

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 2021

Subject SP2 - Life Insurance Specialist Principles

Introduction

The Examiners' Report is written by the Chief Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

Paul Nicholas
Chair of the Board of Examiners
July 2021

A. General comments on the *aims of this subject and how it is marked*

1. The aim of the Life Insurance Specialist Technical subject is to instil in successful candidates the principles of actuarial planning and control, and mathematical and economic techniques, relevant to life insurance companies. The candidate should gain the ability to apply the knowledge and understanding, in simple situations, to the operation, on sound financial lines, of life insurance companies. The life insurance products covered by this subject exclude health and care insurance products covered by the Health and Care Specialist Technical subject.
2. The Examiners' Report covers more points than would be expected to get full marks. This is so that alternative approaches to questions by different candidates can be accommodated. The Examiners may also award marks for valid points that are not included in the marking schedule.
3. Candidates are expected to show knowledge of the relevant content of the Core Reading, and be able to apply this knowledge where appropriate.

B. Comments on *candidate performance in this diet of the examination*.

1. A number of questions required candidates to suggest possible reasons or actions in relation to a situation. Most candidates demonstrated the ability to generate a number of responses, but these were not always given in sufficient detail to score all marks available.
2. Similarly, in the higher mark application sections of this paper the stronger candidates provided in their answer both a breadth of coverage of multiple points, and sufficient detail on the points raised.

C. Pass Mark

The pass mark for this exam was 57.
477 presented themselves and 228 passed.

Solutions for Subject SP2 – April 2021

Q1

The regulator may restrict the types of assets in which a life insurance company can invest

[½]

e.g. not allowing overseas assets

[½]

The regulator may require a certain quality of assets to be held

[½]

e.g. a certain credit rating

[½]

The regulator may limit the amount of any type of asset that can be taken into account for the purpose of demonstrating solvency (also referred to as an admissibility limit)

[½]

e.g. restricting investment overseas to a certain percentage (or any sensible example)

[½]

The regulator could limit the concentration of asset holdings in a particular area

[½]

e.g. limiting maximum exposure to a particular counterparty, or a specific asset

[½]

The regulator may restrict the level of mismatching that is allowed

[½]

which may be done by requiring an explicit investment mismatching reserve

[½]

e.g. the more the company invests in riskier assets the higher the mismatch reserve will be

[½]

The way in which particular assets may be valued could be restricted

[½]

e.g. use of book value rather than a market-based approach

[½]

The choice of assets may also be influenced by the investment assumptions that have to be used to value liabilities

[½]

e.g. may allow a higher investment yield on a certain class of assets (possibly via a mechanism such as via an illiquidity premium)

[½]

although typically the company won't be able to maximise the expected investment return

[½]

The way in which the company can hold assets could be restricted, which may direct the investment strategy

[½]

e.g. Assets may be held under custodianship, or indirect investment may not be permitted

[½]

[Marks available 9, maximum 5]

This question was fairly well answered with most candidates able to provide a number of suggestions with relevant examples. Stronger candidates identified the more subtle differences between types of restriction, and avoided providing examples of regulation which were not specific to investment strategy.

Q2

The company's new business may be lower due to too high charges relative to the market

[½]

these charges may have recently been increased

[½]

Investment performance may be lower than expected relative to competitors

[½]

or policyholders could be surrendering in larger numbers in expectation of a market fall.

