Birla Institute of Management Technology

PGDM Batch 2014-16

Corporate Finance

DM 303

Trimester – III, End-Term Examination: April 2015

Time allowed: 2 hrs 30 min Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means.** In case of rough work please use answer sheet.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	3*5 = 15
B	2 out of 3 (Long Questions)	10 Marks each	2*10 = 20
C	Compulsory Case Study	15 Marks	15
		Total Marks	**50**

Section A

A1) X deposits Rs 1000000 at the beginning of year 1 and 3 and Rs 100,000 at the end of each of the years 2, 4, 5. Find the discounted value of the investments at the end of year 3 with the discount rate of 10%.

A2) The following information is related to Sunrise Ltd.:

	(Rs)
Sales	400000
Less Variable Expenses 35%	140000
Contribution	260000
Less Fixed Expenses	180000
EBIT	80000
Less Interest	10000
Taxable Income	70000

If the sales will increase by 6%, what will be the impact on taxable income? What will you conclude from this?

A3) Explain the problems with IRR as a method of Capital Budgeting with help of suitable example/s.

A4) Capital Asset Pricing Model (CAPM) / Security Market Line is a tool to work out cost of equity. Explain?

A5) During the second year of operation, SIL has experienced a stochastic demand for its product. The Miller and Orr model is the simplest model to determine the optimal behavior in irregular cash flows situation. There are two control limits. Upper Limit (U) and lower limit (L). Explain with the graphical pictorial presentation about the significance of upper limit of Rs. 220000/- and lower limit of Rs. 40000/- What is the return point in this case?

OR

A5) Normally an uncertainty is present in cash budget. What are the reasons and how this can be taken care of ?

Section B

B1 The capital structure of a company is as under

Equity Shares at Rs 10/- each	Rs100,00,000
9% Preference Shares @ Rs 100 each	Rs 30,00,000
14% Debentures @Rs 100 each	Rs 70,00,000

The Market Price of the securities are:

Equity Shares	Rs 35 per share
Preference Shares	Rs 120 per share
Debentures	Rs 110 per debenture

Other information's are

- Equity Shares have floatation cost of Rs5 per share. The next years expected dividend is Rs 3 with the annual growth of 5%. The company pays all the earning in form of dividends.
- Preference Shares are redeemable at a premium of 10% , have 2% floatation cost and 10 years to maturity.
- Debentures are redeemable at a par , 4% flotation cost and 10 years to maturity
- Corporate Tax rate is 30%

Calculate the weighted average cost of capital using book value and market value weights ?

B2) Global Enterprises Ltd. is a manufacturer of high quality running shoes. Ms. Vanita, President, is considering computerizing the company's ordering, inventory and billing procedures. She estimates that the annual savings from computerization include a reduction of ten clerical employees with annual

salaries of 40,000 each, 75,000 from reduced production delays caused by raw materials inventory problems, 80,000 from lost sales due to inventor stock-outs and 25,000 associated with timely billing procedures. The purchase price of the system is 5,00,000 and installation costs are 50,000. These outlays will be depreciated on straight-line basis to a 1,50,000 salvage value which is also its market value at the end of five years. Operation of the new system requires two computer specialists with annual salaries of 1,20,000 per person. Also, annual maintenance and operating cash expenses of 1,50,000 are estimated to be incurred. The company's tax rate is 30% and its required rate of return (cost of capital) for the project is 12%.

You are required to —

(i) Find the project's initial cash outlay.
(ii)Find the project's after tax profits and cash flows over its 5 year life.
(iii)Evaluate the project using net present value (NPV) method.
(iv)Evaluate the project using profitability index (PI) method.
(v) Calculate the project's payback period

B3 The current dividend on an equity share of Growth Limited is ₹5.00. Growth Limited is expected to enjoy an above-normal growth rate of 30 percent for a period of 6 years thereafter the growth rate will fall and would be 20 percent for next 5 years at last it would stabilise at 10 percent. Equity investors require a minimum return of 15 percent. What is the intrinsic value of the equity share of Growth Limited?

