



ZCAS University

BAC1302 INTRODUCTION TO FINANCE

FINAL EXAM

WEDNESDAY 5TH JUNE 2024

TIME: 08:30-11:30HRS

TIME ALLOWED: THREE HOURS (plus 5 minutes to read through the paper)

INSTRUCTIONS:

1. Section A: this question is **compulsory** and must be attempted.
2. Sections B: Answer any **THREE (3)** questions from this section.
3. This question paper carries a total of **100 marks**.

Candidates must **not turn this page** until the invigilator tells them to do so.

SECTION A : is compulsory and must be attempted

QUESTION ONE

Parvan plc plans to undertake a capital project which will require an investment in new surgical equipment worth K50,000. It will be used on a project for four years after which it will be disposed of on the final day of year 4. Disposal proceeds of the asset are K10,000. Tax is payable at 30% one year in arrears, and tax allowable depreciation is available at 25% reducing balance. Net operating cash flows from the project are expected to be K12,000 pa. The company's cost of capital is 12%.

- (a) Calculate the tax allowance depreciation and hence the tax savings for each year from year 1 to year 4. (8 marks)
- (b) Identify the future cash flows for the project and calculate its net present value (NPV). (10 marks)
- (c) John limited has already decided to acquire a new machine in order to make cost savings on production. It needs to decide whether to lease or buy the machine. The machine would cost K400,000 and the company would be able to claim tax allowable depreciation on a 25% reducing balance basis.

Alternatively, the company could enter into a four year lease for the asset with annual payments of K120,000. Tax is payable at 30%, one year in arrears and the interest rate is 10% per annum.

Required:

Calculate whether the company should lease or buy the asset. (14 marks)

Write one advantage and one disadvantage of NPV, ARR, IRR and Payback period (8 marks)

(TOTAL: 40 MARKS)

SECTION B: Attempt ANY THREE questions in this section

QUESTION TWO

Mr Zimba is considering an investment in new technology. It is anticipated that this investment will enhance the company's future cash flow. The Investment at the start of the project A would be K300,000 and project B would be K250,000. Assuming nil disposal value for project B and K10,000 for project A after five years. Assume the cost of capital is 10%.

The annual profits(losses)

	Project A	Project B
1	80,000	80,000
2	100,000	90,000
3	120,000	65,000
4	40,000	90,000
5	20,000	(30,000)

Required:

- Calculate the simple payback Period and advise on how long it will take to recoup the initial investment and comment of the results. (4marks)
- Calculate the net Present Value (NPV) of the investment and comment on the viability of this investment projects. (6 mark)
- Profitability Index (PI) of the investment and comment on the results. (2marks)
- Calculate the accounting Rate of Return (ARR) and comment (4marks)
- Calculate the Internal rate of return on a project which has a lower NPV (4 marks)

(TOTAL: 20 MARKS)

QUESTION THREE

The following is the capital structure of a stock market listed company.

	K'000
80 million ordinary shares (K0.5)	40,000
8% preference shares of K1.00	10,000
7% K100 redeemable	10,000
10% Bank loan	5,000

Total capital employed

65,000

The ordinary shares are currently quoted at K2.10 ex-div while the preference shares are trading at K0.85 ex-dividend. The firm pays tax at 25% per year. Debenture stock is quoted at K96 cum -int per K100 nominal value and will be redeemable at par in exactly 3 years. The company has just paid its 2024 dividend of K0.18 per share.

Previous dividends were:

Year	2021	2022	2023
Dividend per share (K)	0.150	0.16	0.168

REQUIRED:

Calculate the weighted average cost of capital using market value as weights. (16 marks)

(4 marks)

Describe the assumptions supporting the use of WACC?

(TOTAL : 20 MARKS)

QUESTION FOUR

- (a) Peter plc has an issued share capital of 5 million shares each priced at K8.50, makes a rights issue of one new share for every four shares currently in issue. The issue price is K6.50.

Required:

Calculate the theoretical ex rights price (TERP) and value of rights. (6 marks)

- Explain in detail what financial intermediation is and the importance of such a function to an economy like Zambia. (6marks)
- Why should it worry when you hear that financial intermediation is Low in Zambia and what do you think should be done to improve financial intermediation. (4 marks)
- List and explain the four finance functions in an organisation (4marks)
(12 marks)

(TOTAL: 20 MARKS)

QUESTION FIVE

Company uses an item of inventory as follows; annual demand 24,000 units, purchase price K80, ordering costs K 24, annual holding cost 5% of the purchase price and the economic order quantity is 540 units.

Required:

Assess whether it is financially beneficial for the business to order 1,500 units at a time in order to secure a 4% discount. (8 marks)

Sales revenue	600,000
Gross profit	160,000
Inventory	60,000
Accounts receivables	100,000
Accounts payable	70,000

Required

- (b) Calculate the level of working capital (2 marks)
- (c) Calculate the cash operating cycle (to nearest day) (2 marks)
- (i) What are the two objectives of working capital management (4 marks)
- (ii) Describe two limitation of working capital requirements (4 marks)

(TOTAL: 20 MARKS)

END OF EXAMINATION

$$K_e = R_f + (R_m - R_f) \times \beta$$

$$IRR = A + \frac{a}{(a - b)} \times (B - A)$$

PRESENT VALUE TABLE

Present value of 1, i.e. $(1 + r)^{-n}$ Where r = discount rate

n = number of periods until payment

Periods (n)	Discount rate (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
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

Periods (n)	Discount rate (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
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	0.074	0.065

ANNUITY TABLE

$$\frac{1 - (1+r)^{-n}}{r}$$

Present value of an annuity of 1, i.e.

Where r = discount rate

n = number of periods until payment

Periods (n)	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
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

Periods (n)	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
12	6.492	6.194	5.918	5.660	5.421	5.197	4.968	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