**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**B. COMM (HONOURS) DEGREE INSURANCE AND RISK MANAGEMENT**

**INVESTMENT AND PORTFOLIO MANAGEMENT : CIN 4203**

**JUNE 2004 SECOND SEMESTER EXAMINATION**

**DURATION : 3 HOURS**

**INSTRUCTIONS TO CANDIDATES**

1. **Answer four (4) questions only**
2. **Candidates may use a non-programmable calculator**
3. **Some questions may require use of PVIF and PVIFA tables**

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**Question 1**

(a) The Beta Manufacturing Corporation has been reporting slowly declining sales and Annual losses every year for the last 5 years. Beta's annual losses are small, but the losses keep getting a little larger each year. Rumours that Beta will soon file for bankruptcy have driven the price per share of its common stock down to $11 per share – the lowest level in over 20 years. Analyzing Beta's audited financial statements reveals that the corporation has no debts and holds a surprisingly large amount of cash and marketable securities; these liquid assets alone are worth $7.50 per share. In addition, Beta has another $9 per share worth of real estate and old plant and equipment that is almost fully depreciated on its books. The Beta plant has been well kept and is in a highly desirable industrial area. Should you ignore the fact that Beta has financial and physical assets with a value of $7.50 + $9.00 = $16.50 per share? Why is Beta stock selling for only $11 per share? Where would you place Beta's product in a product life cycle chart? What would you be willing to pay for a share of Beta?

**[18 marks]**

(b) Define "default risk" Does default risk occur before, when, or after a corporation is declared bankrupt? Explain.

**[7 marks]**

**Question 2**

Compare and contrast the assumption and principles underlying Fundamental security Analysis and Technical analysis. In your own view which is the approach more relevant to the current Zimbabwean context? Which approach could have reduced shareholder/investor losses in the financial sector contagion currently unfolding; give practical examples? **[25 marks]**

**Question 3**

(a) You own 10000 shares whose current market price per share is $150, for a total current value $1 500 000. In order to protect yourself against a fall in the market, you but puts with a strike price of $150. If the total cost of the puts is $14 200, find you total value (net of premiums) if the market price of the share at expiration is $120. **[7½ marks]**

(b) Referring back to the above problem, suppose instead of a protective put, you decide to write a covered call against your position. The calls in total cost $32385. Find the net value of your position at the same closing prices as in the above problem. **[7½ marks]**

(c) Equity warrants are not as valuable as an otherwise identical call option on the share of the same firm. Explain why this must be the case. Also, what is the incentive for a firm to issue a warrant rather than to issue shares directly? **[10 marks]**

**Question 4**

(a) What is simple diversification? Will it reduce total risk? Will it reduce unsystematic risk? Will it reduce systematic risk? Explain your response to each question. **[5 marks]**

(b) What is superfluous diversification? What problems frequently exist when a portfolio is diversified superfluously? **[5 marks]**

(c) Define Markowitz diversification. What statistic is key to obtaining the risk-reducing benefits of Markowitz diversification? **[5 marks]**

(d) Consider the different two-asset portfolios you can consruct from assets A and B if the correlation coefficient between them varies over the three values : + 1,0, 0 and –1,0

| | Asset A | Asset B |
|---|---|---|
| Expected return | 9.0% | 21.1% |
| Standard deviation | 11.0% | 22.0% |

Fill in the blank statistics (rounded to the nearest tenth) in the following table:

| Percent in A | Percent in B | Portfolio's E(s) | Portfolios" standard deviation + 1.0 correlation | Zero correlation | -1.0 correlation |
|---|---|---|---|---|---|
| 100% | 0% | 9.0% | 11.0% | 11.0% | 11.0% |
| --- | 10 | 10.2 | 12.1 | 10.1 | 7.7 |
| 80 | 20 | 11.4 | 13.2 | 9.8 | 4.4 |
| 70 | ---- | 12.6 | 14.3 | 10.1 | 1.1 |
| 60 | 40 | 13.8 | 15.4 | 11.0 | 2.2 |
| 50 | 50 | ---- | 16.5 | 12.3 | 12.3 |
| 40 | 60 | 16.2 | 17.6 | 13.9 | 8.8 |
| 30 | 70 | 17.4 | 18.7 | ---- | 12.1 |
| 20 | 80 | 18.6 | 19.8 | 17.7 | 15.4 |
| 10 | 90 | 19.8 | 20.9 | 19.8 | ---- |
| 0 | 100 | 21.0 | 22.0 | 22.0 | 22 |

**[10 marks]**

**Question 5**

(a) A share of stock is expected to pay a dividend of $1.00 one year from now, with growth at 5% thereafter. In the context of dividend discount model, the stock is correctly priced today at $10. According to the single-stage constant-grown dividend model, if the required return is 15%, the value of the stock two years from now will be what? **[5 marks]**

(b) Name the principles of bond price movements. **[5 marks]**

(c) Suppose the risk free rate is 6%, and the expected market return is 11%. If the beta for an asset is0.90, determine its required return. **[5 marks]**

(d) Zimex Ltd"s latest annual dividend of $15.40 a share was paid yesterday and maintained its historic 5% annual growth rate. You plan to purchase the shares today because you believe that the dividend growth rate will increase to 6% for the next three years and revert back to 5% from the fourth year.

How much should you be willing to pay for Zimex Ltd's shares if you require a 12% return? **[10 marks]**

**Question 6**

(a) It is legal to trade securities on the basis of a so-called hot tip from someone who has access to inside information about the issuing company? **[5 marks]**

(b) Is insider trading a big problem in Zimbabwean financial markets, does it distort share prices? Explain with practical examples as far as possible. **[5 marks]**

(c) How do you think the adoption of the Association for Investment Management and Research (AIMR) Code of Ethics and Standards of Professional Conduct can enhance the integrity of Zimbabwe Stock Exchange transactions and protect investors from undue losses? **[15 marks]**

**END OF EXAMINATION PAPER**