UNIVERSITY OF GREATER MANCHESTER

GREATER MANCHESTER BUSINESS SCHOOL

BA (HONS) ACCOUNTANCY

SEMESTER TWO EXAMINATIONS 2024/2025

FINANCIAL MANAGEMENT

MODULE NO: ACC6003

Date: Tuesday 13th May 2025

Time: 10.00am – 1.00pm

INSTRUCTIONS TO CANDIDATES:

There are **FIVE** questions on this paper.

Answer **ALL** questions.

All questions carry equal marks.

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Question 1

FuturaTech Ltd, a UK-based technology firm, is planning a major expansion into renewable energy solutions. The company has identified a lucrative opportunity to develop a state-of-the-art battery storage system, designed to support the growing demand for sustainable energy storage in both residential and commercial sectors.

To finance this ambitious project, FuturaTech Ltd has decided to raise capital through a combination of equity and redeemable loan notes. The board of directors believes that this financing mix will provide the company with the necessary funds while balancing the cost of capital and maintaining financial flexibility.

As a financial analyst at FuturaTech Ltd, you have been tasked with determining the **Weighted Average Cost of Capital (WACC)** based on the company's capital structure, cost of equity, cost of debt, and tax implications. Using the information provided, calculate the WACC.

Capital Structure:
Ordinary Shares:
Number: 8,500,000
Nominal Value: £1
Cum Div Market Price: £1.70
Proposed Dividend: £0.12 (compared to £0.09 paid five years ago)

Redeemable Notes:
Number: 0.75 million
Nominal Value: £1
Coupon Rate: 9%
Current Value Cum Interest: £107.50
Redemption Premium: 5%
Redemption Period: 5 years
Taxation: Corporation Tax Rate: 20%

Required:

Calculate The Weighted Average Cost of Capital (WACC)

Total 20 Marks

End of Question 1

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Question 2

EcoGen Ltd, a UK-based clean energy company, is considering investing in a new hydroelectric power plant to expand its renewable energy portfolio in the USA. The project is expected to generate steady cash flows over the next 4 years, contributing to the company's commitment to sustainability and long-term growth. Before proceeding, the board of directors wants a thorough financial analysis to determine whether the project is financially viable. The company has estimated the **initial capital expenditure**, along with projected **annual cash inflows** throughout the project's lifespan. Additionally, the required rate of return has been determined based on EcoGen Ltd's cost of capital. As a financial analyst, you are required to calculate the **Net Present Value (NPV) and Profitability Index (PI)** using the given financial data.

Machine Cost	$1,600,000	
Working Capital	$100,000	
Exchange rate	£1	$1.40
Capital allowances	25%	
Corporation Tax	30%	

	$
Sales Price	24
Material Cost	6.25
Labour Cost	4.5

Year on Year inflation	Year 2	Year 3	Year 4
Sales Price	6%	8%	9%
Material Cost	5%	6%	7%
Labour Cost	3%	4%	6%

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Question 2 Continued

Sales units

	Year 1	Year 2	Year 3	Year 4
Sales (units)	190,000	165,000	160,000	145,000

Cost of Capital = 10%

Required:

a) **Calculate The Net Present Value (using a cost of capital of 10%) in GBP £.**

(16 Marks)

b) **Calculate the Profitability Index of the Investment.**

(4 Marks)

Total 20 Marks

End of Question 2

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Question 3

GHI Manufacturing Ltd. is a growing industrial firm that operates in a competitive market, where managing cash flow efficiently is essential to sustain operations and fund future expansion. The company faces **fluctuations in daily cash inflows and outflows** due to delays in customer payments and varying supplier costs. To ensure it maintains an optimal cash reserve without holding excessive idle funds, GHI Manufacturing Ltd. plans to implement the **Miller-Orr model** to determine its **ideal cash balance policy** and control transaction costs effectively.

Additionally, the company is reviewing its **capital structure** as it recently secured a loan to finance new production equipment. Management is interested in understanding the financial impact of this debt and how it contributes to the firm's overall value. Using **Modigliani-Miller Proposition with taxes**, the company wants to assess the value created through the **tax benefits of debt financing** and its effect on the firm's total valuation.

