



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF COMMERCE, HUMAN SCIENCES AND EDUCATION

DEPARTMENT OF ECONOMICS, ACCOUNTING AND FINANCE

QUALIFICATION: BACHELOR OF ACCOUNTING (HONOURS)	
QUALIFICATION CODE: 08BOAH	LEVEL: 8
COURSE CODE: AMA811S	COURSE NAME: ADVANCED MANAGEMENT ACCOUNTING
SESSION: JULY 2024	PAPER: THEORY AND CALCULATIONS
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER	Lameck Odada
MODERATOR	Lazarus Shinkeva

INSTRUCTIONS
1. This question paper consists of FOUR (4) questions. 2. Answer ALL FOUR questions in blue or black ink only. NO PENCIL and TIPEX. 3. Start each question on a new page, number the answers correctly and clearly. 4. Write clearly, and neatly and show all your workings/assumptions. 5. Unless otherwise stated, work with four (4) decimal places in all your calculations and round off only final answers to two (2) decimal places. 6. Questions relating to this examination may be raised in the initial 30 minutes after the start of the examination. Thereafter, candidates must use their initiative to deal with any perceived error or ambiguities and any assumptions made by the candidate should be clearly stated.

PERMISSIBLE MATERIALS

1. Silent, non-programmable calculators

THIS QUESTION PAPER CONSISTS OF _6_ PAGES (including this front page, not tables)

QUESTION 1**[25 MARKS]**

Hendil Incorporated (Hendil) plans to invest N\$1 million in a new product range and has forecast the following financial information:

Year	1	2	3	4
Sales volume (units)	70 000	90 000	100 000	75 000
Average selling price (N\$/unit)	40	45	51	51
Average variable cost (N\$/unit)	30	28	27	27
Incremental cash fixed costs (N\$/unit)	500 000	500 000	500 000	500 000

The above cost forecasts have been prepared on the basis of current prices and no account has been taken of inflation of 4% per year on variable costs and 3% per year on fixed costs. Working capital investment accounts for N\$200 000 of the proposed N\$1 million investment and machinery for N\$800 000

Hendil uses a four-year evaluation period for capital investment purposes but expects the new product range to continue to sell for several years after the end of this period. Capital investments are expected to pay back within two years on an undiscounted basis, and within three years on a discounted basis.

The company pays tax in the year in which liabilities arise at an annual rate of 30% and claims capital allowances on machinery on a 25% reducing balance basis. Balancing allowances or charges are claimed only on the disposal of assets. Hendil an after-tax discount rate of 11% when appraising new capital investments.

REQUIRED	MARKS
Calculate the Net Present Value (NPV) of the proposed investment and conclude whether the investment is financially viable or not. Show all your figures to the nearest N\$1,000.	25

QUESTION 2**[25 MARKS]**

Midan Marketing (Midan) is a Namibian meat-processing and meat-marketing entity serving niche markets locally and internationally with premium quality products that are traceable all the way from the farm to the fork. Midan operates various slaughter facilities across Namibia and engages in related manufacturing and other production activities by means of production operations. Midan aims to achieve its vision by creating added value for its customers through unique competencies, as well as cost-effective and innovative processes, sound social and environmental practices, and motivated staff.

Midan issued corporate bonds with a coupon rate of 8%. The face value is N\$100 and the bond is stated on the statement of financial position at its total par value of N\$80m. The bonds are currently trading at a price of N\$94. Interest is payable annually in arrears. The maturity date is in five years' time.

Midan has 200 000 non-redeemable preference shares which were issued at a price of N\$100 each. Preference dividends are payable annually in arrears. The non-redeemable preference shares are currently priced at N\$106. The dividend rate is 7.8% and Midan has recently paid the preference dividends for the current year.

Midan has an equity beta of 1.15 and the risk-free rate is 6%. Midan uses a market premium of 6.5% as this is the average between 5-8% which is the range of the market risk premium recommended by some analysts. The current share price is N\$3.20 and Midan has 30 million ordinary shares in issue.

