ULSTER UNIVERSITY BUSINESS SCHOOL

ONLINE EXAMINATION

WEDNESDAY 15 MAY 2024 (14.00)

Module Code: **ACF838** **CRN: 45001**

Title: **CORPORATE FINANCIAL MANAGEMENT**

Time Allowed: 3 HOURS (**plus 1 additional hour for online submission**)

You are allowed ONE additional hour to assist with preparation and submission of your Exam into the Blackboard Learn (BBL) Turn-it-in drop box set up for this assessment.

You should save your work as a PDF/scan/photograph to provide evidence of completion on time. Please save your work into ONE PDF document with clear page numbers. This will be important should you have a problem with uploading/electronic submission of your work during the one hour upload time.

Instructions to Candidates:

You should read this section carefully before commencement of the assessment. You will have received this examination paper via BBL as a timed assessment as well as via an email from your Module Coordinator on the date of your examination.

Answer BOTH questions from SECTION A and TWO questions from SECTION B. All answers must be handwritten.

You should include your Student ID number on all pages of your examination assessment answer document and on any attachment(s), e.g., any other documentation being submitted along with your examination answer document. (Consider using header or footer to insert your SID)

Important: in submitting my test you need to include this statement…
I declare that this is my own work and that I have not collaborated with a third party to gain a favourable outcome. Any material I have referred to has been accurately and consistently referenced. I have read the University's policy on plagiarism and understand the definition of plagiarism as given in the course handbook. If it is shown that material has been plagiarised, or I have otherwise attempted to obtain an unfair advantage for myself or others, I understand that I may face sanctions in accordance with the policies and procedures of the University. A mark of zero may be awarded and the reason for that mark will be recorded on my file.

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ULSTER UNIVERSITY

UNIVERSITY EXAMINATIONS: MAY 2024

Module Code: **ACF838** **CRN: 45001**

Title: **Corporate Financial Management**

Time Allowed: **3 Hours**

Use of Dictionaries:	**Dictionaries are not permitted**
Examination Aids:	**Calculators, which are in accordance with University policy, are permitted. Discount Tables are attached.**
Instructions to Candidates:	**Candidates should read this section carefully before commencement of the examination.** **Answer ALL questions from Section A;** **Choose TWO questions from Section B.**

Students are advised to write their ID number and desk number only on any attachment, eg graph paper, or any other documentation being submitted with their examination script book(s).

Xiaojing Wang

SECTION A-ANSWER ALL QUESTIONS IN THIS SECTION

Mylan, a privately-owned profit-oriented training firm, has recently signed a five-year contract with an Accounting firm Accellent. This contract allows Mylan to run a course training Accellent's new employees. This course leads to an equivalent Bachelor degree in Accounting upon completion. A condition of the contract is that Mylan would develop a new study hub on Accellent's headquarter in Belfast.

The estimated cash inflows to Mylan from this contract (before taking into account costs) are as follows(Table 1):

	Year 1	Year 2	Year 3	Year 4	Year 5
Degree	£750,000	£900,000	£1,500,000	£1,500,000	£1,500,000

Mylan is to develop the hub over a three-year period. The total investment cost for the hub is estimated at £3,000,000 and two possible options for funding the investment is being considered:

1. Mylan would finance the investment entirely from its own equity funds. £1,200,000 would be invested immediately with a further £600,000 at the end of each of the next three years.

2. Mylan and Accellent would each provide half of the total finance for the investment. The total amounts are required immediately. In return, Mylan would provide 10% of the cash inflows (from the above Table 1) each year during the 5-year contract period to Accellent and a one-off £1,000,000 payment to Accellent at the end of year 5. All payments will be paid out of the contract's operating cash flows.

The directors at Mylan prefer the first option as it requires a smaller capital investment from the company at the outset. If the first option is chosen, then Mylan will be able to make an immediate investment in their other businesses, generating additional cash incomes for the firm as follows:

For option 1 only	Year 1	Year 2	Year 3	Year 4	Year 5
Expanding other businesses	£50,000	£150,000	£150,000	£200,000	£200,000

Under **both options**, the following expenses will be incurred:

1. Staff salaries, pensions and national insurance contributions amount to £200,000 per year in the five-year period.
2. A manager is to be hired to oversee this contract from beginning to end, and the firm estimates that an annual salary for the manager will be £70,000 per year in the first three years, increasing to £80,000 in year 4 and year 5.
3. Mylan also has to pay Accellent a fixed £60,000 per year for using Accellent's resources, for example electricity, cleaning services, security etc…

Mylan has a cost of capital of 10%. Ignore tax.

Required:

a) Calculate the NPV of the contract for Mylan under option 1.

(13 marks)

b) Calculate the NPV of the contract for Mylan under option 2, and advise the directors of Mylan which option should be chosen.

