UNIVERSITY OF GREATER MANCHESTER

GREATER MANCHESTER BUSINESS SCHOOL

MSC ACCOUNTANCY AND FINANCIAL MANAGEMENT

SEMESTER ONE EXAMINATIONS 2025-26

ADVANCED FINANCIAL MANAGEMENT

MODULE NO: ACC7504

Date: Wednesday 14 January 2026 **Time: 10.00 – 1.00pm**

INSTRUCTIONS TO CANDIDATES:

There are three questions on this paper.

Answer ALL questions from sections A and B

This is a closed book examination

Formulas are contained on pages 8 - 12

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SECTION A – THIS ONE QUESTION IS COMPULSORY AND MUST BE ATTEMPTED

Question 1

The following exhibits provide information relevant to the question:

- **Orion Co expansion plans**
- **Financial details of the project**
- **Follow-on option**

Exhibit 1: Orion Co expansion plans

Orion Co is a US-based manufacturer of electric scooters, with the functional currency being the US dollar ($).

The company's board has decided to expand into South America by launching a five-year project involving the establishment of a new production facility in Lordavia where the currency is the Lordavia Peso (LP).

Lordavia has experienced rapid economic growth in recent years, supported by government incentives that have attracted significant investment in manufacturing and technology. The country has a large pool of skilled labour and many modern, state-of-the-art industrial facilities.

Market research, which has cost $400,000 to date, indicates that although demand for electric scooters in Lordavia is currently limited, it is expected to grow substantially in the coming years.

Exhibit 2: Financial details of the project

Orion Co intends to invest 5 million LP to purchase a factory in Lordavia plus an additional 1 million LP for new production machinery and equipment. These payments will be made immediately.

At the end of five years, the machinery and equipment will have a residual value of 100,000 LP, while the factory will be worth 3.5 million LP. Working capital of 0.6 million LP will also be required immediately, rising annually in line with Lordavia inflation and recovered in the final year.

Question 1 continues over the page – Please turn the page

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Question 1 continued

Projected sales volumes in Lordavia are as follows:

Year 1: 17,000 units
Year 2: 28,000 units
Year 3: 32,000 units
Year 4: 37,000 units
Year 5: 35,000 units

In Year 1, the unit selling price is expected to be 150 LP, increasing by 5% annually. The unit variable cost in Year 1 is 45 LP, while fixed costs in Year 1 are forecast to be 1.2 million LP, both inflating in line with Lordavia n inflation.

In addition, the US business expects to achieve an incremental pre-tax contribution of $0.15 million in Year 1 from improvements in production methods based on Lordavia n practices. This contribution will rise annually with US inflation.

Taxation: Lordavia applies corporation tax at 20%, while the US rate is 25%. Both countries tax profits in the year they arise, and both allow loss relief against future profits. A bilateral tax treaty exists. Tax depreciation on machinery and equipment is at 20% straight-line, with a balancing adjustment on disposal. The factory is not eligible for tax depreciation.

Other information: The current spot exchange rate is 2.68 LP/$1. Inflation is expected to be 2% annually in the US and 9% annually in Lordavia.

The appropriate cost of capital for this project is 8%.

Exhibit 3: Follow-on option

If successful, the initial Lordavia project may enable Orion Co to expand further by opening a second factory in four years' time. This follow-on investment would require $3 million and is expected to generate an annual after-tax return of $0.4 million in perpetuity from Year 5. The standard deviation of the follow-on cash flows is estimated at 32%, with a risk-free rate of 5%. The business risk profile is expected to be similar to that of the initial project.

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Question 1 continued

Required:

a. Prepare a report for the Board of Orion Co in which you:
   - **i. Calculate the net present value of the initial investment, excluding the follow-on option. Show all workings. (17 marks)**
   - **ii. Calculate the total value of the project, including the follow-on option. (5 marks)**
   - **iii. Discuss the assumptions and approach used in (i) and (ii) above, and recommend whether Orion Co should proceed. (10 marks)**

b. The CEO of Orion Co has expressed concern that past investment decisions by the board showed signs of behavioural bias.
   Explain the following terms: 'gambler's fallacy', 'anchoring', 'herd instinct' and 'confirmation bias'. (8 marks)

   Professional marks are awarded for clarity, evaluation, skepticism and commercial acumen. (10 marks)

(Total: 50 marks)

End of question 1
Questions continue over the page
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SECTION B – BOTH QUESTIONS ARE COMPULSORY AND MUST BE ATTEMPTED

Question 2

The following exhibits provide information relevant to the question:

1. **Altura Co background**
2. **Proposed divestment**
3. **Financial information**

Exhibit 1: Altura Co
Altura Co is a listed hospitality and retail group based in Genovia. While it built its reputation through hotels and restaurants, it has also expanded into the furniture retail sector. The furniture division is forecast to make a profit after tax of $39.3 million in Year 1, representing 28% of Altura Co's projected total profit after tax.

Exhibit 2: Proposed divestment
The economy of Genovia has recently slipped into recession. Altura Co's board is concerned that the furniture division will be heavily impacted, so a rapid sale is under consideration. The finance director believes a sale premium of only 12% above the current free cash flow valuation can be achieved. Sale proceeds are planned to:
(1) repay Altura Co's 5% bonds,
(2) retain $55m in cash, and
(3) reinvest the remainder in non-current assets.