OR

B3)Explain the factors considered while determining the need for working capital?

Section C (15 Marks)

The management of Tripsy Food Products Limited has called for a statement showing working capital needed to finance a level of activity of 300000 units of out put for the year. The cost structure of the company's product, for the above activity level is detailed below:s

Particulars	Cost per unit
Raw materials	20
Manufacturing Expenses	5
Other overheads	15
Total cost	40
Profit	10
Selling Price	50

SPast trends indicate the following:

i. Raw Materials are held in stock for 2 months;
ii. Work-in-progress will be approximate to half a month's production;
iii. Finished goods remain in the warehouse for a month;
iv. Two months' credit is normally allowed to customers;
v. Manufacturing Expenses are expected to occur evenly during the year.

You are required calculate the investment in various current assets including a cash balance of 5% of Gross Working Capital. Your calculations & answers should be rounded off to Rupees in lakhs.

Table A.3 : Present Value Interest Factor

Period	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
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149
21	0.811	0.660	0.538	0.439	0.359	0.294	0.242	0.199	0.164	0.135
22	0.803	0.647	0.522	0.422	0.342	0.278	0.226	0.184	0.150	0.123
23	0.795	0.634	0.507	0.406	0.326	0.262	0.211	0.170	0.138	0.112
24	0.788	0.622	0.492	0.390	0.310	0.247	0.197	0.158	0.126	0.102
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092
26	0.772	0.598	0.464	0.361	0.281	0.220	0.172	0.135	0.106	0.084
27	0.764	0.586	0.450	0.347	0.268	0.207	0.161	0.125	0.098	0.076
28	0.757	0.574	0.437	0.333	0.255	0.196	0.150	0.116	0.090	0.069
29	0.749	0.563	0.424	0.321	0.243	0.185	0.141	0.107	0.082	0.063
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009
60	0.550	0.305	0.170	0.095	0.054	0.030	0.017	0.010	0.006	0.003

The Factor is zero to three decimal places

Period	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	0.893	0.877	0.870	0.862	0.847	0.833	0.806	0.781	0.758	0.735
2	0.797	0.769	0.756	0.743	0.718	0.694	0.650	0.610	0.574	0.541
3	0.712	0.675	0.658	0.641	0.609	0.579	0.524	0.477	0.435	0.398
4	0.636	0.592	0.572	0.552	0.516	0.482	0.423	0.373	0.329	0.292
5	0.567	0.519	0.497	0.476	0.437	0.402	0.341	0.291	0.250	0.215
6	0.507	0.456	0.432	0.410	0.370	0.335	0.275	0.227	0.189	0.158
7	0.452	0.400	0.376	0.354	0.314	0.279	0.222	0.178	0.143	0.116
8	0.404	0.351	0.327	0.305	0.266	0.233	0.179	0.139	0.108	0.085
9	0.361	0.308	0.284	0.263	0.225	0.194	0.144	0.108	0.082	0.063
10	0.322	0.270	0.247	0.227	0.191	0.162	0.116	0.085	0.062	0.046
11	0.287	0.237	0.215	0.195	0.162	0.135	0.094	0.066	0.047	0.034
12	0.257	0.208	0.187	0.168	0.137	0.112	0.076	0.052	0.036	0.025
13	0.229	0.182	0.163	0.145	0.116	0.093	0.061	0.040	0.027	0.018
14	0.205	0.160	0.141	0.125	0.099	0.078	0.049	0.032	0.021	0.014
15	0.183	0.140	0.123	0.108	0.084	0.065	0.040	0.025	0.016	0.010
16	0.163	0.123	0.107	0.093	0.071	0.054	0.032	0.019	0.012	0.007
17	0.146	0.108	0.093	0.080	0.060	0.045	0.026	0.015	0.009	0.005
18	0.130	0.095	0.081	0.069	0.051	0.038	0.021	0.012	0.007	0.004
19	0.111	0.083	0.070	0.060	0.043	0.031	0.017	0.009	0.005	0.003
20	0.104	0.073	0.061	0.051	0.037	0.026	0.014	0.007	0.004	0.002
21	0.093	0.064	0.053	0.044	0.031	0.022	0.011	0.006	0.003	0.002
22	0.083	0.056	0.046	0.038	0.026	0.018	0.009	0.004	0.002	0.001
23	0.074	0.049	0.040	0.033	0.022	0.015	0.007	0.003	0.002	0.001
24	0.066	0.043	0.035	0.028	0.019	0.013	0.006	0.003	0.001	0.001
25	0.059	0.038	0.030	0.024	0.016	0.010	0.005	0.002	0.001	0.000
26	0.053	0.033	0.026	0.021	0.014	0.009	0.004	0.002	0.001	0.000
27	0.047	0.029	0.023	0.018	0.011	0.007	0.003	0.001	0.001	0.000
28	0.042	0.026	0.020	0.016	0.010	0.006	0.002	0.001	0.000	0.000
29	0.037	0.022	0.017	0.014	0.008	0.005	0.002	0.001	0.000	0.000
30	0.033	0.020	0.015	0.012	0.007	0.004	0.002	0.001	0.000	0.000
40	0.011	0.005	0.004	0.003	0.001	0.001	0.000	0.000	0.000	0.000
50	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
60	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The Factor is zero to three decimal places

