NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMERCE
DEPARTMENT OF FINANCE
BACHELOR OF COMMERCE HONOURS DEGREE IN
Accounting, Finance, Banking
Insurance & Risk Management
Actuarial Science
Marketing and Management
PART II I[st] SEMESTER FINAL EXAMINATION - DECEMBER 2006
CORPORATE FINANCE I [CFI 2101]
TIME ALLOWED: 3 HOURS 10 MINUTES

INSTRUCTIONS

- THE PAPER IS 3 HOURS 10 MINUTES
- ANSWER QUESTION I [SECTION A] AND ANY THREE QUESTIONS.
- QUESTION I CARRIES 40, OTHER QUESTIONS CARRY 20 MARKS EACH.

SECTION A [**COMPULSORY**]

QUESTION 1 [40 Marks]

a) Suppose Poly Ltd is considering the production of an industrial robot for the television manufacturing industry. The net investment for this project can be broken down into three stages:

Stage 1: At t=0, which in this case is sometime in the near future, conduct a $500 000 study of the market potential for robots in TV assembly lines.

Stage 2: If it appears that a sizeable market does exist, then at t=1, spend $1 000 000 to design and build a prototype robot. This robot would then be evaluated by TV Engineers, and their reactions would determine whether the firm should proceed with the project.

Stage 3: If the reaction to the prototype robot is good, then at t=2, build a production plant at a net cost of $10 000 000. If this stage were reached, the project would generate high, medium or low net cashflows over the following 4 years.

Assumptions:

- The cost of capital is 11.5%
- The probability of success at Stage 1 is 80% and 60% at Stage 2.
- The project cashflow probabilities at Stage 3 are;

High	-	30% chance	-	$10 000 000
Medium	-	40% chance	-	$4 000 000
Low	-	30% chance	-	($2 000 000)

(i) Should Poly Ltd embark on the project? [12]

(ii) Suppose Poly Ltd is not contractually bound to continue the industrial robot project, would you alter your decision in (i) above? [8]

(iii) Compute the value of the abandonment option. [5]

(b) Examine the role of a financial manager in an organization. [10]

(c) Compute the present value of the following investment in Delta Inc: 1 000 non-redeemable 9% preference shares of $10 each. The prevailing interest rate in the market is 12% p.a. [5]

QUESTION 2 [20 Marks]

(a) Discuss the relationship of business risk and financial risk using the Boston Consulting Group [BCG] Model incorporating the Product Life Cycle. [10]

(b) The following summary statistics are generated for the investment listed below;

	Mean-Return	σ
Government Bonds	8%	2%
Paveco Ltd	14%	8%
Energet Ltd	18%	12%
Argyle Ltd	20%	11%

Where σ = Standard Deviation.

You may assume that the distribution around the mean have the properties of a normal distribution.

Required

(i) Provide reasons [if such reasons exist] as to why an investment in government bonds may have a standard deviation other than zero. [2]

(ii) Calculate the co-efficient of variation of each of the 3 shares. [3]

(iii) Assume an investor is considering purchasing one of the above four shares. Identify considerations which should be taken into account and make a recommendation if possible. [5]

QUESTION 3 [20 Marks]

By 2005, after 2 years of frenzied merger activity, only two giant conglomerates remain on the Zimbabwe Stock Exchange, namely A and B. Each accounts for half the value of the market portfolio. You are given the following data:

	Firm A	Firm B
Expected Rate of Return (r)	23%	13%
Standard Deviation of return (σ) percent per year	40	24

The correlation coefficient of A and B is $r_{ab} = 0.8$.

(a) What is the expected rate of return on the market portfolio (r_m)? [2]

(b) Compute the standard deviation of the market portfolio (σ_m) [2]

(c) What are the betas of Stock A and B with respect to the market portfolio? [4]

(d) Assume the risk-free rate is 10%. Are the expected rates of return on A and B consistent with the Capital Asset Pricing Model [CAPM?. [4]

(e) Identify the assumptions that the model in (d) above is making. [8]

QUESTION 4 [20 Marks]

(a) Discuss the three versions of the Efficient Market Hypothesis in relation to a recognized stock exchange. [15]

(b) Examine the main anomalies of the Efficient Market Hypothesis. [5]

QUESTION 5 [20 Marks]

Critically discuss the significance of corporate governance guidelines issued by Reserve Bank of Zimbabwe in combating the agency problem in Zimbabwe. [20]