[½]

An economic downturn or external events may be driving poor investment performance for all companies

[½]

meaning policyholders need access to existing funds

[½]

and are less likely to begin saving

[½]

Competitors may have introduced newer more innovative products that are attracting funds

[½]

e.g. attractive investment options / new fund managers / investment guarantees
(mark for any one suitable example) [1/2]

Competitors may have more effective marketing [1/2]

or be offering through distribution channels that customers prefer (e.g. online) [1/2]

or offering better deals to / have better relationship with insurance intermediaries [1/2]

The company may have had recent bad press relating to the fund or otherwise [1/2]

e.g. concerns about solvency / regulatory intervention [1/2]

Alternatively, there may be bad press about the product in general [1/2]

Company may have a poor customer service record [1/2]

Misselling could contribute to both higher surrender rates [1/2]

and lower new business. [1/2]

Loss of a key fund manager who was driving inward investment [1/2]

Lack of ethical investment options / unethical investment stance turning off customers [1/2]

The company may not have set realistic expectations on surrenders or new business volumes [1/2]

especially if there is no surrender penalty on the product [1/2]

Regulatory changes or tax changes may have made the product less beneficial to new or [1/2]

existing customers [1/2]

[Marks available 1 1/2, Maximum 6]

Most candidates scored reasonably well on this question and covered most if not all of the key points surrounding company performance and reputation, competition, and market conditions. Stronger candidates provided additional detail in these areas.

Q3

(i)

The premium remains unchanged throughout the contract [1/2]

It pays a dividend in cash [1/2]

or it may be in the form of a paid-up benefit [1/2]

A terminal bonus can be distributed [1/2]

and depending on balance between regular and final dividends, there may be significant [1/2]

deferral of profits. [1/2]

All sources of profit are generally distributed under the contribution method [1/2]

including mortality, expense and investment profits [1/2]

Surplus is distributed in the same proportion as those policyholders contributed to surplus [1/2]

[Marks available 4, maximum 3]

(ii)

The formula for the dividend is:

$(V_0 + P)(i'' - i) + (q - q'')(S - V_1) + [E(1 + i) - E''(1 + i'')]$ [1/2]

Where:

V_0 = value of contract at beginning of year on valuation basis

V_1 = value of contract at end of year on valuation basis

P = gross premium

i'' = actual rate of interest earned

i = valuation basis rate of interest

q'' = actual rate of mortality experienced
 q = valuation basis rate of mortality
 S = sum assured
 E'' = actual expenses experienced under the contract
 E = valuation basis expenses

[½]

Dividend =

$$\begin{aligned}
 & (2000 + 80) \times (0.04 - 0.025) \\
 & + (0.004 - 0.006) \times (5,000 - 2,150) \\
 & + (7 \times 1.025 - 5 \times 1.04)
 \end{aligned}$$

[1 mark for correct use of formula, ½ mark for one error in formula, 0 otherwise]

[1]

$$= 27.475$$

[1]

[Total 6]

3(i) was answered reasonably well although few candidates provided sufficient description to score the full marks available. 3(ii) was answered correctly by the majority of candidates and most gained full marks, although marks were missed in some cases for not showing sufficient detail on the formula used.

Q4

A loss would have arisen if the surrenders have been higher than expected if there is a guaranteed surrender value [½]

A loss could have arisen due to a gap between the guaranteed value and the asset share [½]

The company could try to determine the cause of the loss (i.e. cause of higher surrenders or cause of gap between gtee and AS) [½]

e.g. it could be due to a few large policies withdrawing or markets working in a direction that makes the surrender value beneficial [½]

Make sure this is a genuine loss and not an error – review analysis of surplus to confirm loss. [½]

If the cause is a true one-off and not expected to occur again the company may take no further action [1]

If it is not a one-off the company may take further action of:

Consider whether the assumptions need to be changed. [1]

If the loss has arisen when surrenders have been higher than expected. If this is expected to continue then the expected surrenders assumption should be increased [½]

The company would need to perform an experience analysis exercise [½]

and source relevant data to suggest an appropriate new expected surrender rate [½]

If the loss is due to market conditions the company may perform further investigations [1]
possibly using a stochastic model, to determine when the guarantee will cost them money

[½]

The company may need to review their investment strategy [½]

The company may consider changing the product design for new policies if the loss is due to the surrender value guarantee [½]

They may remove the guarantee for new policies, [½]

Or introduce a charge/increase the charge for it [½]