Table : A.4 : Present Value Interest Factor for an Annuity

i	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
0	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
2	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
4	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
6	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
8	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
0	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514
1	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.292	8.649
2	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.442	8.772
3	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.883
4	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.707	8.985
5	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077
	22.795	20.121	17.877	15.983	14.375	13.003	11.826	10.810	9.929	9.161
7	23.560	20.707	18.327	16.330	14.643	13.211	11.987	10.935	10.027	9.237
	24.316	21.281	18.764	16.663	14.898	13.406	12.137	11.051	10.116	9.307
9	25.066	21.844	19.188	16.984	15.141	13.591	12.278	11.158	10.198	9.370
	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427
0	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779
	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915
0	44.955	34.761	27.676	22.623	18.929	16.161	14.039	12.377	11.048	9.967

i	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
	0.893	0.877	0.870	0.862	0.847	0.833	0.806	0.781	0.758	0.735
	1.690	1.647	1.626	1.605	1.566	1.528	1.457	1.392	1.331	1.276
	2.402	2.322	2.283	2.246	2.174	2.106	1.981	1.868	1.766	1.673
	3.037	2.914	2.855	2.798	2.690	2.589	2.404	2.241	2.096	1.966
	3.605	3.433	3.352	3.274	3.127	2.991	2.745	2.532	2.345	2.181
	4.111	3.889	3.784	3.685	3.498	3.326	3.020	2.759	2.534	2.339
	4.564	4.288	4.160	4.039	3.812	3.605	3.242	2.937	2.677	2.455
	4.968	4.639	4.487	4.344	4.078	3.837	3.421	3.076	2.786	2.540
	5.328	4.946	4.772	4.607	4.303	4.031	3.566	3.184	2.868	2.603
0	5.650	5.216	5.019	4.833	4.494	4.192	3.682	3.269	2.930	2.649
1	5.938	5.453	5.234	5.029	4.656	4.327	3.776	3.335	2.978	2.683
2	6.194	5.660	5.421	5.197	4.793	4.439	3.851	3.387	3.013	2.708
3	6.424	5.842	5.583	5.342	4.910	4.533	3.912	3.427	3.040	2.727
	6.628	6.002	5.724	5.468	5.008	4.611	3.962	3.459	3.061	2.740
5	6.811	6.142	5.847	5.575	5.092	4.675	4.001	3.483	3.076	2.750
	6.974	6.265	5.954	5.668	5.162	4.730	4.033	3.503	3.088	2.757
7	7.120	6.373	6.047	5.749	5.222	4.775	4.059	3.518	3.097	2.763
	7.250	6.467	6.128	5.818	5.273	4.812	4.080	3.529	3.104	2.767
9	7.366	6.550	6.198	5.877	5.316	4.843	4.097	3.539	3.109	2.770
	7.469	6.623	6.259	5.929	5.353	4.870	4.110	3.546	3.113	2.772
1	7.562	6.687	6.312	5.973	5.384	4.891	4.121	3.551	3.116	2.773
2	7.645	6.743	6.359	6.011	5.410	4.909	4.130	3.556	3.118	2.775
3	7.718	6.792	6.399	6.044	5.432	4.925	4.137	3.559	3.120	2.775
4	7.784	6.835	6.434	6.073	5.451	4.937	4.143	3.562	3.121	2.776
5	7.843	6.873	6.464	6.097	5.467	4.948	4.147	3.564	3.122	2.777
6	7.896	6.906	6.491	6.118	5.480	4.956	4.151	3.566	3.123	2.777
	7.943	6.935	6.514	6.136	5.492	4.964	4.154	3.567	3.123	2.777
8	7.984	6.961	6.534	6.152	5.502	4.970	4.157	3.568	3.124	2.777
	8.022	6.983	6.551	6.166	5.510	4.975	4.159	3.569	3.124	2.777
0	8.055	7.003	6.566	6.177	5.517	4.979	4.160	3.569	3.124	2.778
	8.244	7.105	6.642	6.233	5.548	4.997	4.166	3.571	3.125	2.778
0	8.304	7.133	6.661	6.246	5.554	4.999	4.167	3.571	3.125	2.778
	8.324	7.140	6.665	6.249	5.555	5.000	4.167	3.571	3.125	2.778

