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DECEMBER 2025/SET A/FIN4164



FINAL EXAMINATION

MASTER OF ACCOUNTANCY

COURSE	: STRATEGIC FINANCIAL MANAGEMENT
COURSE CODE	: FIN4164
DURATION	: 3 HOURS

INSTRUCTIONS TO CANDIDATES:

1. This question paper consists of **FOUR (4)** questions.
2. Answer ALL questions in the Answer Booklet provided.
3. Please check to make sure that this examination pack consists of:
 - i. The Question Paper
 - ii. An Answer Booklet
 - iii. Appendix 1 - 5
4. Do not bring any material into the examination hall. The use of a calculator is allowed.
5. Please write your answer using permanent ink.

MYKAD/ PASSPORT NO : _____

ID. NO. : _____

LECTURER : _____

SECTION : _____

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO

This question paper consists of 9 printed pages including the front page.

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QUESTION 1

- a. Global-Logistics Bhd. is a traditional freight forwarding company that has dominated local shipping routes for decades. Despite the rapid "Uber-isation" of the logistics industry, where digital platforms, real-time AI tracking, and automated warehousing are becoming the industry standard, the company's leadership continues to rely on manual documentation and ageing fleet management systems.

The board recently rejected a proposal to invest in a cloud-based logistics ecosystem, opting instead to maintain their current "tried and tested" operational methods to save costs. Consequently, the company is losing its high-value corporate clients to tech-driven start-ups that offer transparent, data-led shipping solutions. The management team appears focused only on day-to-day firefighting rather than long-term positioning.

Required:

As a senior financial consultant, classify **TWO (2)** important aspects of strategic management in today's scenario with reference to the case of Global-Logistics Bhd.

(5 marks)

- b. Aeris Drone Solutions (ADS), headquartered in Malacca, is a pioneering start-up specialising in high-payload, AI-driven drones designed for "precision agriculture." After three years of intense R&D funded by government grants and angel investors, the company has successfully moved from prototype to a commercially viable product. However, the transition to mass production has triggered a "liquidity crunch." ADS needs to build a state-of-the-art assembly line and establish a regional maintenance hub.

The CFO is currently under pressure to restructure the company's capital to lower the cost of funding while preparing for a potential IPO in three years. Currently, the firm relies on a mix of venture capital (ordinary shares), high-yield preference shares issued to early investors, and a recent drawdown of corporate debentures. The board is divided: some directors advocate for aggressive debt financing to leverage tax shields, while others fear that high financial gearing during an expansion phase could lead to bankruptcy if drone adoption is slower than expected. This decision is complicated by the volatile nature of the tech sector and the rising interest rates in the local economy.

ADS provides the following market data for its current financing:

- Ordinary Shares: 2,000,000 shares; Current price RM4.20; Next year's dividend expected at RM0.38; Constant growth rate of 5%.
- 8% Preference Shares: RM500,000 nominal value; currently trading at RM1.15 per RM1.00 share.
- 6% Debentures: RM1,000,000 par value; market price RM98 per RM 100 nominal.
- Tax Rate: 24%.

Required:

- i. Determine the following:
 - a. the cost of ordinary equity (K_e) using the Dividend Growth Model.
(4 marks)
 - b. the cost of preference shares capital (K_p).
(2 marks)
 - c. the after-tax cost of debt (K_d).
(4 marks)
 - d. the company's Weighted Average Cost of Capital (WACC) using market value weights.
(5 marks)
 - ii. Explain how a significant increase in the company's leverage ratio would impact its WACC according to the Trade-off Theory.
(5 marks)
- (Total: 25 marks)

QUESTION 2

- a. Aero-Tech Berhad is a rapidly expanding aerospace components manufacturer listed on Bursa Malaysia. Over the last three years, the company has seen a 40% growth in net profits due to a surge in international travel. However, the Board of Directors is currently deadlocked over the dividend policy for the upcoming financial year.

The majority shareholders are wealthy individual investors who are concerned about high personal tax brackets and would prefer the company to reinvest profits into a new RM 200 million carbon-fibre production facility. On the other hand, institutional investors (such as pension funds) are demanding a stable, consistent payout to satisfy their requirements for regular current income.

