

2009 Sample Exam 2 Answers

1. Correct Answer = A

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 situations involving issues of professional integrity.

Nelson should treat his family's account like any other client account.

2. Correct 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 situations involving issues of professional integrity.

Members should disclose all beneficial ownership that could reasonably cause a conflict of interest. Additionally, because Peek's employer requires the disclosure, a failure to provide full information would violate his employer's policies and CFA Institute Standards of Professional Conduct.

3. Correct 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 situations involving issues of professional integrity.

If a member cannot discharge supervisory responsibilities because of the absence of a compliance system or because of an inadequate compliance system, the member should decline in writing to accept supervisory responsibility until the firm adopts reasonable procedures to allow the member to adequately exercise such responsibility.

4. Correct Answer = B

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 situations involving issues of professional integrity.

CFA Institute's Standard relating to Material Nonpublic Information requires members/candidates who possess material nonpublic information that could affect the value of an investment to not act or cause others to act on the information. Crux traded on material information, that Orca is about to be acquired by Cyber Kinetics. The information is nonpublic because it is not publicly available, which was verified when Crux researched Orca on the Internet and found nothing about the acquisition.

5. Correct Answer = B

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 situations involving issues of professional integrity.

Blake violated the Standards related to Integrity of Capital Markets by engaging in a practice that is likely to artificially inflate trading volume. Blake did not violate the Standards regarding Conflicts of Interest because he clearly disclosed his ownership of shares in his message.

6. Correct Answer = B

Study Session 1-3-b

Explain the construction and purpose of composites in performance reporting.

Composites must be defined according to similar investment objectives and/or strategies. In addition, composites must include new portfolios on a timely and consistent basis after the portfolio comes under management. Firms may set minimum asset levels for inclusion in a portfolio, but changes to a composite-specific minimum asset level are not permitted retroactively. Terminated portfolios must be included in the historical returns of appropriate composites.

7. Correct 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 situations involving issues of professional integrity.

Prior-clearance processes guard against potential and actual conflicts of interest; members are required to abide by their employer's compliance procedures.

8. Correct 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 situations involving issues of questionable professional integrity.

Members have a responsibility to deal with all clients fairly. The shares should be allocated to those accounts for which the shares were originally intended, regardless of the profitability of the trade.

9. Correct 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 situations involving issues of professional integrity.

Member should use reasonable care and judgment to maintain independence and objectivity. There is no indication of inappropriate behavior in selection of the equity manager or in the acceptance of employment with that manager; both decisions were based on the excellent performance records of the manager and the member,

respectively.

10. Correct Answer = A

Study Session 3-9-j

Explain the relationship between normal and lognormal distributions and why the lognormal distribution is used to model asset prices.

The lognormal distribution is bounded by zero and thus skewed to the right.

11. Correct Answer = A

Study Session 2-8-e

Calculate and interpret 1) the joint probability of two events, 2) the probability that at least one of two events will occur, given the probability of each and the joint probability of the two events, and 3) a joint probability of any number of independent events.

The joint probability of the three independent criteria is calculated as:

$0.2 \times 0.4 \times 0.25 = 0.02$ or 2% of 100 companies.

12. Correct Answer = A

Study Session 3-9-d

Define a discrete uniform random variable and a binomial random variable, calculate and interpret probabilities given the discrete uniform and the binomial distribution functions, and construct a binomial tree to describe stock price movement.

This is a Bernoulli trial because a U.S. pension fund either has investments in hedge funds or it does not; i.e., the experiment must have one of two outcomes. A binomial random variable is defined as the number of successes in n Bernoulli trials.

13. Correct Answer = B

Study Session 3-9-e

Describe the continuous uniform distribution, and calculate and interpret probabilities, given a continuous uniform probability distribution.

The probability that the price per barrel of crude oil of five year from now will be less than USD\$80($F(80)$):

$$F(80) = \frac{(180 - 175)}{(205 - 175)} = \frac{5}{30} = \frac{1}{6} = 0.166667, \text{ or } 16.7\%$$

14. Correct Answer = B

Study Session 3-9-i

Define shortfall risk, calculate the safety-first ratio, and select an optimal portfolio using Roy's safety-first criterion.

The Sharpe ratio is equivalent to using the risk-free rates as the shortfall level in Roy's safety-first criterion. The higher the safety-first ratio, the lower is the probability of earning less than the risk-free rate.

15. Correct Answer = B

Study Session 2-7-g

Calculate and interpret the proportion of observations falling within a specified number of standard deviations of the mean, using Chebyshev's inequality.

