
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.7791	8.9511	8.2438	7.6344	7.1050	6.6418	6.2335	4.9966	4.1659	3.9995	3.3332
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.9148	9.0417	8.3045	7.6752	7.1327	6.6605	6.2463	4.9995	4.1666	3.9999	3.3333

kasneb

CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

WEDNESDAY: 27 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)   Describe three main categories of securities markets in relation to equity investment analysis.   (6 marks)

(b)   An investor buys 1,000 shares of a stock on margin at a price of Sh.50 per share. The initial margin requirement is 40% and the margin lending rate is 3%. The investor's broker charges a commission of Sh.0.01 per share on purchases and sales. The stock pays an annual dividend of Sh.0.30 per share. One year later, the investor sells the 1,000 share at a price of Sh.56 per share.

Required:
The return on the equity investment.   (6 marks)

(c)   A financial analyst has gathered the following information for Rafiki Limited, a high growth firm trading and quoted in your country's securities exchange:

• Dividend payout ratio in the first five years	20%
• Dividend payout ratio after five years	50%
• Dividend growth rate in the first five years	25%
• Dividend growth rate after five years	8%
• Risk free rate	6%
• Beta of the company	1.0
• Risk premium of the company	5.5%

Required:
(i)   Estimate the price to earnings (P/E) ratio of the firm using two-stage dividend discount growth model.   (4 marks)

(ii)   Estimate the return on equity (ROE) in the first 5 years.   (2 marks)

(iii)   Estimate the return on Equity (ROE) during the stable growth rate period.   (2 marks)
(Total: 20 marks)

QUESTION TWO

(a)   In relation to industry analysis:

(i)   Examine five factors that could influence the cash flow prospects of different industries in your country.   (5 marks)

(i)   Highlight three characteristics of a shakeout stage of an industry life cycle phase.   (3 marks)

(b)   As a financial analyst for an equity income mutual fund, you are evaluating National Water Ltd. for possible inclusion in the approved list of investments.

National Water Ltd. operates in a regulated industry and hence you are confident that its future growth rate should follow its stable historical growth record.

The return on equity (ROE) for the company has consistently been close to the historical median return on equity (ROE) for the country's businesses of 12.2%, reflecting the regulated prices for its product.

Estimated earnings per share (EPS) for the financial years 2019 and 2020 are Sh.1.27 and Sh.1.33 respectively reflecting a 4.7% growth rate.

The company has a current dividend payment rate of Sh.0.81. Although the company's dividend payout ratio has been relatively stable, that is, 73% in the year 2018, 77% in the year 2017, 75% in the year 2016, 77% in the year 2015, and 78% in the year 2014, you conclude that National Water Ltd. has not followed an exact fixed payout dividend policy. This is as a result of the company being conservative in reflecting earnings growth in increased dividend. Your dividends forecast for the year 2019 is Sh.0.83. In addition, the nominal annual Gross Domestic Product (GDP) growth estimate is 4%.

Compared with a mean dividend payout ratio of 76% from year 2014 to year 2017, you expect a long-term average dividend payout ratio of 70% going forward. You also anticipate a 3.7% long-term dividend growth rate.

The current market price per share (MPS) for National Water Ltd. is Sh.30. The estimated cost of equity is 6.2%.

Required:
(i)   Using Gordon growth model, estimate the value of the company's shares.   (2 marks)

(ii)   State whether the company's shares are overvalued, fairly valued, or undervalued based on the results obtained in (b) (i) above.   (2 marks)

(iii)   Provide three reasons why the Gordon growth model is suitable for valuing the company's shares.   (3 marks)

(iv)   National Water Ltd's beta is -0.16.

        Calculate the Capital asset pricing model (CAPM) estimate of the cost of equity for the company. (Assume equity risk premium of 5.7% and risk-free rate based on the long-term Treasury Bond was 5.7%).

(v)   The Gordon growth estimate of value of the company's share using the cost of equity obtained in (b) (iv) above.   (2 marks)

(vi)   Assuming that a price to earnings ratio (P/E) of 24 based on estimated 2019 financial year earnings per share (EPS) is an appropriate guide to value, evaluate whether the Gordon growth estimate value in (b) (v) above is plausible.   (1 mark)
                                                                                        (Total: 20 marks)

QUESTION THREE
(a)   In relation to technical analysis:

        (i)   Summarise three principles underlying Dow Theory.   (3 marks)

        (ii)   Explain three uses of oscillator indicators.   (3 marks)

(b)   Jiji Limited is expected to grow at the rate of 30% for the next five years. After that, competition is expected to lower the company's growth rate to a constant rate of 7% indefinitely. The market risk premium is 6% and the risk-free rate is 5%. The company's beta is 1.5 and it just paid a dividend of sh.2.50.

        Required:
        The current market value of the company's share.   (6 marks)

(c)   Jaloz Limited intends to invest Sh.100 million in a project that is being depreciated on a straight line basis to zero over a two year life with no salvage value. The project will generate earnings before interest and taxes (EBIT) of Sh.50 million each year for two years. The company's weighted average cost of capital (WACC) and required rate of return (RRR) for the project are both 12%.

        The corporation tax rate is 30%.

        Required:
        (i)   The economic income for the company in year one and year two.   (4 marks)

        (ii)   The market value added (MVA) for the company.   (4 marks)
                                                                                        (Total: 20 marks)

QUESTION FOUR

(a) Melissa Atunda, a financial analyst at Beta Capital is undertaking equity valuation of Babito Limited, a big European multinational corporation specialising with electronics. The firm intends to venture in the Africa region to expand its market share.

The Chief Finance Officer has tasked Melissa to prepare a research report to be tabled to the Board of Management for consideration during the next Board meeting scheduled in the month of January 2020.

Required:

(i) Outline three contents of an equity research report that Melissa should include in her presentation. (3 marks)

(ii) Discuss four ethical responsibilities that Melissa should observe while undertaking the assignment. (4 marks)

(b) An equity analyst has gathered the following financial information relating to Emma Elisha Ltd.:

Emma Elisha Ltd.
Income Statement excerpts
for the year ended 31 December:

	2018 Sh. "million"	2017 Sh. "million"
Earnings before interest, taxes and depreciation (EBITD)	275.0	250.0
Depreciation expense	82.5	75.0
Operating profit	192.5	175.0
Interest expense	16.0	14.9
Income before taxes	176.5	160.1
Income taxes	56.5	48.0
Net income	120.0	112.1
Ordinary dividend	48.0	44.8

Emma Elisha Ltd.
Statement of financial position as at 31 December:

	2018 Sh. "million"	2017 Sh. "million"
Assets:		
Current assets:		
Cash	38.0	34.5
Accounts receivable	126.5	115.0
Inventory	189.7	172.5
Current assets	354.2	322.0
Non current assets	1,168.3	1,003.0
Less: Accumulated depreciation	(257.5)	(175.0)
Total assets	1,265.0	1,150.0
Current liabilities:		
Account payable	128.2	97.7
Notes payable	20.0	15.0
Total current liabilities	148.2	112.7
Long term debt	157.5	150.0
50 million ordinary shares	800.0	800.0
Retained earnings	159.3	87.3
Total liabilities and equity	1,265.0	1,150.0

Additional information:

1. The tax rate is 30%.
2. The required rate of return is 13%.
3. The analyst expects a growth rate on the financial year 2018 free cash flow to equity (FCFE) of 20% per year for the next three years and a 6% constant growth rate beyond the three years.

Required:

(i) The free cash flow to equity (FCFE) per share. (6 marks)

(ii) Estimate the company's value. (3 marks)

(c)   Boo Limited has Sh.160 million worth of assets, 20 million shares outstanding and a current share price of Sh.6.

Required:

(i)   Calculate the company's Tobin's Q ratio.   (2 marks)

(ii)   Comment on the value obtained in (c) (i) above.   (2 marks)
                                                                                        (Total: 20 marks)

QUESTION FIVE

(a)   Justify four reasons why private company valuation is necessary in equity investment.   (4 marks)

(b)   Sophia Akinyi is valuing a non-controlling interest in a small ornament retailer business. To obtain the appropriate price multiple for the firm's valuation, she has prepared a database of price multiples from the sale of entire public and private companies over the past ten years.

Using historical data, she estimates a control premium of 18.7% and a discount for lack of marketability of 24%.

Required:

(i)   Calculate the total adjustment for control and marketability to be applied in the valuation.   (3 marks)

(ii)   Highlight three ways in which financial analyst could use to quantify discount for lack of marketability.
                                                                                              (3 marks)

(c)   Rachael Gakii, an equity analyst at Rachel Securities Ltd. has gathered the following data for Ramex Global Bakeries dealing with investments in hypermarkets and supermarkets.

All figures except for the share prices are in Shillings Millions:

	2018 Sh.	2017 Sh.	2016 Sh.
Total shareholder's equity	55.60	54.10	52.60
Net revenues	77.30	73.60	70.80
Net incomes	3.20	1.10	0.40
Net cash flow from operations	17.90	15.20	12.20
Share price	11.40	14.40	12.05
Shares outstanding	4,476	3,994	3,823

Industry relevant averages for year 2018:

Lagging industry ratios	2018
Price-to-Earnings (P/E)	8.6
Price-to-Cash Flow (P/CF)	4.6
Price-to-Sales (P/S)	1.4
Price-to-Book Value (P/B)	3.6

Required:

(i)   Ramex Ltd.'s trailing P/E, P/CF, P/S and P/B ratios.   (4 marks)

(ii)   Explain whether the firm is undervalued or overvalued using the industry averages for 2018.   (3 marks)

(iii)   Propose three drawbacks of price-to-sales (P/S) ratio in equity valuation.   (3 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:

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

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	1.8684	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

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CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

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)   Irene Kanini believes that the shares of Rafiki Limited are currently overvalued. However, she recognises that share prices often continue to increase above their intrinsic values for sometime before correcting.

Required:
With reference to the above statement:

(i)   Explain to Irene Karini three types of validity instructions used in securities exchange market which specify when an order should be executed.   (3 marks)

(ii)   Advise Irene on the type of order that she should place assuming that she intends to sell her shares when the share prices begin to fall by a significant amount.   (2 marks)

(b)   Better App Limited has come up with a new mobile application software that is expected to enable the company grow at a rate of 20% per annum for the next four years. By the end of four years, Better App Limited forecast that other firms will have copied the mobile application and competition will drive down profit margin and the sustainable growth rate will fall to 5%.

The company's most recent dividend was Sh.1.00 per share. The cost of capital is 10%.

Required:
The expected rate of return to an investor who buys the company's shares now and sells them in a year.   (4 marks)

(c)   Dee Limited uses bonds, preference shares and ordinary shares modes of financing. The market value of each of these sources of financing and the before-tax required rates of return for each source are given below:

	Market value Sh. "million"	Required rate of return (%)
Bonds	400	8.0
Preference shares	100	8.0
Ordinary shares	500	12.0
Total	1,000	

Additional information:
1. Net income available to ordinary shareholders is Sh.110 million.
2. Interest expense is Sh.32 million.
3. Preference dividends are Sh.48 million.
4. Depreciations expense is Sh.40 million.
5. Investment in fixed capital is Sh.70 million.
6. Investment in working capital is Sh.20 million.
7. Net borrowing is Sh.25 million.
8. Corporate tax rate is at 30%.
9. Stable growth rate of free cash flow to the firm (FCFF) is 4%.
10. Stable growth rate of free cash flow to equity (FCFE) is 5.4%.