Furthermore, the company recently took a large bank loan to fund its previous expansion, which includes a restrictive covenant requiring the firm to maintain a specific Debt-to-Equity ratio. The CFO is also wary of rising inflation, which has increased the replacement cost of heavy machinery, putting a strain on the company's cash reserves.

Required:

As the Financial Controller of Aero-Tech Berhad, classify **TWO (2)** major determinants of dividend policy that the board must prioritise in this situation.

(5 marks)

- b. Malaysia Global Ventures (MGV) is a diversified investment holding company listed on the Main Market of Bursa Malaysia. Historically, MGV has relied on stable, low-risk industries like timber and utilities. However, following a directive from the Board of Directors to "future-proof" the company's wealth, the Chief Investment Officer (CIO), Mr. Danish, has begun pivoting the portfolio toward high-growth sectors, specifically Cyber-Technology and Advanced Healthcare.

The company currently manages an RM100,000 "Strategic Growth Fund." Mr. Danish is particularly concerned about the portfolio's exposure to market volatility. He is currently evaluating two specific stocks for a secondary tactical sub-portfolio: HYDRA-TECH Berhad (an AI-driven robotics firm) and LUMINA Retail Group (a traditional retailer undergoing digital transformation).

The market environment is shifting, with a Risk-free rate (R_f) of 4% and a Market Return (R_m) of 12%. Analysts are debating whether the current high-growth tech stocks are "bubbles" (overvalued) or if they represent the "new normal" for shareholder wealth maximisation.

The tactical sub-portfolio consists of 30% investment in HYDRA-TECH Berhad and 70% investment in LUMINA Retail Group.

HYDRA-TECH: Expected Return - 14%, Standard Deviation - 18%.

LUMINA: Expected Return - 18%; Standard Deviation - 35%.

Correlation Coefficient: 0.42.

The main RM 100,000 "Strategic Growth Fund" consists of the following holdings:

Security	Industry	Amount Invested (RM)	Expected return (%)	Beta (B)
Borneo Timber	Commodities	25,000	12	0.8
Apex Cyber	Technology	15,000	22	1.6
Global Logistics	Transport	20,000	15	1.1
Urban REITs	Property	30,000	10	0.5
Prime Medical	Healthcare	10,000	18	1.4

Required:

Determine the following:

- The expected return of the sub-portfolio.
(1 mark)
- The standard deviation of the sub-portfolio.
(3 marks)
- The overall portfolio's expected return.
(4 marks)
- The portfolio weighted average beta (B).
(4 marks)
- The required rate of return for each security and classify which individual companies are overvalued, undervalued, or fairly valued (using the Capital Asset Pricing Model (CAPM)).
(8 marks)

(Total: 25 marks)

QUESTION 3

- a. BioHealth Sdn. Bhd. (BioHealth) is a leading Malaysian wellness company specialising in organic supplements. Over the last decade, the company has maintained a stable market share. However, with the rising trend of "preventative healthcare" post-pandemic, the Board of Directors is looking to diversify its product line.

The Research & Development (R&D) team has recently finalised a new formula for a premium organic supplement branded as "LifePlus." Preliminary market research suggests that while the supplement has high potential, its lifecycle will be relatively short (4 years) due to the rapid pace of innovation in the nutraceutical industry.

The Finance Director, Mr. Tan, has gathered the following projections for the project's evaluation:

- Sales and Pricing: Demand is expected to peak in Year 2 before gradually declining as competitors enter the market.
 - Year 1: 50,000 units at RM50/unit
 - Year 2: 60,000 units at RM50/unit
 - Year 3: 55,000 units at RM45/unit
 - Year 4: 40,000 units at RM40/unit
- Costs:
 - Variable Production Costs: Estimated at RM20 per unit throughout the 4 years.
 - Fixed Costs: Incremental fixed costs (salaries and insurance) are RM200,000 per year. This excludes any depreciation charges.
- Capital Investment: The project requires an immediate investment of RM1,200,000 in specialised machinery. This machinery will be depreciated using the straight-line method over its 4-year useful life, with an estimated scrap value of zero at the end of the project.
- Taxation and Finance: BioHealth pays corporate tax at a rate of 25%. Tax is paid in the same year that the profit is earned. The company uses a weighted average cost of capital (WACC) of 12% as the discount rate for new projects.

