



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF BUSINESS, ECONOMICS AND ACCOUNTING

DEPARTMENT OF ECONOMICS AND BUSINESS SCIENCES

EXAMINATION PAPER

COURSE CODE : CBM 223
COURSE TITLE : BUSINESS FINANCE
SPECIAL REQUIREMENTS : Non-Programmable Calculator,
Formula Booklet
Financial Tables
DURATION : 3 Hours
LEVEL : 2.2
DATE :

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Answer **any four** questions
3. The number of marks for each question or part question is shown in brackets []
4. Show all your workings in order to gain full marks.
5. Begin each answer on a new page.
6. **DO NOT OPEN THIS PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR.**

Question 1

[25]

- a) Distinguish between primary and secondary capital markets with reference to Zimbabwe [5]
- b) Explain clearly what is meant by corporate governance and give real life examples where the governance structure of a corporate may result in costs to the corporate. Provide measures that can be put in place to reduce the costs. [20]

Question 2

[25]

Jaka public limited company has a net income of \$66 000, total assets of \$500 000, total liabilities of \$250 000 and the company has declared a dividend of \$22 000, Assuming this dividend pay-out ratio is not likely to change in the future;

- a) With the aid of example (s), distinguish between internal growth rate (IGR) and sustainable growth rate (SGR) of a firm. [8]
- b) What is the IGR of Jaka public limited company? [5]
- c) What is the SGR of Jaka public limited company? [5]
- d) Explain the determinants of Jaka public Limited's growth rate. [7]

Question 3

[25]

- a) You and your friends need to accumulate \$25,000 in 10 years in order to buy a piece of land for your poultry project. How much will you have to invest right now if your rate of return is 6% compounded semi-annually? [6]
- b) You and your friends have decided to accumulate \$10,000 for the construction of fowl run for the poultry project. To do so, you plan to make deposits of \$1,500 per year, with the first payment being made one year from now. The investment earns 8% compounded annually. How large will your last deposit be? [15]
- c) Explain other possible ways of raising finance for your poultry project. [4]

Question 4**[25]**

- a) Firms A and B have debt/total asset ratios of 75% and 50% and returns on total assets of 10% and 15% respectively. Which firm has the greatest return on equity? (explain) [3]
- b) Terry Co. has a profit margin of 15 percent on sales of \$20,000,000. If the firm has debt of \$7,500,000, total assets of \$22,500,000, and an after-tax interest cost on total debt of 5 percent, what is the firm's ROA? [5]
- c) Terry Co. has had sales this year of \$1,000,000. Their selling and administrative expense was \$220,000, COGS was \$425,000, Interest Expense of \$20,000, outstanding debt was \$150,000 and depreciation was \$75,000. Timmons has a 40% corporate tax rate.
- i. What is Terry Co. Net Income for the year? [5]
 - ii. What is Terry Co. Operating Cash Flow for the year? [3]
- d) The Tina Construction Company has projected next year's sales to be \$6,000,000. Construct a pro forma balance sheet given the following information. COGS are 50% of sales and credit sales are 60% of total sales. Current Ratio 1.5 Debt Ratio 60% Inventory Turnover 6 Accts. Rec. Period 60 days Fixed Asset Turnover 2 Times Interest Earned 8.0 Profit Margin .27 Return on Assets 30%. [9]

Question 5**[25 marks]**

Metro Peach and Zapalala wholesalers, have the following accounting ratios for the year 2021

	<i>Metro peach</i>	<i>Zapalala</i>
Return on capital employed (ROCE) (%)	28.25	13.51
Return on ordinary shareholders' funds (ROSF) (%)	51.95	18.35
Gross profit margin (%)	50.00	40.00
Operating profit margin (%)	20.00	10.00
Settlement period for trade receivables (days)	73	91
Settlement period for trade payables (days)	37	46
Current ratio	1.63: 1	1.37: 1

Acid test	0.72	0.60
Gearing (%)	56.31	58.55

On the basis of these ratios, comment on the performance of metro peach in 2021 as compared with Zapalala (25 marks).

END OF PAPER

ZEGU BUSINESS FINANCE-2021

FINANCIAL & MATHS TABLES AND FORMULAE-FOR CBM204

Present value table For Practice and Exam Use

Present value of 1.00 unit of currency, that is $(1 + r)^{-n}$ where r = interest rate; n = number of periods until payment or receipt.

Periods (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods (n)	Interest rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Cumulative present value of 1.00 unit of currency per annum

Receivable or Payable at the end of each year for n years $\left[\frac{1-(1+r)^{-n}}{r} \right]$

Periods (n)	Interest rates (r)									
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods (n)	Interest rates (r)									
	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

FORMULAE

Valuation models

- (i) Irredeemable preference shares, paying a constant annual dividend, d , in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_{\text{pref}}}$$

- (ii) Ordinary (equity) shares, paying a constant annual dividend, d , in perpetuity, where P_0 is the ex-div value:

$$P_0 = \frac{d}{k_e}$$

- (iii) Ordinary (equity) shares, paying an annual dividend, d , growing in perpetuity at a constant rate, g , where P_0 is the ex-div value:

$$P_0 = \frac{d_1}{k_e - g} \quad \text{or} \quad P_0 = \frac{d_0[1 + g]}{k_e - g}$$