Required:

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

(ii) The current value of free cash flow to the firm (FCFF). (2 marks)

(iii) The total value of the firm. (2 marks)

(iv) The value of equity for the firm. (1 mark)

(v) The current value of free cash flow to equity (FCFE). (2 marks)

(vi) The value of equity based on forecasted year 1 FCFE. (2 marks)

(Total: 20 marks)

QUESTION TWO

(a) In relation to industry and company analysis and equity valuation:

(i) Explain the term "peer group". (2 marks)

(ii) Summarise any four steps that an equity analyst should follow in forming a peer group. (4 marks)

(b) In relation to technical analysis:

(i) Explain the term "change in polarity principle". (2 marks)

(ii) Describe two chart patterns. (4 marks)

(c) Jeremy Owuor is valuing Delta Railways. During the last five years (year ended 31 March 2015 to year ended 31 March 2019), the company has paid dividends per share (DPS) of Sh.5.50, Sh.6.50, Sh.7.00, Sh.8.00 and Sh.9.00 respectively. These dividends suggest an average annual growth rate in DPS of just above 13%. Jeremy has decided to use a three-stage dividend discount model (DDM) with a linearly declining growth rate in Stage 2. He considers Delta Railways to be an average growth company, and estimates stage 1 (the growth stage) to be 6 years and stage 2 (the transition stage) to be 10 years. He estimates the growth rate to be 14% in stage 1 and 10% in stage 2. His estimated required return on equity is 16%.

Required:
The current value of Delta Railways share. (8 marks)

(Total: 20 marks)

QUESTION THREE

(a) You are presented with the following two scenarios about two companies, Alpha Ltd. and Beta Ltd. The real rate of return on shares for both companies is 3% per annum.

Scenario 1:
Suppose both Alpha Ltd. and Beta Ltd. can pass through 75% of cost increase. Cost inflation is 6% for Alpha Ltd. but only 2% for Beta Ltd.

Required:
(i) Estimate the Justified price to earnings (P/E) ratio for each company and interpret the results. (3 marks)

Scenario 2:
Suppose both Alpha Ltd. and Beta Ltd. face 6% annual inflation. Alpha Ltd. can pass through 90% of cost increases, but Beta Ltd. can pass through only 70%.

Required:
(ii) Estimate the justified P/E ratio for each company and interpret the results. (3 marks)

(b) Naheshon Marwa is a junior financial analyst at Cleverinvest, a fund management company specialising in equity investment. His supervisor requested him to perform a couple of valuation tasks on some private companies.

Required:
Advise Naheshon on two factors that he should consider when selecting the approach to value a private company. (4 marks)

(c) Linus Wambua owns 10% of Applex Limited shares while the remaining 90% is held by Kelvin Mukuna who is the Chief Executive Officer of the company. Kelvin is interested in selling Applex Limited to a third party. He advises Linus that if Applex Limited is not sold, he has no reason to purchase his 10% interest.

Additional information:

1. Valuation discounts assuming imminent sale of Applex Limited.
   - Lack of control discount 0%.
   - Lack of marketability discounts 5%.

2. Valuation discount assuming continued operation as a private company:
   - Lack of control discount: incorporated through use of reported earnings rather than normalised earnings.
   - Lack of marketability discount 25%.
3. Indicated value of equity operations:
   - In sale scenario Sh.9,600,000,000.
   - In stay-private scenario No., Sh.8,000,000,000

Required:

(i) Discuss the relevance of valuation discount assuming imminent sale of Applex Limited. (2 marks)

(ii) Explain which estimate of equity value should be used and calculate the value of Linus equity interest in Applex Limited assuming sale is likely. (3 marks)

(iii) Evaluate relevance of valuation discount assuming Applex Limited continues as a private company. (2 marks)

(iv) Assuming Applex Limited continues as a private company, explain which estimate of equity value should be used and calculate the value of Linus equity interest. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) An equity analyst at SmartInvest Asset Management Firm prepares a market forecast for his firm which uses the Grinold-Kroner Model to forecast the expected rate of return on equities for the next 10 years. He uses the data provided below to prepare his forecast:

Factor	10 years forecast (annualised)
Dividend yield	1.80%
Dividend growth rate	4.00%
Changes in price to earnings (P/E) multiple	0.50%
Inflation rate	1.20%
Change in number of shares outstanding	-0.30%
Real total earnings growth rate	2.50%

Required:

Determine the following sources of return for equities according to the Grinold-Kroner Model, using the analyst's forecasts:

(i) Expected nominal earnings growth return. (2 marks)

(ii) Expected repricing return. (2 marks)

(iii) Expected income return. (2 marks)

(b) The following data relate to a firm listed on the Naxsi Securities Exchange (NSE):

1. The firm will earn Sh.1.00 per share in perpetuity.
2. The firm pays all earnings as dividends.
3. Book value per share (BVPS) is Sh.6.00.
4. The required rate of return on equity is 10%.

Required:
(i) The value of the company's shares using the dividend discount model (DDM). (2 marks)

(ii) The value of the share using the residual income valuation model. (2 marks)

(c) Amlex Limited has just paid an annual dividend of Sh.0.8 per share for the very recently closed financial year. Earnings per share (EPS) for the previous year had been Sh.1.00.

Additional information:
1. The expected market rate of return is 7%.
2. The risk-free rate is 2%.
3. The current ex-dividend market price per share (MPS) is Sh.20.80.
4. The company's shares have a beta of 1.2.

Required:
(i)   The market implied dividend growth rate (g_{IMPL}) for Amlex Limited using the constant dividend growth model.

(3 marks)

(ii)   The implied dividend growth rate assuming that the company will just be able to retain its average past years' return on equity (ROE) of 10% while maintaining its current payout ratio.   (3 marks)

(iii)   The value of Amlex Limited's share assuming a sustainable growth rate, g, of 2.5%.   (2 marks)

(iv)   Advise an investor on whether to buy the company's shares based on your results in (c)(iii) above.   (2 marks)
(Total: 20 marks)

QUESTION FIVE
(a) Describe two instances when the following equity valuation measures are appropriate:

(i)   Dividends.   (2 marks)

(ii)   Free cash flows (FCFs).   (2 marks)

(iii)   Residual income.   (2 marks)

(b) James Koech, a Certified Investment and Financial Analyst, (CIFA), is considering using economic value added (EVA) and market value added (MVA) to measure the performance of Sukari Limited. He has gathered the following information for the year ended 31 December 2018:

1.   Adjusted net operating profit before tax for the year 2018 is Sh.142,857,143.
2.   Total capital is Sh.700 million (no debt).
3.   Closing market price per share (MPS) is Sh.26.
4.   Sukari Limited has 84 million outstanding ordinary shares.
5.   Total cost of equity is 14%.
6.   Corporation tax rate is 30%.

Required:
(i)   EVA for the year ended 31 December 2018.   (3 marks)

(ii)   MVA for the year ended 31 December 2018.   (3 marks)

(c) Mwi Ltd. expects earnings of Sh.1.25 per share next year out of which Sh.0.50 will be paid out as dividends. Earnings and dividends are expected to grow at a constant rate each year afterwards. Mwi Ltd.'s shares currently trade at Sh.20 per share.

The firm's cost of capital is 10%.

Required:
(i)   Return on equity (ROE) for the company.   (4 marks)

(ii)   Justifying your answer, explain whether Mwi Ltd. is a growth company.   (2 marks)

(d) According to the Elliot Wave Theory, cycles that are repetitive and quite predictable could be observed in share price movement.

In light of the above statement, highlight two types of wave movements as postulated by Ralph Nelson Elliot.   (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:

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

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	1.8684	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

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CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

THURSDAY: 29 November 2018. **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) Explain the following terms as used in equity markets:

    (i)   Board lot. (1 mark)

    (ii)   Close price. (1 mark)

    (iii)   Internet trading. (1 mark)

    (iv)   Thin market. (1 mark)

(b) Discuss five stages of an industry life cycle. (5 marks)

(c) Summarise three responsibilities of a financial analyst in the equity valuation process. (3 marks)

(d) Equimax Holdings Limited's current revenue stands at Sh.20 million. The company's future performance will be tracked relative to sales.

Sales growth and net profit margin are projected per year as shown in the following table:

Year	1	2	3	4	5	6
Sales growth rate (%)	30	25	20	15	10	5
Net profit margin (%)	8.0	7.5	7.0	6.0	5.5	5.0

Additional information:
1. Fixed capital investment net of depreciation is projected to be 30% of the sales increase in each year.

2. Working capital requirements are 7.0% of the projected shilling increase in sales in each year.

3. Debt will finance 40% of the net fixed capital investment and working capital investment.

4. The company has a 12% required rate of return on equity.

5. The firm has one million ordinary shares outstanding.

Required:
The value of equity for Equimax Holdings Limited using the two stage free cash flow to equity (FCFE) model.
(Assume long-term growth rate of 5%). (8 marks)
(Total: 20 marks)

QUESTION TWO
(a) Examine three types of technical analysis indicators. (6 marks)

(b) GCC Limited paid an annual dividend of Sh.1.25 per share yesterday and maintained its historic annual growth rate of 7%. You plan to purchase GCC Limited's shares today because you believe that the dividend growth rate will increase to 8% for the next three years and the company's market price per share will be Sh.40.00 at the end of year 3.

Required:

(i) The price that you would be willing to pay for the company's shares assuming that you required a 12% rate of return. (4 marks)

(ii) The maximum price that you would be willing to pay for GCC Limited's share assuming that the 8% growth rate would be maintained indefinitely and that you require a 12% rate of return. (2 marks)

(iii) The price of the share at the end of year 3 assuming that the growth rate of 8% is maintained indefinitely and a 12% rate of return is expected. (2 marks)

(c) An equity analyst has gathered the following information about ABC Ltd's shares:

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

Required:

Determine the percentage by which the intrinsic value exceeds the market price per share. (6 marks)

(Total: 20 marks)

QUESTION THREE

(a) Venus Limited's share is currently trading at Sh.95 at the securities exchange and its book value per share was Sh.100 at the end of last year. The research department at a leading investment bank has published an investment opinion on Venus Limited's share forecasting a return on equity (ROE) of 10% and dividend payout ratio of 30% into perpetuity.

Additional information:

1. The risk-free rate is 3%.
2. The share market risk premium is 7%.
3. The company's estimated beta is 1.1.

Required:

(i) Based on the forecasts from the bank's research department, calculate the expected rate of return on Venus Limited's shares at the current share price. (3 marks)

(ii) Determine whether Venus Limited's shares are trading at a discount or at a premium assuming that the capital asset pricing model (CAPM) holds. (2 marks)

(b) Fredrick Mugendi, an equity analyst, is valuing Bora Limited. He has made the following assumptions about the company:

1. Book value per share (BVPS) is estimated at Sh.9.62 on 31 December 2017.
2. Earnings per share (EPS) will be 22% of the beginning BVPS for the next eight years.
3. Cash dividends paid will be 30% of EPS.
4. At the end of the eight-year period, the market price per share (MPS) will be three times the BVPS.
5. The required rate of return is 8.3%.

Required:

Estimate the value per share of Bora Limited using the residual income model. (8 marks)

(c) Benson Ireri, a financial analyst at Wema Financial Services intends to use the cash flow return on investment (CFROI) measure to value Heavy Machinery Ltd.