Exhibit 3: Financial information
The current free cash flow valuation of the furniture division, based on a WACC of 15% and perpetual growth of 1%, is $347.6m. Altura Co's current summarised SOFP is as follows:

Non-current assets: $770.4m
Current assets: $330.1m
Total assets: $1,100.5m

Equity: $650m (Share capital $400m, Retained earnings $250m)
Non-current liabilities: $350m (5% bonds $200m, Bank loans $150m)
Current liabilities: $100.5m
Total equity and liabilities: $1,100.5m

Question 2 continues over the page – Please turn the page

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Question 2 continued

Other information:

- Bonds trade at par;
- Book value of furniture assets $220m.
- Additional cash assets earn 4% pre-tax; reinvestment in non-current assets yields 15% pre-tax.
- Food retail sector asset beta is 0.8 (debt beta = 0). Altura Co has 400m $1 shares trading at $1.60 each.
- The FD expects a 5% share price rise post-sale.
- Bank loans carry 8% interest. Tax rate = 25%. Risk-free rate = 4%. Market risk premium = 7%.

Required:

a) Calculate the likely sales price of the furniture division and demonstrate its impact on Altura Co's SOFP, forecast EPS in Year 1, and weighted average cost of capital. (13 marks)
b) Evaluate the decision to sell the division. (7 marks)

Professional marks awarded for clear evaluation, scepticism and commercial acumen. (5 marks)

(Total: 25 marks)

End of question 2
Questions continue over the page
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Question 3

The following exhibits provide information relevant to the question:

1. Zenith Co and borrowing plans
2. Market data
3. Board discussion

Exhibit 1: Zenith Co and borrowing plans

Zenith Co is a construction company in Wilcoland. It expects to borrow $30m on 1 September, to be repaid on 31 January (five months). Due to recent political change and recession, interest rates could rise by up to 0.7%. The CEO proposes hedging this risk using interest rate futures, options on futures, or a collar.

Exhibit 2: Market data

As at 31 May:
Base rate = 4%; Zenith borrowing rate = base + 30bps
3-month $ September futures contracts (size $1m) quoted at 95.88
Options on 3-month $ futures (size $1m):
Strike 95.75 – call 0.47, put 0.31
Strike 95.95 – call 0.21, put 0.49
Settlement is at month-end. Basis reduces linearly to zero. CEO wants only the 95.95 strike price for the option hedge.

Exhibit 3: Board discussion

The CFO has suggested exploring OTC products as alternatives to exchange-traded futures and options. The board has asked for clarification on the relative benefits and drawbacks.

Required:

a) Recommend a hedging strategy for the $30m borrowing if rates rise 0.7%, with calculations and discussion. (15 marks)

b) Discuss pros and cons of exchange-traded futures/options versus OTC derivatives. (5 marks)

Professional marks awarded for analysis, evaluation and scepticism. (5 marks)

(Total: 25 marks)

END OF QUESTIONS

FORMULAE SHEET CONTINUED ON THE NEXT PAGE

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FORMULAE SHEET

Modigliani and Miller proposition 2 (with tax)

$$k_e = k^i_e + (1 - T)(k^i_e - k_d)\frac{V_d}{V_e}$$

The capital asset pricing model

$$E(r_i) = R_f + \beta(E(r_m) - R_f)$$

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

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1-T)$$

The Fisher formula

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

Purchasing power parity and interest rate parity

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

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Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I}\right]^{\frac{1}{n}} (1 + r_e) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Where:

$$d_1 = \frac{\ln(P_a/P_e) + (r + 0.5s^2)t}{s\sqrt{t}}$$

$$d_2 = d_1 - s\sqrt{t}$$

The put call parity relationship

$$p = c - P_a + P_e e^{-rt}$$

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MATHEMATICAL TABLES

Present value table

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

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	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

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	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	0.206	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	0.933
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

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Annuity table

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

where r = interest rate

n = number of periods

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
10	9.471	8.893	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

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	3.496	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	4.586	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

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Standard normal distribution table

	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	.0000	.0040	.0080	.0120	.0159	.0199	.0239	.0279	.0319	.0359
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0753
0.2	.0793	.0832	.0871	.0910	.0948	.0987	.1026	.1064	.1103	.1141
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879
0.5	.1915	.1950	.1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224
0.6	.2257	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2518	.2549
0.7	.2580	.2611	.2642	.2673	.2704	.2734	.2764	.2794	.2823	.2852
0.8	.2881	.2910	.2939	.2967	.2995	.3023	.3051	.3078	.3106	.3133
0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830
1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015
1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4430	.4441
1.6	.4452	.4463	.4474	.4485	.4495	.4505	.4515	.4525	.4535	.4545
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	.4616	.4625	.4633
1.8	.4641	.4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4762	.4767
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	.4817
2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	.4857
2.2	.4861	.4865	.4868	.4871	.4875	.4878	.4881	.4884	.4887	.4890
2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	.4911	.4913	.4916
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936
2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	.4951	.4952
2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	.4963	.4964
2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	.4974
2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4980	.4980	.4981
2.9	.4981	.4982	.4983	.4983	.4984	.4984	.4985	.4985	.4986	.4986
3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	.4989	.4990	.4990

This table can be used to calculate N (d), the cumulative normal distribution function needed for the Black-Scholes model of option pricing. If di > 0, add 0.5 to the relevant number above. If di < 0, subtract the relevant number above from 0.5.