Table A.1 : Future Value Interest Factor

n/i	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100
2	1.020	1.040	1.061	1.082	1.103	1.124	1.145	1.166	1.188	1.210
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611
6	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560
19	1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727
21	1.232	1.516	1.860	2.279	2.786	3.400	4.141	5.034	6.109	7.400
22	1.245	1.546	1.916	2.370	2.925	3.604	4.430	5.437	6.659	8.140
23	1.257	1.577	1.974	2.465	3.072	3.820	4.741	5.871	7.258	8.954
24	1.270	1.608	2.033	2.563	3.225	4.049	5.072	6.341	7.911	9.850
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835
26	1.295	1.673	2.157	2.772	3.556	4.549	5.807	7.396	9.399	11.918
27	1.308	1.707	2.221	2.883	3.733	4.822	6.214	7.988	10.245	13.110
28	1.321	1.741	2.288	2.999	3.920	5.112	6.649	8.627	11.167	14.421
29	1.335	1.776	2.357	3.119	4.116	5.418	7.114	9.317	12.172	15.863
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449
40	1.489	2.208	3.262	4.801	7.040	10.286	14.974	21.725	31.409	45.259
50	1.645	2.692	4.384	7.107	11.467	18.420	29.457	46.902	74.358	117.391
60	1.817	3.281	5.892	10.520	18.679	32.988	57.946	101.257	176.031	304.482