He has gathered the following data:

Gross cash investment	Sh.2,925.863 million
Gross annual cash flow	Sh.427.156 million
Non-depreciated assets	Sh.522.968 million
Asset life	18 years

Required:

(i) Calculate the CFROI for Heavy Machinery Ltd. (4 marks)

(ii) Discuss three reasons why the CFROI approach is attractive in the equity valuation process. (3 marks)

(Total: 20 marks)

QUESTION FOUR

(a) Highlight three advantages of the free cash flow model in the equity valuation process. (3 marks)

(b) Uwezo Limited uses bonds, preference shares and ordinary shares as its sources of financing. The market value of each of these sources and their respective before-tax required rates of return are provided below:

	Market value Sh."million"	Required return (%)
Bonds	400	8
Preference shares	100	8
Ordinary shares	500	12

Additional information:

1.	Income available to shareholders	Sh.110 million
2.	Preference dividends	Sh.8 million
3.	Depreciation	Sh.40 million
4.	Investment in fixed capital	Sh.70 million
5.	Investment in working capital	Sh.20 million
6.	Net borrowing	Sh.25 million
7.	Corporation tax rate	30%
8.	Stable growth rate of free cash flow to firm (FCFF)	4.0%
9.	Stable growth rate of free cash flow to equity (FCFE)	5.0%

Required:

(i) Weighted average cost of capital (WACC). (1 mark)

(ii) The forecasted value of free cash flow to the firm (FCFF). (3 marks)

(iii) The total value of the firm and the value of equity based on forecasted FCFF obtained in (b) (ii) above. (4 marks)

(iv) The forecasted value of free cash flow to equity (FCFE). (2 marks)

(v) The value of equity based on forecasted FCFE obtained in (b) (iv) above. (2 marks)

(c) Brenda Akinyi, an equity analyst at Soi Capital is analysing the following market data relating to Binstar Limited:

1.	Current market price per share (MPS)	Sh.80
2.	Trailing annual earnings per share (EPS)	Sh.4.75
3.	Dividend growth rate	10%
4.	Risk-free rate	10.5%
5.	Equity risk premium	6.5%
6.	Beta versus Binstar Limited Index	0.89
7.	Trailing annual dividend per share (DPS)	Sh.2.50

Required:

(i) Justified trailing price-to-earnings (P/E) ratio using the Gordon growth model. (2 marks)

(ii) Justified leading price-to-earnings (P/E) ratio using the Gordon growth model. (2 marks)

(iii) Determine whether the company is overvalued or undervalued based on your results in (c) (i) and (c) (ii) above. (1 mark)

(Total: 20 marks)

QUESTION FIVE

(a) Pizo Limited is a large firm operating in an industry where its sales and costs are subject to price inflation. Martin Wambua, a financial analyst, has been tasked with forecasting the company's costs.

Required:

Assess three courses of action that Martin Wambua should consider in his analysis. (3 marks)

(b)   An analyst gathered the following data for Waka Limited:

Recent share price	Sh.22.50
Shares outstanding	40 million
Market value of debt	Sh.137 million
Cash and marketable securities	Sh.62.3 million
Investments	Sh.327 million
Net income	Sh.137.5 million
Interest expense	Sh.6.9 million
Depreciation and amortisation	Sh.10.4 million
Taxes	Sh.95.9 million

Required:

(i)   Calculate Waka Limited's enterprise value to earnings before interest, tax, depreciation and amortisation (EBITDA).   (3 marks)

(ii)   Examine two limitations of enterprise value to EBITDA.   (2 marks)

(c)   The following diagram relates to a candlestick chart used by technical analysts in assessing market movement:
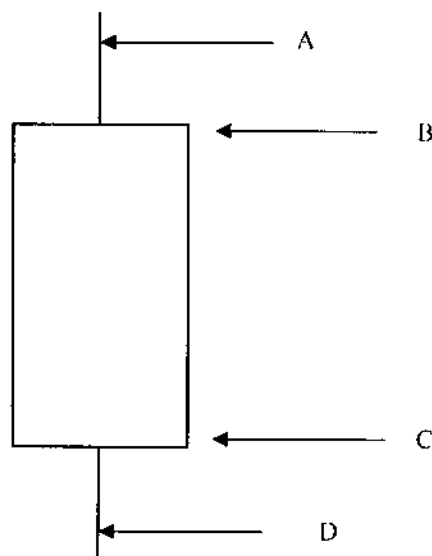
Required:

(i)   Identify points A, B, C and D above.   (2 marks)

(ii)   Explain three benefits of candlestick charts in technical analysis.   (3 marks)

(d)   Examine three characteristics of a well-functioning financial system in your country.   (3 marks)

(e)   Company analysis takes place after the analyst has gained an understanding of the company's external environment and includes answering questions about how the company will respond to the threats and opportunities presented by the external environment.

In light of the above statement, describe two competitive strategies that a company should use in order to respond to the threats and opportunities presented by the external environment as postulated by Michael Porter.   (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	.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:

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

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	1.8684	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	3.8897	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

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CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

THURSDAY: 24 May 2018.   **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)   Explain the role of the following participants of your country's securities exchange:

    (i)   Market markers.   (1 mark)

    (ii)   Commission brokers.   (1 mark)

    (iii)   Floor brokers.   (1 mark)

    (iv)   Registered traders.   (1 mark)

(b)   Shangilia Limited's share is currently trading at Sh.25 at the securities exchange. The estimated earnings per share (EPS) is Sh.1.875; the dividend payout ratio is 35%, and it is estimated that the price to earnings (P/E) ratio in one year's time will be 15.

    Required:
    The expected rate of return from the company's share in the next one year.   (3 marks)

(c)   Tarino Limited paid a dividend per share (DPS) of Sh.1 yesterday. It is expected that the dividend will grow at a rate of 10% per annum for the first 4 years, 8% per annum for the next 10 years and thereafter grow at a rate of 5% per annum perpetually. The investor's expected rate of return is 12%.

    Required:
    The value of Tarino Limited's share today.   (6 marks)

(d)   Discuss three contrary opinion rules in relation to technical analysis.   (3 marks)

(e)   Jack Jester, an inexperienced and unqualified person working in a financial analyst's office claims to have a superior method of picking undervalued shares. He claims that the best way to find the value of a share is to divide earnings before interest, tax, depreciation and amortisation (EBITDA) by the risk-free rate of a bond and is urging your client to invest in Whole Foods Ltd.'s share. Jack Jester argues that Whole Foods Ltd.'s EBITDA of Sh.1,580 million divided by the long-term government bond coupon rate of 7% gives a total value of Sh.22,571.4 million. With 318 million shares outstanding, the market value per share using this method is Sh.70.98. The shares of Whole Foods Ltd.'s market price per share (MPS) is Sh.36.50.

    Required:
    Argue four cases against the valuation approach used by Jack Jester.   (4 marks)
                                        (Total: 20 marks)

QUESTION TWO
(a)   In an industry, the largest two firms have a market share of 20% each while six other firms have a market share of 10% each.

    Required:
    (i)   The five firms concentration ratio.   (1 mark)

    (ii)   The Herfindahl – Hirschman Index (HHI) for the five firms.   (2 marks)

    (iii)   Interpret the results obtained in (a) (ii) above.   (1 mark)

    (iv)   Examine two limitations of using HHI to assess the competitiveness of a market.   (2 marks)

(b) Mohamed Komora, an equity analyst at Wealth Investment and Consultancy Services Limited is preparing a report on his home country manufacturing firm in the beverage industry. He has gathered the information given below:

Ratios for Beverage Industry Index and Broad Stock market Index

Year	2012	2013	2014	2015	2016	2017
Return on equity						
Beverage industry index (%)	12.5	12.0	15.4	19.6	21.6	21.6
Market index	10.2	12.4	14.6	19.9	20.4	21.2
Average price to earnings (P/E) ratio						
Beverage industry index	28.5 times	23.2 times	19.6 times	18.7 times	18.5 times	16.2 times
Market index	10.2	12.4	14.6	19.9	18.1	19.1
Dividend pay-out ratio						
Beverage industry index (%)	8.8	8.0	12.1	12.1	14.3	17.1
Market index	39.2	40.1	38.6	43.7	41.8	39.1
Average dividend yield						
Beverage industry index (%)	0.3	0.3	0.6	0.7	0.8	1.0
Market index	3.8	3.2	2.6	2.2	2.3	2.1

Required:

(i) Using the above information, determine the phase of industry life cycle in which the beverage industry is. (2 marks)

(ii) Citing four reasons, justify your answer in (b) (i) above. (4 marks)

(c) Caroline Anyango, a Certified Investment and Financial Analyst (CIFA) has been provided with the following information relating to two private companies for analysis:

Company A:

Working capital	Sh.400,000
Non-current assets	Sh.1,600,000
Normalised earnings	Sh.225,000
Required return on working capital	5%
Required return on non-current assets	12%
Growth rate of residual income	3%
Discount rate for intangible assets	18%

Company B:

Risk-free rate	1.00%
Equity risk premium	6.00%
Beta	1.50
Small stock premium	4.00%
Company-specific risk premium	1.50%
Industry risk premium	1.20%

Required:

(i) Using the excess earnings method, determine the value of company A. (4 marks)

(ii) Estimate the required rate of return for company B using the expanded capital asset pricing model (CAPM). (2 marks)

(iii) Calculate the required rate of return for company B using the built up approach. (2 marks)

(Total: 20 marks)

QUESTION THREE

(a) Summarise four reasons why financial analysts prefer to use price to book (P/B) value as a valuation measure in equity analysis. (4 marks)

(b) Sahala Limited is sensitive to the economic cycle. Job Chege, an equity analyst at Blue Chip Capital postulates that the six years ending 2017 reflect a business cycle for the company. He has collected the following data about the company:

Year	2012	2013	2014	2015	2016	2017
Adjusted earnings per share (EPS) (Sh.)	1.30	2.65	5.50	4.30	3.25	1.00
Return on equity (ROE) (%)	0.04	0.13	0.22	0.18	0.12	0.03
Book value per share (BVPS) (Sh.)						32

The market price per share (MPS) of Sahala Limited is Sh.30.

Required:

(i) Normalised EPS for Sahala Limited. (2 marks)

(ii) Price to earnings (P/E) ratio based on average ROE method. (2 marks)

(c) Suggest three measures that equity managers could undertake to increase cash flow return on investment (CFROI). (3 marks)

(d) XYZ Limited has invested Sh.100 million capital in assets.

The following information is provided:

1. The firm's after-tax operating income on assets is Sh.15 million. This value is expected to be sustained in the future.
2. The company's cost of capital is 10% per annum and is projected to remain constant in the foreseeable future.
3. The firm is expected to make investments of Sh.10 million at the beginning of each of the next five years.
4. All assets and investments are expected to have infinite life. Thus, the assets in place and the investment made in the first five years will have a return of 15% per annum in perpetuity, with no growth.
5. After year five, the company will continue to make investment which will grow at a rate 5% per annum. The new investment is expected to have a return on capital of 10% which will also be the cost of capital.

Required:

(i) The value of the firm using the economic value added (EVA) approach. (5 marks)

(ii) The value of the firm using the market value added (MVA) approach. (2 marks)

(iii) Comment on your results in (d) (i) above. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) In relation to dividend discount model (DDM):

(i) Describe one strength of the two stage DDM in comparison to the constant growth DDM. (2 marks)

(ii) Explain one weakness common in all DDMs. (2 marks)

(b) Kithaka Lenayapa is an analyst at a leading investment bank and is responsible for the following four companies namely: A, B, C and D. All the four companies operate in diverse sectors of the domestic economy. He has gathered the following information regarding the companies:

Company	A	B	C	D
Rate of return on equity (ROE)	0.20	0.12	0.15	0.10
Required rate of return	0.15	0.10	0.12	0.08
Dividend payout ratio (%)	60	50	40	45
Free cash flow to equity (FCFE)	1.25	1.50	1.40	2.00
Profit margin (%)	10	12	8	15

Required:

(i) Justified price to book (P/B) ratio for company A. (2 marks)

(ii) Justified price to sales (P/S) ratio for company B. (2 marks)

(iii) Justified forward price to earnings (P/E) ratio for company C. (2 marks)

(iv) Justified price to cash flow (P/CF) ratio for company D. (2 marks)

(c) Rhino Limited has been unprofitable and has not been paying dividend on its ordinary shares. An analyst decides to value the company using his forecasts on free cash flow to equity (FCFE) in 2018.