Required:

- i. Determine the Net Present Value (NPV) for the "LifePlus" project. Show all workings for annual cash flows, tax implications, and discounting. (10 marks)
- ii. Based on your calculation, recommend whether BioHealth should proceed with the LifePlus project. (4 marks)

- iii. Evaluate **THREE (3)** limitations of using the NPV method compared to the Internal Rate of Return (IRR) in the context of project appraisal. (6 marks)
- b. While BioHealth focuses on internal projects, the Malaysian financial sector is experiencing significant volatility. Recently, two of the nation's largest commercial banks announced a surprise merger. Within minutes of the press release appearing on the stock exchange news feed, the share prices of both entities rose by 15%, and they quickly reached their new equilibrium. This event has sparked a debate among BioHealth's board members regarding market efficiency and whether the company should manage its own investment portfolio or stick to internal projects.

Required:

Explain how this level of efficiency impacts the ability of individual investors to consistently "**beat the market**" using public information.

(5 marks)

(Total: 25 marks)

QUESTION 4

- a. Aurora Co. sells streetwear clothing on a wholesale and retail basis. The company employs ten staff in its sales and credit control department, each earning an annual salary of RM12,000. All sales are on credit with no discount for early payment. You are employed at the company as a financial manager and have collected the following information over the last two years.

INCOME STATEMENT

	2025	2024
	RM'000	RM'000
Sales	52,500	36,000
Cost of sales	35,000	19,250
Operating profit	17,500	16,750
Interest	800	700
Profit before tax	16,700	16,050

STATEMENT OF FINANCIAL POSITION AS OF 31 DECEMBER

	2025		2024	
	RM'000	RM'000	RM'000	RM'000
Non-current assets		2,625		2,450
Current assets				
Inventory	24,560		12,500	
Receivables	9,800		5,250	
Cash	375		2,900	
		34,735		20,650
TOTAL ASSETS		37,360		23,100
Ordinary shares		12,750		12,750
Reserves		2,000		800
Current liabilities				
Payables	6,910		3,100	
Overdraft	15,700		6,450	
		22,610		9,550
TOTAL LIABILITIES & EQUITIES		37,360		23,100

Additional information:

- Aurora Co. pays interest on its overdraft at an annual rate of 6%.
- Current sector averages are as follows:
 - Accounts receivable days: 50 days
 - Accounts payable days: 60 days
 - Use 365 days a year.

Required:

- i. Determine the following ratios for each year and comment on your findings:
 - a. Accounts receivable days
 - b. Accounts payable days
 - c. Current ratio
 - d. Sales/ Net working capital

(14 marks)
 - ii. Recommend **THREE (3)** possible solutions to the problems identified in part (i)(a) and (b) only.

(6 marks)
- b. Corporate restructuring is often a 'survival of the fittest' tactic in the volatile tech industry. Explain **TWO (2)** fundamental motivations for an organisation to undergo restructuring, specifically explaining how each can lead to enhanced financial performance and operational leanness.

(5 marks)

(Total: 25 marks)

(TOTAL: 100 MARKS)

