EXAMINATIONS

14 April 2000 (am)

Subject 401 — UK Fellowship Investment

Paper One

You must answer this subject only,
you may not attempt another subject in the 400 series.

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *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.*

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

3. *Write your surname in full, the initials of your other names and your Candidate's Number on the front of the answer booklet.*

4. *Mark allocations are shown in brackets.*

5. *Attempt all 9 questions, beginning your answer to each question on a separate sheet.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet and this question paper.

In addition to this paper you should have available Actuarial Tables and an electronic calculator.

1 A project sponsor has decided to build an industrial plant which converts waste product into energy. The sponsor plans to inject 10% equity into the project and to borrow the remaining 90% from institutional investors, financed by a bond issue. The lenders will not have any guarantees from the sponsor.

(i) Describe the likely features of the bond regarding:

(a) term

(b) the schedule for repayment of principal

(c) type and timing of interest payments

(d) the method for setting the interest rate at inception (and for the duration of the issue, if necessary)

(e) the security offered

(f) the financial covenants [6]

(ii) List two other features of the bond which might make it more attractive to an institutional investor. [2]

The bank which is underwriting the issue has approached your institution, as a potential investor. The bank has asked you to consider investing in the loan at inception.

(iii) Describe the factors you would take into account when conducting the credit analysis of the bond. [2]
[Total 10]

2 (i) Explain the expression "buying the basis", in the context of futures trading. [2]

(ii) The FTSE 100 Index future expiring in three months time is currently trading at 6,150 whilst the index stands at 6,000.

(a) Determine the number of contracts which should be purchased to simulate an investment of £1.23 million in the stock making up the FTSE 100 index. [2]

(b) Analyse whether buying in the cash market or the futures market is the most cost effective means of achieving a long position, assuming three-month money trades at 6.25% and the yield on the FTSE 100 index is 2.25%. State all assumptions made. [4]

(iii) Explain how option contracts can be used to replicate a futures contract. [4]
[Total 12]

3 You are an investment manager at a life office offering a range of life insurance products. All of the investments of the life office are placed in one of four funds:

- a fixed interest fund
- an equity fund
- a commercial property fund, and
- a managed fund being a fund based on a combination of the above three funds

You have been approached by a property developer who intends to build 100 homes in a rural area. The development is intended to be a mixture of houses and flats. The development is proposed to provide rental accommodation to lower income families. The authorities have approved the development as it will offer much needed rental housing for local workers in a nearby city. The city is accessible by road and by rail.

The development is due to be completed in one year's time. The property developer has offered to sell the entire project to you.

(i) Describe the considerations which might lead you to decline the investment. [4]

Six months later, the development is still on target for completion on its original date. The property developer returns with the following alternative offer.

The property developer has contracted with a major financial institution which will guarantee a minimum return of at least 2% per annum compound over the eight years following the commencement of the contract, with a maximum return capped at 25%. In return for accepting the risk, the major financial institution will receive an up-front single premium at the date of commencement of the contract (the date that construction is completed).

The developer has agreed terms with a specialist residential property management company to manage the development for the first 8 years. The management company has guaranteed that rent voids will not exceed one week per property per annum. This guarantee commences from the date the construction is completed.

The property developer wishes you to reconsider investment.

(ii) Explain in detail your response to the property developer, including the following:

- a list of the future expected income and outgo from the investment,
- a list of the main features of the investment, with reasons as to whether those features are fixed income in nature or not.

[9]
[Total 13]

4 A private investor, who chooses his own stocks, has an equity portfolio valued at £100,000. The investor has selected ten securities in order to provide diversification. Further, he always chooses stocks which can be classified as conglomerates, e.g. a major chemical company with divisions covering bulk and speciality chemicals, pharmaceuticals, construction supplies and distribution. His premise is that this provides added diversification within his ten stock portfolio.

(i) Outline the advantages and disadvantages of this approach. [3]

(ii) Compare the investor's approach with alternative diversification approaches, e.g. the use of a collective investment vehicle. [3]
[Total 6]

5 (i) State the main factors that will influence an institution's long-term investment strategy. [5]

The trustees of a large UK pension fund have, in conjunction with the company, established a committee to look at the strategic asset allocation of the fund. You are a consultant advising this committee.

(ii) Outline a process for undertaking the review which makes use of asset-liability modelling techniques. Comment on the limitations of the approach. [5]

(iii) You have been asked to advise on the time horizon to be adopted when setting a strategic asset allocation. Identify the points you would make in your response. [3]
[Total 13]

6 You are the adviser to a pension fund with wholly domestic liabilities. Its assets are managed on a balanced basis across a mix of equity and fixed interest assets which are also wholly domestic. The fund is domiciled in a country where the major equity index is dominated by a single stock comprising over 40% of the index.

(i) Describe the problems which might result from investing the equity component of the pension fund's portfolio in line with the domestic index? [3]

(ii) Explain how you would assess the relative performance of the domestic equity component of the fund, and its managers. [4]

It has been proposed that the fund introduce a global equity component.

(iii) Explain how you would determine a practical benchmark for managing the total domestic and international equity exposure of the fund. [3]

(iv) Explain the asset considerations which influence the extent to which currency hedging should be used in managing the portfolios. [4]
[Total 14]

7 The equity investments of a substantial trust are invested in a range of funds managed by a single manager, whose assets under management have grown substantially over the last five years. Until one year ago, the investment performance of each of the funds was significantly above average when calculated on any rolling year basis and when compared with similar funds of other managers.

In each of the past four quarters, the returns of three of the four funds have performed well below the average of returns from comparable other funds.

You are the investment adviser to the trust.

(i) Explain the investigations you would conduct in order to advise whether the Trust should terminate its existing mandate for the three funds which are performing poorly. [6]

(ii) Explain the further investigations you would conduct in order to advise whether the Trust should terminate its mandate for the fund which continues to perform significantly above average. [3]

(iii) Comment on whether funds which are withdrawn should be reinvested on an active basis or an index-tracking basis. [3]
[Total 12]

8 An investment management company has provisionally been awarded an investment mandate for managing an international bond portfolio. In its standard agreement, the manager has proposed a target which is modestly in excess of the performance of the market index return. The client wishes to include an explicit constraint which states the portfolio must not underperform the benchmark by more than a certain margin.

(i) Explain the factors which the investment manager should consider when deciding whether to accept the mandate. [4]

The manager accepts the revised mandate. After eighteen months, the portfolio has outperformed its benchmark by 13%. You are the consultant advising the client.

(ii) Comment on the manager's performance, stating the investigations which you recommend should be undertaken. [6]
[Total 10]

9 You are the recently appointed investment manager of a global fixed interest portfolio of a major UK life office. The chief investment manager has allocated you additional funds for investment.

Recent published statistics suggest that the UK economy has been performing strongly and that inflation may be increasing. In the past, the UK Government, operating through the Bank of England, has demonstrated a willingness to change base lending rates sharply in order to try to keep prices inflation within a targeted area.

With this in mind you are considering investing the moneys in one or more of the following:

- a range of UK Gilts
- a range of US Treasury Bonds
- a recently issued AA-rated Corporate Eurobond
- a collateralised mortgage obligation; and
- an unlisted bond denominated in Sterling issued recently by a FTSE company

Explain the investment considerations you would apply in order to make your investment decision. [10]