He gathers the following information:

1. The company has 17 million shares outstanding.
2. Sales will be Sh.5.5 million in 2019, increasing at a rate of 28% annually for the next four years (through 2023).
3. Net income will be 32% of sales.
4. Investment in fixed assets will be 35% of sales, investment in working capital will be 6% of sales, depreciation will be 9% of sales.
5. 20% of the investment in assets will be financed with debt.
6. Interest expense will be only 2% of sales.
7. The tax rate will be 10%. The company has a beta of 2.1, the risk-free rate is 6.4% and the equity risk premium is 5.0%.
8. At the end of year 2023, the analyst projects that Rhino Limited will sell for 18 times earnings.

Required:
The value of one ordinary share of Rhino Limited. (8 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Highlight four advantages of convertible preference shares. (4 marks)

(b) You have recently joined Gold Invest, an asset management firm specialised in equity investments, as a junior analyst. Eric Kibet, the chief investment officer (CIO) at the firm has a business deal of valuing Horizon Limited and has tasked you to undertake the assignment.

You make the following assumptions about the company:

1. Book value per share (BVPS) is estimated at Sh.9.62 on 31 December 2017.
2. Earnings per share (EPS) will be 22% of the beginning book value per share for the next 8 years.
3. Cash dividends per share paid will be 30% of earnings per share (EPS).
4. At the end of the 8-year period, the market price per share (MPS) will be three times that of the book value per share.
5. The required rate of return is 8.30%.

Required:
Estimate the value per share of Horizon Limited using the residual income model. (8 marks)

(c) If asked on the value driver with the greatest impact on multiples, analysts and investors would likely answer "growth". This is explicitly true, but the impact of growth depends on its source and nature. There are several sources of growth and each will have a different effect on value creation and thus share prices.

Required:
With respect to the above statement, explain the four primary sources of growth. (4 marks)

(d) The market price per share of Dominion Limited is Sh.35. Martin Wambua has Sh.1,000,000 to invest. He borrows an additional Sh.1,000,000 from Rafiki Stock Brokers Ltd. and invests Sh.2,000,000 in Dominion Limited shares.

Required:
The price at which a margin call will first occur assuming a maintenance margin of 30%. (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:

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

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	1.8684	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

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CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

THURSDAY: 30 November 2017. **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) Highlight three challenges of direct investment in securities held by foreign companies. (3 mark)

(b) Explain the following terms as used in equity markets:

    (i) Underwriting an issue of shares. (1 mark)

    (ii) Book building. (1 mark)

    (iii) Red herring prospectus. (1 mark)

    (iv) Class A and Class B shares. (1 mark)

(c) Mometrax Limited is expected to pay Sh.1 dividend per share (DPS) at the end of the year and that dividend is expected to grow at a constant rate of 5% per annum in the future. The company's beta is 1.2, the market risk premium is 5% and the risk-free rate is 3%.

Required:
The current share price of Mometrax Limited using the Gordon-growth model. (2 marks)

(d) James Momanyi, a certified investment and financial analyst (CIFA), is reviewing the valuation of three companies namely; EXE Ltd., WYE Ltd. and ZED Ltd. using the dividend discount model (DDM) and their corresponding current market prices.

The following information summarises Momanyi's findings:

	EXE Ltd. Shares	WYE Ltd. Shares	ZED Ltd. Shares
Market price (Sh.)	35	40	36
DDM price (Sh.)	40	35	36

Required:
Based on the above information, determine the overvalued, undervalued and the fairly valued company. (3 marks)

(e) Bamaco Limited paid Sh.0.40 dividend per share (DPS) in the financial year 2016. In that year, the company had generated Sh.1.0 earnings per share (EPS). The firm's earnings and dividends are expected to grow at an annual rate of 5% perpetually. Shareholders require a return of 12% on the investment.

Required:
    (i) Justified trailing price-to-earnings (P/E) multiple. (1 mark)

    (ii) Justified leading price-to-earnings (P/E) multiple. (1 mark)

(f) Tryson Limited's share is currently trading at Sh.472. The company's beta is 0.83. The current dividend per share is Sh.13.80, the risk-free rate is 4.66% and the equity risk premium is 4.92%. Christopher Koech, an equity analyst for the company projects that the dividends will initially grow at a rate of 14% and then decline linearly to 5% over a 10-year period. Thereafter, the dividends are expected to grow at a rate of 5% per annum.

Required:
(i)   The value of Tryson Limited's dividend cash flow streams using the H - Model.   (3 marks)

(ii)   Explain whether the shares of Tryson Limited are correctly priced based on your answer in (f) (i) above.   (1 mark)

(iii)   The expected rate of return assuming that the investor decides to pay the current price of Sh.472 per share and that the company adopts the H – Model in its valuation.   (2 marks)
    (Total: 20 marks)

QUESTION TWO
(a)   Analyse five elements that a financial analyst should include in his report while undertaking a thorough industry analysis.   (5 marks)

(b)   The annual revenue for top five airline players are given below:

Company	Revenue (Sh."Billions")
A	38
B	25
C	25
D	23
E	13

The total revenue for all firms in this industry is Sh.250 billion.

Required:
(i)   The concentration ratio for the five firms.   (2 marks)
(ii)   The Herfindahl index for the five firms.   (2 marks)

(c)   Prism Limited has a return on equity (ROE) of 14%. The earnings next year are projected at Sh.100 million and the firm's earnings retention ratio is 0.60. The firm's required rate of return is 12%.

Required:
Compute the following values for Prism Limited:

(i)   Franchise price-to-earnings (P/E) value.   (3 marks)
(ii)   Intrinsic price-to-earnings (P/E) value.   (3 marks)

(d)   Selected information for Nevada Limited and industry is provided below:

Nevada Limited

Estimated earnings growth rate	11%
Current share price	Sh. 25.00
Normalised (underlying) earnings per share for the year 2016	Sh.1.71
Weighted average shares outstanding during the year 2016	16 million

Industry

Estimated earnings growth rate	12%
Median price-to-earnings (P/E) ratio	19.90

Required:
Determine when compared to the industry, whether Nevada Limited equity is overvalued or undervalued on a price-earnings-to-growth (PEG) basis, using normalised earnings per share.   (5 marks)
    (Total: 20 marks)

QUESTION THREE
(a)   (i)   In relation to sustainable growth, explain four alternative courses of action that management could take when actual growth rate falls below the sustainable growth rate.   (4 marks)

(ii)   A bicycle manufacturing company has the following ratios for the years 2015 and 2016:

	2015	2016
Profit margin (%)	11.4	12.3
Retention ratio (%)	91.3	91.9
Asset turnover	1.25	1.14
Asset at the end of year (Sh."million")	2,436	3,118
Equity at the end of the year (Sh."million")	1,406	1,756
Growth rate in sales (%)	17.8	16.4

Required:
The firm's annual sustainable growth rate for the years 2015 and 2016.   (3 marks)

(b) Harrison Nyongesa is evaluating Reliant Capital Limited using a three-stage growth model. He has gathered the following information:

1. Current free cash flow to the firm is Sh.745 million.
2. Outstanding ordinary shares are 309.39 million.
3. The firm has equity beta of 0.90, risk-free rate of 5.05% and equity risk premium of 5.5%.
4. The cost of debt is 7.1%.
5. The capital structure of the company consists of 20% debt and 80% equity.
6. Long-term debt has a market value of Sh.1,518 million.
7. The annual growth rate of free cash flow to the firm (FCFF) is 8.8% from first year to fourth year, 7.4% in year 5, 6% in year 6, 4.6% in year 7, and 3.2% in year 8 and thereafter.
8. The Corporation tax rate is 30%.

Required:

(i) The required rate of return on equity. (1 mark)

(ii) The weighted average cost of capital (WACC). (2 marks)

(iii) The total value of the firm. (4 marks)

(iv) The total market value of equity. (1 mark)

(v) The value of equity per share. (2 marks)

(c) Explain the following behavioural biases inherent in technical analysis:

(i) Extrapolation bias. (1 mark)

(ii) Overconfidence bias. (1 mark)

(iii) Anchoring bias. (1 mark)

(Total: 20 marks)

QUESTION FOUR

(a) An analyst has gathered the following information about Pericap Limited for the year ended 31 October 2017:

1.	Working capital balance	Sh.2,000,000
2.	Fair value of fixed assets	Sh.5,500,000
3.	Book value of fixed assets	Sh.4,000,000
4.	Normalised earnings of the firm	Sh.1,000,000
5.	Required return on working capital	5%
6.	Required return on intangible assets	15%
7.	Required return on fixed assets	8%
8.	Weighted average cost of capital	10%
9.	Long-term growth rate of residual income	5%

Required:
Using excess earnings method, calculate:

(i) The value of intangible assets. (3 marks)

(ii) The value of invested capital. (1 mark)

(b) A market has the following limit orders standing on its book for a particular stock:

Buyer	Bid size	Limit price (Sh.)	Offer size	Seller
Nancy	1,000	19.70		
Joan	200	19.84		
John	400	19.89		
Andrew	300	20.02		
		20.03	800	James
		20.11	1,100	Paul
		20.16	400	Peter

Ann Nyabuto submits a day order to sell 1,000 shares with a limit of Sh.19.83.

Required:

(i)   The average trade price assuming that no more buy orders are submitted on that day after Nyabuto submits her order. (2 marks)

(ii)   Comment on the answer obtained in (b) (i) above. (2 marks)

(c)   In relation to private company valuation, explain six factors affecting the discount for lack of marketability. (6 marks)

(d)   An analyst gathered the following data to value a private company:

Market value of debt	Sh.6,800,000
Normalised earnings before interest, tax, depreciation and amortisation (EBITDA)	Sh.28,000,000
Average market value of invested capital ÷ EBITDA	9
Control premium from past transactions	20%
Discount for increased risk	18%

Required:
The value of the private company's equity assuming that:

(i)   Buyer is strategic. (3 marks)

(ii)   Buyer is not strategic. (3 marks)

(Total: 20 marks)

QUESTION FIVE

(a)   Assess two circumstances in which a residual income model is most appropriate for valuing the equity of a company. (4 marks)

(b)   Isaac Miano expects Warren Ltd. return on equity (ROE) will average 15% in the year 2017 and beyond. Using the capital asset pricing model he estimates the required rate of return for Warren Ltd. equity to be 11%. He believes that Warren Ltd. will grow at a rate of 9% annually for the foreseeable future. The current book value per share for Warren Ltd. is Sh.21.00.

Required:
The value per share of Warren Ltd.'s equity as at 31 December 2016 using single stage residual income model. (3 marks)

(c)   Discuss four technical trading rules and indicators that could be followed by an analyst while evaluating equities using technical analysis. (8 marks)

(d)   Summarise five differences between "fundamental analysis" and "technical analysis". (5 marks)

(Total: 20 marks)

....

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:

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

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	2.7860
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	2.8681
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	2.9304
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	2.9776
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	3.0133
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	3.0404
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	3.0609
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	3.0764
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	4.8122	4.0799	3.5294	3.0971
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	3.1039
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	3.1090
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	3.1129
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	3.1220
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	3.1242
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

KASNEB

CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

THURSDAY: 25 May 2017.   **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)   Differentiate between a "low-cost strategy" and "product differentiation strategy" as used in company analysis.
                                                                                         (4 marks)

(b)   Discuss four external factors that could affect an industry's sales and profitability.   (8 marks)

(c)   (i)   Outline three adjustments that could be made to the financial statements to improve the accuracy of the
                 residual income model.   (3 marks)

        (ii)   The following information shows the expected earnings per share (EPS) and dividend per share (DPS) for
                 Phamtex Ltd. for three consecutive years:

Year	1	2	3
EPS (Sh.)	2.00	2.50	4.00
DPS (Sh.)	1.00	1.25	12.25

Additional information:
1.   It is expected that the last dividend will be a liquidating dividend.
2.   Phamtex Ltd. will cease its operations after the end of year 3.
3.   The current book value per share is Sh.6.00.
4.   The estimated required rate of return on equity is 10 percent.