- (iv) Irredeemable bonds, paying annual after-tax interest, $i[1 - t]$, in perpetuity, where P_0 is the ex-interest value:

$$P_0 = \frac{i[1 - t]}{k_{\text{dnet}}}$$

or, without tax:

$$P_0 = \frac{i}{k_d}$$

- (v) Total value of the geared entity, V_g (based on MM):

$$V_g = V_u + TB$$

- (vi) Future value of S , of a sum X , invested for n periods, compounded at $r\%$ interest:

$$S = X[1 + r]^n$$

- (vii) Present value of 1.00 payable or receivable in n years, discounted at $r\%$ per annum:

$$PV = \frac{1}{[1 + r]^n}$$

- (viii) Present value of an annuity of 1.00 per annum, receivable or payable for n years, commencing in one year, discounted at $r\%$ per annum:

$$PV = \frac{1}{r} \left[1 - \frac{1}{[1 + r]^n} \right]$$

- (ix) Present value of 1.00 per annum, payable or receivable in perpetuity, commencing in one year, discounted at $r\%$ per annum:

$$PV = \frac{1}{r}$$

- (x) Present value of 1.00 per annum, receivable or payable, commencing in one year, growing in perpetuity at a constant rate of $g\%$ per annum, discounted at $r\%$ per annum:

$$PV = \frac{1}{r - g}$$

Cost of capital

- (i) Cost of irredeemable preference shares, paying an annual dividend, d , in perpetuity, and having a current ex-div price P_0 :

$$k_{\text{pref}} = \frac{d}{P_0}$$

- (ii) Cost of irredeemable bonds, paying annual net interest, $i[1-t]$, and having a current ex-interest price P_0 :

$$k_{d \text{ net}} = \frac{i[1-t]}{P_0}$$

- (iii) Cost of ordinary (equity) shares, paying an annual dividend, d , in perpetuity, and having a current ex-div price P_0 :

$$k_e = \frac{d}{P_0}$$

- (iv) Cost of ordinary (equity) shares, having a current ex-div price, P_0 , having just paid a dividend, d_0 , with the dividend growing in perpetuity by a constant $g\%$ per annum:

$$k_e = \frac{d_1}{P_0} + g \quad \text{or} \quad k_e = \frac{d_0[1+g]}{P_0} + g$$

- (v) Cost of ordinary (equity) shares, using the CAPM:

$$k_e = R_f + [R_m - R_f]\beta$$

- (vi) Cost of ordinary (equity) share capital in a geared entity :

$$k_{eg} = k_{eu} + [k_{eu} - k_d] \frac{V_D [1-t]}{V_E}$$

- (vii) Weighted average cost of capital, k_0 or WACC

$$WACC = k_e \left[\frac{V_E}{V_E + V_D} \right] + k_d [1-t] \left[\frac{V_D}{V_E + V_D} \right]$$

- (viii) Adjusted cost of capital (MM formula):

$$K_{adj} = k_{eu} [1 - tL] \quad \text{or} \quad r^* = r[1 - T^*L]$$

- (ix) Ungear β :

$$\beta_u = \beta_g \left[\frac{V_E}{V_E + V_D [1-t]} \right] + \beta_d \left[\frac{V_D [1-t]}{V_E + V_D [1-t]} \right]$$

- (x) Regear β :

$$\beta_g = \beta_u + [\beta_u - \beta_d] \frac{V_D [1-t]}{V_E}$$

- (xi) Adjusted discount rate to use in international capital budgeting (International Fisher effect)

$$\frac{1 + \text{annual discount rate B\$}}{1 + \text{annual discount rate A\$}} = \frac{\text{Future spot rate A\$/B\$ in 12 months' time}}{\text{Spot rate A\$/B\$}}$$

where A\$/B\$ is the number of B\$ to each A\$

Other formulae

(i) Expectations theory:

$$\text{Future spot rate A\$/B\$} = \text{Spot rate A\$/B\$} \times \frac{1 + \text{nominal country B interest rate}}{1 + \text{nominal country A interest rate}}$$

where:

A\$/B\$ is the number of B\$ to each A\$, and

A\$ is the currency of country A and B\$ is the currency of country B

(ii) Purchasing power parity (law of one price):

$$\text{Future spot rate A\$/B\$} = \text{Spot rate A\$/B\$} \times \frac{1 + \text{country B inflation rate}}{1 + \text{country A inflation rate}}$$

(iii) Link between nominal (money) and real interest rates:

$$[1 + \text{nominal (money) rate}] = [1 + \text{real interest rate}][1 + \text{inflation rate}]$$

(iv) Equivalent annual cost:

$$\text{Equivalent annual cost} = \frac{\text{PV of costs over } n \text{ years}}{n \text{ year annuity factor}}$$

(v) Theoretical ex-rights price:

$$\text{TERP} = \frac{1}{N + 1} [(N \times \text{cum rights price}) + \text{issue price}]$$

(vi) Value of a right:

$$\frac{\text{Theoretical ex rights price} - \text{issue price}}{N}$$

where N = number of rights required to buy one share.

Wish you the very best!

15/15 AM

GM@ZEGU-2021