

EXAMINATIONS

LIFE INSURANCE
SPECIALIST LEVEL

1996 EXAMINATIONS
PAPER ONE

Answer all 6 Questions

QUESTION 1

16 MARKS

- (a) List the factors that affect rates of morbidity in respect of disability income insurance. (4 marks)

- (b) A medium-sized life office operates a small disability portfolio and has been writing around \$1m premium per annum for the last three years. The disability income product offers standard benefits and includes stepped and level premium rates.

A surplus reinsurance treaty operates on an original terms basis with a retention limit of \$2000 per monthly benefit. As product actuary with responsibility for reinsurance it has been suggested that a quota share reinsurance arrangement on co-insurance terms might be more appropriate.

Outline how both reinsurance arrangements operate and outline the advantages and disadvantages of each, suggesting, with reasons, the method you consider most suitable for this office.

(8 marks)

- (c) Large disability policies with benefits in excess of \$6,000 per month and lives with loadings in excess of + 50% of premium are partially reinsured on a facultative basis. The reinsurance is done by tendering to five reinsurers and accepting the best terms. Explain the problems that might arise in the future with using this approach. (4 marks)

QUESTION 2

11 MARKS

- (a) What are the benefits to a life office of writing participating business? (5 marks)
- (b) You have recently been appointed as the Actuary to a life office which was established seven years ago in a developing Asian country. The office writes participating Whole of Life and Endowment policies and has until now distributed bonus by means of a simple reversionary bonus system.

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Two years ago the regulators in the country increased the maximum proportion of assets which can be held in equity investments from 20% to 75%. The country has also experienced inflation at an average of 12% pa for the last two years and a period of continuing high inflation is expected. This has increased costs.

Outline with reasons the changes (if any) you would make to the bonus distribution method to allow for the changed circumstances.

(6 marks)

QUESTION 3

21 MARKS

You are the assistant actuary for an established medium-sized life office. Over the last twelve months lapse rates on risk policies and discontinuance rates on regular premium savings business have increased significantly. The chief actuary has asked you to investigate the cause of the deterioration and to put in place a conservation strategy to bring discontinuance rates back to acceptable levels.

- (a) Outline the possible reasons why policyholder discontinuances might have increased.

(5 marks)

- (b) Prepare a report on the details of your proposed conservation strategy, outlining the efforts that would be made to control future discontinuances.

(10 marks)

- (c) As a completely separate exercise, you are about to conduct an investigation into the experience of a block of regular and single premium capital guaranteed investment account business in order to determine the interest to be credited.

The Marketing Manager, who is aware that a declaration is due, has written urging you to consider the impact of the rate you are about to declare on future sales.

Draft a memo in reply outlining the main considerations you will take into account which will affect your recommendation for the interest rates to be credited.

(6 marks)

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QUESTION 4

19 MARKS

- (a) The ISC recently introduced the Code of Practice to regulate the sales practices of life offices.

- (i) Briefly set out the three main requirements with which intermediaries must comply with for each customer in respect of advising and selling practices.

(3 marks)

- (ii) Life offices must ensure that intermediaries are sufficiently trained before they are put in a position to provide advice to customers. Set out three competencies that an intermediary must demonstrate under the Code of Practice before being allowed to write any business.

(3 marks)

- (b) Describe the main forms of distribution used in Australia for selling life insurance.

(7 marks)

- (c) You have been asked for advice on distribution methods by an overseas life office which intends to become registered in Australia and plans to sell one very specific, and complex, niche investment product. This product will be unique to that life office.

Set out, with reasons, the distribution method which you would consider to be most appropriate for that life office.

(6 marks)

QUESTION 5

13 MARKS

- (a) Explain the reasons for the financial underwriting of risk insurance.

(3 marks)

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- (b) You are the chief actuary of a medium to large sized life office. Three years ago you started writing critical illness/trauma policies. Each month you monitor your claims experience in line with the levels assumed in your pricing. In the last six months you have noticed that your claims experience has deteriorated significantly. The Finance Director has expressed some concern that underwriting standards and controls may be too loose and are slipping.

Prepare a report outlining the investigations you would make into your underwriting area, outlining the controls and practices you would need to assess, and how you would establish whether weaknesses existed within the area contributing to your experience losses.

(10 marks)

QUESTION 6

20 MARKS

- (a) Define emerging surplus in the context of a life office statutory fund.
(2 marks)
- (b) Your office has a sub fund consisting entirely of yearly renewable term policies all written in the last year.

There are now 10,000 policies written at a premium of \$100 each, paid annually in advance. The death benefit is \$10,000. Capital at the start of the year was \$1m.

The Margin on Services valuation at outset used the following assumptions:

- acquisition expenses \$70 per policy incurred at the start of the year
- servicing expenses \$15pa per policy incurred at the end of the year in respect of policies inforce at the end of each year
- mortality rate : 0.25% first year, 0.5% second year, and 0.75% thereafter with deaths occurring evenly over the year.
- lapses 10% pa, occurring at the end of the year
- net investment return 10% pa
- the profit margin at outset was 16.1% of premium
- the expected Margin on Services Policy Liability at the end of the year was -\$27.15 per policy.

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Actual experience during the year was as follows:

- acquisition expenses \$80 per policy
- renewal expenses \$15 per policy
- mortality rate 0.30% in the first year
- lapses 12% pa
- investment earnings rate 15%

You have prepared a revenue account based on the expected experience to compare with the actual revenue account:

	Expected \$'000	Actual \$'000
<u>Income</u>		
Premiums	1,000	1,000
Net Interest Income	118	158
<u>Outgo</u>		
Policy Payments	250	300
Acquisition Expenses	700	800
Renewal Expenses	135	132
Increase/(Decrease) in policy liabilities	(244)	(238)
No of policies in force at year end	8,978	8,774

Calculate the actual and expected Margin on Services profit for the year.

Analyse the excess or shortfall in MoS profit arising from that expected.(18 marks)

END OF PAPER