END OF QUESTION PAPER

APPENDIX 1

Future Value Interest Factor of \$1 per period at i% for n periods, FVIF(i,n)																					
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%	
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1200	1.1400	1.1600	1.1800	1.2000	1.2100	1.2200	1.2300	1.2400	1.2500	
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2544	1.2996	1.3456	1.3924	1.4400	1.4641	1.4884	1.5129	1.5376	1.5625	
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.4049	1.4815	1.5609	1.6430	1.7280	1.7716	1.8158	1.8609	1.9066	1.9531	
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5735	1.6890	1.8106	1.9388	2.0736	2.1436	2.2153	2.2889	2.3642	2.4414	
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.7623	1.9254	2.1003	2.2878	2.4883	2.5937	2.7027	2.8153	2.9316	3.0518	
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.9738	2.1950	2.4364	2.6996	2.9860	3.1384	3.2973	3.4628	3.6352	3.8147	
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.2107	2.5023	2.8262	3.1855	3.5832	3.7975	4.0227	4.2593	4.5077	4.7684	
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.4760	2.8526	3.2784	3.7589	4.2998	4.5950	4.9077	5.2389	5.5895	5.9605	
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.7731	3.2519	3.8030	4.4355	5.1598	5.5599	5.9874	6.4439	6.9310	7.4506	
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	3.1058	3.7072	4.4114	5.2338	6.1917	6.7275	7.3046	7.9259	8.5944	9.3132	
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.4785	4.2262	5.1173	6.1759	7.4301	8.1403	8.9117	9.7489	10.6571	11.6415	
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.8960	4.8179	5.9360	7.2876	8.9161	9.8497	10.8722	11.9912	13.2148	14.5519	
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	4.3635	5.4924	6.8858	8.5994	10.6993	11.9182	13.2641	14.7491	16.3863	18.1899	
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.8871	6.2613	7.9875	10.1472	12.8392	14.4210	16.1822	18.1414	20.3191	22.7374	
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	5.4736	7.1379	9.2655	11.9737	15.4070	17.4494	19.7423	22.3140	25.1956	28.4217	
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	6.1304	8.1372	10.7480	14.1290	18.4884	21.1138	24.0856	27.4462	31.2426	35.5271	
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	6.8660	9.2765	12.4677	16.6722	22.1861	25.5477	29.3844	33.7588	38.7408	44.4089	
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	7.6900	10.5752	14.4625	19.6733	26.6233	30.9127	35.8490	41.5233	48.0386	55.5112	
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	8.6128	12.0557	16.7765	23.2144	31.9480	37.4043	43.7358	51.0737	59.5679	69.3889	
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	9.6463	13.7435	19.4608	27.3930	38.3376	45.2593	53.3576	62.8206	73.8641	86.7362	
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	10.8038	15.6676	22.5745	32.3238	46.0051	54.7637	65.0963	77.2694	91.5915	108.4202	
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	12.1003	17.8610	26.1864	38.1421	55.2061	66.2641	79.4175	95.0413	113.5735	135.5253	
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	13.5523	20.3616	30.3762	45.0076	66.2474	80.1795	96.8894	116.9008	140.8312	169.4066	
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	15.1786	23.2122	35.2364	53.1090	79.4968	97.0172	118.2050	143.7880	174.6306	211.7582	
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8347	17.0001	26.4619	40.8742	62.6886	95.3962	117.3909	144.2101	176.8593	216.5420	264.6978	