REQUIRED		MARKS
a)	Determine the after-tax cost of debt of Midan if the corporation tax rate is 30%.	4
b)	Calculate the cost of preference shares of Midan	2
c)	Determine Midan's cost of equity	3
d)	Estimate the Weighted Average Cost of Capital (WACC) for Midan. Round off the weights to the nearest whole number	6
e)	State any three (3) reasons for calculating the WACC	3
f)	Other than the Capital Asset Pricing Model (CAPM) • how could Midan estimate the cost of equity? • state any three (3) assumptions and any three (3) limitations of this model	1 6

QUESTION 3**[25 MARKS]**

Oshikoto Country Lodges (hereafter OCL) is a truly Namibian hospitality company. They provide their guests with unmatched experiences at unique properties with a true sense of place in the landscape. Staying at one of their lodges is a once-in-a-lifetime experience that is grounded in genuine, warm hospitality and a love of the land they come from. Developing a passionate and dedicated team is foremost in their philosophy, as only a great team can provide their guests with a first-class experience. They continually pursue excellence by enhancing our skills and evolving with the hospitality and tourism industry of Namibia. OCL is looking to expand its hospitality and tourism interest in Namibia by investing in two companies in the hospitality and tourism sector. OCL can invest N\$4 million in one of the two companies or a portfolio of the two companies. The following risk/return profiles have been provided.

Economic State	Probability	Estimated Returns (%)		Market
		SLM Safaris	ATI Holidays	
Recession	30%	2	25	-
Boom	50%	10	22	-
Depression	20%	12	-2	-
Expected return		-	-	12%
Standard deviation		-	-	6%
Covariance with the market		25.2	39.6	-
The risk-free rate is 3% per annum and there is no company or personal taxation.				

REQUIRED		MARKS
a)	Calculate the expected returns together with the risk of SLM Safaris and ATI Holidays.	6
b)	If OCL is to select only one company to invest in, which one would you advise OCL to select? Motivate your answer with appropriate calculations.	3
c)	Determine the expected return of the portfolio, assuming that OCL invests N\$1.6 million in SLM Safaris.	2
d)	Determine the covariance of SLM Safaris and ATI Holidays and interpret your answer.	4
e)	Determine the standard deviation of the portfolio and advise OCL on whether to invest in the portfolio or not.	6
f)	Calculate the required return for both companies according to the Capital Asset Pricing Model (CAPM)	4

QUESTION 4**[25 MARKS]**

Dineo Manufacturing and Supplies (hereafter DMS) is a 100% Namibian custom garment manufacturer, founded in 2009 and started with operations in 2010. The target audience of DMS is corporate companies, public services, and schools and is not limited to local and international brands. Below is the summarized statement of the financial position of DMS and the statement of comprehensive income for the year ended 31 December 2023.

DMS Statement of financial position as of 31 December 2023

ASSETS	2023	2022
Non-current assets	9 450 000	8 640 000
Property, plant, and equipment	9 450 000	8 640 000
Investments	-	-
Current assets	36 045 000	29 632 500
Inventories	20 925 000	14 850 000
Receivables	12 150 000	9 990 000
Cash assets	2 970 000	4 792 500
TOTAL ASSETS	45 495 000	38 272 500
EQUITY AND LIABILITIES		
Share capital and reserves	16 335 000	15 120 000
Share capital	7 000 000	7 000 000
Other reserves	-250 000	-250 000
Retained earnings	9 585 000	8 370 000
Redeemable -preference shares	2 700 000	2 700 000
Non-current liabilities: Long-term borrowings	7 425 000	7 425 000
Current liabilities	19 035 000	13 027 500
Trade and other payables	4 860 000	4 320 000
Short term borrowings	14 175 000	8 707 500
TOTAL EQUITY AND LIABILITIES	45 495 000	38 272 500

DMS Statement of comprehensive income for the year ended 31 December 2023

	2023	2022
Sales	85 320 000	74 250 000
Cost of sales	63 990 000	54 945 000
Gross profit	21 330 000	19 305 000
Operating expenses	12 636 000	11 070 000
Depreciation	810 000	675 000
Profit before interest and tax	7 884 000	7 560 000
Finance costs	2 430 000	1 485 000
Profit before tax	5 454 000	6 075 000
Income tax expense	2 430 000	2 160 000
Profit from continuing operations	3 024 000	3 915 000
loss on discontinued operations	1 080 000	-
Profit for the year	1 944 000	3 915 000

