INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

16 April 2019 (am)

Subject SP5 – Investment and Finance Specialist Principles

Time allowed: Three hours and fifteen minutes

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*
2. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *Mark allocations are shown in brackets.*
4. *Attempt all questions, begin your answer to each question on a new page.*
5. *Candidates should show calculations where this is appropriate.*

Graph paper is NOT required for this paper.

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.

1 Coffee Company is a medium-sized company with a number of branches across the country. Having previously raised capital from the private debt markets, the company has experienced rapid growth with profits increasing each year. The company is now considering raising debt through the public corporate debt market and is considering a formal credit rating.

(i) Describe the main areas that a credit rating agency would consider in determining a credit rating for Coffee Company. [9]

(ii) Suggest, with reasons, why Coffee Company may:

(a) want to raise debt through the public corporate debt market.
(b) be keen to attain a formal credit rating.

[3]
[Total 12]

2 A large investment fund currently invests all of its assets in global equities. It has decided to move a large proportion of the fund from US equities into emerging market equities.

(i) Outline two strategies to make the switch using derivatives. [2]

(ii) Compare these strategies with each other and to buying and selling the physical assets. [6]

(iii) Discuss the risks introduced by entering into the derivative strategies above.
[4]
[Total 12]

3 (i) State what is meant by behavioural finance. [2]

(ii) Explain the types of biases that can affect an investor's view of the probability of an event occurring that is outside their control, such as a property market crash. [2]

(iii) Explain the main behaviour being exhibited in each of the following scenarios:

(a) A pension scheme has been advised by the same investment consultancy over a five-year period. The trustees are now carrying out a review to decide whether they would like to continue working with this investment consultancy or appoint a new investment consultancy. During the selection process the trustees decide to re-appoint the current consultancy, even though other firms had clearly given better presentations.

(b) A group of pension scheme trustees has seen high returns in their equity portfolio over the last five years and views among market commentators suggest this performance will continue. The trustees decide to increase their allocation to equities in order to generate further returns for the scheme.

(c) Market commentators have been suggesting for several months that equity valuations are not justified and they expect a market correction. However, an equity trader who is investing their own portfolio has allocated a large proportion to equities.

(d) A pension scheme has experienced an increase in its deficit as a result of falling government bond yields. (The falling yields have resulted in a higher value for the scheme's liabilities and the scheme's assets have not kept pace with this rise.) Given the low level of government bond yields and market commentary that suggests that yields are at 'all time lows' and are expected to rise, the scheme's trustees are reluctant to invest in assets which would help protect their portfolio against further falls in government bond yields.

(e) An investment consultant comments on the poor performance of a hedge fund's strategy. The consultant believes that the hedge fund should have been able to foresee market events based on historic market data, although the consultant did not provide any views on hedge funds prior to this.

[10]
[Total 14]

4 An investment manager is considering adding commodity investment to a fund which is marketed to achieve long-term real growth.

(i) Describe the features of commodity investment that might make it suitable for this fund. [3]

(ii) List the ways that commodity investments could be added to the portfolio. [2]

(iii) Explain the advantages and disadvantages of each approach in part (ii). [5]

The investment manager has decided to invest in gold futures.

(iv) Discuss the relationship between the price of gold futures and the spot price of gold over time. [5]

[Total 15]

5 A wealthy investor is reviewing their portfolio in order to maximise the investment returns after tax. Capital gains are taxed in the year in which they are realised.

(i) Describe the factors regarding taxation that the wealthy investor should take into account and the influences on these factors that need to be considered. [4]

(ii) Describe how the investor could minimise their capital gains tax (CGT) liability on a given asset. [2]

The investor has the following portfolio (shown in £000):

	Time 0	*Time 1*	*Time 2*	*Time 3*
Property (Country A)	3,000	3,500	3,750	4,500
Property (Country B)	1,000	3,000	5,000	6,000
Property (Country C)	4,000	3,500	3,000	4,000
Fixed income fund	10,000	12,000	14,000	15,000
Income from fixed income fund		500	750	1,000
Art collection	2,000	2,250	2,500	3,000

All assets were purchased at time 0. The income from the fixed income fund is not included in the value of the fund. There is no rental income from the properties.

The investor is currently resident in Country A.

You should assume that tax is only payable in the country of residence and NOT in other countries where assets may be located.

The tax regimes are shown below:

	Country A	*Country B*	*Country C*
Tax on income	30%	50%	20%
Capital gains tax on property held overseas	20%	20%	20%
Capital gains tax on property held in country of residence	0%	0%	0%
Capital gains tax on art collection	20%	15%	0%
Allowance for capital losses	100%	100%	100%

(iii) Calculate the total tax payable in each of the three years, assuming the portfolio of assets is sold at the end of each year and repurchased at the same price on the first day of the next year. The tax should be split between income and capital gains for the investor:

- in their current country of residence
- if they had instead been resident in Country B
- if they had instead been resident in Country C.

[6]

(iv) State what you can conclude, based on your answer to part (iii). [2]
[Total 14]

6 (i) Set out the external factors that will affect the relative attractiveness of investing in a particular industry over time. [6]

(ii) Discuss the uses and limitations of the FTSE industry classification system. [5]
[Total 11]

7 (i) Describe the ways in which relative portfolio performance can be measured. [6]

The performance of two funds, A and B, together with the inflows and outflows is given below:

Fund A	*Year 1*	*Year 2*	*Year 3*	*Year 4*
Fund value at start of year	100.0	130.0	153.0	119
Fund Inflow/Outflow	25	10	–35	

Fund B	*Year 1*	*Year 2*	*Year 3*	*Year 4*
Fund value at start of year	100.0	100.0	105.0	109.8
Fund Inflow/Outflow	0	0	0	

Inflows and outflows take place at the end of each year.

(ii) Calculate the annualised time weighted return and the annualised money weighted return for both funds for the three years combined. [6]

(iii) Comment on these results. [2]

Both funds share the same benchmark, the performance of which is:

	Year 1	*Year 2*	*Year 3*
Benchmark	–1%	+4%	+1%

(iv) Calculate for each fund:

(a) The annualised tracking error.
(b) The information ratio.

[6]

(v) Comment on these results. [2]
[Total 22]

END OF PAPER