Required:
The intrinsic value of Phamtex Ltd.'s share using the residual income model.   (5 marks)
                                                                                      (Total: 20 marks)

QUESTION TWO

(a)   Explain the following terms as used in equity investments analysis:

        (i)   Defensive shares.   (1 mark)

        (ii)   Growth shares.   (1 mark)

        (iii)   Top-down economic analysis.   (1 mark)

        (iv)   Bottom-up economic analysis.   (1 mark)

(b)   Biostar Ltd. uses bonds, preferred shares and ordinary shares as a source of its finance. The current market value of
        each of these sources of financing and the required rates of return before tax for each of the sources of financing are as
        given below:

	Market value Sh. "million"	Required rate of return (%)
Bonds	400	8.0
Preferred shares	100	8.0
Ordinary shares	500	12.0
Total	**1,000**	

Additional information:
1.   The net income available to ordinary shareholders is Sh.110 million.
2.   Interest expenses amount to Sh.32 million.
3.   Depreciation is Sh.40 million.
4.   Investment in fixed capital is Sh.70 million.
5.   Investment in working capital is Sh.20 million.

6. Net borrowing is Sh.25 million.
7. Corporation tax rate is 30%.
8. Stable growth rate of free cash flow to the firm (FCFF) is 4%.
9. Stable growth rate of free cash flow to equity (FCFE) is 5%.

Required:

(i) The firm's weighted average cost of capital (WACC). (2 marks)

(ii) The current value of free cash flow to the firm (FCFF). (3 marks)

(iii) The total value of the firm. (2 marks)

(iv) The value of the firm's equity. (1 mark)

(v) The current value of free cash flow to equity (FCFE). (2 marks)

(vi) The value of equity based on the forecasted free cash flow to equity obtained in (b) (v) above. (2 marks)

(c) (i) Babito Limited pays an annual dividend of Sh.3 per share. The company is expected to continue paying this dividend with no future growth in dividends. Investors require a 9% rate of return on investment (ROI). The current risk-free rate is 4%.

Required:
The current value of Babito Limited's share. (2 marks)

(ii) ABC Limited has just paid a dividend of Sh.2 per share. The required rate of return is 12%. The share is currently trading at Sh.35 per share at the securities exchange.

Required:
The growth rate using the Gordon's growth model. (2 marks)
(Total: 20 marks)

QUESTION THREE

(a) Propose three stock specific factors that could affect the value of private companies. (6 marks)

(b) (i) The following information relates to Fadhili Limited for the year ended 31 December 2016:

- Earnings before interest and tax (EBIT) is Sh.2.5 million.
- Corporation tax rate is 30%.
- Weighted average cost of capital (WACC) is at a rate of 11%.
- Total debt is Sh.10 million.
- Total equity is Sh.10 million.

Required:
The company's economic value added (EVA) for the year ended 31 December 2016. (3 marks)

(ii) Highlight two limitations of economic value added (EVA) obtained in (b) (i) above. (2 marks)

(c) Dave and Sons Ltd.'s shares are currently trading at Sh.38.50 per share. The trailing twelve months (TTM) earnings per share (EPS) and dividend per share (DPS) of the company is Sh.1.36 and Sh.0.91 respectively. The return on equity (ROE) is 27%, the profit margin on sales is 10.9%. The treasury bond rate is 4.9%, the equity risk premium is 5.5% and Dave and Sons Ltd.'s beta is 1.2. Both dividend and earnings growth rate are 9%.

Required:
Compute the following:

(i) Justified price to earnings (P/E) ratio. (3 marks)

(ii) Justified price to book (P/B) ratio. (3 marks)

(iii) Justified price to sales (P/S) ratio. (3 marks)
(Total: 20 marks)

QUESTION FOUR

(a) Examine three advantages and three disadvantages of using price to earnings (P/E) multiple in equity valuation.

(6 marks)

(b) Diana Kamau, an equity analyst is researching on the valuation of Futures Technologies Ltd. as at the beginning of November 2016. On 8 November 2016, Futures Technologies Ltd.'s shares closed the day at a price of Sh.25.72 per share. The company experienced a severe cyclical contraction in consumer electronics division in the year 2016 resulting in a loss of Sh.1.94 per share which prompted Diana Kamau to normalise earnings. Diana believes that the period between the year 2010 to the year 2015 reasonably captures average profitability over a business cycle. Data on earnings per share (EPS), book value per share (BVPS) and return on equity (ROE) are as follows:

Year	2016	2015	2014	2013	2012	2011	2010
EPS	(1.94)	2.11	1.15	0.87	1.16	0.55	1.14
BVPS	13.87	16.62	9.97	11.68	6.57	6.43	6.32
ROE	NM	0.129	0.104	0.072	0.168	0.083	0.179

Where:

NM	=	Not meaningful
EPS	=	Earnings per share
BVPS	=	Book value per share
ROE	=	Return on investment

Required:

(i) Normal EPS for the company based on the historical average EPS. (1 mark)

(ii) Price to earnings (P/E) ratio based on the estimated normal EPS in (b) (i) above. (1 mark)

(iii) Normal EPS for the company based on the average ROE method. (1 mark)

(iv) P/E based on the normal EPS obtained in (b) (iii) above. (1 mark)

(v) Explain the source of the difference in the normal EPS calculated under the average ROE method and the historical average EPS method. Contrast the impact of the difference on the estimated normal P/E ratio.

(2 marks)

(c) Moses Agina is considering valuing AGZ Ltd. using the H-Model approach. The relevant inputs for valuation are as follows:

1. Current dividend per share is Sh.1.
2. The dividend growth rate is 29.28% declining linearly over a 16-year period to a final and perpetual growth rate of 7.26%.
3. The risk-free rate is 5.34%.
4. The market risk premium is 5.32%.
5. The beta estimate is 1.37.

Required:

(i) The required rate of return for the company. (2 marks)

(ii) The per share value estimate of the company using the H-model. (6 marks)

(Total: 20 marks)

QUESTION FIVE

(a) Describe the following terms in relation to equity markets:

(i) Quote-driven market. (1 mark)
(ii) Electronic crossing networks. (1 mark)
(iii) Brokered markets. (1 mark)

(b) Summarise four services that could be provided by securities brokers in your country. (4 marks)

(c) The following information relates to Quadrant Limited Securities trades in a given week in the month of April 2017:

- On Tuesday, the share price of Quadrant Limited closes the day at Sh.20 per share.
- On Wednesday morning before the market opens, the equity manager decides to buy Quadrant Limited's shares and submits a limit order for 1,000 shares at Sh.19.95. The price does not fall to Sh.19.95 during the day, so the order expires unfulfilled. The share closes the day at Sh.20.05.

- On Thursday, the order is revised to a limit of Sh.20.06. The order is partially filled that day as 800 shares are bought at Sh.20.06. The commission is Sh.18. The share closes at Sh.20.09 and the order for the remaining 200 shares is cancelled.

Required:

(i) The gain or loss on the paper portfolio. (2 marks)

(ii) The gain or loss on the real portfolio. (2 marks)

(iii) Implementation shortfall. (2 marks)

(d) Johnson Simiyu, an investment consultant has been approached by the management of Zee Ltd., a private company, to assist in valuation of Zee Ltd. The firm has an annual sales of Sh.200 million. Johnson Simiyu assumes for the next twelve months that Zee Ltd.'s revenue will increase by the long-term annual growth rate of 3%. He also makes the following assumptions:

1. Gross profit margin will be 45%.

2. Depreciation will be 2% of revenues.

3. Selling, general and administration expenses are 24% of revenues.

4. Capital expenditure will be 125% of depreciation to support the current levels of revenues.

5. Additional capital expenditure of 15% of incremental revenues will be needed to fund future growth.

6. Working capital investment equals 8% of incremental revenues.

7. Marginal tax rate is 30%.

Required:

The free cash flow to the firm (FCFF). (7 marks)

(Total: 20 marks)

....

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:

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

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

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)

....

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%	26%	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:

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

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	6.5231	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	3.1242
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

KASNEB

CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

THURSDAY: 26 May 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)   Distinguish between the following types of equities returns:

     (i)   "Required rate of return" and "expected rate of return".   (2 marks)

     (ii)   "Holding period return" and "realised return".   (2 marks)

(b)   Examine four factors that should be considered by individual and corporate investors while d~iding whether to invest in foreign equity securities.   (4 marks)

(c)   Explain how Michael Porter's five competitive forces could affect the financial forecast of a company.   (5 marks)

(d)   Joshua Chitema, an equity and investments analyst for an investment bank is reviewing BTP Ltd., a small cap firm whose shares trade thinly on the over the counter (OTC) market. He compiles the data presented below and estimates the forward looking equity risk premium using the Gordon growth model. To the risk premium computed, he adds 1.50% to account for the additional small firm risk premium associated with BTP Ltd. The following data is provided relating to the Gordon growth model:

• Current price level of the market index	1,480.00
• Current year's dividend on the market index	Sh.31.25
• Year ahead forecasted dividend on the market index	Sh.33.60
• Long term earnings growth rate for the market index	6.00%
• Current long-term government bond yield	4.00%
• Current short-term government bond yield	2.75%

Joshua shows his computations to the firm's Chief Investment Officer (CIO) who suggests that the macroeconomic model with supply side analysis using the Ibbotson-Chen Model provides a better estimate for BTP Ltd.'s risk premium. The CIO suggests that BTP Ltd. commands a 0.75% risk premium for its thin trading in addition to the small firm risk premium that Joshua has already considered. The relevant data is presented below:

Expected growth rate in real earnings per share (EPS)	3.00%
Expected growth rate in price to earnings (P/E) ratio	1.50%
Expected income component	2.50%
Expected Treasury Inflation Protected Securities (TIPS) yield	2.15%
Expected inflation	1.81%

Required:

(i)   The risk premium for BTP Ltd. share using the Gordon growth model.   (3 marks)

(ii)   The risk premium for BTP Ltd. share using the macroeconomic model factoring in the relevant adjustment.   (4 marks)

(Total: 20 marks)

QUESTION TWO

(a)   Highlight three roles that an investment and finance professional might play in the equity valuation process. (3 marks)

(b)   The following information relates to Mimo Ltd:
1.   Net profit margin is 22%.
2.   Sales in year zero are Sh.15 million.
3.   Fixed capital investment in year zero is Sh.4 million.
4.   Depreciation in year zero is Sh.5 million.
5.   Working capital investment as a percentage of sales is 8.5 %.
6.   Tax rate is 30%.
7.   Interest expense on Sh.20 million par value debt in year zero is 11.5%.
8.   Weighted average cost of capital (WACC) during the high growth phase is 20%.
9.   Weighted average cost of capital (WACC) during the mature phase is 16%.
10.   Net income, fixed capital investment, depreciation, interest expense and sales are expected to grow at a rate of 12% for the next 5 years and then stabilise at a longer term constant growth rate of 6%.

Required:
(i)   The value of Mimo Ltd. using free cash flow to the firm (FCFF) approach.   (8 marks)

(ii)   Describe two sources of error in the application of the free cash flow model when valuing equity securities.
(2 marks)

(c)   A newly employed CIFA graduate has been provided with the following data relating to Teen Ltd. for the year ended 31 December 2015:
- Total invested capital   Sh.10.5 million
- Debt to equity ratio   0.6
- Cost of equity   8%
- Before tax cost of debt   5%
- Tax rate   30%
- Earnings before interest and taxes Sh.1.3 million.

Note: Research and development expenditure amounting to Sh.270,000 has been deducted to arrive at the earnings before interest and taxes (EBIT).