n/i	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	1.120	1.140	1.150	1.160	1.180	1.200	1.240	1.280	1.320	1.360
2	1.254	1.300	1.323	1.346	1.392	1.440	1.538	1.638	1.742	1.850
3	1.405	1.482	1.521	1.561	1.643	1.728	1.907	2.097	2.300	2.515
4	1.574	1.689	1.749	1.811	1.939	2.074	2.364	2.684	3.036	3.421
5	1.762	1.925	2.011	2.100	2.288	2.488	2.932	3.436	4.007	4.653
6	1.974	2.195	2.313	2.436	2.700	2.986	3.635	4.398	5.290	6.328
7	2.211	2.502	2.660	2.826	3.185	3.583	4.508	5.629	6.983	8.605
8	2.476	2.853	3.059	3.278	3.759	4.300	5.590	7.206	9.217	11.703
9	2.773	3.252	3.518	3.803	4.435	5.160	6.931	9.223	12.166	15.917
10	3.106	3.707	4.046	4.411	5.234	6.192	8.594	11.806	16.060	21.647
11	3.479	4.226	4.652	5.117	6.176	7.430	10.657	15.112	21.199	29.439
12	3.896	4.818	5.350	5.936	7.288	8.916	13.215	19.343	27.983	40.037
13	4.363	5.492	6.153	6.886	8.599	10.699	16.386	24.759	36.937	54.451
14	4.887	6.261	7.076	7.988	10.147	12.839	20.319	31.691	48.757	74.053
15	5.474	7.138	8.137	9.266	11.974	15.407	25.196	40.565	64.359	100.713
16	6.130	8.137	9.358	10.748	14.129	18.488	31.243	51.923	84.954	136.969
17	6.866	9.276	10.761	12.468	16.672	22.186	38.741	66.461	112.139	186.278
18	7.690	10.575	12.375	14.463	19.673	26.623	48.039	85.071	148.024	253.338
19	8.613	12.056	14.232	16.777	23.214	31.948	59.568	108.890	195.391	344.540
20	9.646	13.743	16.367	19.461	27.393	38.338	73.864	139.380	257.916	468.574
21	10.804	15.668	18.822	22.574	32.324	46.005	91.592	178.406	340.449	637.261
22	12.100	17.861	21.645	26.186	38.142	55.206	113.574	228.360	449.393	866.674
23	13.552	20.362	24.891	30.376	45.008	66.247	140.831	292.300	593.199	1178.677
24	15.179	23.212	28.625	35.236	53.109	79.497	174.631	374.144	783.023	1603.001
25	17.000	26.462	32.919	40.874	62.669	95.396	216.542	478.905	1033.590	2180.081
26	19.040	30.167	37.857	47.414	73.949	114.475	268.512	612.998	1364.339	2964.911
27	21.325	34.390	43.535	55.000	87.260	137.371	332.955	784.638	1800.927	4032.279
28	23.884	39.204	50.066	63.800	102.967	164.845	412.864	1004.336	2377.224	5483.899
29	26.750	44.693	57.575	74.009	121.501	197.814	511.952	1285.550	3137.935	7458.102
30	29.960	50.950	66.212	85.850	143.371	237.376	634.820	1645.505	4142.075	10143.02
40	93.051	188.884	267.864	378.721	750.378	1469.772	5455.913	19426.69	66520.77	219561.6
50	289.002	700.233	1083.657	1670.704	3927.357	9100.438	46890.435	229349.9	1068308.19	4752755.0
60	897.597	2595.919	4383.999	7370.201	20555.140	56347.514	402996.347	2707685.2	17156784.0	...

Table A.2 - Future Value Interest Factor for an Annuity

n/i	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	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
3	3.030	3.060	3.091	3.122	3.153	3.184	3.215	3.246	3.278	3.310
4	4.060	4.122	4.184	4.246	4.310	4.375	4.440	4.506	4.573	4.641
5	5.101	5.204	5.309	5.416	5.526	5.637	5.751	5.867	5.985	6.105
6	6.152	6.308	6.468	6.633	6.802	6.975	7.153	7.336	7.523	7.716
7	7.214	7.434	7.662	7.898	8.142	8.394	8.654	8.923	9.200	9.487
8	8.286	8.583	8.892	9.214	9.549	9.897	10.260	10.637	11.028	11.436
9	9.369	9.755	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019	27.975
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275
21	23.239	25.783	28.676	31.969	35.719	39.993	44.865	50.423	56.765	64.002
22	24.472	27.299	30.537	34.248	38.505	43.392	49.006	55.457	62.873	71.403
23	25.716	28.845	32.453	36.618	41.430	46.996	53.436	60.893	69.532	79.543
24	26.973	30.422	34.426	39.083	44.502	50.816	58.177	66.765	76.790	88.497
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347
26	29.526	33.671	38.553	44.312	51.113	59.156	68.676	79.954	93.324	109.182
27	30.821	35.344	40.710	47.084	54.669	63.706	74.484	87.351	102.723	121.100
28	32.129	37.051	42.931	49.968	58.403	68.528	80.698	95.339	112.968	134.210
29	33.450	38.792	45.219	52.966	62.323	73.640	87.347	103.966	124.135	148.631
30	34.785	40.568	47.575	56.085	66.439	79.058	94.461	113.283	136.308	164.494
40	48.886	60.402	75.401	95.026	120.800	154.762	199.635	259.057	337.882	442.593
50	64.463	84.579	112.797	152.667	209.348	290.336	406.529	573.770	815.084	1163.909
60	81.670	114.052	163.053	237.991	353.584	533.128	813.520	1253.213	1944.792	3034.816