Chebyshev's inequality holds for any distribution, regardless of shape, and states that the proportion of observations located within k standard deviations of the mean is equal to $1 - 1/k^2$. In this case, $k = 3$ and $1 - 1/9 = 0.89$ or 89%.

16. Correct Answer = B

Study Session 2-7-h

Define, calculate, and interpret the coefficient of variation and the Sharpe ratio

The Sharpe ratio is defined as the mean excess return divided by the standard deviation of annual returns. In this case, Sharpe ratio = $7.4\% / 15.7\% = 0.47$

17. Correct Answer = C

Study Session 5-22-c

Explain the types of unemployment, full employment, the natural rate of unemployment, and the relation between unemployment and real GDP. Structural unemployment results from changes in the basic characteristics of the economy, such as changes in technology or international competition, which typically require changes in the skills needed to perform jobs.

18. Correct Answer = B

Study Session 6-27-b, d

Describe how the Fed conducts monetary policy, and explain the Fed's decision-making strategy including an instrument rule, a targeting rule, open-market operations, and the market for reserves.

Describe alternative monetary policy strategies, and explain why they have been rejected by the Fed.

The McCallum rule, in the spirit of a monetarist fixed rule, attempts to make adjustments to the monetary base while targeting the inflation rate.

19. Correct Answer = C

Study Session 4-16-d

Explain command systems and incentive systems to organize production, the principal-agent problem, and the measures a firm uses to reduce the principal-agent problem.

Professional management is not a mechanism to resolve the principal-agent problem in organizations. In fact, professional managers are agents and create the agency problem by pursuing their own goals and imposing costs on the principal.

20. Correct Answer = B

Study Session 4-13-a

Calculate and interpret the elasticities of demand (price elasticity, cross elasticity, income elasticity) and the elasticity of supply, and discuss the factors that influence each

measure.

When the elasticity is between 0 and 1 the price elasticity of demand is said to have an inelastic demand. In this case, the price elasticity is $5\%/10\%=0.5$

21. Correct Answer = A

Study Session 6-26-e

Explain the limitations of discretionary fiscal policy, and differentiate between discretionary fiscal policy and automatic stabilizers.

Unemployment benefits are not a discretionary policy tool; rather they act as a built-in stabilizer that will automatically provide stimulus when output falls and the number of unemployed workers expands.

22. Correct Answer = A

Study Session 5-19-e

Explain the potential gains from monopoly and the regulation of a natural monopoly.

When regulators intervene to reduce prices (for example, by giving subsidies), a natural monopoly will expand output to the level where average cost equals price (Fig.11, p.200, and discussion in p.202).

23. Correct Answer = B

Study Session 7-31-d

Describe the International Financial Reporting Standards (IFRS) framework, including the objective of financial statements, their qualitative characteristics, required reporting elements, and the constraints and assumptions in preparing financial statements.

The IFRS framework identifies five factors that contribute to reliability: faithful representation, neutrality, substance over form, prudence, and completeness. Consistency is not one of them.

24. Correct Answer = A

Study Session 8-34-h

Analyze and interpret a cash flow statement using both total currency amounts and common-size cash flow statements

Sales, net income, and net margin are relatively constant for the two years. The substantial drop in cash flow from operations could be attributed to an increase in receivables and/or inventory. A decrease in the proportion of cash sales implies an increase in the proportion of credit sales, increasing accounts receivable. An increase in accounts receivable would decrease cash flow from operations.

25. Correct Answer = B

Study session 9-35-b, 10-43-a

Discuss how inventories are reported in the financial statements and how the lower of cost or net realizable value is used and applied. Identify and explain the major international accounting standards for each asset and liability category on the balance sheet and the key differences from U.S. generally accepted accounting principles (GAAP).

Although IFRS does require writedowns, it does allow revaluation, but not to exceed the amount of the prior writedown. The exception to this, where gains are allowed, is in procedures of agricultural, forest and resource products.

26. Correct Answer=B

Study Sessions 8-34-h, 10-39-c

Analyze and interpret a cash flow statement using both total currency amounts and common-size cash flow statements.

Calculate, classify, and interpret activity, liquidity, solvency, profitability, and valuation ratios.

Accruing wages increases current liabilities and expenses, but collecting receivables has no effect on current assets or sales; therefore, the current ratio and net income both decrease. Collecting accounts receivable increases cash flow from operations and accruing wages increases current liabilities, which also increases cash flow from operations so cash from operations will increase not decrease.

27. Correct Answer = A

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.

