UNIVERSITY OF SWAZILAND
FACULTY OF COMMERCE
DEPARTMENT OF ACCOUNTING

MAIN EXAMINATION PAPER 2005

DEGREE/DIPLOMA AND YEAR OF STUY: B.COM IV
TITLE OF PAPER   :   BUSINESS FINANCE I
COURSE CODE   :   AC 403 (M) 2005
TIME ALLOWED   :   THREE (3) HOURS
INSTRUCTIONS: 1.   TOTAL NUMBER OF QUESTIONS ON THIS PAPER
                     IS FOUR(4)

                2.   YOU ARE REQUIRED TO ANSWER THEM ALL.

                3.   THE MARKS AWARDED FOR EACH QUESTION ARE
                     INDICATED SO BUDGET YOUR TIME WISELY

                4.   ALL CALCULATIONS AND WORKING NOTES MUST
                     BE CLEARLY SHOWN ON THE ANSWER SHEET.

NOTE: YOU ARE REMINDED THAT IN ASSESSING YOUR
            WORK, ACCOUNT WILL BE TAKEN OF ACCURACY OF
            LANGUAGE   AND   THE   GENERAL   QUALITY   OF
            EXPRESSION, TOGETHER WITH THE LAYOUT AND
            PRESENTATION OF YOUR FINAL ANSWER.

SPECIAL REQUIREMENTS: PV TABLES

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN
GRANTED BY THE INVIGILATOR.

QUESTION ONE

Required

Each of the following statements is either true or false.
Indicate the correct answer by writing True or False
against the statement number in your answer folder. Do not
copy down the statements.

i) Operating break-even analysis is a method of
   determining the point at which sales will
   just cover   operating variable costs.   T   F

 ii) In financial forecasting the initial forecasts
     of the balance sheet and income statement may
     not be affected depending on how the funds are
     raised.   T   F

iii) Break even analysis based on units of output is
     useful in determining the breakeven point for a
     firm that sells many products at varying prices. T   F

iv) Firms that have fixed costs that include a large
    amount of noncash expenses often find it useful
    to compute the cash operating breakeven point.   T   F

v) In financial planning, mathematical models such
   as regression analysis should be avoided as they
   can lead to unrealistic forecasts.   T   F

vi) Ideas for capital projects should always come
    from top management because they are better
    placed to know what is happening in their
    industry.   T   F

vii) If the stream of future cash flows is constant
     except for one or two periods then they represent
     an annuity.   T   F

viii) One of the merits of the payback method of
project evaluation is that it ignores the time
value of money   T   F

ix) If the net present value of a project is zero,
then that project should be rejected because
it will not add anything to the wealth of
common shareholders.   T   F

x) Operating breakeven analysis is a method of
determining the point at which sales will just
recover operating costs and earn investors their
required rate of return.   T   F

(10 Marks)

QUESTION TWO

TK Ltd which has financial year-end of 31 March, operates a non stop bus service between two major cities in Swaziland. It is currently negotiating with the regulatory authorities about a five year extension and enhancement of its existing contract. TK Ltd has forecast passenger use over the next five year period to 31 March 2010 and based on its proposed carriage capacity, has calculated the following figures:

Five year projections:

Number of carriages used on the route:	8
Maximum passengers per carriage:	55
Average occupancy rate:	60%
Average number of return journeys per day:	10
Average price per return trip:	E12
Number of days operating per year;	340

Contribution per unit (sales price less variable costs) is expected to remain at a cknstant 35% of price over the period. Additional fixed costs of Elm per annum will be incurred on the new project. The management accountant has suggested that, in addition, the existing fixed overhead apportionment be increased by E200,000 per annum to reflect the increased activities relating to this part of the business. If the contract is renewed, other services offered by TK Ltd will be reduced to enable capacity expansion on the new contract. This will involve the loss of a long-standing contract, which was expected to continue indefinitely, worth E250,000 in pre-tax net cash inflows per annum.

One of the conditions of a successful new bid is that a minimum investment of E5m, in support equipment to enhance the existing service, is required at the start of the new contract on 31 March 2005. This equipment will no longer be needed to support the contract after four years and will be disposed of for E0.5m on 31 March 2009. Capital allowances are available for these transactions. A balancing charge or allowance would arise on disposal of the asset. The investment in this asset should be treated separately from any other asset investment for tax purposes. Assume all tax payments and allowances arise at the end of the year in

which the taxable transactions arise (in other words, not delayed). Assume that all operating cash inflows arise at the relevant year-end.

Other relevant information:
After tax discount rate per annum: 10%
Company tax rate: 30%
Writing down allowance: 25% per annum, reducing balance

Required:

(a) Evaluate the proposal on financial grounds

(30 Marks)

QUESTION THREE

Tengetile Ltd has the following extracts:

	Year 1	Year 2	Year 3
	E	E	E
Stocks - Raw materials	108,000	145,800	180,000
Work-in-progress	75,600	97,200	93,360
Finished goods	86,400	129,600	142,875
Purchases	518,400	702,000	720,000
Cost of goods sold	756,000	972,000	1,098,360
Sales	864,000	1,080,000	1,188,000
Debtors	172,800	259,200	297,000
Trade creditors	86,400	105,300	126,000

i)   Calculate the length of the working capital cycle year by
     year.   (15 Marks)

ii) Discuss possible actions that might be taken to reduce the
     length of that cycle, and the possible disadvantages of each.
                                                      (15 Marks)
                                          Total: (30 Marks)

QUESTION FOUR

Five wealthy individuals have each put E200,000 at your disposal to invest for the next two years. The funds can be invested in one or more of four specified projects and in the money market. The projects are not divisible and cannot be postponed. The investors require a minimum return of 24% over the two years.

Details of these possible investments are:

	Initial cost (E'000)	Return over two Years (%)	Expected standard deviation of Returns over two Years (%)
Project 1	600	22	7
Project 2	400	26	9
Project 3	600	28	15
Project 4	600	34	13
Money market minimum	100	18	5

Correlation coefficients of returns (over two years)

Between projects and

Between projects	the market portfolio	the money market
1 and 2 0.70	1 and market 0.68	1 and money market 0.40
1 and 3 0.62	2 and market 0.65	2 and money market 0.45
1 and 4 0.56	3 and market 0.75	3 and money market 0.55
2 and 3 0.65	4 and market 0.88	4 and money market 0.60
2 and 4 0.57		
3 and 4 0.76	Between the money market and the market portfolio 0.40	

The risk-free rate is estimated to be 16%, the market return 27% and the variance of returns on the market 100% (all for the two-year period).

Required:

a) Evaluate how the Elm should be invested using
   portfolio theory,   (18 Marks)

b) Explain why portfolio theory and CAPM might give
   different solutions as to how the Elm should be
   invested.   (5 Marks)

c) Discuss the main problems of using CAPM in investment
   appraisal.   (7 Marks)
                                    Total (30 Marks)

Annuity Table

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

where r = interest rate
n = number of periods

Interest rates (r)

Years (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	8.983	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

(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	3.498	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	4.486	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

Present Value Table

Present value of 1 i.e. $(1+r)^{-n}$
where r = discount rate
n = number of periods until payment

Discount rates (r)

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

(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	0.209	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	0.093
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