APPENDIX 2

Future Value Interest Factor of an (ordinary) Annuity \$1 per period at % for n periods, FVIFA(i,n)																					
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%	
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1200	2.1400	2.1600	2.1800	2.2000	2.2100	2.2200	2.2300	2.2400	2.2500	
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3744	3.4396	3.5056	3.5724	3.6400	3.6741	3.7084	3.7429	3.7776	3.8125	
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7793	4.9211	5.0665	5.2154	5.3680	5.4457	5.5242	5.6038	5.6842	5.7656	
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8665	5.9847	6.1051	6.3528	6.6101	6.8771	7.1542	7.4416	7.5892	7.7396	7.8926	8.0484	8.2070	
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	8.1152	8.5355	8.9775	9.4420	9.9299	10.1830	10.4423	10.7079	10.9801	11.2588	
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	10.0890	10.7305	11.4139	12.1415	12.9159	13.3214	13.7396	14.1708	14.6153	15.0735	
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.2598	10.6366	11.0285	11.4359	12.2997	13.2328	14.2401	15.3270	16.4991	17.1189	17.7623	18.4300	19.1229	19.8419	
9	9.3685	9.7546	10.1591	10.5828	11.0266	11.4913	11.9780	12.4876	13.0210	13.5795	14.7757	16.0853	17.5185	19.0859	20.7989	21.7139	22.6700	23.6690	24.7125	25.8023	
10	10.4622	10.9497	11.4639	12.0061	12.5779	13.1808	13.8164	14.4866	15.1929	15.9374	17.5487	19.3373	21.3215	23.5213	25.9587	27.2738	28.6574	30.1128	31.6434	33.2529	
11	11.5668	12.1687	12.8078	13.4864	14.2068	14.9716	15.7836	16.6455	17.5603	18.5312	20.6546	23.0445	25.7329	28.7551	32.1504	34.0013	35.9620	38.0388	40.2379	42.5661	
12	12.6825	13.4121	14.1920	15.0258	15.9171	16.8699	17.8885	18.9771	20.1407	21.3843	24.1331	27.2707	30.8502	34.9311	39.5805	42.1416	44.8737	47.7677	50.8950	54.2077	
13	13.8093	14.6803	15.6178	16.6268	17.7130	18.8821	20.1406	21.4953	22.9534	24.5227	28.0291	32.0887	36.7862	42.2187	48.4966	51.9913	55.7459	59.7788	64.1097	68.7596	
14	14.9474	15.9739	17.0663	18.2919	19.5986	21.0151	22.5505	24.2149	26.0192	27.9750	32.3926	37.5811	43.6720	50.8180	59.1959	63.9095	69.0100	74.5280	80.4961	86.9495	
15	16.0969	17.2934	18.5989	20.0236	21.5786	23.2760	25.1290	27.1521	29.3509	31.7725	37.2797	43.8424	51.6595	60.9653	72.0351	76.3305	85.1922	92.6694	100.815	109.687	
16	17.2579	18.6393	20.1569	21.8245	23.6575	25.6725	27.8881	30.3243	33.0034	35.9497	42.7533	50.9804	60.9250	72.9390	87.4421	95.7799	104.935	114.983	126.011	138.109	
17	18.4304	20.0121	21.7616	23.6975	25.8404	28.2129	30.8402	33.7502	36.9737	40.5447	48.8837	59.1176	71.6730	87.0680	105.931	116.894	129.020	142.430	157.253	173.636	
18	19.6147	21.4123	23.4144	25.6454	28.1324	30.9057	33.9990	37.4502	41.3013	45.5992	55.7497	68.3941	84.1407	103.740	128.117	142.441	158.405	176.188	195.994	218.045	
19	20.8109	22.8406	25.1169	27.6712	30.5390	33.7600	37.3790	41.4463	46.0185	51.1591	63.4397	78.9692	96.6032	123.414	154.740	173.354	194.254	217.712	244.033	273.556	
20	22.0190	24.2974	26.8704	29.7781	33.0660	36.7856	40.9955	45.7620	51.1601	57.2750	72.0524	91.0249	115.380	146.628	186.688	210.758	237.989	268.785	303.601	342.945	
21	23.2392	25.7833	28.6765	31.9692	35.7193	39.9927	44.8652	50.4229	56.7645	64.0025	81.6987	104.768	134.841	174.021	225.026	256.018	291.347	331.606	377.465	429.681	
22	24.4716	27.2890	30.5368	34.2480	38.5052	43.3923	49.0057	55.4568	62.8733	71.4027	92.5026	120.436	157.415	206.345	271.031	310.781	356.443	408.875	469.056	538.101	
23	25.7163	28.8450	32.4529	36.6179	41.4305	46.9958	53.4361	60.8933	69.5319	79.5430	104.603	138.297	183.601	244.487	326.237	377.045	435.861	503.917	582.630	673.626	
24	26.9735	30.4219	34.4265	39.0826	44.5020	50.8156	58.1767	66.7648	76.7898	88.4973	118.155	158.659	213.978	289.494	392.484	457.225	532.750	620.817	723.461	843.033	
25	28.2432	32.0303	36.4593	41.6459	47.7271	54.8645	63.2490	73.1059	84.7009	98.3471	133.334	181.871	249.214	342.603	471.981	554.242	650.955	764.605	898.092	1054.8	