n/i	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.120	2.140	2.150	2.160	2.180	2.200	2.240	2.280	2.320	2.360
3	3.374	3.440	3.473	3.506	3.572	3.640	3.778	3.918	4.062	4.210
4	4.779	4.921	4.993	5.066	5.215	5.368	5.684	6.016	6.362	6.725
5	6.353	6.610	6.742	6.877	7.154	7.442	8.048	8.700	9.398	10.146
6	8.115	8.536	8.754	8.977	9.442	9.930	10.980	12.136	13.406	14.799
7	10.089	10.730	11.067	11.414	12.142	12.916	14.615	16.534	18.696	21.126
8	12.300	13.233	13.727	14.240	15.327	16.499	19.123	22.163	25.678	29.732
9	14.776	16.085	16.786	17.519	19.086	20.799	24.712	29.369	34.895	41.435
10	17.549	19.337	20.304	21.321	23.521	25.959	31.643	38.593	47.062	57.352
11	20.655	23.045	24.349	25.733	28.755	32.150	40.238	50.398	63.122	78.998
12	24.133	27.271	29.002	30.850	34.931	39.581	50.895	65.510	84.320	108.437
13	28.029	32.089	34.352	36.786	42.219	48.497	64.110	84.853	112.303	148.475
14	32.393	37.581	40.505	43.672	50.818	59.196	80.496	109.612	149.240	202.926
15	37.280	43.842	47.580	51.660	60.965	72.035	100.815	141.303	197.997	276.979
16	42.753	50.980	55.717	60.925	72.939	87.442	126.011	181.868	262.356	377.692
17	48.884	59.118	65.075	71.673	87.068	105.931	157.253	233.791	347.309	514.661
18	55.750	68.394	75.836	84.141	103.740	128.117	195.994	300.252	459.449	700.939
19	63.440	78.969	88.212	98.603	123.414	154.740	244.033	385.323	607.472	954.277
20	72.052	91.025	102.444	115.380	146.628	186.688	303.601	494.213	802.863	1298.817
21	81.699	104.768	118.810	134.841	174.021	225.026	377.465	633.593	1060.779	1767.391
22	92.503	120.436	137.632	157.415	206.345	271.031	469.056	811.999	1401.229	2404.651
23	104.603	138.297	159.276	183.601	244.487	326.237	582.630	1040.358	1850.622	3271.326
24	118.155	158.659	184.168	213.978	289.494	392.484	723.461	1332.659	2443.821	4450.003
25	133.334	181.871	212.793	249.214	342.603	471.981	898.092	1706.803	3226.844	6053.004
26	150.334	208.333	245.712	290.888	405.272	567.377	1114.634	2185.708	4260.434	8233.085
27	169.374	238.499	283.569	337.502	479.221	681.853	1383.146	2798.706	5624.772	11198
28	190.699	272.889	327.104	392.503	566.481	819.223	1716.101	3583.344	7425.699	15230.28
29	214.583	312.094	377.170	456.303	669.447	984.068	2128.965	4587.680	9802.923	20714.173
30	241.333	356.787	434.745	530.312	790.948	1181.882	2640.916	5873.231	12940.86	28172.28
40	767.091	1342.025	1779.090	2360.757	4163.213	7343.858	22728.80	69377.46	207874.27	609890.5
50	2400.018	4994.521	7217.716	10435.65	21813.09	45497.19	195372.6	819103.1	3338460	13202094
60	7471.641	18535.11	29219.99	46057.51	114189.7	281732.6	1679147	9670301	53614945	....