

## 2008 Level 1 Sample Exam Volume 3

### Answer

1. Answer: A

Study Session 15-63-c

Explain how features of a bond (e.g., maturity, coupon, and embedded options) and the level of a bond's yield affect the bond's interest rate risk

An option-free bond's price sensitivity (interest rate risk) is greater when both the coupon rate and level of market interest rates are low; price sensitivity is negatively correlated with both factors.

3. Answer: C

Study Session 16-67-e

Compute the value of a zero-coupon bond

Present value = \$651.38

Future value = \$1,000

$n = 12$

$i = 3.6368 \times 2 = 7.27\%$ .

5. Answer: D

Study Session 15-64-f

State the motivation for creating a collateralized mortgage obligation

CMOs are structured so as to redistribute prepayment risk and interest rate risk among the different classes, or tranches, of bonds using rules for the distribution of interest and principal. For example, if there are three classes of bonds the distribution rules ensure that the first class of bonds receives all principal until they are completely paid off. Then the next class of bonds receives all principal until they are paid off. Finally, the last class receives principal payments. Effectively, the first tranche has the shortest maturity (duration) while the last tranche has the longest maturity (duration). Thus prepayment risk and interest rate risk have been redistributed across the bond classes with the first tranche experiencing the greatest prepayment risk and the last tranche experiencing the most interest rate risk.

6. Answer: C

Study Session 16-69-b

Demonstrate the price volatility characteristics for option-free, callable, prepayable and puttable bonds when interest rates change

At relatively high yield levels, the value of a comparable callable bond is basically the same as an option-free bond because the value of the call option is quite small (the callable bond will trade at a slightly lower price because the value of the call option is subtracted). At high yield levels, the price of a comparable puttable bond will be higher than the price of the option-free bond because the value of the put option is added.

8. Answer: D

Study Session 12-50-f

Describe the efficient frontier and explain the implications for incremental returns as an investor assumes more risk

The efficient frontier is curved. As an investor moves up the curve, risk increases and the slope decreases. The decreasing slope means that adding equal increments of risk provide diminishing increments of return.

13. Answer: D

Study Session 1-4-b

Describe the scope of the GIPS standards with respect to an investment firm's definition and historical performance record

Total firm assets must be the aggregate of the market value of all discretionary and nondiscretionary assets under management within the defined firm.

This includes both fee-paying and non-fee-paying assets.

15. Answer: C

Study Session 1-2-a

Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to specific situations presenting multiple issues of questionable professional conduct

Members should not engage in conduct involving dishonesty, fraud, deceit, or misrepresentation. The member's dishonesty is not addressed in the Standards related to Duties to Employers, however.

17. Answer: D

Study Session 1-2-a

Demonstrate a thorough knowledge of the Code of Ethics and Standards of Professional Conduct by applying the Code and Standards to specific situations presenting multiple issues of questionable professional conduct

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19. Answer: C

Study Session 2-7-d

Define, calculate, and interpret measures of central tendency, including the population mean, sample mean, arithmetic mean, weighted average or mean (including a portfolio return viewed as a weighted mean), harmonic mean, median, and mode

Unless all the observations in a dataset have the same value, the harmonic mean is less than the geometric mean, and the geometric mean is less than the arithmetic mean.

20. Answer: C

Study Session 2-6-c

Calculate, interpret, and distinguish between the money-weighted and time-weighted rates of return of a portfolio and appraise the performance of portfolio based on these measures

The time-weighted rate of return is calculated by computing the quarterly holding period returns and

linking those returns into an annual return:

$$1.0909 \times 0.9286 \times 1.3333 \times 0.9762 = 1.3185.$$

$$1.3185 - 1 = 0.3185 \text{ or } 31.85\%.$$

22. Answer: D

Study Session 3-10-b

Distinguish between simple random and stratified random sampling

The mutual fund manager is using a stratified random sampling approach with 12 cells:

$$2 \times 3 \times 2 = 12 \text{ sampling cells.}$$

27. Answer: A

Study Session 4-16-a

Explain the types of opportunity cost and their relation to economic profit, and calculate economic profit

Explicit costs involve payments by a company to purchase productive resources.

28. Answer: A

Study Session 5-23-d

Compare and contrast the Keynesian, classical, and monetarist schools of macroeconomics

The Keynesian view calls for fiscal policy and monetary policy to actively offset changes in aggregate demand that bring recession.

29. Answer: A

Study Session 6-24-e

Explain the goals of the U.S. Federal Reserve (Fed) in conducting monetary policy and how the Fed uses its policy tools to control the quantity of money, and describe the assets and liabilities on the Fed's balance sheet

Selling government securities and raising reserve requirements would both serve to decrease the supply of money, which would be inconsistent with implementing a more expansionary monetary policy.

31. Answer: C.

A firm's long-run adjustment to a shift in industry demand and the resulting change in price may be either to alter the size of its plant or leave the market entirely.