If there is a charge on the existing policies for the guarantee and it is reviewable, they may look to increase this [½]

The company may introduce, for new policies, claw-back of commission from intermediaries on surrender	[1/2]
The company could improve their customer service	[1/2]
Make adjustments to product design – e.g. loyalty bonus, surrender penalty in early years, changes to charging structure (suitable example)	[1/2]
Review their customer communications and make any required changes subject to TCF	[1/2]
The company could stop selling the product	[1/2]

[Marks available 13, maximum 6]

Answers to this question varied with only the better candidates suggesting that the actions may be dependent on the causes of the losses, and providing possible changes to new and existing policies. The average marks given were in line with the pass-mark for the overall paper, and only a limited number of candidates scored full marks for this question.

Q5

(i)

Policyholder may have wanted a savings contract	[1/2]
with an element of death benefit	[1/2]
which could be paid to dependants	[1/2]
Policyholder may have a loan (e.g. mortgage) that was repayable in 25 years	[1/2]
Needed contract that paid out on death to the value of the loan	[1/2]
and provide an amount at maturity	[1/2]
Policyholder may have wanted exposure to investment market	[1/2]
but with a guarantee of a minimum sum assured in the event of death	[1/2]
They may have had a previous policy that performed well, or may consider this one to be good value for money	[1/2]
Unit linked contracts tend to be cheaper and more flexible than non-linked products, this may suit the policyholder	[1/2]
They may have received financial advice recommending this product	[1/2]

[Marks available 5½, maximum 3]

(ii)

General considerations

need to consider personal circumstances, which may have changed since taking out the policy [1/2]

Up to three appropriate examples (½ mark each), which may include:

May not have dependants in need of death benefits or have other policies providing death benefits

Level of other savings or income

Has a loan that needs paying off in 10 years time

Change in their health [1½]

consider policyholder attitude to risk [1/2]

and their thoughts on investment markets and likely movements [1/2]

policyholder attitude to the life company [1/2]

Up to two sensible calculations using the figures in the question

e.g. Compare surrender value to premiums paid to date [1/2]

Compare sum assured to premiums [½]

Continuing with policy

The policyholder may still have a loan to pay off and wants to use this policy to do that [½]

And may have to keep policy in force to back a mortgage [½]

The policyholder wants to maintain the death benefits [½]

The policyholder wants to keep the investment risk [½]

And is happy with investment performance so far [½]

The policyholder still considers the policy to be good value [½]

The policyholder can still afford the premiums [½]

Paid Up

Policyholder may have better use for the £100 per month premium [½]

or can no longer afford the premium [½]

May want to maintain some death benefit [½]

... but is comfortable with the reduced sum assured [½]

But is in no urgent need of funds now [½]

Policyholder wants to maintain some investment risk [½]

The level of policy fee and charges will eat into investment funds [½]

The policyholder will need to consider the terms available from the company for making the policy paid up [½]

Surrender

The policyholder may have paid off loan, [½]

or wants to use surrender value to make early repayment [½]

or can no longer afford premium [½]

The policyholder may no longer have a need for the death benefits (or has them elsewhere) [½]

The policyholder may think that investment performance has peaked and wants to take profit now [½]

The policyholder may have need for the lump sum now [½]

It may be better to wait until they are in the final five years of the policy, so that surrender penalties are reduced [½]

[Marks available 15½, maximum 8]

[Total 11]

Candidates' answers to 5(i) in many cases did not provide enough detail to generate the full three marks, but generally scored well. On 5(ii) many candidates struggled to generate the number of points required to score highly – many answers focused on the pros and cons of each action rather than how the policyholder's circumstances could affect this.