(8 marks)

c) Calculate the sensitivity of the project to its cost of capital for option 1 only.

(4 marks)

d) Calculate the Payback Period of the project under both options, and explain how the Payback Period method can be used in investment appraisal.

(5 marks)

[Total: 30 marks]

Question 2

Kendall Plc manufactures electronic components. It is currently considering investing in a new capital project which will require an initial investment of £1 million for new plant and machinery, and £500,000 for additional working capital. The project relates to the manufacture of furniture and would enable the company to diversity its interests.

The company is currently financed by 2,000,000 £1 equity shares, 2,000,000 £1 preference shares, and £1,300,000 8% debentures (nominal value).

Kendall will shortly pay a dividend of 7.0p per share to its ordinary shareholders. Dividends in recent years have been paid as follows:

2018 4.6p
2019 5.0p
2020 5.4p
2021 6.0p
2022 6.5p

The current market price of each ordinary share is £1.60.

The current market value of the 8% debentures is £88. These debentures are redeemable at par value after 3 years.

The preference shares are trading at 63p(ex-dividend). They pay a dividend of 8% (of nominal value) annually.

Corporate tax is 20%.

Required:

a) Explain why a company uses redeemable debentures for financing, and its effect on the company's liquidity and finance risk.

(5 marks)

b) Calculate the cost of ordinary shares, preference shares and debentures separately.

(12 marks)

c) Calculate the Weighted Average Cost of Capital for Kendall Plc. Explain the application of the WACC rate in investment appraisal.

(7 marks)

d) List a few other sources of finance Kendall Plc can use for their short-term and long-term financing needs.

(6 marks)

[Total: 30 marks]

SECTION B-ANSWER ANY TWO QUESTIONS FROM THIS SECTION

Question 3

Davison Ltd is a manufacturing business, and uses the Economic Order Quantity (EOQ) method to minimise its costs associated with holding inventory. The following information relates to the use of its inventory.

The monthly demand for their product is 180 units. The costs of ordering inventory from its supplier include fixed costs of £7.00 per order. Davison incurs a £1.5 per unit cost for holding inventory. The purchase price of each unit from the supplier is £19.50.

a) Calculate the EOQ for Davison, and the total cost of inventory, including ordering costs, holding costs and purchase costs.

(6 marks)

b) A new supplier is offering a 3% discount for orders of 220 units or more at any one time and a 4% discount for orders of 265 units or more at any one time. Evaluate the two options, and advise Davison whether it should abandon its current EOQ method and accept a discount offer.

(9 marks)

c) Give advice to Davison Ltd on trade receivables management. Your discussion should include an evaluation of benefits and costs associated with allowing credit, and common practices in managing trade receivables.

(5 marks)

[Total: 20 marks]

Question 4
The following information relates to Vonn Ltd for the year ended 31 December 2022 and 2023:

Extracts from the Statement of Financial Performance for the year ended 31 Dec 2022 and 2023:

	31st Dec 2023 (£'000)	31st Dec 2022 (£'000)
Profit before interest and taxation	5280	3000
Interest	(1,000)	(1000)
Profit before taxation	4,280	2,000
Less taxation	(1,230)	(501)
Profit for the year	3,050	1,499

Extracts from the Statement of Financial Position as at 31st Dec 2023 and 31st Dec 2022:

	31st Dec 2023(£'000)	31st Dec 2022(£'000)
ASSETS		
Non-current assets		
Property	6,000	6,000
Plant and Machinery	1,200	1,000
	7,200	7,000
Current assets		
Inventory	6,570	6,430
Trade receivables	11,390	11,230
	17,960	17,660
Total assets	25,160	24,660
EQUITY AND LIABILITIES		
Equity		
Equity share capital (nominal £1 each)	3,800	3,800
Revenue reserves	2,580	2,550
Total equity and reserves	6,380	6,350
Non-current liabilities		
Redeemable debentures	1,900	1,900
Current liabilities		
Trade payables	12,091	11,685
Overdraft	4,789	4,725
	16,880	16,410
Total equity and liabilities	25,160	24,660

Required:

a) Calculate the following ratios for the financial year 2023 and 2022:
   - Liquidity ratios, including current ratios and acid test ratios
   - Gearing ratios
   - Interest cover
   - Return on capital employed

(10 marks)

b) Comment on the company's performance in 2023, with reference to results from a) and information from below. Give advice on how the company can improve performance.

	Local competitor Y/E 2023	Industry average Y/E 2023
Current ratio	1.9:1.0	2.1:1.0
Acid test ratio	1.1:1.0	1.0:1.0
Interest cover	8 times	9 times
Gearing	25%	30%
ROCE	50%	65%

(10 marks)
[Total: 20 marks]

Question 5

a) Critique how company dividend decisions have evolved over the last half century. Your answer should critique the various forms of dividends that firms use to make distributions to shareholders. Use of academic literature for supporting your arguments would lead to extra marks.

