EXAMINATION

4 June 2012 (am)

Subject F105 — Finance and Investment Specialist Technical

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made.*
   You then have three hours to complete the paper.

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt all questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.

QUESTION 1

i. List the uses of investment indices.

[4]

ii. Describe the methods and outline the relative merits of assessing portfolio performance relative to a published index.

[4]

iii. State the limitations of an index weighted by market capitalisation for performance measurement purposes and suggest alternative weights that could be used in the construction of an index to overcome these limitations.

[6]

[Total 14]

QUESTION 2

An equity portfolio manager holds shares of 3 consumer goods companies which collectively represent 15% of her portfolio. The price-earnings (P/E) ratios of these companies' shares are respectively 21.5; 22.7 and 35.8.

i. State the features that characterise the consumer goods economic grouping.

[3]

ii. Explain how during a period of rapidly falling interest rates the prospects may change for the consumer goods sector.

[2]

iii. Explain the role of the P/E ratio in managing a portfolio of shares and suggest reasons for the P/E value of 35.8. Comment on whether a growth investor would consider inclusion of this share in his portfolio.

[6]

[Total 11]

QUESTION 3

You are the portfolio manager for an equity fund which has a sizeable investment in the stock of Kansastick Tobacco Corporation (KTC), whose directors have scheduled a press conference in two weeks' time at which it is anticipated that a major announcement will be made. This could be positive or negative; the market appears to be giving each possible outcome roughly equal weight as despite a flurry of trading activity, there has been little net movement in the share price since the press conference was announced.

i. Outline a derivative strategy to profit from any significant move in KTC's share price following the press conference, regardless of direction.

[3]

ii. Outline the key risk associated with this strategy, highlighting circumstances that may lead to an unfavourable outcome.

[3]

[Total 6]

QUESTION 4

A 1-year forward contract on an equity index with a continuous dividend yield of 2.5% p.a. is entered into when the value of the index is 650. The continuously compounded risk free rate of interest is 5% p.a.

i. Calculate the theoretical 1-year forward price for the contract using the quoted dividend yield and risk free rate.

[3]

ii. Using the no arbitrage concept, derive the general formula for the value of a forward contract at time t, where t is any point in time after inception of the contract. Define all symbols used.

[4]

iii. Four months later, the value of the index is at 780, the continuous dividend yield on the index is 2.1% p.a. and the continuously compounded risk free interest rate is 4.5% p.a.

Calculate the theoretical 8-month forward price at that time and the value of the forward contract in (i) using the new quoted dividend yield and risk free rate.

[5]

iv. Explain the shortcomings of using a published dividend yield to price forward contracts on an equity index.

[2]

[Total 14]

QUESTION 5

You are the Chief Investment Officer of an asset management firm that manages both specialist and multi-asset funds using a top-down approach. An important step in your investment process has been to obtain asset class, sector and stock recommendations from the quantitative analyst team that runs various models. You have investigated the recommendations of the team following a period of relative underperformance by your funds and found that only 45% of their calls have been correct.

i. Distinguish between a top-down and a bottom-up investment approach.

[2]

ii. Outline the key advantages of a top-down investment approach.

[2]

iii. Explain the factors that may have led to the underperformance of the quantitative analyst team and discuss the actions you could consider taking.

[8]

[Total 12]

QUESTION 6

You are the portfolio manager of a large global equity fund. Your outlook on global markets has changed, and you now wish to switch 5% of your total portfolio from one medium-sized economy to another, as part of a long-term strategic allocation shift.

i. Discuss the problems associated with an immediate sale of equities in the first country and purchase of equities in the second, in the respective cash markets.
[5]

ii. Outline a strategy making use of equity swaps to switch strategic allocation as desired over a six-month period, highlighting where this strategy does and does not address the problems identified above.
[7]

iii. Discuss two methods, besides a staged transition, which may be available to you to reduce the transaction costs associated with trades in the cash market.
[2]
[Total 14]

QUESTION 7

You are the investment advisor to a charitable trust. One of the trustees has provided you with a report written by an economic commentator, an excerpt from which is as follows:

"Quantitative easing is a novel form of monetary policy in which a number of central banks have engaged in recent years. Instead of the more traditional tools of monetary policy, the unique global economic circumstances in the wake of the financial crisis have prompted the authorities to provide liquidity by effectively injecting money directly into the economy. In our modern age, this does not require the physical printing of banknotes; instead, central banks have purchased debt securities held by the private sector (of much longer terms than has historically been the case when the authorities have entered the debt markets), and have also credited commercial banks with additional electronic deposits at the central bank."

The trustee has asked you to comment on the following:

i. Define monetary policy and its principal objectives.
[3]

ii. List the "traditional tools of monetary policy" referred to in the report.
[3]

iii. State the objective of quantitative easing and the mechanisms through which it is expected to be realised, and explain why central banks have resorted to this approach rather than relying on the traditional tools of monetary policy.
[3]

iv. Explain under what circumstances quantitative easing may fail to meet its objectives.
[1]
[Total 10]

QUESTION 8

You are a private investor who also advises the trustees of a large tax-exempt foundation on investment strategy. Corporate entities in your home country pay tax at a rate of 20% on declared profits, while individuals such as yourself in the top marginal tax bracket pay income tax at a rate of 40% on income (including dividends), 20% on short-term capital gains and 10% on long-term capital gains, where the distinction between short- and long-term is whether a security has been held for more or less than two years.

i. State with reasons which type of corporate tax system applies in the home country.

[1]

ii. List the tax-related factors that will need to be considered in making investment decisions for your own portfolio.

[3]

iii. Explain the government's rationale in setting three levels of taxation on the investment returns of individual investors.

[2]

iv. One of the trustees has argued that as a tax-exempt institution, their investment strategy should be entirely unaffected by tax considerations. Explain in what ways the tax environment will influence investment strategy for the foundation.

[3]

[Total 9]

QUESTION 9

You are the investment consultant to a defined benefit pension fund whose portfolio asset values and cash flows over the past year are shown in the table below:

Asset class	Market values (R' million)		Cash flows at 31 Dec 2011	
	30 June 2011	30 June 2012	Contributions	Benefits
Equities	620	490	0	80
Bonds	320	650	280	0
Cash	60	165	120	20
Total	1 000	1 305	400	100

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The fund's benchmark asset allocation is 60% equities, 35% bonds and 5% cash. The trustees have stipulated benchmark indices for each of the three asset classes, whose values at specific dates are shown below:

Asset class	Index values		
	30 June 2011	31 Dec 2011	30 June 2012
Equities	25 000	21 000	23 000
Bonds	10 000	10 800	11 400
Cash	1 000	1 020	1 050

i. Calculate the total Rand outperformance (or underperformance) relative to the fund's benchmark.

[5]

ii. Attribute this outperformance (or underperformance) between sector and stock selection.

[5]

[Total 10]

END OF PAPER