NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

B.COMM HONOURS DEGREE INSURANCE AND RISK MANAGEMENT

INVESTMENT AND PORTFOLIO MANAGEMENT CIN 4203

MAY/JUNE 2005 SECOND SEMESTER EXAMINATION

DURATION 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. **SECTION A**: Answer all 25 multiple choice questions on the mark reading sheet.
2. **SECTION B**: Answer any 4 questions
3. Candidates may use a non-programmable calculator
4. Some questions may require use of PVIF and PVIFA tables
5. **This examination Paper remains the property of the National University of Science and Technology and may not be removed from the examination room.**

SECTION A- MULTIPLE CHOICE QUESTIONS
ANSWER ALL THE QUESTIONS. [50 MARKS]

Use the following information in answering the following two (2) questions.

The administrator of a large Pension Fund wants to evaluate the performance of four portfolio managers. Each portfolio manager invests only in ordinary shares in Zimbabwe. Assume that during the most recent 5 – year period, the average annual total rate of return including dividends on the ZSE was 14 percent, and the average normal rate of return on government Treasury bills was 8%. The following table shows risk and return measures for each portfolio;

Portfolio	Annual Return	Standard Deviation	Beta
A	0.17	0.2	1.1
B	0.24	0.18	2.1
ZSE All-share	0.14	0.12	1

1. The Treynor portfolio performance measure for portfolio A is ……………..

    1. 0.082
    2. 0.099
    3. 0.155
    4. 0.450

2. The Sharpe portfolio performance measure for portfolio B is ………………….

   1. 0.076
   2. 0.126
   3. 0.336
   4. 0.888

3. An investor bought a share that is listed on both the Zimbabwe Stock Exchange (ZSE) and the London Stock Exchange (LSE). The share was bought at $73.20 on the ZSE and can be sold at $82.80 on the LSE. This is an example of ………

   1. a market order
   2. arbitrage
   3. minimum cover
   4. a bear sale

4. Sabi Corporation's stock has a beta of 1.5. If the market risk premium is 5 percent and the required rate of return on the market is 15 percent, what is Sabi's required rate of return?

   1. 15.5%
   2. 16.0%
   3. 16.5%
   4. 17.0%
   5. 17.5%

5. You are managing a portfolio of 10 stocks which are held in equal dollar amounts. The current beta of the portfolio is 1.8, and the beta of stock A is 2.0. If Stock A is sold, and the proceeds are used to purchase a replacement stock, what does the beta of the replacement stock have to be to lower the Portfolio beta to 1.7?

   1. 1.4
   2. 1.3
   3. 1.2
   4. 1.1
   5. 1.0

6. Stock A has a beta of 1.2, Stock B has a beta of 0.6, the expected rate of return on an average stock is 12 percent, and the risk – free rate of return is 7%. By how much does the required return on the riskier stock exceed the required return on the less risky stock?

   1. 4.00%
   2. 3.25%

3. 3.00%
4. 2.50%
5. 3.75%

7. If the risk-free rate is 8%, the excepted return on the market is 13%, and the expected return on Security J is 15 percent, then what is the beta of security J.

   1. 1.40
   2. 0.90
   3. 1.20
   4. 1.50
   5. 0.75

8. Consider the following information for the Zambezi Retired Fund, with a total investment of $ 4 million:

Stock	Investment	Beta
A	$ 400,000	1.2
B	600,000	-0.4
C	1,000,000	1.5
D	2,000,000	0.8
Total	$ 4,000,000	

   The market required rate of return is 12%, and the risk-free rate is 6 percent. What is the required rate of return?

   1. 9.98%
   2. 10.45%
   3. 11.01%
   4. 11.50%
   5. 12.56%

9. Shangani Inc. has sales of $2 million per year, all of which are credit sales. Its days sales outstanding is 42 days. What is its average accounts receivable balance?

   1. $ 233,333
   2. $266,667
   3. $333,333
   4. $350,000
   5. $366,667

10. A fire has destroyed many of the financial records at Kezi Associates. You are assigned to piece together information to prepare a financial report. You have

found that the firm's return on equity is 12 percent and its debt ratio is 0.40. What is its return on assets?

1. 4.90%
2. 5.35%
3. 6.60%
4. 7.20%
5. 8.40%

11. Beta is a measure of…………………………..

    1. business risk
    2. systematic risk
    3. financial risk
    4. unsystematic risk

12. The Security Market Line depicts………………………………….

    1. a security's expected return as a function of its systematic risk
    2. the market portfolio as the optimal portfolio of risky securities
    3. the relationship between a security's return and the return on an index
    4. the complete portfolio as a combination of the market portfolio and the risk-free asset.