(12 marks)

b) Explain the differences between debt financing and equity financing. Your discussion should include an evaluation of costs, benefits, risk, tax implications etc of debt and equity financing, and impact on a company's capital structure.

(8 marks)

[Total: 20 marks]

END OF EXAMINATION PAPER

Present Value Tables

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

where r = discount rate

n = number of periods until payment

Periods	Discount rates (r)									
(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	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
	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	0.074	0.065
	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.807	0.800	0.794	0.787	0.781	0.775	0.769
2	0.683	0.672	0.661	0.650	0.640	0.630	0.620	0.610	0.601	0.592
3	0.565	0.551	0.537	0.525	0.512	0.500	0.488	0.477	0.466	0.455
4	0.467	0.451	0.437	0.423	0.410	0.397	0.384	0.373	0.361	0.350
5	0.386	0.370	0.355	0.341	0.328	0.315	0.303	0.291	0.280	0.269
6	0.319	0.303	0.289	0.275	0.262	0.250	0.238	0.227	0.217	0.207
7	0.263	0.249	0.235	0.222	0.210	0.198	0.188	0.178	0.168	0.159
8	0.218	0.204	0.191	0.179	0.168	0.157	0.148	0.139	0.130	0.123
9	0.180	0.167	0.155	0.144	0.134	0.125	0.116	0.108	0.101	0.094
10	0.149	0.137	0.126	0.116	0.107	0.099	0.092	0.085	0.078	0.073
11	0.123	0.112	0.103	0.094	0.086	0.079	0.072	0.066	0.061	0.056
12	0.102	0.092	0.083	0.076	0.069	0.063	0.057	0.052	0.047	0.043
13	0.084	0.075	0.068	0.061	0.055	0.050	0.045	0.040	0.037	0.033
14	0.069	0.062	0.055	0.049	0.044	0.039	0.035	0.032	0.028	0.025
15	0.057	0.051	0.045	0.040	0.035	0.031	0.028	0.025	0.022	0.020

Annuity Table

Present value of an annuity of 1, i.e. $\frac{1 - (1 + r)^{-n}}{r}$

where r = discount rate

n = number of periods

Periods	Discount rates (r)									
(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
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367
15	13.87	12.85	11.94	11.12	10.38	9.712	9.108	8.559	8.061	7.606
	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
	21%	**22%**	**23%**	**24%**	**25%**	**26%**	**27%**	**28%**	**29%**	**30%**
1	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	1.509	1.492	1.474	1.457	1.440	1.424	1.407	1.392	1.376	1.361
3	2.074	2.042	2.011	1.981	1.952	1.923	1.896	1.868	1.842	1.816
4	2.540	2.494	2.448	2.404	2.362	2.320	2.280	2.241	2.203	2.166
5	2.926	2.864	2.803	2.745	2.689	2.635	2.583	2.532	2.483	2.436
6	3.245	3.167	3.092	3.020	2.951	2.885	2.821	2.759	2.700	2.643
7	3.508	3.416	3.327	3.242	3.161	3.083	3.009	2.937	2.868	2.802
8	3.726	3.619	3.518	3.421	3.329	3.241	3.156	3.076	2.999	2.925
9	3.905	3.786	3.673	3.566	3.463	3.366	3.273	3.184	3.100	3.019
10	4.054	3.923	3.799	3.682	3.571	3.465	3.364	3.269	3.178	3.092
11	4.177	4.035	3.902	3.776	3.656	3.543	3.437	3.335	3.239	3.147
12	5.278	4.127	3.985	3.851	3.725	3.606	3.493	3.387	3.286	3.190
13	4.362	4.203	4.053	3.912	3.780	3.656	3.538	3.427	3.322	3.223
14	4.432	4.265	4.108	3.962	3.824	3.695	3.573	3.459	3.351	3.249
15	4.489	4.315	4.153	4.001	3.859	3.726	3.601	3.483	3.373	3.268

FORMULAE

Capital asset pricing model

$$r_j = r_f + \beta(r_m - r_f)$$

Dividend valuation model (with growth)

$$Ke = \frac{D_0(1 + g)}{P_0} + g$$

Interpolation (IRR)

$$\text{IRR rate} = \text{Rate 1} + \frac{\text{NPV 1 (Rate 2 – Rate 1)}}{\text{NPV 1 - NPV 2}}$$

Nominal discount rate

$$\text{Nominal discount rate} = ((1 + \text{Real rate}) \times (1 + \text{Inflation rate})) - 1$$