32. Answer: D

Study Session 8-32-h

Describe the components of earnings per share and calculate a company's earnings per share (both basic and diluted earnings per share) for both a simple and a complex capital structure.

$$[(180,000 \times 5/12) + (240,000 \times 7/12)] \times 2 = 430,000$$

33. Answer: D

Study Session 9-35-c

Compare and contrast the effect of the different methods on cost of goods sold and inventory

balances, and discuss how a company's choice of inventory accounting method affects other financial items such as income cash flow and working capital

An increase in the LIFO reserve would be subtracted from cost of goods sold to equal cost of goods sold on a FIFO basis.

Answer: B

34. Study Session 8-32-b

Explain the general principles of revenue recognition and accrual accounting, demonstrate specific revenue recognition applications (including accounting for long-term contracts, installment sales, barter transactions, and gross and net reporting of revenue) and discuss the implications of revenue recognition principles for financial analysis

The amount of cash recorded is identical for both methods and is equal to the total cash received less total costs incurred. At the end of Year 2, a total of \$4 million had been billed and collected but only \$3.6 million in costs had been incurred.

35. Answer: A

Study Session 10-41-f, 11-47-a

Demonstrate the application of Du Pont analysis (the decomposition of return on equity); calculate, interpret, and discuss the Du Pont expression and extended Du Pont expression for a company's return on equity and demonstrate its use in corporate analysis

The Du Pont system can be used to break down ROE into three components: profit margin, total asset turnover, and financial leverage multiplier.

The total asset turnover is  $300/140 = 2.14$  for Annandale and  $120/70 = 1.71$  for Butler. The financial leverage multiplier is  $140/100 = 1.4$  for

Annandale and  $70/45 = 1.56$  for Butler.

For Annandale,  $15\% = (\text{net profit margin}) (2.14) (1.4)$ , so the net profit margin is 5.0%.

For Butler,  $15\% = (\text{net profit margin}) (1.71)(1.56)$ , so the net profit margin is 5.6%.

(The net profit margin could also be computed by computed by computing net income for each company. For Annandale,  $15\% = \text{net income}/100$ , so net income is \$15.

$15/300 = 5.0\%$ . For Butler  $15\% = \text{net income}/45$ , so net income is 6.75.  $6.75/120 = 5.6\%$ .)

36. Answer: B

Study Session 8-32-e, 9-37-b

Demonstrate the depreciation of long-term assets using each approved method, accounting for inventory using each approved method, and amortization of intangibles;

Demonstrate how modifying the depreciation method, the estimated useful life, and/or the salvage value used in accounting for long-lived assets affect financial statements and ratios

Original depreciation  $(250,000 - 10,000)/10 = 24,000$  per year. They have taken  $1\frac{1}{2}$  years worth (1/2 year for 2005 and full year for 2006) = 36,000.

The new estimate is for 6 years in total and 2 years have passed, so there are 4 years remaining.

Revised depreciation  $(250,000 - 36,000 - 10,000)/4 = \$51,000$ .

37. Answer: A

Study Session 9-36-b

Determine which intangible assets, including software development costs and research and development costs, should be capitalized, according to U.S. GAAP and international accounting standards

The excess price paid over the net book value during an acquisition that cannot be assigned to other identifiable assets is assumed to be for goodwill.

38. Answer: C

Study Session 9-35-e

Indicate the reasons that a LIFO reserve might decline during a given period and evaluate the implications of such decline for financial analysis

A liquidation of LIFO inventory produces unsustainable profit margins because old costs are being matched with current revenues.

39. Answer: D

Study Session 9-37-e

Discuss accounting requirements related to remedying environmental damage caused by operating assets, and explain the financial statement impact and ratio effects that result from the application of those requirements

Implementation of SFAS 143 requires that companies record an asset and related liability for costs involved in the remedy of environmental damage.

The increase in assets will decrease return on assets and the increase in depreciation and accretion expense will reduce net income.

40. Answer: D

Study Session 8-32-h

Describe the components of earnings per share and calculate a company's earnings per share (both basic and diluted earnings per share) for both a simple and a complex capital structure

Stock dividends and stock splits are treated the same way for purposes of determining weighted average number of shares outstanding; the adjustment in the number of shares is made as if the stock split or dividend occurred at the beginning of the year.

42. Answer: B

Study Session 9-37-a

Demonstrate the different depreciation methods and explain how the choice of depreciation method affects a company's financial statements, ratios, and taxes

During inflationary periods, the difference between historic cost and replacement value becomes greater; using accelerated depreciation and short average lives will produce reported net income that is closer to economic income.

43. Answer: D

Study Session 9-36-a,b

Demonstrate the effects of capitalizing versus expensing on net income, shareholders' equity, cash flow from operation, and financial ratios;

Determine which intangible assets, including software development costs and research and

development costs, should be capitalized, according to U.S. GAAP and international accounting standards

Companies that capitalize research and development costs report those expenditures in the investing activities section of the statement of cash flow; companies that expense research and development costs report those expenditures in cash flow from operations.

44. Answer: D

Study Session 11-44-e

Explain the NPV profile, compare and contrast the NPV and IRR methods when evaluating independent and mutually exclusive projects, and describe the problems that can arise when using an IRR

All else equal, a delay in the receipt of cash flows will make a project's net present value more sensitive to changes in the discount rate: the increased sensitivity is illustrated by a steeper slope in the net present value profile.