APPENDIX 3

Present Value Interest Factor of \$1 per period at i% for n periods, PVIF(i,n)																					
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%	
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8621	0.8475	0.8333	0.8264	0.8197	0.8130	0.8065	0.8000	
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.7972	0.7695	0.7432	0.7182	0.6944	0.6830	0.6719	0.6610	0.6504	0.6400	
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7118	0.6750	0.6407	0.6086	0.5787	0.5645	0.5507	0.5374	0.5245	0.5120	
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6355	0.5921	0.5523	0.5158	0.4823	0.4665	0.4514	0.4369	0.4230	0.4096	
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5674	0.5194	0.4761	0.4371	0.4019	0.3855	0.3700	0.3552	0.3411	0.3277	
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5066	0.4556	0.4104	0.3704	0.3349	0.3186	0.3033	0.2888	0.2751	0.2621	
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4523	0.3996	0.3538	0.3139	0.2791	0.2633	0.2486	0.2348	0.2218	0.2097	
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4039	0.3506	0.3050	0.2660	0.2326	0.2176	0.2038	0.1909	0.1789	0.1678	
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3606	0.3075	0.2630	0.2255	0.1938	0.1799	0.1670	0.1552	0.1443	0.1342	
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3220	0.2697	0.2267	0.1911	0.1615	0.1486	0.1369	0.1262	0.1164	0.1074	
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.2875	0.2366	0.1954	0.1619	0.1346	0.1228	0.1122	0.1026	0.0938	0.0859	
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2567	0.2076	0.1685	0.1372	0.1122	0.1015	0.0920	0.0834	0.0757	0.0687	
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2292	0.1821	0.1452	0.1163	0.0935	0.0839	0.0754	0.0678	0.0610	0.0550	
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2046	0.1597	0.1252	0.0985	0.0779	0.0693	0.0618	0.0551	0.0492	0.0440	
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.1827	0.1401	0.1079	0.0835	0.0649	0.0573	0.0507	0.0448	0.0397	0.0352	
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1631	0.1229	0.0930	0.0708	0.0541	0.0474	0.0415	0.0364	0.0320	0.0281	
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1456	0.1078	0.0802	0.0600	0.0451	0.0391	0.0340	0.0296	0.0258	0.0225	
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1300	0.0946	0.0691	0.0508	0.0376	0.0323	0.0279	0.0241	0.0208	0.0180	
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1161	0.0829	0.0596	0.0431	0.0313	0.0267	0.0229	0.0196	0.0168	0.0144	
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1037	0.0728	0.0514	0.0365	0.0261	0.0221	0.0187	0.0159	0.0135	0.0115	
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.0926	0.0638	0.0443	0.0309	0.0217	0.0183	0.0154	0.0129	0.0109	0.0092	
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.0826	0.0560	0.0382	0.0262	0.0181	0.0151	0.0126	0.0105	0.0088	0.0074	
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0738	0.0491	0.0329	0.0222	0.0151	0.0125	0.0103	0.0086	0.0071	0.0059	
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0659	0.0431	0.0284	0.0188	0.0126	0.0103	0.0085	0.0070	0.0057	0.0047	
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0588	0.0378	0.0245	0.0160	0.0105	0.0085	0.0069	0.0057	0.0046	0.0038	

