

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF COMMERCE
DEPARTMENT OF BANKING
BACHELOR OF COMMERCE HONOURS DEGREE IN
BANKING
PORTFOLIO THEORY AND INVESTMENT ANALYSIS
CBA 4104**

FINAL EXAMINATION

FEBRUARY 2010

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

- The paper contains **SIX (6)** questions.
- Answer any **FOUR (4)** questions.
- All questions carry equal marks [**25 marks**].
- Start the answer to each question on a fresh page of the answer sheet.
- Indicate on your answer booklet whether you are in the conventional or parallel programme.

INFORMATION FOR CANDIDATES

Questions may be written in any order, but must be legibly numbered.

The businesses in this question paper are intended to be fictitious.

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Turn Over

QUESTION ONE

- a) Identify and explain 5 major factors that serve as ingredients in setting a letter rating for bonds. **[5 marks]**
- b) Discuss 5 protective covenants that a prospective bondholder should look for in a bond contract. **[5 marks]**
- c) A bond with 12% coupon rate, issued 3 years ago, is redeemable after 5 years from now at a premium of 5%. The bond has a face value of \$100 and the interest rate prevailing in the market currently is 14%.
 - i) For how long should the bond be held in order to eliminate interest rate risk? **[8 marks]**
 - ii) Explain the logic of your answer in (i) above. **[7 marks]**

TOTAL

[25 MARKS]

QUESTION TWO

- a) You have \$100 000 to invest in a single stock. The initial margin limit is 40% and the maintenance margin is set at 25%. Funds can be borrowed from your broker at any time (ignore interest, commissions and taxes).
 - i) Calculate the value of the stock you could buy if margined to the limit. **[4 marks]**
 - ii) Under what conditions would the maintenance margin be reached? Show all workings. **[4 marks]**
- b) Eddie Gaedel is an inveterate short-seller. A commentator remarks that Eddie's potential losses are infinite while the maximum return he can earn on his investment is 100%. Is this assessment correct? Justify your view. **[6 marks]**
- d) Explain how non-systematic risk can be reduced in portfolio theory. **[7 marks]**
- c) Evaluate the usefulness of correlation coefficient in diversification. **[4 marks]**

TOTAL

[25 MARKS]

QUESTION THREE

- a) Discuss 5 potential drawbacks of evaluating portfolio performance using risk-adjusted performance measures. **[10 marks]**
- b) Discuss some of the specific decisions that need to be considered when evaluating the performance of a bond portfolio manager. **[5 marks]**
- c) The portfolios identified below are being considered for investment. During the period under consideration, the Treasury Bill rate is 7%.

Portfolio	Return	Beta	Standard Deviation
P	0.15	1	0.05
Q	0.20	1.5	0.10
R	0.10	0.6	0.03
S	0.17	1.1	0.06
Market	0.13	1	0.04

Compute both the Reward-to-Variability ratio and the Reward -to-Volatility ratio for each portfolio and the market. Comment on the implication of your results and rank the portfolios using each of the two measures. **[10 marks]**

TOTAL

[25 MARKS]

QUESTION FOUR

- a) Briefly explain the concept of the efficient market hypothesis (EMH). **[5 marks]**
- b) Discuss the implications of the efficient market hypothesis for investment policy as it applies to:
i) technical analysis, and **[7 marks]**
ii) fundamental analysis. **[7 marks]**
- c) Explain two major responsibilities of portfolio managers in an efficient market environment. **[6 marks]**

TOTAL

[25 MARKS]

QUESTION FIVE

- a) Explain the logic of the Security Market Line (SML). **[4 marks]**
- b) How does the Security Market Line differ from the Capital Market Line (CML)? **[6 marks]**
- c) Professor Xoli brings the following information to your office. He says he got it from a stockbroker and is desperate for advice.

Stock	Systematic Risk	Estimated Return
A	0.7	10
B	1	6.2
C	1.15	21.2
D	1.40	3.3
E	-0.30	8

Assume the Treasury Bill rate is 6% and the return on the market portfolio is 12%. Advise whether Professor Xoli should invest in each and every one of these stocks. Justify your advice in each case. **[15 marks]**

TOTAL

[25 MARKS]

QUESTION SIX

- a) The need for portfolio revision may emanate from both financial market and investor related factors. Identify and explain any 4 factors in each category. **[12 marks]**
- b) Write brief notes on the following investment concepts:
- i) Market timing, **[3 marks]**
 - ii) Riding the yield curve, **[3 marks]**
 - iii) Bond Ladder strategy, and **[3 marks]**
 - iv) Characteristic line. **[4 marks]**

TOTAL

[25 MARKS]