Q6

The starting point would be the assumptions used in the previous valuation, if any exist [½]

and consider the assumptions used in the pricing basis [½]

The assumptions would need to comply with regulations and professional guidelines [½]

Depending on the regulations a level of prudence may be required [½]

especially as the company has no experience on which to base the assumptions [½]
 consider their available expertise and data [½]
 the prudence may be explicit or implicit [½]
 Given the company has limited or no experience on the exercise of the option it may look for assistance from a reinsurer in setting the additional assumptions [½]

It may be necessary to change assumptions due to issues arising with regard to:

The take up rates on the option [½]
 The premium rates being charged for the renewed policy [½]
 The mortality of those taking up the option [½]
 The mortality of those not taking up the option [½]
 The additional expenses relating to the option [½]

In assessing a take up rate, the company may assume a worst case scenario [½]
 that all policyholders who are alive at the end of the policy apply for the option [½]
 this may be required by regulations [½]

The take up rate will depend on the terms and conditions of taking up the option [½]
 e.g. what communications are made to the policyholder at the end of the term [½]
 e.g. the time limits involved and how well defined these are [½]
 and will also depend on how competitive the premium rates are at the point of exercising the option [½]

The premium rates assumed for the option should reflect the current premium rates for the age at the point of exercise of the option [½]

The expected mortality for those taking up the option is likely to be higher than those who do not take up the option [½]

so may assume a higher percentage of a standard table [½]

or apply an age loading (e.g. $x+5$) [½]

or use Ultimate experience rather than Select [½]

There should be a link between the take up rate and assumed mortality rates [½]

The average mortality rate for those who do not take up the option could be assumed to be the same as that which would have been assumed if the option did not exist [½]

However this would mean that the average mortality for all lives would be higher than the base assumption, given mortality for those taking up the option is likely to be higher [½]

Alternatively could assume a lower level of mortality for those not taking up the option, such that the average mortality rate for all lives is in line with base assumption [½]

An assumption would need to allow for the additional expenses incurred in taking up the option [½]

Need to allow for extra expenses due to increased administration [½]

or additional policyholder communication [½]

In setting the assumptions the company would need to consider its modelling approach

○ (e.g. stochastic or deterministic) [½]

and whether additional assumptions can be built into existing cashflow models [½]

They will need to consider the materiality of the assumption for the product in the valuation [½]

[Marks available 17½, maximum 10]

This question requires considerable detail on the issues to consider when setting assumptions to value the option. Detail in responses was generally limited and often did not cover sufficient points to generate good marks. Better candidates identified the assumptions which would need to change, the limitations of data, and the multiple possible ways of valuing the option.

Q7

(i)

Positive points are:

- Taking out reinsurance on this new product is sensible to reduce the fluctuations in claims payouts [1]
- and hence can help stabilise the profits of the insurer [½]
- Taking out some reinsurance will help reduce overall capital requirements [1]
- It may allow them to take on higher volumes and bigger risks [½]
- Risk premium gives the insurer greater freedom to change the premium rates without impacting the reinsurance rate [1]
- For term assurance this could be important as the market is competitive, so it allows premium changes in response to competitors changes [½]
- As the company already has a relationship with the reinsurer there may be preferential rates available [½]
- The company may not have relevant experience to base the pricing of the group term assurance product on and so the reinsurer could help provide this [½]
- There could be the option to include financial reinsurance to help with new business strain for the new product [½]
- Administratively it may be simpler to use only one reinsurer for premiums and claims [1]
- Having used the reinsurer to date there would be less checking required to assess their creditworthiness and use as a third party [½]

However:

- A significant risk for the group term assurance product is concentration risk [1]
- and there is no protection for this with risk premium insurance [½]
- So the company may want to consider stop loss or catastrophe reinsurance in addition [1]
- The reinsurer may not currently cover group term assurance business and so may not be able to offer reinsurance for this [½]
- Sum at risk is completely different for unit linked product and group term, so using same type of reinsurance may not be appropriate [1]
- If there has not been a good experience with the reinsurer to date then they may not offer the most competitive rates [½]
- Counterparty risk to the one reinsurer will be greater if additional reinsurance is placed with them, and this may cause a breach of regulatory limits [½]
- They will cede profits to the reinsurer [½]
- and there will be expenses (premiums, increased administration) [½]
- It may be possible to find better reinsurance terms elsewhere [½]