DMS extract statement of changes in equity for the year ended 31 December 2023

	2023	2022
Balance on 31 December	8 370 000	5 184 000
Comprehensive income for the year	1 944 000	3 915 000
	10 314 000	9 099 000
Dividends-preference shares	-324 000	-324 000
Dividends-ordinary shares	-405 000	-405 000
Balance on 31 December	9 585 000	8 370 000

REQUIRED		MARKS
a)	Compute the following liquidity ratios for 2022 and 2023. • Current ratio • Quick ratio • Inventory turnover. • Debtors' collection period • Creditors settlement period	10
b)	Compute the following debt ratios for 2022 and 2023. • Debt ratio • Times interest earned	4
c)	Compute the following profitability ratios for 2022 and 2023. • Gross profit margin • Net profit margin • Return on Assets	6
d)	Compute the return on the shareholders' equity in 2022 and 2023	2
e)	Identify any three (3) limitations of ratio analysis	3

END OF EXAMINATION QUESTION PAPER

TABLE A

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%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1.130	1.140	1.150	1.160	1.170	1.180	1.190	1.200
2	1.020	1.040	1.061	1.082	1.103	1.124	1.145	1.166	1.188	1.210	1.232	1.254	1.277	1.300	1.323	1.346	1.369	1.392	1.416	1.440
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	1.443	1.482	1.521	1.561	1.602	1.643	1.685	1.728
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574	1.630	1.689	1.749	1.811	1.874	1.939	2.005	2.074
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762	1.842	1.925	2.011	2.100	2.192	2.288	2.386	2.488
6	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	2.082	2.195	2.313	2.436	2.565	2.700	2.840	2.986
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211	2.353	2.502	2.660	2.826	3.001	3.185	3.379	3.583
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476	2.658	2.853	3.059	3.278	3.511	3.759	4.021	4.300
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	3.004	3.252	3.518	3.803	4.108	4.435	4.785	5.160
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	3.395	3.707	4.046	4.411	4.807	5.234	5.695	6.192
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	3.836	4.226	4.652	5.117	5.624	6.176	6.777	7.430
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	4.335	4.818	5.350	5.936	6.580	7.288	8.064	8.916
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	4.898	5.492	6.153	6.886	7.699	8.599	9.596	10.699
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	5.535	6.261	7.076	7.988	9.007	10.147	11.420	12.839
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177	4.785	5.474	6.254	7.138	8.137	9.266	10.539	11.974	13.590	15.407
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130	7.067	8.137	9.358	10.748	12.330	14.129	16.172	18.488
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866	7.986	9.276	10.761	12.468	14.426	16.672	19.244	22.186
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.544	7.690	9.024	10.575	12.375	14.463	16.879	19.673	22.901	26.623
19	1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116	7.263	8.613	10.197	12.056	14.232	16.777	19.748	23.214	27.252	31.948
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727	8.062	9.646	11.523	13.743	16.367	19.461	23.106	27.393	32.429	38.338
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835	13.585	17.000	21.231	26.462	32.919	40.874	50.658	62.669	77.388	95.396
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449	22.892	29.960	39.116	50.950	66.212	85.850	111.065	143.371	184.675	237.376
35	1.417	2.000	2.814	3.946	5.516	7.686	10.677	14.785	20.414	28.102	38.575	52.800	72.069	98.100	133.176	180.314	243.503	327.997	440.701	590.668
40	1.489	2.208	3.262	4.801	7.040	10.286	14.974	21.725	31.409	45.259	65.001	93.051	132.782	188.884	267.864	378.721	533.869	750.378	1,051.668	1,469.772
50	1.645	2.692	4.384	7.107	11.467	18.420	29.457	46.902	74.358	117.391	184.565	289.002	450.736	700.233	1,083.657	1,670.704	2,566.215	3,927.357	5,988.914	9,100.438

TABLE B

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%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.024	0.020	0.016	0.013	0.010
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.015	0.012	0.009	0.007	0.005	0.004
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	0.014	0.010	0.008	0.006	0.004	0.003	0.002	0.002
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022	0.015	0.011	0.008	0.005	0.004	0.003	0.002	0.001	0.001	0.001
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000