Required:
(i)   The company's residual income.   (3 marks)

(ii)   The company's economic value added (EVA).   (4 marks)
(Total: 20 marks)

QUESTION THREE

(a)   Evaluate three investment situations in which an investment analyst could appropriately use price-to-book (P/B) ratio in valuation.   (3 marks)

(b)   Salim Hasan, an equity analyst at Beta Capital, has gathered the following data regarding Patels Limited which is quoted at the securities exchange:

- Current market price per share (MPS)   Sh.60
- Current year earnings per share (EPS)   Sh.5
- Current year dividend per share (DPS)   Sh.2.25
- Required rate of return on equity   10%
- Dividend growth rate   5.5%

Required:
(i)   The justified trailing price-to-earnings (P/E) ratio.   (2 marks)

(ii)   The justified leading price-to-earnings (P/E) ratio.   (2 marks)

(iii)   Determine whether the company is currently under-valued, fairly-valued or over-valued.   (1 mark)

(iv)   Summarise three weaknesses of price-to-earnings (P/E) ratio.   (3 marks)

(c) Benson and Benson Limited (BBL) is expected to grow at the rate of 30% for the next five years. After that, competition is expected to lower BBL's growth rate to a constant growth rate of 7% per annum indefinitely. The market risk premium is 6% and the risk free rate is 5%. BBL's beta is 1.5 and the company just paid a dividend of Sh.2.50.

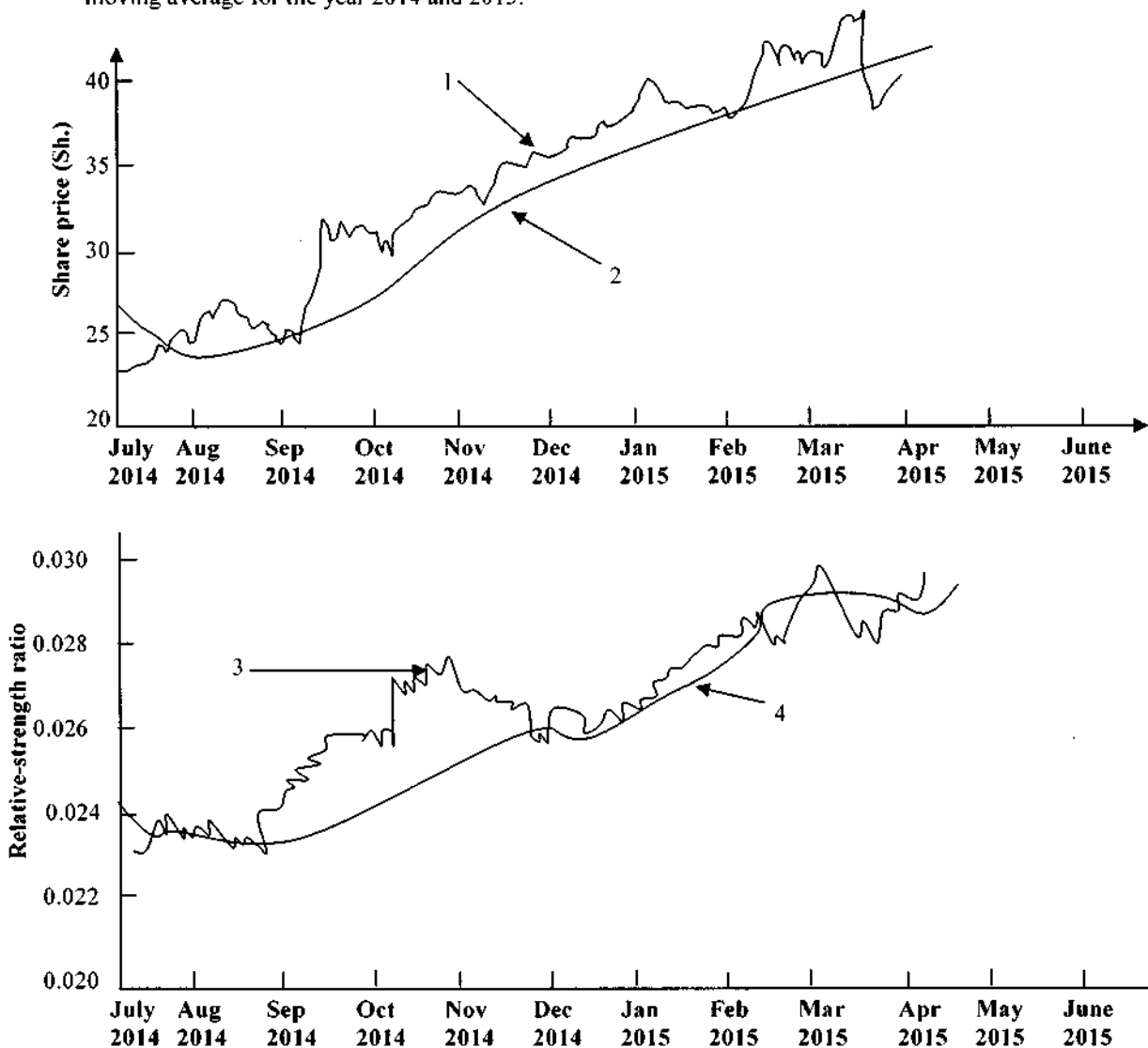**Required:**
The current value of BBL's share. (7 marks)

(d) Differentiate between "growth relative to gross domestic product (GDP) approach" and "market growth and market share approach" as used in industry and company analysis. (2 marks)

(Total: 20 marks)

QUESTION FOUR

(a) (i)   Examine four principles of Dow theory in relation to technical analysis. (4 marks)

(ii)   Explain the reasoning behind "support level" and "resistance level" in relation to technical analysis. (4 marks)

(iii)   The exhibit below relates to Fairmall Limited, a company quoted at the securities exchange with a 50-day Moving Average and Relative Strength compared to Standard and Poor (S&P) industrials with 50-day moving average for the year 2014 and 2015:

Required:
Interpret the chart output lines labelled 1 to 4 in (a)(iii) above. (4 marks)

(b)   Kendagor Ondigo, an equities analyst at Fiduciary Capital, is analysing Fast Technologies Limited which deals with computer software. The following are the sales data for the existing software and the new software which was launched in the year 2015 and which is expected to catch the attention of the market:

	2015 Sh.million		2015 Sh.million
Existing software:		**New software:**	
Individual sales	2,640	Individual sales	45
Corporate sales	400	Corporate sales	0
	3,040		45

The equities analyst intends to forecast the year 2016 sales using the following assumptions:

1.   Individual sales of the new software will increase by 375% in the year 2016, but the new software will not be adopted by corporate customers.
2.   Sales of existing software to corporate customers will remain static.
3.   Sales of existing software to individuals will shrink by 25% as a result of the new software.

Required:
The total estimated revenue from the software business in the year 2016.   (4 marks)

(c)   Evaluate four factors that could affect an industry on a temporary basis but might not determine the industry profitability and structure in the long run.   (4 marks)
(Total: 20 marks)

QUESTION FIVE
(a)   The following information relates to two manufacturing firms, Hapco Limited and Texlex Limited, and the Standard and Poors' (S&P) industrials average:

	Hapco Limited	**Texlex Limited**	**S & P Industrials average**
Price to earnings (P/E) ratio	30	27.00	18.00
Expected annual growth rate	0.18	0.15	0.07
Dividend yield	0.00	0.01	0.02

Required:
(i)   The growth duration of each company share relative to the S & P industrials average.   (3 marks)

(ii)   The growth duration of Hapco Limited relative to Texlex Limited.   (2 marks)

(iii)   Comment on your investment decision based on the growth duration obtain in (a)(i) and (a)(ii) above. (2 marks)

(b)   Compare and contrast public company valuation and private company valuation.   (3 marks)

(c)   The following information is relevant for valuation of Panha Corporation:

*   Working capital balance   Sh.50,000,000
*   Fair value of fixed assets   Sh.75,000,000
*   Book value of fixed assets   Sh.60,000,000
*   Normalised earnings of firm   Sh.25,000,000
*   Required return on working capital   10%
*   Required return on intangible assets   12%
*   Required return on fixed assets   8%
*   Weighted average cost of capital   10%
*   Long-term growth rate of residual income   6%

Required:
Using the excess earnings method, determine the following:

(i)   The value of Panha Corporation's intangible assets.   (3 marks)

(ii)   The market value of invested capital.   (2 marks)

(d)   Highlight five steps of the equity valuation process.   (5 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:

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

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

KASNEB

CIFA PART II SECTION 4

EQUITY INVESTMENTS ANALYSIS

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) Evaluate four elements that the financial analyst should consider when performing an industry analysis of a given company.   (8 marks)

(b) Pebbley Limited has a return on equity (ROE) of 6.4%. Its projected earnings per share (EPS) and dividend per share (DPS) are Sh.8 and Sh.3 respectively. The discount rate is assumed to be 8%.

Required:
(i)   Retention ratio.   (2 marks)
(ii)   Sustainable growth rate.   (2 marks)
(iii)   The value of the company's share.   (2 marks)

(c) Justify three reasons that could make companies in the same industry to have different price earnings (P/E) ratios.
(6 marks)
(Total: 20 marks)

QUESTION TWO
(a)   (i)   Among the most familiar and widely used valuation tools in equity valuation are price multiples. Justify why price multiples are used in equity valuation.   (2 marks)

        (ii)   Zawadi Designers Limited's shares are selling for Sh.25 per share. Earnings for the last 12 months were Sh.1 per share. The average trailing price earnings (P/E) ratio for firms in Zawadi Designers Limited's industry is 32 times.

Required:
Using the method of comparables, determine whether Zawadi Designers Limited's share is overvalued or undervalued.   (2 marks)

(b) Highlight two advantages of using the price-to-cash flow (P/CF) ratio as an equity valuation tool.   (2 marks)

(c) The following data was gathered by Ezekiel Rono, an equity analyst who researches for Redline Company:

1.   Dividend payout ratio   =   75%
2.   Return on equity (ROE)   =   18%
3.   Earnings per share (EPS)   =   Sh.5.50
4.   Sales per share   =   Sh.350
5.   Expected earnings/dividends/sales growth   =   4.5%
6.   Shareholders required rate of return   =   15%

Required:
The firm's justified price-to-sales (P/S) ratio multiple.   (2 marks)

(d) The following information is provided:

Company	Book value of equity 2014 Sh. "million"	Sales 2014 Sh. "million"	Shares outstanding 2014 Sh. "million"	Price Sh.
Mavuno Limited	39,900	64,746	12,324	62.74
Ndovu Limited	122,040	64,374	21,542	51.26

Peer Group	Mean Price-to-book (P/B)	Median Price-to-book (P/B)	Mean Price-to-sale (P/S) Sales Sh. "million"	Median Price-to-sale (P/S) Sales Sh. "million"
Pharmaceuticals	11.244	8.50	17.416	9.06
Computer applications software	8.20	4.28	6.84	2.88

Mavuno Limited belongs to the pharmaceuticals group and Ndovu Limited belongs to the computer applications software group.

Required:

(i) The current price-to-book (P/B) ratio for each company. (4 marks)

(ii) The current price-to-sales (P/S) ratio for each company. (4 marks)

(iii) Determine whether the share is overvalued, fairly valued or undervalued for each company based on the results obtained in (d) (i) and (ii) above. (4 marks)

(Total: 20 marks)

QUESTION THREE

(a) Distinguish between a "firm's free cash flow" and a "free cash flow to equity". (4 marks)

(b) The following information is available for Mapambo Limited:

Capital expenditure	Sh.20 million
Corporate tax rate	30%
Debt repayment	Sh.23 million
Depreciation charge	Sh.10 million

Income statement:

	Sh. "million"
Sales	650
Less: Cost of sales	(438)
	212
Operating expenses	(107.5)
	104.5
Less: Interest expenses	(8)
Earnings before tax	96.5
Less: Tax	(28.95)
Net income	67.55

Required:

(i) Free cash flow to equity. (4 marks)

(ii) Free cash flow to the firm. (4 marks)

(c) Summarise four advantages and four challenges of technical analysis. (8 marks)

(Total: 20 marks)

QUESTION FOUR

(a) The following information relates to Wageni Ltd.:

1. The company reported before tax operating income of Sh.21 million for the year ended 31 December 2014. This was after charging Sh.4 million for development and launch cost of a new product that is expected to generate profits for 4 years.