[Marks available 14, maximum 7]

(ii)

The experience the company has in a product influences the retention limit	[1]
As the company is new to this market it is likely the retention limit will be lower than it would be for an existing product they have experience in	[1]
There may be adjustment of this retention limit as experience builds up, depending on what the contract with the reinsurer allows	[½]
The company would consider the expected profile of the business e.g. average benefit level	[½]
And expected distribution of the benefits	[½]
As the product is new the company will have to estimate what it expects these things to be based on market, existing data from their other products and reinsurer data applied to their target market	[½]
The company would consider its solvency position and ability to absorb losses	[1]
The company will look to balance the cost of the reinsurance with the retention limit and the terms at each level	[½]
considering the outcome of modelling investigations and the net retained profit	[½]
and the impact of the profit-sharing arrangement	[½]
This will be impacted to the strength of the company's underwriting	[½]
Which would be greater if they already have experience of working with them	[½]
The retention limit on the existing arrangement with the unit linked business may be considered	[1]
The level of any financial reinsurance may also influence the retention limit required	[½]
They must consider their risk appetite, and the balance between counterparty risk and insurance risk	[½]
Consider the expected impact of new business strain	[½]
The available terms from the reinsurer and any minimum retention limit	[½]
Regulatory limits regarding retention and any minimum required level	[½]
The need to charge competitive premiums – this may be impacted by typical retention limits in the market	[½]
The opinion of rating agencies and the impact on the company's credit rating	[½]

[Marks available 12, maximum 6]

[Total 13]

Overall marks for 7(i) were low given the number of marks available - many candidates focused on the choice of the same reinsurer, whilst only the stronger candidates also considered the benefits of the reinsurance in and of itself, plus the limitations of this type of reinsurance for group term assurance. Answers to 7(ii) generally covered sufficient points to score reasonably well, although few candidates provided sufficient breadth in the answer to score full marks.

Q8

(i)

The company may think it can make a profit from the business	[1]
Either by earning more on its investments than it priced for	[½]
or by loading in margins on the mortality assumption or profit margins	[½]
It may be able to buy the business cheap as there may be no other bidders	[1]
Sales of immediate annuities may have fallen	[½]

and this is a way to increase its balance sheet [½]
 It may provide the company with some diversification [½]
 which might lead to lower capital requirements [½]
 as it may have different types of lives [½]
 They may have free assets available and consider this to be a good use [½]
 They may be seeking to increase their market share [½]
 They may aim for economies of scale, leading to reduced expense loadings [½]
 There may have been political or regulatory pressure for them to buy the business if B is at risk of failure [½]

[Marks available 7½, maximum 4]

(ii)

New data risk is introduced [½]
 The company will be relying on the seller for the quality of the data [½]
 As it has no experience of this business [½]
 There is also a risk that the data has errors, or there is a loss of knowledge in relation to what certain fields mean [½]
 This risk may be mitigated by agreements made at the time of purchase (e.g. B liable for any errors in the data they provide) [½]
 It is unlikely that the data will show up to date marital status for the deferred annuities [½]
 Introducing another parameter risk in relation to the proportion married [½]
 There may also not be any data available with respect to experience analysis [½]
 Which introduces new mortality parameter risk [½]
 that the parameters used with the model may not adequately reflect the future experience of the class of lives insured or to be insured [½]
 even though the underlying model may be appropriate [½]
 Due to the deferred period, there will be more uncertainty around the rate of mortality improvement [½]
 There may be new model risk [½]
 If new models have to be developed due to different features. [½]
 There may be new expense risk [½]
 If there is more admin than is expected, and the company is not used to dealing with [½]
 New investment risk or ALM risk may be introduced [½]
 as there are deferred annuities which have a very long duration [½]
 and also a long deferred period [½]
 which the company may find hard to match [½]
 In addition, there is initial investment risk with the lump sum premiums received on purchase [½]
 Also the contracts may have different features such as [½]
 Increasing annuities [½]
 or have guarantees [½]
 Which will change the types of investments required [½]
 New mix of new business risk may be introduced [½]
 The data may be concentrated into one particular group or type of risk [½]
 Aggregation and concentration of risk may be increased [½]
 due to more concentration around longevity risk [½]
 This may change the diversification profile of the company [½]
 Operational risk caused by increased strain on resources [½]
 or a lack of expertise in the new product [½]

