SOA真题May2005ExamC PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/84/2021_2022_SOA_E7_9C_9F_E9_A2_98M_c50_84140.htm Course 6: Spring 2005 - 1 - GO ON TO NEXT PAGE Morning Session COURSE 6 MORNING SESSION SECTION A WRITTEN ANSWER Course 6: Spring 2005 - 2 - GO ON TO NEXT PAGE Morning Session **BEGINNING OF EXAMINATION** MORNING SESSION 1. (5 points) Your company is evaluating active and quasi-passive investment strategies for bond portfolio management. (a) Define each quasi-passive indexation approach. (b) Describe the advantages and disadvantages of each quasi-passive indexation approach. (c) Explain the reasons your company would consider an active investment strategy. (d) Describe the sector and security strategies that an active investment manager would use to 0select individual bonds. 2. (7 points) Your company is offering a 15-year term-certain immediate annuity with payments linked to the CPI. Policyholders can withdraw funds on demand at market values. The universe of available investments consists of the following: #8226. Real return public bonds #8226. Real estate (a) Outline the advantages and disadvantages of each investment for backing this annuity. (b) Recommend an investment strategy using the investments available. (c) Describe the major components of an accumulated cash flow scenario-based model. (d) Outline the major components of the investment policy statement for this product. Course 6: Spring 2005 - 3 - GO ON TO NEXT PAGE Morning Session 3. (5 points) You are

given the following information: Bond Term Effective Duration Effective Convexity A 5 3.1 -41.7 B 5 4.5 23.4 C 5 4.2 21.3 D 5 2.7 64.5 The option and price characteristics of Bonds A, B, C and D are as follows: #8226. one bond is option-free with a current price below par #8226. one bond is putable, priced at par (a) Determine the option and price characteristics corresponding to each of Bonds A, B, C and D. Explain your answer. (b) Assess the limitations of duration as an interest rate risk measure. (c) Define convexity. Compare effective convexity and modified convexity. (d) Calculate the approximate percentage price change for Bonds A and B assuming a decrease in yield of 0.50%. Show all work. Course 6: Spring 2005 - 4 - GO ON TO NEXT PAGE Morning Session 4. (10 points) You are given the following with respect to treasury securities as of today, May 13, 2005: Security Years to Maturity Annual Coupon Rate Paid Semi-annually Yield-to-maturity A 0.5 0% 3.0% B 1.0 0% 3.2% C 1.5 6% 3.5% D 2.0 5% 3.6% (a) Calculate the spot rate for each maturity date. (b) Explain how arbitrage profits could be made from coupon stripping. (c) Calculate the one-year forward rate, one year from today. (d) With respect to the pure expectations theory (i) Describe the theory (ii) Describe the interpretations of the theory that have been put forth by economists (iii) Explain the shortcomings of the theory (e) With respect to other theories of term structure of interest rates: (i) Briefly describe each theory (ii) Using each theory, compare the one-year spot on May 13, 2006, with the one-year forward rate calculated in (c) Show all work. Course 6: Spring 2005 - 5 - GO ON TO NEXT PAGE Morning Session

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