2. The company has a risk adjusted weighted average cost of capital (WACC) of 12%.

3. The company is paying interest at a rate of 9% per annum on a substantial long-term loan. The interest is not charged as expense in the operating income in note 1 above.

4. The company's non-current assets value is Sh.50 million.

5. The net current assets have a value of Sh.22 million.

6. The replacement cost of the non-current assets is estimated to be Sh.64 million.

7. Corporate tax rate is 30%.

Required:

(i) The company's economic value added (EVA). (6 marks)

(ii) The company's residual income (RI). (4 marks)

(iii) Comment on the results obtained in (a) (i) and (ii) above. (2 marks)

(b) The following information relates to Platinum Limited, a private firm:

1.	Working capital balance	= Sh.4,000,000
2.	Fair value of fixed assets	= Sh.11,000,000
3.	Book value of fixed assets	= Sh.8,000,000
4.	Normalised earnings of firm	= Sh.2,000,000
5.	Required rate of return on working capital	= 5 per cent
6.	Required rate of return on fixed assets	= 8 per cent
7.	Required rate of return on intangible assets	= 15 per cent
8.	Weighted average cost of capital	= 10 per cent
9.	Long-term growth rate of residual income	= 5 per cent

Required:
Using the excess earnings method (EEM), determine:
(i) The value of intangible assets for Platinum Limited. (4 marks)
(ii) The market value of invested capital. (2 marks)

(c) Describe two steps of the top-down approach of equity valuation. (2 marks)
(Total: 20 marks)

QUESTION FIVE
(a) An investment analyst plays a critical role in collecting, organising and communicating corporate information and to some extent recommending appropriate investment action based on sound analysis.

In relation to the above statement, describe six features of an effective research report. (6 marks)

(b) The following information relates to Golden Star Limited, a company quoted at the PAQUA Securities Exchange:

1. The current market price per share is Sh.28.27.
2. The most recent quarterly dividend per share is Sh.0.2.
3. Over the coming year, two more quarterly dividends of Sh.0.20 are expected, followed by two quarterly dividends of Sh.0.22 per share.
4. The company has a required rate of return on equity of 9.5%.
5. The target price per share is Sh.32 over the one year period.

Required:
(i) One-year expected return of the company. (3 marks)
(ii) The target price if the company is fairly valued. Ignore returns from reinvesting the quarterly dividends. (3 marks)

(c) (i) The following information relates to Zelion Limited:

1. Current market price per share Sh.36.
2. Last dividend paid Sh.2.40.
3. Required rate of return 12%.
4. The dividends are expected to grow at a constant rate in the foreseeable future.

Required:
The expected share price 5 years from now. (4 marks)

(ii) Discuss two strengths of the two stage dividend discount model (DDM) compared to the constant growth dividend discount model. (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	.1094	.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:

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

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	9.1295	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

KASNEB

CIFA PART II SECTION 4

EQUITY INVESTMENT ANALYSIS

PILOT PAPER

September 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)   Briefly explain the following terms as applied in equity investment evaluation:

     (i)   Intrinsic value.   (2 marks)

     (ii)   Going concern value.   (2 marks)

     (iii) Fair market value.   (2 marks)

     (iv) Investment value.   (2 marks)

(b)   In a research note on the ordinary shares of Rivet Fashion Group (RFG) dated early July 2015, when the share price was Sh.700 and projected annual dividend was Sh.50, an analyst started a target price of Sh.920. The research note did not explain how the target price was obtained or how it should be interpreted. Assume that the target price represents the expected price of RFG.

Required:
Describe any further information that you would need to form an opinion on whether RFG was fairly valued or undervalued.   (4 marks)

(c)   Historical estimates of the equity risk premium in developing markets are often attended by a range of concerns. In one of the markets, a number of equity indexes are available and each has possible limitations. Although not as broad-based as the alternatives, the stock exchange index (Sensex 30) returns, a market capitalization weighted index of the shares of 30 leading companies, the largest available record compiled since 2006, go back to 1999. Note the following facts concerning the index and other relevant information to estimating the equity risk premium:

    1.   The backfilled returns from 1999 to 2005 are based on the initial 30 issues selected in 2006, which were among the largest market-caps as of 2006.

    2.   The Sensex is a price index; a total return version of the index incorporating dividends is available from 2007 forward.

    3.   Interest rates were suppressed by regulations prior to 2011 and moved higher thereafter. The post-regulation period appears to be associated with higher stock market volatility.

    4.   Objective estimates of the extent of any bias can be developed.

Required:
Based on the information given, explain the following:

     (i)   The factors that could bias an unadjusted historical risk premium estimate upwards.   (2 marks)

     (ii)   The factors that could bias an unadjusted historical risk premium estimate downwards.   (2 marks)

     (iii) Two indications that the historical time series is non-stationery.   (2 marks)

     (iv) Whether the historical or an adjusted historical equity risk premium is preferable. Justify your answer. (2 marks)
                                                                                    (Total: 20 marks)

QUESTION TWO

(a)   Explain the five steps involved in equity valuation.   (10 marks)

(b)   Shitieka, an investment analyst at Value Trackers Fund is researching on Kapu Oil Limited's shares to estimate a required return on equity. Kapu Oil Limited has no long term debt. Shitieka uses an equally weighted average of the capital asset pricing model (CAPM) and Fama French Model (FFM) estimates, unless one method appears to be superior as judged by a more than five point difference in the adjusted R^2, in which case, only the estimate with superior explanatory power is used. The cost of equity information for Kapu Oil Limited is provided below. All the beta estimates are significant at 5% level.

CAPM and FFM required return estimates

Kapu Oil Limited

		Model A	Model B
1.	Current risk free rate	4.7%	4.7%
2.	Beta	1.04	1.14
3.	Market (equity) risk premium	5.5%	5.5%
	Premium for stock (2) x (3)	5.72%	6.27%
4.	Size beta	-	-0.222
5.	Size Premium (SMB)	-	2.7%
	Premium for stock (4) x (5)	-	-0.60%
6.	Value beta	-	-0.328
7.	Value premium	-	4.3%
	Premium for stock (6) x (7)	-	-1.41%
	R^2	0.34	0.35
	Adjusted R^2	0.33	0.32

Additional information:

Value Trackers Fund holds positions for 4 years on average. Shitieka has determined that the market place will favour growth oriented equities over the coming year. Reviewing all the information, Shitieka makes the following statements:

1.   Kapu Oil Limited's cost of capital benefits from the company's above average market capitalisation, which offsets the stock's above average risk premium for market risk.

2.   If our economic unit's analysis is correct, growth-oriented portfolios are expected to outperform value-oriented portfolios over the next year. As a consequence, we should favour the CAPM required return estimate over the Fama French estimate.

Required:

(a)   Estimate Kapu Oil Limited's cost of equity using:

   (i)   Capital asset pricing model (CAPM).   (2 marks)

   (ii)   Fama-French model.   (2 marks)

(b)   Assess whether Shitieka's first statement concerning Kapu Oil Limited's cost of equity is accurate.   (3 marks)

(c)   Assess whether Shitieka's second statement concerning the expected relative performance of growth oriented portfolios and the use of the CAPM and FFM required return estimates, is correct.   (3 marks)

                                                                (Total: 20 marks)

QUESTION THREE

(a)   The shares of Xtronics Limited are selling for Sh.30 each. The mean analysts earnings per share forecast for next year is Sh.4.0 and the long run growth rate is 5%. Xtronics Limited has a dividend pay-out ratio of 60%. The required rate of return is 14%.

Required:

(i)   The fundamental value of the share using the Gordon growth model.   (4 marks)

(ii)   Determine whether Xtronics Limited's shares are overvalued or undervalued using the method of forecasted fundamentals.   (3 marks)

(b) Josphine Akinyi, a Certified Investment and Financial Analysts (CIFA) student, is evaluating a purchase of Zedtum Investment Limited. Current book value per share is Sh.12.9 and the current price per share is Sh.32.41. Josphine expects long term return on equity (ROE) to be 10% and long term growth rate to be 8%.

Required:
The intrinsic value of the share using a residual income model.

NB: Assume a cost of equity of 9%.

(3 marks)

(c) Biashara Limited was a publicly traded production company that supplied a number of products to the market. Biashara Limited capitalised production costs including expenses for advertising, publicity and promotion, production costs, salaries and fares paid to staff. The company then amortised those capitalised costs over the expected life of the production based on anticipated venues.

Required:
(i) State the effects of Biashara Limited accounting for pre-production costs on its reported earnings per share.

(5 marks)

(ii) An analyst calculated earnings before interest, tax, depreciation and amortisations (EBITDA) interest expenses and debt; (EBITDA) based on Biashara Limited's accounting pre-production costs without adjustment.

Explain how the analyst might be misled in assessing Biashara Limited's financial strength using the above measure.

(5 marks)

(Total: 20 marks)

QUESTION FOUR

(a) During the period 1960-2007. earnings of S&P 500 index companies have increased at an average rate of 8.18% per year and dividends paid have increased at an average rate of 5.9% per year.

Assume that:
1. Dividends will continue to grow at the 1960-2007 rate.
2. The required return on the index is 8%.
3. Companies in the S&P 500 index collectively paid Sh.246 billion in dividends.

Required:
Estimate the aggregate value of the S&P 500 index component companies at the beginning of 2008 using the Gordon growth model.

(4 marks)

(b) Signet Ltd. has free cash flows to the firm (FCFF) of Sh.700 million and free cash flows to equity (FCFE) of Sh.620 million. The firm's before tax cost of debt is 5.7% and its required rate of return on equity is 11.8%. The company expects a target capital structure consisting of 20% debt financing and 80% equity financing. The tax rate is 33.33% and FCFF is expected to grow forever at a rate of 5%. Signet Ltd. has debt outstanding with a market value of Sh.2.2 billion and 200 million outstanding common shares.

Required:
(i) Signet Ltd.'s weighted average cost of capital. (4 marks)

(ii) The value of Signet's equity using the FCFE valuation approach. (4 marks)

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

(c) Robotics Limited's shares are currently selling for Sh.24 and have paid a dividend of Sh.1 per share in the most recent year.

The following additional information is given:

1. The risk free rate is 4%.
2. The shares have an estimated beta of 1.2.
3. The equity risk premium is estimated at 5%.

Required:
The constant dividend growth rate that would be required to justify the market price of Sh.24. (6 marks)

(Total: 20 marks)

QUESTION FIVE

(a) In a valuation of a financial services company, a business appraiser estimated four values for the company using four different approaches.

Required:

Explain four approaches to the valuation of a financial services company. (8 marks)

(b) Shamira, a financial analyst, decides to use the Guideline Public Company Method (GPCM) to develop value indication for Able Limited that is independent of the Free Cash Flow (FCF) indication. He believes that many acquirers apply a multiple of market value of invested capital to EBITDA to value companies in Able Limited's industry. A search for comparable public companies indicated several companies that might serve as guidelines or benchmarks for valuing Able Limited. However, all of these companies were much larger than Able Limited. His research on guideline public companies indicates the following:

1. The market value of invested capital (MVIC) to EBITDA multiple of such public companies averages 7.0.
2. A combined downward adjustment of 15% for relative risk and growth characteristics of Able Limited compared with the GPCM suggests an adjusted MVIC to EBITDA multiple of 5.95 rounded to 6 for Able Limited.
3. A control premium of 20% was reported in a single strategic acquisition several years ago. The transaction involved an exchange of stock with no cash consideration paid.
4. Shitakuli is not aware of any strategic buyer that might incorporate synergies into their valuation of Able Limited.
5. Normalised EBITDA is Sh.16,900,000.
6. Market value of debt capital is Sh.2,000,000.