Increased reputational risk due to new products and unknown data, leading to potentially poor customer experience [½]

Deferred annuities introduce increased risk of withdrawal as policyholders may choose to transfer [½]

[Marks available 17, maximum 9]

(iii)

The values assigned to these rates should reflect the expected future experience of the members [1]

However, recent experience data may not be available or may be unreliable – this will depend on the quality of B's record keeping [½]

The lives may span people from very different background [½]

for example it will cover managers and professionals as well as manual workers [½]

Who may have very different expected mortality rates [½]

The company will most likely use a standard mortality table [½]

a standard table may need to consider amount rather than lives basis [½]

the standard table may be different to the one currently used for the individual business [½]

if the company expects the shape of the mortality rates to be different [½]

if the company has similar classes of business, it could use this experience to set the best estimate [½]

The company may not have appropriate data [½]

so may need to obtain data from industry sources or research papers [½]

or could use data from life reinsurance companies [½]

The rates may apply to a class of lives which is expected to have a different experience from that to which the standard tables relate [1]

So adjustments may need to be made [½]

using judgement [½]

A starting point could be the assumptions made when the rates were calculated [½]

The company will already have an approach to setting trend assumptions, which may be one of the following: [1]

Expectation approaches involve expert opinion and subjective judgment to specify a range of future scenarios [½]

Extrapolation approaches are based on projecting historical trends in mortality into the future [½]

Explanatory, or process-based, projections attempt to model trends in mortality rates from a bio-medical perspective [½]

Multi-factor predictive modelling techniques (e.g. using generalised linear models) [½]

Stochastic mortality projections such as the Lee-Carter or P-spline method [½]

There may be standard tables for these [½]

They may use a combination of the methods above for determining trends [½]

The company will need to use judgement to assess whether the improvements for the group business is likely to be similar to that assumed for the individual business [½]

For example there may be evidence that there is a difference in affluence which may impact accessibility to health services. (mark for any sensible example) [½]

They can perform an experience investigation [½]

start by splitting the data into homogenous groups [½]

subject to there being suitable volume and quality of data in each group [½]

[Marks available 16½, maximum 8]

[Total 21]

Question 8 scored less well on average than earlier elements of the paper. On 8(i) most candidates provided a reasonable response, but few gave sufficient breadth of examples to score fully. On 8(ii) many candidates described the risks relating to the business in a more general fashion, rather than how those risks would be changed by the introduction of Company B's business. Most answers to 8(iii) considered the general factors of assumption setting and not the specifics of company A's situation and did not score full marks as a result. In addition a relatively high number of candidates did not attempt this section despite a lot of marks available for relatively straightforward knowledge based responses.