45. Answer: C

Study Session 11-46-c

Classify the components of a cash forecast and prepare a cash forecast, given estimates of revenues, expenses, and other items

Projection models and averages are normally used to forecast medium-term cash flow needs while statistical techniques are normally used to forecast long-term needs.

46. Answer: C

Study Session 11-44-d,e

calculate and interpret the results using each of the following methods to evaluate a single capital project: net present value (NPV), internal rate of return (IRR), payback period, discounted payback period, average accounting rate of return (AAR), and profitability index (PI);

explain the NPV profile, compare and contrast the NPV and IRR methods when evaluating independent and mutually exclusive projects, and describe the problems that can arise when using an IRR.

The reinvestment rate assumption using the IRR method is the internal rate of returns on a particular capital project. The reinvestment rate assumption for the NPV method is the cost of capital for the firm, which is a more appropriate reinvestment rate assumption.

47. Answer: C

Study Session 11-45-h

Calculate and interpret the cost of equity capital using the capital asset pricing model approach, the dividend discount model approach, and the bond-yield-plus-risk-premium approach

The cost of equity using the CAPM =  $3.5 + 1.6(6) = 13.1\%$  and with the bond-yield-plus-risk-premium approach =  $8 + 4 = 12\%$

48. Answer: C

Study Session 11-46-d

Identify and evaluate the necessary tools to use in managing a company's net daily cash position

A mismatching strategy is the riskiest strategy and requires accurate and reliable cash forecasts.

49. Answer: B

Study Session 13-53-a

Compare and contrast the characteristics of, and discuss the source and direction of bias exhibited by, each of the three predominant weighting

Schemes used in constructing stock market indexes, and compute a price-weighted, value-weighted, and unweighted index series for three stocks

The value is the same both before and after the split. The divisor is adjusted to make the value constant. Before the split:  $10 + 20 + 60 = 90/3 = 30$ .

After the split:  $10 + 20 + 30 = 60/X = 30$ . New divisor = 2..

50. Answer: A

Study Session 13-54-a

Define an efficient capital market and describe and contrast the three forms of the efficient market hypothesis (EMH)

The difference among the three forms of the EMH revolves around the information set included in each. The weak form include public market information, the semistrong form includes all public information, and the strong form included all public and private information.

51. Answer: D

Study Session 14-59-a

Estimate the implied dividend growth rate, given the components of the required return on equity and incorporating the earnings retention rate and current stock price:

Differentiate between 1) a growth company and a growth stock, 2) a defensive company and a defensive stock, 3) a cyclical company and a cyclical stock, 4) a speculative company and a speculative stock, and 5) a value stock and a growth stock

Implied dividend growth rate =  $ROE \times RR = 20\% \times 0.5 = 10\%$

Intrinsic value of the stock:  $\text{€}2.20 / (15\% - 10\%) = \text{€}44.00$

The stock is overvalued; it is a speculative stock.

52. Answer: C

Study Session 13-52-b

Distinguish between primary and secondary capital markets, and explain how secondary markets support primary markets

New issues of securities, which provide initial and/or additional capital for governmental units and corporations, are underwritten and sold in the primary market; secondary capital markets provide liquidity to the owners of existing securities.

53. Answer: D

Study Session 14-61-a,b

discuss the rationales for, and the possible drawbacks to, the use of price to earnings (P/E), price to book value (P/BV), price to sales (P/S), and price to cash flow (P/CF) in equity valuation;

calculate and interpret P/E, P/BV, P/S, and P/CF

The trailing P/E would be negative.

54. Answer: B

Study Session 14-58-a

Classify business cycle stages and identify attractive investment opportunities for each stage

When the economy is declining, good investments to have are the country's bonds and its rate-sensitive stocks.

56. Answer: B

Study Session 17-75-a, b

determine the value at expiration, profit, maximum profit, maximum loss, breakeven underlying price at expiration, and general shape of the graph of the strategies of buying and selling calls and puts and indicate the market outlook of investors using these strategies;

determine the value at expiration, profit, maximum profit, maximum loss, breakeven underlying price at expiration, and general shape of the graph of a covered call strategy and a protective put strategy, and explain the risk management application of each strategy.

If put-call parity exists, the graph for a protective put looks like the graph for a long call and the graph for a covered call looks the graph for a short put.

57. Answer: D

Study Session 17-71-g

Calculate and interpret the payoff of an FRA and explain each of the component terms

Interest rates increased and Dwayne was long the contract, so the payment would be from the dealer to Dwayne. The amount of the payment is given by:

$\$20 \text{ million} [(0.065 - 0.06) (180/360) / (1 + 0.065 (180/360))] = \$48,426.15$

60. Answer: C

Study Session 18-76-q

Explain the motivation for investing in commodities, commodities derivatives, and commodity-linked securities

A primary motivation for an investment in commodities, commodity derivatives, commodity-linked bonds, and commodity-linked equity are the diversification benefits provided due to the negative return correlation with other assets and the positive correlation with inflation.