

- 6) Compute the value of an acre of land when the annual return from land is \$50 per acre and the opportunity cost of capital is 5 percent. [5 pts]
- 7) If an investment yields a net cash return of \$5000 and the marginal tax rate is 25 percent, what is the after-tax return from the investment? [3 pts]
- 8) In the case where depreciation is \$10,000 and the marginal tax rate is 25 percent, what is the value of tax savings from depreciation? [3 pts]

- 9) Assume that your firm, a multi-national corporation which exploits third world countries, has determined that it is advantageous to maintain a debt to asset of .40 at all times. Given this, compute the net present value for an investment costing \$10 million that yields \$1 million per year over 15 years before it eventually becomes worthless. For your analysis assume the cost of debt is 8 percent, the cost of equity is 10 percent, and the marginal tax rate is 37.50 percent. [12 pts]

- 10) For a 10 percent cost of capital, determine which of the two machines, with the purchase prices, annual operating costs, and economic lives presented below, would be the least costly to utilize over time. [10 pts]

<u>Machine</u>	<u>X</u>	<u>Y</u>
Cost	\$10,000	\$12,000
Annual operating cost	\$3,200	\$3,500
Life in years	4	6

- 11) Using the information present below, compute:
- a) the average or expected rate of growth in equity; (4 pts.)
 - b) the standard deviation for the growth in equity (4 pts.) ; and
 - c) the coefficient of variation for the growth in equity. (4 pts.)

Average rate of return on assets	10 %
Standard deviation of the returns on assets	3 %
Average cost of debt	7 %
Standard deviation of the cost of debt	2%
Debt to Equity position for firm	3:1
Tax per dollar of income	.25
Percent of after-tax income consumed annually	40 %

- 12) Assume that you have two investments with the following return, risk, and correlation characteristics.

	Investment A	Investment B
Expected rate of return	10 %	15 %
Standard derivation of return	2 %	3.5 %
Correlation of expected returns	-.6	-----

Using the above information, compute the expected return and the standard deviation of return for:

(1) a portfolio that has 25% in Investment A and 75% in Investment B. (4 pts.)
and;

(2) a portfolio that has 50% in Investment A and 50% in Investment B. (4 pts.)

Given your results from the above analysis, state which of the to portfolios would be preferable (4 pts.)

Single Payment Present Value Factors

Time	Cost of Capital					
	2.00%	4.00%	6.00%	8.00%	10.00%	12.00%
1	0.9804	0.9615	0.9434	0.9259	0.9091	0.8929
2	0.9612	0.9246	0.8900	0.8573	0.8264	0.7972
3	0.9423	0.8890	0.8396	0.7938	0.7513	0.7118
4	0.9238	0.8548	0.7921	0.7350	0.6830	0.6355
5	0.9057	0.8219	0.7473	0.6806	0.6209	0.5674
6	0.8880	0.7903	0.7050	0.6302	0.5645	0.5066
7	0.8706	0.7599	0.6651	0.5835	0.5132	0.4523
8	0.8535	0.7307	0.6274	0.5403	0.4665	0.4039
9	0.8368	0.7026	0.5919	0.5002	0.4241	0.3606
10	0.8203	0.6756	0.5584	0.4632	0.3855	0.3220
11	0.8043	0.6496	0.5268	0.4289	0.3505	0.2875
12	0.7885	0.6246	0.4970	0.3971	0.3186	0.2567
13	0.7730	0.6006	0.4688	0.3677	0.2897	0.2292
14	0.7579	0.5775	0.4423	0.3405	0.2633	0.2046
15	0.7430	0.5553	0.4173	0.3152	0.2394	0.1827
16	0.7284	0.5339	0.3936	0.2919	0.2176	0.1631
17	0.7142	0.5134	0.3714	0.2703	0.1978	0.1456
18	0.7002	0.4936	0.3503	0.2502	0.1799	0.1300
19	0.6864	0.4746	0.3305	0.2317	0.1635	0.1161
20	0.6730	0.4564	0.3118	0.2145	0.1486	0.1037

Uniform Series Present Value Factors

	Cost of Capital					
	2.00%	4.00%	6.00%	8.00%	10.00%	12.00%
1	0.9804	0.9615	0.9434	0.9259	0.9091	0.8929
2	1.9416	1.8861	1.8334	1.7833	1.7355	1.6901
3	2.8839	2.7751	2.6730	2.5771	2.4869	2.4018
4	3.8077	3.6299	3.4651	3.3121	3.1699	3.0373
5	4.7135	4.4518	4.2124	3.9927	3.7908	3.6048
6	5.6014	5.2421	4.9173	4.6229	4.3553	4.1114
7	6.4720	6.0021	5.5824	5.2064	4.8684	4.5638
8	7.3255	6.7327	6.2098	5.7466	5.3349	4.9676
9	8.1622	7.4353	6.8017	6.2469	5.7590	5.3282
10	8.9826	8.1109	7.3601	6.7101	6.1446	5.6502
11	9.7868	8.7605	7.8869	7.1390	6.4951	5.9377
12	10.5753	9.3851	8.3838	7.5361	6.8137	6.1944
13	11.3484	9.9856	8.8527	7.9038	7.1034	6.4235
14	12.1062	10.5631	9.2950	8.2442	7.3667	6.6282
15	12.8493	11.1184	9.7122	8.5595	7.6061	6.8109
16	13.5777	11.6523	10.1059	8.8514	7.8237	6.9740
17	14.2919	12.1657	10.4773	9.1216	8.0216	7.1196
18	14.9920	12.6593	10.8276	9.3719	8.2014	7.2497
19	15.6785	13.1339	11.1581	9.6036	8.3649	7.3658
20	16.3514	13.5903	11.4699	9.8181	8.5136	7.4694