Q9

(i)

A contract which pays a benefit on the death of the life insured within the term of the contract	[1]
Premiums may be regular or single	[½]
Typically, no surrender value is paid	[½]
There is no maturity benefit	[½]
It provides protection against financial loss for dependants within the defined term	[½]
[Marks available 3, maximum 2]	

(ii)

Expenses:

The company may have lower expectations of future maintenance expenses	[1]
Higher NB volume may lead to reduced expense loading and hence lower premiums	[½]
This could be due to a cost saving exercise	[½]
for example staff cuts or off-shoring, outsourcing, (any sensible example)	[½]
or more efficient processes (or any other sensible examples)	[½]
Lower view of expense inflation due to market inflation reducing	[1]

Mortality

The company view of future mortality may be lighter (must specify lighter)	[1]
e.g. due to a change in business mix	[½]
Therefore premiums are lower as the life insurer doesn't expect to pay as often	[½]
This may be due to national statistics showing lighter mortality for the general population	[1]
Or marketing of the product to individuals with lighter mortality	[½]
Persistency (and the impact on remaining mortality) may have been better than assumed in pricing	[½]

Assets:

Reserves will be minimal	[½]
and likely backed by fixed interest assets	[½]
Interest rates may have risen since 2011	[½]
Such that higher returns are earned on investments, resulting in lower required premiums.	[½]

Other

Or the company initially pricing with higher margins	[1]
may be due to new to the market	[½]
Tax rules or other regulations may have changed	[½]

Or using more/less reinsurance or reinsurance terms changed	[½]
The market may have become more competitive	[½]
The company may now have more data enabling more accurate assumptions to be made	[½]
There may be changes to the sales channels, e.g. lower commission payments	[½]
Underwriting may have been stricter than assumed in pricing	[½]
There may have been changes to the solvency capital requirement	[½]
The company may have chosen to accept lower profit margins	[½]
[Marks available 15½, maximum 10]	

(iii)

Terms after alteration should be supportable by the earned asset share at the date of alteration.	[½]
Profit expected from the contract after alteration should be the same as that before	[½]
or alternatively the same as the expected amount had the policy been written originally on its altered terms	[½]
A PUP is viewed as limiting case of a reduction in sum assured	[½]
If benefits are increased, the terms should be consistent with the additional premium charged for a new policy with a sum assured equal to the benefit increase	[½]
Terms offered should avoid lapse and re-entry risk	[½]
Costs associated with an alteration should be recovered.	[½]
The changes could be made subject to evidence of health	[½]
The approach should be easy to calculate, explain and understand	[½]
The method should be stable, i.e. small changes in benefit should lead to small changes in premiums	[½]
[Marks available 5, maximum 3]	

(iv)

Option A

The premium for a new policy with a term of a 20 years, sum assured of \$100k and for a policyholder currently age 40 is \$14	[½]
So the life insurer is not meeting the principle of fairness to the policyholder as the revised premium is greater than the premium for a new policy (\$14) even after allowing for the costs of the alteration and any potential underwriting impact	[1]
The life insurer is at risk of lapse and re-entry.	[½]
Premium for original policy was $\$6 \times 1.25 = \7.5	[½]
As a sense check the difference in premiums today for a 40 year old with 10 year term and 40 year old with 20 year term is \$5	[1]
A sensible calculation using the figures given, e.g. revised premium should be around \$12.5	[1]
This sense check doesn't allow for changes in premium over next 10 yrs	[½]

Option B

Premium today for \$100k sum assured and a term of 10 years for a 40 year old is \$9	[½]
Overall revised premium should be around \$16.5	[1]
Premium today for \$200k sum assured, term of 10 years, current age 40 is \$14	[½]
So a premium of \$12 per month after allowing for the costs of alteration is reasonable and there is no risk of lapse and re-entry	[1]

[Marks were also given where candidates made alternative sensible use of the premium rates/sums assured shown in the question]

[Marks available 10 ½, maximum 7]

[Total 22]

9 (i) and 9(iii) was a straight knowledge based question which the majority of candidates could answer fully. For 9(ii) most candidates were able to identify general areas that might have led to a change (e.g. expense reduction) but did not always elaborate on how this could have occurred. 9(iv) was a difficult section of the question which required some judgement from candidates as well as full use of the figures provided, and many answers did not fully cover the numerical element.

[Paper Total 100]

END OF EXAMINERS' REPORT