APPENDIX 4

Present Value Interest Factor of an (ordinary) Annuity \$1 per period at i% for n periods, PVIFA(i,n)		1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	21%	22%	23%	24%	25%
Period																					
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8621	0.8475	0.8333	0.8264	0.8197	0.8130	0.8065	0.8000	
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6467	1.6052	1.5656	1.5278	1.5095	1.4915	1.4740	1.4568	1.4400	
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2459	2.1743	2.1065	2.0739	2.0422	2.0114	1.9813	1.9520	
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.7982	2.6901	2.5887	2.5404	2.4936	2.4483	2.4043	2.3616	
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.2743	3.1272	2.9906	2.9260	2.8636	2.8035	2.7454	2.6893	
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.6847	3.4976	3.3255	3.2446	3.1669	3.0923	3.0205	2.9514	
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.0386	3.8115	3.6046	3.5079	3.4155	3.3270	3.2423	3.1611	
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.3436	4.0776	3.8372	3.7256	3.6193	3.5179	3.4212	3.3289	
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9484	4.5065	4.3030	4.0310	3.9054	3.7863	3.6731	3.5655	3.4631	
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	4.8332	4.4941	4.1925	4.0541	3.9232	3.7993	3.6819	3.5705	
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4967	7.1390	6.8052	6.4951	5.9377	5.4527	5.0286	4.6560	4.3271	4.1769	4.0354	3.9018	3.7757	3.6564	
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.1971	4.7932	4.4392	4.2784	4.1274	3.9852	3.8514	3.7251	
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.3423	4.9095	4.5327	4.3624	4.2028	4.0530	3.9124	3.7801	
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.4675	5.0081	4.6106	4.4317	4.2646	4.1082	3.9616	3.8241	
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.5755	5.0916	4.6755	4.4890	4.3152	4.1530	4.0013	3.8593	
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.6685	5.1624	4.7296	4.5364	4.3667	4.1894	4.0333	3.8874	
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	5.7487	5.2223	4.7746	4.5755	4.3908	4.2190	4.0591	3.9099	
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	5.8178	5.2732	4.8122	4.6079	4.4187	4.2431	4.0799	3.9279	
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.3658	6.5504	5.8775	5.3162	4.8435	4.6346	4.4415	4.2627	4.0967	3.9424	
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	5.9288	5.3527	4.8696	4.6567	4.4603	4.2786	4.1103	3.9539	
21	18.8570	17.0112	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	7.5620	6.6870	5.9731	5.3837	4.8913	4.6750	4.4756	4.2916	4.1212	3.9631	
22	19.6604	17.6580	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	7.6446	6.7429	6.0113	5.4099	4.9094	4.6900	4.4882	4.3021	4.1300	3.9705	
23	20.4558	18.2922	16.4436	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	7.7184	6.7921	6.0442	5.4321	4.9245	4.7025	4.4985	4.3106	4.1371	3.9764	
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	7.7843	6.8351	6.0726	5.4509	4.9371	4.7128	4.5070	4.3176	4.1428	3.9811	
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.8729	6.0971	5.4669	4.9476	4.7213	4.5139	4.3232	4.1474	3.9849	

APPENDIX 5 (1)

FORMULA

Cost of capital

1. Cost of debt (k_d)

$$P_o = I(PVIFA_{k_d, n}) + M(PVIF_{k_d, n})$$

Where: P_o = market price of debt; I = annual dollar of interest paid;

M = maturity value of debt; k_d = required rate of return (before-tax cost of debt);

n = number of years to maturity

2. After tax cost of debt

$$k_d (1-T)$$

3. Cost of preferred stock (k_p)

$$\text{Required rate } k_p = \frac{\text{Dividend (D)}}{\text{Market Price (P}_0) - F}$$

4. Cost of common equity (k_s)

Retained Earnings (internal common equity) (k_e)

$$k_e = \frac{D_1}{P_0} + g$$

$$D_1 = D_0 (1 + g)$$

Issuing new shares of common stock (external common equity) (k_{ne})

$$k_{ne} = \frac{D_1}{P_0 - F} + g$$

5. Weighted Average Cost of Capital (WACC)

$$WACC (k_a) = (WT_d \times AT k_d) + (WT_p \times k_p) + (WT_s \times k_s)$$

6. Breakpoint

$$= \frac{\text{Available Retained Earnings}}{\text{Percentage of Total}}$$

APPENDIX 5 (2)

Risk and Return

1. Holding Period Return (HPR):

$$\text{HPR} = \frac{\text{Current income} + \text{Capital gain}}{\text{Beginning Investment}}$$

$$\text{HPR} = (P_{t+1}/P_t) - 1$$

2. Expected Return (ER):

$$\text{ER} = X_1P(X_1) + X_2P(X_2) + \dots + X_nP(X_n)$$

3. Variance (σ^2):

$$\sigma^2 = \frac{\sum (xi - \bar{x})^2}{N}$$

4. Standard Deviation (σ):

$$\sigma = \sqrt{\sigma^2}$$

5. Required rate of return by using the Capital Asset Pricing Model (CAPM):

Required rate of return = Risk-free rate (R_f) + Beta (β) (Market Risk Premium)

Risk Premium = Expected Market Return (R_m) - Risk-free rate (R_f)

6. Portfolio Expected Return:

$$E(RP) = X_A E(R_A) + X_B E(R_B)$$

7. Portfolio Variance:

$$\sigma_P^2 = X_A^2 \sigma_A^2 + X_B^2 \sigma_B^2 + 2X_A X_B \sigma_{A,B}$$

8. Portfolio Std. Dev.:

$$\sigma_P = \sqrt{\text{var}(\text{portfolio})}$$

APPENDIX 5 (3)