GHI Manufacturing Ltd. has the following data for its cash balance management:

- **Lower cash limit (L)** = £35,000

- **Standard deviation of daily cash flow (σ)** = £6,200

- **Daily interest rate (r)** = 0.014% (0.00014 in decimal form)

- **Transaction cost per adjustment (b)** = £140

GHI Manufacturing Ltd. is evaluating its capital structure. The firm has:

- **Unlevered firm value (VU)** = £3,000,000

- **Debt issued** = £750,000

- **Corporate tax rate (T)** = 30%

Using the financial data provided, calculate the following:

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Question 3 Continued

Required:

Using the **Miller-Orr model**, calculate:

a) The **spread** of the cash balance (4 Marks)
b) The **upper cash limit** (4 Marks)
c) The **target cash balance** (4 Marks)

Using **Modigliani-Miller Proposition with taxes**, calculate:

d) The **tax shield** on debt (4 Marks)
e)) The **levered firm value (VL)** (4 Marks)

Total 20 Marks

End of Question 3

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Question 4

A multinational company, **Globex Ltd**, operates in various international markets, including Europe, Asia, and North America. The company primarily trades in USD but generates substantial revenues in EUR and GBP. Over the past two years, Globex Ltd has experienced significant volatility in exchange rates, impacting its financial performance. In the most recent financial year, the company reported a 12% decline in net profit, largely attributed to adverse exchange rate movements.

To mitigate foreign exchange risk, Globex Ltd has considered multiple strategies, including:

1. **Forward Contracts** – Locking in future exchange rates for receivables and payables.

2. **Currency Options** – Using options to hedge against unfavorable currency movements while allowing upside potential.

3. **Natural Hedging** – Matching revenues and costs in the same currency to minimize exposure.

4. **Money Market Hedging** – Using short-term borrowing and lending to offset currency risks.

5. **Operational Adjustments** – Restructuring supply chain and pricing strategies to account for currency fluctuations.

Despite implementing a mix of these strategies, the company's financial statements indicate that hedging costs have reduced margins, and natural hedging has limited effectiveness due to disparities in revenue and cost structures across markets.

Required:

Critically evaluate the foreign exchange mitigation strategies used by Globex Ltd, assessing their effectiveness in managing currency risk and their impact on profitability. In your response, consider the balance between risk reduction and cost implications, and propose recommendations for optimising Globex Ltd's foreign exchange risk management approach.

Total 20 Marks

End of Question 4

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Question 5

XYZ Ltd is a mid-sized manufacturing company that has been operating for 15 years. The business has shown steady revenue growth, but its profitability fluctuates due to rising raw material costs and changing market demand. The company owns valuable fixed assets, including machinery and a production facility, and has developed strong brand recognition in its industry.

The owner is considering selling the business and has received varied valuations from potential buyers, financial analysts, and investment firms. Some valuations are based on **asset-based methods**, others rely on **discounted cash flow (DCF) analysis**, while some use **market-based comparisons** with similar companies.

Required

Critically discuss the advantages and limitations of these different valuation methods in the context of XYZ Ltd. Consider factors such as industry conditions, intangible assets, financial performance, and market volatility.

Total 20 Marks

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FORMULAE AND TABLES

Economic order quantity

$$= \sqrt{\frac{2C_oD}{C_H}}$$

Miller-Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

$$\text{Spread} = 3\left[\frac{\frac{3}{4} \times \text{transaction cost} \times \text{variance of cash flows}}{\text{interest rate}}\right]^{1/3}$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i\,(E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d\,(1-T))}\,\beta_e\right] + \left[\frac{V_d\,(1-T)}{V_e + V_d\,(1-T))}\,\beta_d\right]$$

The Growth Model

$$P_0 = \frac{D_0(1+g)}{(r_e - g)} \qquad r_e = \frac{D_0(1+g)}{(P_0)} + g$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$\text{WACC} = \left[\frac{V_e}{(V_e + V_d)}\right]K_e + \left[\frac{V_d}{V_e + V_d}\right]K_d\,(1-T)$$

The Fisher formula

$$(1 + i) = (1 + r)(1 + h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 \times \frac{(1 + h_c)}{(1 + h_b)} \qquad F_0 = S_0 \times \frac{(1 + i_c)}{(1 + i_b)}$$

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Present Value Table

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

Where   r = discount rate
           n = number of periods until payment

Discount rate (r)

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	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·914	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·350	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(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	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

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Annuity Table

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

Where
r = discount rate
n = number of periods

Discount rate (r)

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	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·368	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·255	10·575	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·134	11·348	10·635	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·004	12·106	11·296	10·563	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·865	12·849	11·938	11·118	10·380	9·712	9·108	8·559	8·061	7·606	15

(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	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

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