EXAMINATION

28 March 2006 (pm)

Subject CA3 — Communications

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. *Attempt Question 1 AND Question 2.*

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.

1 You have received a letter from a friend including the following paragraph.

> I also made some progress with my plans to start saving regularly, though the information I received seems confusing.
>
> In one place it said that the charge was 1% of the fund every year. But in another place, it said that if I invested £100 each month for 5 years, I would get back £7,145 after charges if investment returns were 8.0%. Then it said that the effect of the charges was the same as reducing the investment returns from 8.0% to 6.9% — which looks to be a 1.1% charge to me!
>
> Very strange — how do I know whether the £7,145 is right? and am I being charged 1% or 1.1%?

Draft a letter to your friend in approximately 400 words to explain whether the charge is 1% or 1.1%, and demonstrate how he might check whether the £7,145 is approximately correct.

Notes:

1. The effect of the 1% annual charge is calculated as: $1.08 \times 99\% - 1 = 6.92\%$.
2. The rate of investment return is not guaranteed.
3. There are no restrictions on giving advice.

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2 You are a senior student in a life office and have been asked to deliver a presentation about an existing personal pension product to a group of new graduates in the marketing team. One of your junior colleagues completed the necessary background research on this product and prepared some rough notes to help you draft the presentation.

Rough Notes:

1. Product features

   - Pay premiums either monthly or annually.
   - Premiums invested until retirement at age 60.
   - At retirement, an annuity is purchased using the accumulated funds (based on the bid value of the unit price).

2. Investment Features

   - Premiums invested in an equity based fund and then switched to cash based fund 5 years prior to retirement at age 60.
   - There is an annual management charge of 0.75% (which falls to 0.5% when the investment is switched to a cash based fund) of the fund deducted at the end of each year.
   - Literature includes illustration of estimated fund values at retirement for an individual aged 40 now paying premiums of £1,000 p.a. and assuming a range of investment returns (ignoring all charges) as follows:
     - £44,500 assuming 8% p.a. until age 55 and 5% thereafter
     - £36,600 assuming 6% p.a. until age 55 and 4% thereafter
     - £30,300 assuming 4% p.a. until age 55 and 3% thereafter

3. Annuity Rates

   - Annuity can be purchased on a single life basis or with an attaching dependent's reversionary annuity.
   - Individual has choice of a level or increasing annuity.
   - Special annuity rates are offered for impaired lives.
   - Maximum of £1.5m of accumulated fund can be used to purchase an annuity.

- Typical annuity rates are as follows:

  (1) Assuming bond yields of 4% p.a. at retirement

  - 6.25% p.a. for a single life, non increasing annuity (i.e. an annuity of £625 for each lump sum of £10,000)
  - 4.17% p.a. for a single life annuity increasing at 3% p.a.
  - 5.88% p.a. for a single life, non increasing annuity with 50% spouse's reversionary annuity
  - 3.85% p.a. for a single life annuity with 50% spouse's reversionary annuity and increasing at 3% p.a.

  (2) Assuming bond yields of 6% p.a. at retirement

  - 7.69% p.a. for a single life, non increasing annuity
  - 5.26% p.a. for a single life annuity increasing at 3% p.a.
  - 7.14% p.a. for a single life, non increasing annuity with 50% spouse's reversionary annuity
  - 5% p.a. for a single life annuity with 50% spouse's reversionary annuity and increasing at 3% p.a.

4. Results of recent research

- Shows that annuity rates have fallen significantly over the last 20 years (primarily due to a fall in long term interest rates but since 1999, also affected by improvements in life expectancy).
- Actual experience to date is as follows based on single life non-increasing annuity (amounts shown are per £100,000 lump sum):

Year of retirement	*Amount of annuity (£ p.a.)*
1990	14,000
1993	12,000
1996	11,700
1999	8,600
2002	8,000
2005	7,200

Draft a presentation in 6 to 9 slides describing how the personal pension plan works, the factors that affect the payments at the selected retirement date and the impact of annuity rates on the level of payment over the last 20 years. Your presentation should include an illustration of the different levels of annuity at retirement.

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END OF PAPER