

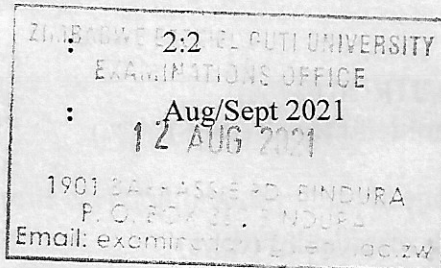
ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF BUSINESS, ECONOMICS AND ACCOUNTING

DEPARTMENT OF BUSINESS ADMINISTRATION AND MANAGEMENT

EXAMINATION PAPER

COURSE CODE : CBM204
COURSE TITLE : BUSINESS FINANCE
SPECIAL REQUIREMENTS : DAL Calculator, Financial Tables
DURATION : 3 Hours
LEVEL :
DATE :



INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Answer any **FOUR (4)** questions, each question carries **25 marks**.
3. Begin each question on a new page.
4. The number of marks for each question or part question is shown in brackets []
5. Reading time is 15 minutes **OR** as shall be advised by the invigilator(s).

pm 20 39

Question 1

Coviddy Ltd is assessing an investment project. The estimated cash flows are as follows:

Year	\$m	
0	10	Outflow
1	5	Inflow
2	4	Inflow
3	3	Inflow
4	2	Inflow

The business's cost of finance is 15 per cent p.a. and it seeks projects with a three year maximum discounted payback period.

Should the project be undertaken on the basis of

- a) ARR,
- b) PBP
- c) NPV,
- d) PI, and
- e) IRR (25 marks)

Question 2

Metro Peach, a wholesaler, has the following accounting ratios for last year and this year:

	<i>Last year</i>	<i>This year</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 the business this year as compared with last year (25 marks).

Question 3

- a) Bindura Ltd's capital structure (taken from the balance sheet) is as follows:

	\$m
Ordinary shares of \$0.50 each	8
10% preference shares of £1.00	5
Reserves	6
12% loan notes	10

The business pays corporation tax at the rate of 50 per cent and is expected to earn a consistent annual profit, before interest and tax, of \$9 million.

The current market prices of the business's shares are:

Preference shares	\$0.65
Ordinary shares	\$0.80

The loan notes are irredeemable and have a market value of \$100 per £100 nominal value.

What is the weighted average cost of capital?(10 marks)

- b) Shelt-Trish Ltd uses a component, which it buys in from a supplier, in its manufacturing process. The estimated annual usage is 23,000 units, and these are used fairly steadily throughout the year. It is estimated that the various inventories holding costs amount to \$1.50 per unit per year. Investigation indicates that it costs about \$50 to process each order for the component. Experience shows that delivery always occurs within one week of placing an order.

(a) What is the economic order quantity for the component? (5 marks).

(b) At what inventories level should the order be placed to be confident that delivery would occur before the existing inventories of the components is all used? (5 marks).

- c) What is the difference between shareholders and stakeholders? Give examples. (5 marks).

Total 25 marks

Question 4

- a) Who reads the annual reports for corporations or public limited companies and why? (15 marks)

- b) Define working capital. (2 marks)

- c) A company has a net working capital of \$70 000, non-current assets of \$50 000, and equity equal to \$80 000. What are the non-current liabilities?

Show all workings and formula (5marks)

- d) what are the 3 sources of cash flow in a business

(3marks)

Total 25 marks

Question 5

Theotsi Mine, a subsidiary of Kitsiyatota Ltd, operates an iron ore crushing plant. The plant broke down a few years ago and needed some spares to resume operations to meet the current demand. The mine was advised by a local bank to get a loan to buy the spares. The mine eventually applied for a five year loan of Z\$50 000.

The loan carried a 12% annual interest compounded annually

Required

- a) Calculate the annual instalment Theotsi Mine would pay on the loan (**5 marks**)
- b) Prepare and present the Loan Amortisation Schedule for Theotsi (**15 marks**)
- c) How else could Theotsi have raised such an amount without going to the bank? (**5 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:

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

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!

GM@ZEGU-2021