28. Correct Answer = B

Study Session 7-31-d

Describe the International Financial Reporting Standards (IFRS) framework, including the objective of financial statements, their qualitative characteristics, required reporting elements, and the constraints and assumptions in preparing financial statements.

Timeliness is a constraint in the IFRS framework. Neutrality is a factor that contributes to reliability, and going concern is an assumption of the Framework.

29. Correct Answer = A

Study Sessions 8-32-c, 8-33-a, 9-39-c

Discuss the general principles of expense recognition, such as the matching principle, specific expense recognition applications (including depreciation of long-term assets and inventory methods), and the implications of expense recognition principles for financial analysis.

Illustrate and interpret the components of the assets, liabilities, and equity sections of the balance sheet, and discuss the uses of the balance sheet in financial analysis.

Calculate, classify and interpret activity, liquidity, solvency, profitability and valuation ratios.

The recording of a warranty expense will create a warranty liability and the increase in

current liabilities will decrease the current ratio.

30. Correct Answer = A

Study Session 8-34-d

Demonstrate the difference between the direct and indirect methods of presenting cash from operating activities and explain the arguments in favor of each.

Cash received from customers appears in the cash from operations of a cash flow statements prepared under the direct method.

31. Correct Answer = C

Study Session 10-43-a

Identify and explain the major international accounting standards for each asset and liability category on the balance sheet and the key differences from U.S. generally accepted accounting principles (GAAP).

The reversal of an inventory writedown is permitted under IFRS but not under U.S. GAAP.

32. Correct Answer = B

Study Session 9-36-d

Identify the different depreciation methods for long-lived assets and discuss how the choice of method, useful lives, and salvage values affect a company's financial statements, ratios, and taxes.

An accelerated method of depreciation produces greater expenses in the early years and lowers net income, which in turn lowers the retained earnings resulting in a decrease in shareholders' equity.

33. Correct Answer = C

Study Session 9-35-c, e

Compute ending inventory balances and cost of goods sold using the FIFO, weighted average cost, and LIFO methods to account for product inventory; and explain the relationship among and the usefulness of inventory and cost of goods sold data provided by the FIFO, weighted average cost, and LIFO methods when prices are 1) stable, 2) decreasing, or 3) increasing.

Analyze the financial statements of companies using different inventory accounting methods to compare and describe the effects of the choice of inventory method on profitability, liquidity, activity, and solvency ratios.

If prices were declining, using LIFO would match the lower (most recent) costs with current sales. Cost of goods sold would be lower with LIFO and gross profit (income) would be higher compared to using FIFO. Lower cost of goods sold means inventory balances, consisting of older higher priced items, would be higher using LIFO, increasing current assets relative to FIFO.

34. Correct Answer = B

Study Session 9-36-e

Discuss the use of fixed asset disclosures to compare company's average age of

depreciable assets, and calculate, using such disclosures, the average age and average depreciable life of fixed assets.

Average age of assets = accumulated depreciation / annual depreciation expense:

Company 1, 5.5 years; Company 2, 2.9 years; Company 3, 3.8 years.

Because Company 2 has the lowest average age of assets, it is least likely to need major capital expenditures.

35. Correct Answer = B

Study Session 11-47-b

Demonstrate the use of pro forma income and balance sheet statements.

Current assets are sales driven and hence would be expected to increase by 10 percent, the same amount as sales. The increase in sales is $(9,900,000 - 9,000,000) / 9,000,000 = 10\%$. Therefore, projected current assets are $1.10 \times 1,800,000 = 1,980,000$.

36. Correct Answer = B

Study Session 11-48-b

Discuss and critique characteristics and practices related to board and committee independence, experience, compensation, external consultants, and frequency of elections and determine whether they are supportive of shareholder protection.

Directors who receive finder's fees for identifying potential merger candidates may not be independent. Such fees may be construed to be related party transactions, reflecting a conflict of interest on the part of the director in question. The ability of the board to hire external consultants without management prior approval is a positive point in regards corporate governance. When a director recuses himself from decisions related to his company, the potential for a conflict of interest is substantially reduced.

37. Correct Answer = C

Study session 11-45-g, I

Calculate and interpret the cost of noncallable, nonconvertible preferred stock. Explain and demonstrate the correct treatment of flotation costs.

The component cost of preferred stock is calculated as:

$$\frac{(100 \times 0.12)}{95 \times (1.05)} = 0.133 \text{ or } 13.3\%$$

Note that preferred stock is not tax advantaged.