13. Which one of the following statements is true regarding the Capital Market Line (CML)?

    1. Risk and return both increase in a linear fashion
    2. risk and return are unrelated
    3. risk and return are negatively related\
    4. risk increases faster than does return

14. The efficient frontier represents all combinations of risk and return such that

    1. risk is minimized for a given level of return
    2. risk is maximized for a given level of return
    3. return is maximized for a given correlation coefficient
    4. return is minimized for a given level of risk

15. Assume Kariba's Ltd has normalized earnings per share of 8 cents and a price/earnings ratio of 4. The firms expected share price equals ………………

    1. 4 cents
    2. 12 cents
    3. 32 cents
    4. none of the above.

16. Technical analysis differs from fundamental analysis in the sense that technical analysts …………………………………………………..

    1. contend that in – depth assessments of basic aggregate market, industry, and company performance is necessary; past price movements indicate future price movements.
    2. believe the market value of ordinary shares is determined by the interaction of supply and demand.
    3. argue that the market constantly weighs rational and irrational factors and that both of these affect price
    4. depend far more heavily on objective, data-based approaches than the fundamentalists do.

17. Which one of the following statements is true?

    1. Fundamental analysis refers to the process of analyzing the macro – economic, industry and company specific factors influencing the risk and return characteristic of an investment.
    2. Fundamental analysis aims to identify investments which are undervalued by the market and which offer an opportunity for gain.
    3. Fundamental analysis could be used in conjunction with technical analysis
    4. All the above

18. Calculate the approximate yield to maturity for a bond that pays 8% coupon rate annually on its \$ 1000 face value, matures in 4 years and is selling for \$967.59.

    1. 3.349%
    2. 7.234%
    3. 8.267%
    4. 8.955%

19. Your sister in law, a stockbroker at Msasa Inc, is trying to sell you a stock with a current market price of \$25. The stock's last dividend (Do) was \$2.00, and earnings and dividends are expected to increase at a constant growth rate of 10 percent. Your required return on this stock is 20 percent. From a strict valuation standpoint, you should:

    1. Buy the stock; it is fairly valued
    2. Buy the stock; it is undervalued by \$3.00
    3. Buy the stock; it is undervalued by \$2.00
    4. Not buy the stock; it is overvalued by \$2.00
    5. Not buy the stock; it is overvalued by \$3.00

20. The Kyle Company has been hard hit by increased competition. Analysts predict that earnings (and dividends) will decline at a rate of 5 percent annually into the foreseeable future. If Kyle's last dividend (Do) was $2.00, and investors' required rate of return is 15 percent, what will be Kyle's stock price in 3 years?

    1. $8.15
    2. $9.50
    3. 10.00
    4. 10.42
    5. 10.96

21. A call option is correctly defined by which of the following?

    1. It is an option to collect any cash dividends paid by the optioned stock
    2. It is an option to buy securities at a prearranged contract price
    3. It expires after a prearranged time, unless it is exercised first.
    4. Both 2 and 3 are correct
    5. All of the above are true

22. Assume Limpopo Ltd has issued 5 million shares and that the share trades at $22 per share on the ZSE. The firm's assets amount to $95 million and total liabilities to $2.5 million. The share has a net asset value (NAV) of ……………………… and trades at a discount of …………………. against the market price.

    1. $18.50 16%
    2. $18.50 19%
    3. $19.00 14%
    4. $19.00 16%

23. A cell option on a share is currently selling for $ 35. The call option is in the money by $3. What is the strike price of the call option?

    1. $32
    2. $35
    3. $38
    4. $42

24. Use the information below to calculate the profit an investor will make by exercising his/her option when the market price is $100.

    Strike price = $80
    Premium paid = 10% of the exercise price
    1. $12
    2. $20
    3. $28
    4. $90

25. Which one of the following is <u>not</u> a characteristic of the growth phase in the industry life cycle?

1. low profits
2. high advertising cost
3. consumers will accept uneven quality
4. products have technical and performance differentiation.

<u>SECTION B</u>

Answer any four (4) questions from section B.

<u>Question 1</u>

What is the objective of the portfolio analysis? That is, what should a portfolio manager seek to obtain from Markowitz diversification? **[Total: 12 ½ marks]**

<u>Question 2</u>

Dow theory practitioners refer to three components outlined by Charles Dow. Discuss these components briefly. **[Total: 12 ½ marks]**

<u>Question 3.</u>

Would a bond selling at a market price that is deeply discounted from its face value be more likely to have a long or short time until it matured? Explain why?

[Total: 12 ½ marks]

<u>Question 4.</u>

What are the differences between a warrant and a call option on the same corporation's stock? **[Total: 12 ½ marks]**

<u>Question 5</u>

Does insider trading distort prices on the Zimbabwe Stock Exchange? What can be done to enforce ethical behavior on key participants of the ZSE. **[Total: 12 ½ marks]**

END OF EXAMINATION