Time Value of Money

1. Present value

- a. $PV_n = FV (PVIF\ i, n)$ (using PVIF table) or
 $PV_n = \frac{FV}{(1+i)^n}$ (formula)
(Discounting interest)
- b. $PV_n = FV (PVIF\ i/m, n \times m)$ (using PVIF table) or
 $PV_n = \frac{FV}{(1+i/m)^{n \times m}}$ (formula)
(Non-annual periods)
- c. $PVA_n = PMT (PVIFA\ i, n)$ (using PVIFA table) or
 $PVA_n = PMT (1 - (1/1+i)^n) / i$ (formula)
(PV Ordinary annuity)
- d. $PVA_n = PMT (PVIFA_i, n) (1+i)$ (using PVIFA table)
(PV Annuity due)
- e. $PVP_\infty = PMT \times (1/i)$
(PV Perpetuity)

2. Future Value

- a. $FV_n = PV (FVIF\ i, n)$ (using FVIF table) or
 $FV_n = PV (1+i)^n$ (formula)
(Compounding interest)
- b. $FV_n = PV (FVIF\ i/m, n \times m)$ (using FVIF table) or
 $FV_n = PV (1+i/m)^{n \times m}$ (formula)
(non-annual periods)
- c. $FVA_n = PMT (FVIFA\ i, n)$ (using FVIFA table) or
 $FVA_n = PMT ((1+i)^n - 1) / i$ (formula)
(FV Ordinary annuity)
- d. $FVA_n = PMT (FVIFA_i, n) (1+i)$ (using FVIFA table)
(FV Annuity due)

APPENDIX 5 (4)

Capital Budgeting Techniques

1. Payback period (PP):

$$PP = \text{Initial Outlay} / \text{Annual cash flow}$$

(The cash flow amount is same every year)

2. Net Present Value (NPV):

$$NPV = CF_0 + \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_N}{(1+r)^N}$$

3. Internal Rate of Return (IRR):

$$IRR = r_a + \frac{NPV_a}{NPV_a - NPV_b} (r_b - r_a)$$

r_a = lower discount rate chosen

r_b = higher discount rate chosen

NPV_a = NPV at r_a

NPV_b = NPV at r_b

APPENDIX 5 (5)

Financial Performance

1. Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$
2. Quick Ratio = $\frac{\text{Current Assets} - \text{Inventory-Prepaid expense}}{\text{Current Liabilities}}$
3. Debt Ratio = $\frac{\text{Total debt}}{\text{Total assets}}$
4. ROA = $\frac{\text{Net income available to common stock holders}}{\text{Total assets}}$
5. ROE = $\frac{\text{Net income available to common stock holders}}{\text{Common Equity}}$
6. Gross profit margin = $\frac{\text{Gross profit}}{\text{Sales}}$
7. Net Profit Margin = $\frac{\text{Net income available to common stock holders}}{\text{Sales}}$
8. TATO = $\frac{\text{Sales}}{\text{Total assets}}$
9. Inventory Turnover = $\frac{\text{Cost of goods sold}}{\text{Average inventory or closing inventory}}$
10. Average Collection Period = $\frac{\text{Accounts Receivable} \times 360 \text{days}}{\text{Annual Credit Sales}}$
11. Times Interest Earned = $\frac{\text{EBIT}}{\text{Interest}}$
12. Non-current asset turnover = $\frac{\text{Sales}}{\text{Net non-current assets}}$
13. Dividend per share = $\frac{\text{Ordinary dividend}}{\text{Number of ordinary shares issued}}$
14. Dividend payout ratio = $\frac{\text{Dividend per share}}{\text{Earnings per share}}$
15. Operating Profit Margin = $\frac{\text{EBIT}}{\text{Sales}}$
16. Debt to equity = $\frac{\text{Total debt}}{\text{Total equity}}$
17. Earnings per share = $\frac{\text{Earnings attributable to ordinary shareholders}}{\text{Number of ordinary shares in issue}}$
18. Price-earnings ratio = $\frac{\text{Price per share}}{\text{Earnings per share}}$