38. Correct Answer = B

Study session 11-44-d, 11-45-a

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).

Calculate and interpret the weighted average cost of capital (WACC) of a company.

The WACC of the company is calculated as $0.5(6\%) + 0.1(10\%) + 0.4(15\%) = 10\%$. To

have a positive NPV, a project must have an IRR greater than the WACC used to calculate the NPV. Only the warehouse project has an NPV greater than \$0; therefore, only the warehouse project has an IRR that exceeds 10 percent.

39. Correct Answer = C

Study Session 11-44-a

Explain the capital budgeting process, including the typical steps of the process, and distinguish among the various categories of capital projects.

The purposes of the post-adult process are to monitor forecasts, improve operations, and generate concrete ideas for future investments. The original forecast is, in effect, a "sunk cost". The point is not to revise after the fact the original forecast, but to create a more accurate forecast over the new planning horizon.

40. Correct Answer = B

Study Session 13-54-c

Explain the implications of stock market efficiency for technical analysis, fundamental analysis, the portfolio management process, the role of the portfolio manager, and the rationale for investing in index funds.

Fundamental analysts believe that, at any time, there is a basic intrinsic value for the aggregate stock market, various industries, or individual securities and that these values depend on underlying economic factors. Therefore, the analyst should examine the variables that determine that value.

41. Correct Answer = A

Study session 14-58-a

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.

Growth companies are characterized by an above average investment in opportunities that yields rates of return greater than the firm's required rate of return. They also retain a large portion of their earnings to fund the superior investment projects and hence they tend to have low payout ratios.

42. Correct Answer = C

Study session 13-52-a

Describe the characteristics of a well-functioning securities market.

Price continuity means that prices do not change much from one transaction to the next unless substantial new information becomes available.

43. Correct 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 these stocks.

The price-weighted index is computed by totaling the current prices of the stocks in the index and dividing the sum by a divisor that has been adjusted for stock splits and changes in the sample over time.

Index before the split = $(10+20+60)/3=30$; New divisor: $[(10+20+20)/X]=30$; $X=1.67$

Index after the split = $(12+19+22)/1.67 = 31.7$

44. Correct Answer = B

Study Session 14-56-c, f

Calculate and interpret the value of both a preferred stock and a common stock using the dividend discount model (DDM).

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

$g = \text{Retention ratio} \times \text{ROE}$; Retention ratio = $1 - \text{payout ratio}$.

$V_0 = D_1 / (k - g)$, where V_0 = value of stock; $D_1 = D_0 (1 + g)$

K = the required rate of return; g = the constant growth rate of dividends.

$g = (1 - 3/5) \times 17.5 = 7\%$; $V_0 = (\$3.00)(1.07) / (0.15 - 0.07) = \40.125 .

45. Correct Answer = B

Study Sessions 12-51-e, 14-56-c

Calculate, using the SML, the expected return on a security and evaluate whether the security is overvalued, undervalued, or properly valued.

Calculate and interpret the value both of a preferred stock and a common stock using the dividend discount model (DDM).

Dividend per share = Earnings per share \times Payout ratio; $k_s = \text{RFR} + \beta_s (R_M - \text{RFR})$.

$V_0 = D_1 / (k_s - g)$, where V_0 = value of stock; $D_1 = D_0 (1 + g)$.

Most recent dividend (D_0) = $2.00 (0.6) = 1.20$

$k_s = 4.20 + 5.60(1.50) = 12.60\%$.

$V = 1.20(1.051) / (0.126 - 0.051) = \16.82

46. Correct Answer = B

Study session 17-71-b

Define and give examples of currency swaps, plain vanilla interest rate swaps, and equity swaps, and calculate and interpret the payments on each.

The company pays the swap dealer the fixed rate of 5.25%, pays the bank LIBOR of 4.75% (as set at the beginning of the period) plus 0.50% and receives LIBOR of 4.75% from the swap dealer.

Fixed payment: $(15,000,000) (0.0525) (180/365) = 388,356$

Floating payment: $(15,000,000) (0.0475 + 0.005 - 0.0475) (180/360) = 37,500$

Net interest expense: 425,856

47. Correct Answer = C

Study session 17-70-e

Compute and interpret option payoffs, and explain how interest rate option payoffs differ from the payoffs of other types of options.

The put option is worth the greater of \$0 or (exercise price – spot price at expiration). Since the exercise price is greater than the spot price at expiration, the put is worth $(35-33.50) = \$1.50$

48. Correct Answer = C

Study Session 17-69-c

Describe price limits and the process of marking to market, and compute and interpret the margin balance, given the previous day's balance and the change in the futures price.