Required:

(i) Explain the elements included in the calculation of a pricing multiple for Able Limited. (4 marks)

(ii) Calculate the pricing multiple appropriate for Able Limited including a control premium adjustment. (4 marks)

(iii) Calculate the value of Able Limited using the guideline public company method (GPCM). (4 marks)

(Total: 20 marks)

....

ADVANCED FINANCE, INVESTMENT AND EQUITY ANALYSIS   CS1A PART II SECTION 4

THURSDAY: 28 May 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) As the chief investment analyst in the health care industry, evaluate four factors that could affect the health care industry sales.   (8 marks)

(b) Outline four strengths of the residual income model as used in equity valuation of a company.   (4 marks)

(c) Johnstone Barasa, a securities and investment analyst at Mega Capital is planning to value Tripple A Limited using a single stage free cash flow to the firm approach.

He has gathered the following information about the company:
1. The company has 1.852 billion ordinary shares outstanding.
2. The market value of the company's debt is Sh.3.192 billion.
3. The equity beta is 0.90 with a risk premium of 5.5%.
4. The risk free rate is 5.5%.
5. The company's before tax cost of debt is 7.0%.
6. The corporation tax rate is 30%.
7. The company is financed 25% with debt.
8. Free cash flow for the firm is Sh.1.1559 billion.
9. Free cash flow to the firm growth rate is 4%.

Required:
(i)   Weighted average cost of capital (WACC) of the firm.   (2 marks)
(ii) The value of the firm.   (2 marks)
(iii) The market value of equity.   (2 marks)
(iv) The market value per share of the firm.   (2 marks)
                                                                                            (Total: 20 marks)

QUESTION TWO

(a) Describe the following terms in relation to investment risk and return

(i)   Risk allocation.   (1 mark)
(ii) Risk response.   (1 mark)
(iii) Risk monitoring.   (1 mark)

(b) The management of Apollo Investments Limited is considering two major investments consisting of Sh.100 million in technology and Sh.100 million in manufacturing sector.

The following are the returns and probabilities under different states of economy:

State	Probability	Returns Technology sector (%)	Manufacturing sector (%)
Growth	0.25	16	12
Normal	0.50	12	6
Recession	0.25	4	6

Required:
(i)   Expected return of the portfolio.   (3 marks)
(ii) The variance of the portfolio.   (2 marks)
(iii) The portfolio standard deviation.   (1 mark)
(iv) The correlation coefficient between the returns of the two portfolios.   (3 marks)

(c) Wilson Chepkonga, a financial analyst at Beta Capital, is analysing the value of TEEP Breweries Limited.

The following information relates to the company:
1. During the last five years, the company paid dividend per share of Sh.5.50, Sh.6.50, Sh.7.00, Sh.8.00 and Sh.9.00 respectively.
2. The above dividends suggest an average annual growth rate of above 13%.
3. The analyst has decided to use a three stage dividend discount model with a linearly declining growth rate in stage two.
4. Stage one period will be 6 years while stage two period will be 10 years.
5. The growth rate for stage one is forecasted to be 14% while for stage three it will be 10%.
6. The company's required rate of return on equity is 16%.

Required:
The current value of a share of TEEP Breweries Limited using H-dividend discount model.   (8 marks)
                                                                                            (Total: 20 marks)

QUESTION THREE

(a) Analyse four rules of technical trading as postulated by John Murphy.   (8 marks)

(b) The best performing equity markets in the world have been found in countries with the highest economic growth rates.

In relation to the above statement, explain whether the current growth rate should guide the investor in choosing equity markets if the world capital market is efficient.   (2 marks)

(c) Leila Limited has a return on equity (ROE) of 15% and earnings retention ratio of 0.60. Next year's earnings are projected to be Sh.100 million.

Leila Limited's required rate of return is 12% per annum.

Required:
(i)   Tangible price to earnings (P/E) ratio.   (2 marks)
(ii) The company's franchise factor.   (2 marks)
(iii) The company's growth factor.   (3 marks)
(iv) The company's franchise price to earnings (P/E) ratio.   (2 marks)
(v)   The intrinsic price to earnings (P/E) ratio.   (2 marks)
                                                                                            (Total: 20 marks)

QUESTION FOUR

(a) Summarise four factors that could determine the ability of a firm to sustain its growth.   (4 marks)

(b) Evaluate three methods that could be used to value a private equity fund.   (6 marks)

(c) Glazep Ltd. is considering a capital project with the following characteristics:
1. The project is estimated to cost Sh.1 million with a projected useful life of 4 years.
2. The project will generate annual after-tax operating cash flows of Sh.200,000 with a probability of 0.5 or Sh.400,000 with a probability of 0.5, for the next 4 years.
3. After its useful life, the project is expected to have a zero salvage value.
4. After realising the first year's cash flows, the company will have an option to abandon the project and receive the salvage value of Sh.750,000.
5. The company's required rate of return is 10%.

Required:
(i)   The net present value (NPV) of the project assuming the "no abandonment" option.   (3 marks)
(ii) The net present value (NPV) of the project assuming the "abandonment" option.   (5 marks)
(iii) Advise the management on the best option to take.   (2 marks)
                                                                                            (Total: 20 marks)

QUESTION FIVE

(a) The recent trends in government in implementing major infrastructural projects is through public-private partnership (PPP).

Explain three reasons for adopting the public-private partnership approach.   (6 marks)

(b) Corporate restructuring is ...

Enumerate four main objectives which companies seek to attain from undertaking corporate restructuring. (4 marks)

(c) Pike Limited, a successful engineering and construction company made a bid to acquire Oziman Limited in the year 2014.

The following information is available for the two companies:

	Pike Limited	Oziman Limited
Share price	Sh.15.50	Sh.25
Number of shares	125 million	50 million

Pike Limited made both a cash and a share bid to Oziman Limited. In the bid, 2 shares of Pike Limited were offered for every 1 share in Oziman Limited, or a cash offer of Sh.30 per share in Oziman Limited.

Pike Limited expects that the take-over will generate a present value of savings worth Sh.25 million.

Required:
The new value of shares in Pike Limited after the announcement of the merger plan assuming:
(i) The shares offer. (4 marks)

(ii) The cash offer. (3 marks)

(iii) Using suitable computations, advise the shareholders of Oziman Limited on which offer to accept.
(3 marks)
(Total: 20 marks)

THURSDAY: 4 December 2014.   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)   (i)   Distinguish between "rebalancing" and "reconstitution" as applied in index management.   (4 marks)

(ii)   Outline four uses of share market indices.   (4 marks)

(b)   Home Meals Manufacturing Limited has earnings before interest and tax (EBIT) of Sh.10 million.

Additional information:
1.   The company has Sh.60 million outstanding debt with a required rate of return of 6.5%.
2.   The required rate of return in the industry is 10%.
3.   The corporation tax rate is 30%.
4.   Assume that there are no personal taxes.

Required:
(i)   The present value of the interest tax shield.   (1 mark)

(ii)   The total value of the firm.   (4 marks)

(iii)   The gain from leverage, if personal taxes of 10% on equity income and 35% on debt income exist.   (3 marks)

(c)   Describe the relationship between the required returns on debt and on equity that result from Modigliani - Miller (MM), Proposition II.   (4 marks)
(Total: 20 marks)

QUESTION TWO

(a)   Explain the following terms as used in venture capital investment:

(i)   Early stage venture capital investment.   (2 marks)

(ii)   Later stage venture capital investment.   (2 marks)

(b)   Joyce Wafula, an entrepreneur in Webuye town, intends to borrow Sh.12 million from a venture capital fund to expand her African clothing business line. Her business is currently worth Sh.30 million and she intends to float it to the public in four years time. During this period of four years, the net income of the business is projected to be Sh.6 million. Comparative firms within Wafula's business industry are expected to have a price/earnings (P/E) ratio of 25. Given Wafula's business stage of development, the venture capital fund manager will require a 40% compound annual return on their investment.

Required:
The fraction of funds that the venture capital fund will receive in exchange for its Sh.12 million investment.   (4 marks)

(c)   Diamond East Africa Ltd. is considering to undertake two mutually exclusive projects. The estimated cash flows and certainty equivalent figures for each project are as shown below:

	Project 1		Project 2	
Year	Cash flow	Certainty equivalent	Cash flow	Certainty equivalent
	Sh. "000"		Sh. "000"	
0	80,000	1.0	100,000	1.0
1	18,000	0.95	40,000	0.65
2	20,000	0.75	50,000	0.55
3	30,000	0.60	60,000	0.40
4	35,000	0.50	40,000	0.80
5	40,000	0.40	60,000	0.85

Additional information:
1.   The company intends to use the certainty equivalent approach to evaluate the two investment projects.
2.   The cost of capital is 12%.

Required:
(i)   The net present value of each project.   (6 marks)

(ii)   Advise the management on the project to invest in.   (2 marks)

(d)   Summarise four reasons why project developers require project financing.   (4 marks)
(Total: 20 marks)

QUESTION THREE

(a)   (i)   Evaluate three factors that could contribute to the degree of market efficiency in the financial market.   (6 marks)

(ii)   Describe three types of market efficiency as postulated by Fama (1970).   (3 marks)

(b)   The following extracts were obtained from the financial statements of Nikk Limited for the years 2012 and 2013:

Statement of financial position:

	2013	2012
	Sh. "billion"	Sh. "billion"
Non-current assets	3.5	3.4
Current assets	2.7	2.5
Total assets	6.2	5.9
Equity and liabilities:		
Shareholders' equity	2.2	1.9
Long-term debt	2.1	2.2
Current liabilities	1.9	1.8
Total equity and liabilities	6.2	5.9

Income statement:

	2013	2012
	Sh. "billion"	Sh. "billion"
Sales	7.5	7.1
Net income	0.5	0.4
Dividends	0.2	0.1

Required:
(i)   Sustainable growth rate for the year 2012.   (6 marks)

(ii)   Actual growth rate in the year 2013.   (1 mark)

(iii)   Interpret the result obtained in (b) (ii) above.   (2 marks)

(iv)   Comment on Nikk Limited's financial condition in relation to the difference between actual and sustainable growth rate.   (2 marks)
(Total: 20 marks)

QUESTION FOUR

(a)   Evaluate four approaches that could be used in the valuation of target companies.   (8 marks)

(b)   Distinguish between "cash flow return on investment (CFROI)" and "Economic value added (EVA)".   (4 marks)

(c)   The following information relates to Chungwa Ltd. for the year 2014:

	Sh. "million"
Net operating profit after tax	100
Beginning book value of debt	200
Beginning book value of equity	300
Weighted average cost of capital (WACC)	11%

Required:
(i)   Economic value added (EVA) for Chungwa Ltd.   (3 marks)

(ii)   Comment on the results obtained in (c) (i) above.   (2 marks)

(d)   The following information relates to ABC Ltd., a listed company at the Bahama Securities Exchange, for the year 2013:

*   Sales price per share Sh.122.
*   Earnings per share Sh.2.45.
*   Dividend per share Sh.1.12.
*   Expected growth rate in the long-term 6%.
*   Beta of the company 0.90.
*   Risk free rate 7%.
*   Risk premium 5.5%.

Required:
The appropriate price/sales multiple for ABC Ltd. for the year 2013.   (3 marks)
(Total: 20 marks)

QUESTION FIVE

(a)   Summarise four reasons that might contribute to failure of mergers.   (4 marks)

(b)   Kubwa Ltd. is considering to undertake a