

SOA真题November2004Course8IC PDF转换可能丢失图片或格式，建议阅读原文

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****BEGINNING OF EXAMINATION 8** INDIVIDUAL**

INSURANCE CANADA MORNING SESSION 1. (5 points) ABC

Life has a career agency distribution system. ABC ' s management is reviewing their financing plan for new agents. (a) Describe the

different types of financing plans for new agents and explain the

advantages and disadvantages of each according to LIMRA. (b) You

are given the following information: Year Average Annualized First Year Premium Agent Termination Rate Subsidy Validation Schedule

Commission 1 \$60,000 50% 120% \$20,000 2 \$80,000 25% 80%

\$25,000 3 \$100,000 10% 40% \$30,000 4 \$120,000 0% 0% \$0 #8226.

Agent termination occurs at the end of the year. #8226. The interest

rate is 0%. (i) Calculate the average financing cost for a new agent as a percentage of first year premium for each of the first three years.

Show all work. (ii) Determine the number of years it will take for

ABC to recover the financing costs on 100 new agents. Show all

work. COURSE 8I: Fall 2004 -2- GO ON TO NEXT PAGE

Individual Insurance Canada Morning Session 2. (11 points) XYZ

Life is evaluating a block of identical special life contingent annuities issued January 1, 2004 by ABC Life. You are given: #8226. Assumed

investment interest rate on required capital is 4%. #8226. Each

annuity payment is \$71,280. #8226. Deaths occur at the end of the

year before the annuity payment. amp. Surplus Requirements for Life Insurance companies and each of the following risks: #8226. Pricing interest margin •. Change in the interest rate environment. (i) Describe the nature of the risks. (ii) Calculate the minimum capital requirement at December 31, 2004 for the risks. Show all work. (b) (4 points) Calculate the embedded value of this block at January 1, 2004. Show all work. COURSE 8I: Fall 2004 -3- GO ON TO NEXT PAGE Individual Insurance Canada Morning Session 2.

(Continued) (c) (3 points) You are given the following binomial distribution: $n = 100$, $q = 0.25$, $f(25) = 0.0918$, $F(25) = 0.5525$. Calculate the probability of solvency earnings exceeding \$250,000 in 2004. Show all work. (d) (1 point) On January 1, 2005, XYZ Life buys the remaining block of 75 contracts. Calculate the maximum amount of assets ABC transfers to XYZ assuming no transaction expenses. Show all work. COURSE 8I: Fall 2004 -4- GO ON TO NEXT PAGE

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