At the end of Day 1, the balance in the investor's account would be \$20.

At the beginning of Day 2, the investor would deposit \$30.

At the end of Day 2, the balance in the investor's account would be \$120.

At the end of Day 3, the balance in the investor's account would be \$100.

49. Correct Answer = A

Study session 18-73-g

Explain the stages in venture capital investing, venture capital investment characteristics, and the challenges to venture capital valuation and performance measurement.

Venture capital investments provided to initiate commercial manufacturing and sales is considered a form of first-stage financing.

50. Correct Answer = B

Study Session 18-73-l

Discuss the performance of hedge funds, the biases present in hedge fund performance measurement; and explain the effect of survivorship bias on the reported return and risk measures for a hedge fund data base.

Survivorship bias affects both the returns and the risk (standard deviation) reported for the hedge funds. Hedge funds with low or negative returns will be excluded from the index as will funds with high volatility; those funds will not survive for eight years. If only the successful funds remain in the index, the returns are overstated and the risk is understated. Overstated returns and understated risk will both tend to overstate the Sharpe ratio.

51. Correct Answer = A

Study Session 18-73-h

Calculate the net present value (NPV) of a venture capital project, given the project's possible payoff and conditional failure probabilities.

The probability that the venture will pay 6 million at the end of five years is 25%. The

probability of failure is 75%. The expected NPV if the project succeeds is 2,014,296 using $FV = 6,000,000$, $I = 19\%$, $n = 5$ for a present value of $2,514,296 - 500,000 = 2,014,296$. The NPV of the project is $0.25(2,014,296) + 0.75(-500,000) = \text{£} 128,574$. The investment has a positive NPV and should be accepted.

52. Correct Answer = A

Study Session 15-61-i

Identify the factors that affect the reinvestment risk of a security and explain why prepayable amortizing securities expose investors to greater reinvestment risk than nonamortizing securities.

Holding maturity and yield constant, amortizing bonds selling at a premium would have the highest coupon payments and the highest amount requiring reinvestment; therefore, they have the highest level of reinvestment risk. In the case of par value amortizing bonds, only coupons must be reinvested.

53. Correct Answer=A

Study Session 15-63-c

Explain the basic theories of the term structure of interest rates and describe the implications of each theory for the shape of the yield curve.

The pure expectations theory explains the term structure in terms of expected future short-term interest rates. Assuming that interest rates reflect a relatively stable real rate of interest plus a premium for expected inflation, stability in inflation expectations would mean unchanged future short-term interest rates and a flat yield curve.

54. Correct Answer = A

Study Session 15-61-a

Explain the risks associated with investing in bonds.

Volatility risk is the risk that the price of a bond with an embedded option will decline when expected yield volatility changes. By definition, option-free bonds are not affected by volatility risk.

55. Correct Answer = A

Study session 15-60-d

Explain the provisions for redemption and retirement of bonds.

Call protection means the bond cannot be called from the bondholder by issuer for any reason.

56. Correct Answer = C

Study session 15-60-e

Identify the common options embedded in a bond issue, explain the importance of embedded options, and state whether such options benefit the issuer or the bondholder.

An accelerated sinking fund provision gives the issuer an option to retire more than the sinking fund retirement.

57. Correct Answer = B

Study session 16-66-e

Distinguish among the alternative definitions of duration, and explain why effective duration is the most appropriate measure of interest rate risk for bonds with embedded options.

This is because users of duration are interested in a security's price sensitivity to changes in yield.

58. Correct Answer = A

Study Session 12-51-b

Identify the market portfolio, and describe the role of the market portfolio in the formation of the capital market line (CML).

All risky assets are included in the market portfolio at market value, not in equal amounts.

59. Correct Answer = A

Study session 12-49-c

Describe the return objectives of capital preservation, capital appreciation, current income, and total return.

A total return objective is consistent with an investment strategy that seeks to grow portfolio value over time through capital gains and reinvestment of portfolio income.

60. Correct Answer = A

Study session 12-49-c, d

Describe the return objectives of capital preservation, capital appreciation, current income, and total return.

Describe the investment constraints of liquidity, time horizon, tax concerns, legal and regulatory factors, and unique needs and preferences.

A moderately risk tolerant, retired 65-year-old can structure his or her portfolio so that it provides income and some principal growth. The principal growth is needed because the time horizon is still fairly long. Such a portfolio could have an allocation of 55% to 65% in bonds and 35% to 45% in stocks.