TABLE C

Future value interest factor of an ordinary annuity of \$1 per period at i% for n periods, FVIFA(i,n).																				
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.010	2.020	2.030	2.040	2.050	2.060	2.070	2.080	2.090	2.100	2.110	2.120	2.130	2.140	2.150	2.160	2.170	2.180	2.190	2.200
3	3.030	3.060	3.091	3.122	3.153	3.184	3.215	3.246	3.278	3.310	3.342	3.374	3.407	3.440	3.473	3.506	3.539	3.572	3.606	3.640
4	4.060	4.122	4.184	4.246	4.310	4.375	4.440	4.506	4.573	4.641	4.710	4.779	4.850	4.921	4.993	5.066	5.141	5.215	5.291	5.368
5	5.101	5.204	5.309	5.416	5.526	5.637	5.751	5.867	5.985	6.105	6.228	6.353	6.480	6.610	6.742	6.877	7.014	7.154	7.297	7.442
6	6.152	6.308	6.468	6.633	6.802	6.975	7.153	7.336	7.523	7.716	7.913	8.115	8.323	8.536	8.754	8.977	9.207	9.442	9.683	9.930
7	7.214	7.434	7.662	7.898	8.142	8.394	8.654	8.923	9.200	9.487	9.783	10.089	10.405	10.730	11.067	11.414	11.772	12.142	12.523	12.916
8	8.286	8.583	8.892	9.214	9.549	9.897	10.260	10.637	11.028	11.436	11.859	12.300	12.757	13.233	13.727	14.240	14.773	15.327	15.902	16.499
9	9.369	9.755	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	15.416	16.085	16.786	17.519	18.285	19.086	19.923	20.799
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	18.420	19.337	20.304	21.321	22.393	23.521	24.709	25.959
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	21.814	23.045	24.349	25.733	27.200	28.755	30.404	32.150
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	22.713	24.133	25.650	27.271	29.002	30.850	32.824	34.931	37.180	39.581
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.212	28.029	29.985	32.089	34.352	36.786	39.404	42.219	45.244	48.497
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019	27.975	30.095	32.393	34.883	37.581	40.505	43.672	47.103	50.818	54.841	59.196
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	34.405	37.280	40.417	43.842	47.580	51.660	56.110	60.965	66.261	72.035
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950	39.190	42.753	46.672	50.980	55.717	60.925	66.649	72.939	79.850	87.442
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	44.501	48.884	53.739	59.118	65.075	71.673	78.979	87.068	96.022	105.93
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599	50.396	55.750	61.725	68.394	75.836	84.141	93.406	103.74	115.27	128.12
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	56.939	63.440	70.749	78.969	88.212	98.603	110.28	123.41	138.17	154.74
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	64.203	72.052	80.947	91.025	102.44	115.38	130.03	146.63	165.42	186.69
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347	114.41	133.33	155.62	181.87	212.79	249.21	292.10	342.60	402.04	471.98
30	34.785	40.568	47.575	56.085	66.439	79.058	94.461	113.28	136.31	164.49	199.02	241.33	293.20	356.79	434.75	530.31	647.44	790.95	966.71	1,181.9
35	41.660	49.994	60.462	73.652	90.320	111.43	138.24	172.32	215.71	271.02	341.59	431.66	546.68	693.57	881.17	1,120.7	1,426.5	1,816.7	2,314.2	2,948.3
40	48.886	60.402	75.401	95.026	120.80	154.76	199.64	259.06	337.88	442.59	581.83	767.09	1,013.7	1,342.0	1,779.1	2,360.8	3,134.5	4,163.2	5,529.8	7,343.9
50	64.463	84.579	112.80	152.67	209.35	290.34	406.53	573.77	815.08	1,163.9	1,668.8	2,400.0	3,459.5	4,994.5	7,217.7	10,436	15,090	21,813	31,515	45,497

TABLE D

Present value interest factor of an (ordinary) annuity of \$1 per period at i% for n periods, PVIFA(i,n).																				
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.625	1.605	1.585	1.566	1.547	1.528
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.948
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496	7.003	6.566	6.177	5.829	5.517	5.235	4.979
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.644	8.855	8.176	7.586	7.070	6.617	6.215	5.858	5.539	5.251	4.992
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	8.951	8.244	7.634	7.105	6.642	6.233	5.871	5.548	5.258	4.997
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915	9.042	8.304	7.675	7.133	6.661	6.246	5.880	5.554	5.262	4.999