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https://www.100test.com/kao_ti2020/84/2021_2022_SOA_E7_9C_9F_E9_A2_98N_c50_84017.htm COURSE 8: Fall 2003 1 GO TO NEXT PAGEFINANCEMorning Session**BEGINNING OF EXAMINATION**FINANCEMORNING SESSIONQuestions 1-5 pertain to the Case Study.Each question should be answered independently.1. (8 points) Mr. Newman has just given J. Peterman the unaudited line-of-business and consolidated financials of NADA for 2002 along with projections for 2003-2005. In addition, NADA has supplied Peterman with an extensive business plan detailing the growth potential and opportunity for each of its business units. The business plan contains an emphasis on growing the GIC business. Mr. Newman plans to do this through the addition of Funding Agreements with 12-day put options. The Funding Agreements will be sold to institutional investors other than retirement plans. Peterman is concerned about NADA's growing reliance on GIC sales. Peterman has questions about the profitability, liquidity, and investment risks of the GICs. Mr. Newman has asked you to address the rating agency's concerns. (a) Explain why Peterman may have concerns about increased Funding Agreement sales and their effects on profitability, liquidity, and investment risk. (b) Peterman has recently adopted a view of interest rate risk similar to Moody's Investor Service. Summarize Moody's view of interest rate risk, and describe the impact that such views could have on Peterman's evaluation of NADA's current and

planned GIC business. COURSE 8: Fall 2003 2 GO TO NEXT PAGE FINANCE Morning Session Questions 1-5 pertain to the Case Study. Each question should be answered independently.

2. (10 points) In preparation for the upcoming rating agency meeting with J. Peterman, Chief Actuary Kramer has been asked to look into improving the RBC ratio of the term life block. His preference is to change the asset mix backing the product. Manzier Reinsurance has offered to coinsure 35% of NADA's term life block.

(a) (1 point) Calculate the required capital for year-end 2003 for the term life block of business prior to any reinsurance. Show your work.

(b) (2 points) Propose terms for the reinsurance transaction with Manzier that would optimize NADA's RBC ratio for the term life block of business.

(c) (3 points) Calculate the required capital for year-end 2003 for the term life block if the reinsurance deal you proposed is consummated. Show your work.

(d) (2 points) Calculate the impact of your proposed reinsurance arrangement on NADA's year-end 2003 RBC ratio. Assume no change to available surplus. Show your work.

(e) (2 points) Predict Manzier's response to the terms of the reinsurance arrangement proposed in part (b).

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3. (12 points) NADA's business plan projects increased sales of GICs beginning in 2003. To achieve this plan, the Marketing Department has instituted a commission scale for GIC products sold in 2003, as follows:

a. commission payment of 0.2% of deposits for GICs with 1-year

interest rate guarantees. NADA's GICs are FAS 97 investment contracts. There are no withdrawals prior to maturity. For assets backing the GIC business sold in 2003, NADA expects to earn an investment return of 4.295%. Expenses are 5 basis points per year.

(a) Describe the procedure for determining the capitalization of the acquisition expenses and the subsequent amortization of the DAC asset for the GIC line.

(b) Calculate the DAC asset for new business planned to be written in 2003 for the GIC line. Show your work.

(c) Calculate the amortization schedule for the DAC asset from part (b). Show your work.

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