INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

18 September 2023 (am)

Subject SA1 – Health Care
Specialist Advanced

Time allowed: Three hours and twenty minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.

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1 Country X is a large, developed country. A significant proportion of the population of Country X live in large cities situated along the coast of the country.

Historically around 10% of the coastal area of Country X has been subject to flooding, which has occurred on average once every 5 years for many years. A recent university study has been produced that has stated that recent changes in climate mean that:

- flooding in Country X will increase in frequency and severity, with a greater proportion of the coastal area of Country X at risk of being flooded.
- there will be greater variability in the frequency and severity of flooding in Country X from year to year.
- there is an increased risk of 'extreme flooding events' occurring, being major floods, which are predicted to occur once every 50 years and that could lead to very severe flooding for an extended period of time.

Citizens in Country X generally pay for healthcare services through Private Medical Insurance (PMI).

(i) Suggest possible ways more frequent and severe flooding in Country X could impact:

(a) the health of its citizens.

(b) how its citizens use health care services.

[8]

(ii) Describe how more frequent and severe flooding could impact future claims experience for PMI business sold in Country X. [10]

Company ABC is a health and care insurance company in Country X, primarily selling PMI business. The chief executive officer of Company ABC has asked if the company needs to increase the premiums immediately on its PMI business to take into account increased flooding risks.

(iii) Discuss the factors Company ABC should consider when deciding whether to re-price its PMI business immediately. [10]

The insurance regulator in Country X has asked Company ABC to ensure increased flood risk is fully allowed for in its regulatory capital requirements. The regulatory capital requirement in Country X is determined using a value at risk approach based on a 99.5% confidence interval of the variation over 1 year of assets minus liabilities.

(iv) Discuss the potential challenges for Company ABC in allowing for increased flood risk accurately in its regulatory capital requirement. [7]

[Total 35]

2 In Country A:

- there is no state-funded provision of long term care for the elderly. There is only private provision of care (e.g. self-funded placements in an old persons home or self-funded at home assistance with trained nurses).
- the state provides universal health care to all citizens and it is free at the point at which care is required, covering all treatments, services and pharmaceuticals. There is no private health care provision.
- the state provides a basic level of disability and unemployment support for citizens of working age.
- the level of state pension is equivalent to half the national median income and is accessible at age 60. Most individuals have private savings to increase their full pension to the national median income.

There is a family consisting of two children (aged 2 and 5), two parents (both aged 35) and three living grandparents (aged 65, 75 and 80). The parents recently bought a house using a mortgage loan.

(i) Outline the parents' personal financial needs to cover themselves and their dependants. [5]

(ii) Discuss the suitability of the following types of health and care insurance products to meet the parents' financial needs identified in part (i):

- major medical expenses
- critical illness
- income protection.

[12]

Various types of health and care benefits are included in the parents' employment benefit packages that cover events where the parents or their children become sick.

The parents have sought advice from a financial advisor who proposed that they take out Long Term Care (LTC) insurance.

(iii) Describe the main benefit features of LTC insurance. [4]

The grandparents are not currently in need of long term care. The financial advisor has suggested a pre-funded LTC product for each grandparent.

The parents both work from home. There is sufficient space in the home to accommodate the elderly grandparents if they were to need care. The parents have asked the financial advisor if it would be appropriate to self-fund and self-provide any future care needs for the grandparents.

(iv) Contrast the options below, with regard to how each assists the parents in meeting their and the grandparents' needs by managing a wide array of risks and meeting personal preferences:

(a) A pre-funded LTC policy for each grandparent

(b) Self-funded and self-provided care for the grandparents.

[10]

The government has proposed a policy that would provide income tax relief to working individuals who self-fund and self-provide long term care for their elderly parents in their own homes.

(v) Suggest possible reasons why the government has proposed this policy. [7]

The opposing political party in Country A has suggested that if a pre-funded LTC insurance product is bought for an elderly parent it should be an income tax deductible expense and that no insurance premium tax should be charged.

(vi) Suggest possible reasons for the opposition political party's suggestion. [7]

[Total 45]

3 Company A is a large health and care insurance company with a substantial book of income protection business. The income protection business is evenly split between group and individual business.

The group income protection business provides insurance cover to large employer groups and cover is provided on an annually renewable basis.

The group business includes an option for employees who leave the company to take out an individual income protection policy at the standard premium rates applying when the individual income protection policy is taken with no further underwriting.

Company A's underwriting policy has not been reviewed or updated for many years.

(i) Discuss the possible risks that the company is exposed to by not regularly reviewing its underwriting policy. [8]

Company B is also a large health and care insurance company that sells group and individual income protection business. Company B is a direct competitor of Company A.

Company B has recently removed initial medical underwriting requirements and instead relies on pre-existing conditions exclusions for both group and individual income protection business.

(ii) Discuss how Company B's change in underwriting approach could affect the business mix of Company A. [4]

(iii) Suggest, with reasons, two possible actions Company A could take to limit the impact of Company B's change in underwriting approach on Company A's business. [2]

Company A is now considering possible changes to its underwriting approach and is carrying out a review of its underwriting policy. The review will include a number of investigations to support any recommended changes in its underwriting policy.

(iv) Suggest, with reasons, what investigations Company A could carry out. [6]

[Total 20]

END OF PAPER