**Jun. 2012 CFA Level 1 Mock Examination**

**Morning Session Answers**

**Study Session 1 – Ethical and Professional Standards (1-18) Q=18**

1. Correct answer: B

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, p. 21

Study Session 1-2-c

Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

B is correct. Although a violation of Standard I (A) Knowledge of the Law is likely to occur unless the asset base information is corrected, Cruz has yet to violate any CFA Institute Standards, so he need not report a violation. If Cruz does not take action, he will be in violation of the Standards. He would need to report this violation because Standard I (A) applies as the member should know his conduct may contribute to a violation of applicable laws, rules, regulations, or the Code and Standards related to the inaccurate sales materials.

2. Correct answer: A

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, pp. 20-21, 49-51

Study Session 1-2-c

Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

A is correct because Standard I (A) Knowledge of the Law requires Members and Candidates to comply with the more strict law, rules, or regulations and follow the highest requirement, which in this case would be the CFA Institute Standards of Professional Conduct.

3. Correct answer: A

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, pp. 38-40, 71, 107-109

Study Session 1-2-b

Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

A is correct because Standard III (B) Fair Dealing concerns the fair treatment of clients when making investment recommendations or taking investment action, but there is no indication the advisor has discriminated against any clients regarding his recommendations as he invests all clients in the same universe of stocks.

4. Correct answer: A

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, pp. 38-40, 90-91, 122

Study Session 1-2-b

Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

A is correct as soliciting the bank client did not violate any Standard because the manager is no longer an employee of the bank. There is no violation of Standard IV (A) Loyalty, which prohibits the solicitation of employer's clients prior to cessation of employment.

5. Correct answer: A

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, pp. 46-47, 49-51, 59, 90-91

Study Session 1-2-b

Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

A is correct because even though the company does not have a stock pre-clearance procedure, trading the stock of a company the analyst recommended as an acquisition candidate is an act that violates Standard IV (A) Loyalty, as she did not give her Employer the opportunity to take advantage of her skill/recommendation prior to buying the shares for her own portfolio.

6. Correct answer: B

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, pp. 49-51

Study Session 1-2-b

Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

B is correct because a violation of Standard II (A) Material Nonpublic Information is likely to occur when using information that is selectively disclosed by corporations to a small group of investors, analysts, or other market participants. Information that is made available to analysts remains nonpublic until it is made available to investors in general.

7. Correct answer: C

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, pp. 19-20, 46-47, 59-60, 131

Study Session 1-2-c

Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

C is correct because the member has engaged in information-based manipulation of RRC stock. Members and candidates must refrain from "pumping up" (or down in this case) the price of an investment by issuing misleading positive (negative) information for their or their clients' benefit. In addition, the member would be in violation of Standard I (A) Knowledge of the Law, because he has not acted with professionalism and integrity. The member has not violated Standard VI (B) Priority of Transactions because this concerns client investment transactions having priority over member or candidate investment transactions and is not applicable here.

8. Correct answer: A

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, p. 65

Study Session 1-2-c

Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.

A is correct. Standard III (A) Loyalty, Prudence, and Care and Gupta's duty of loyalty, prudence, and care is owed to the participants and beneficiaries (members) of the pension plan. As a church plan, the restrictions are reasonable and Gupta indicates it will not impact his ability to construct the portfolio.

9. Correct answer: A

"Guidance for Standards I-VII," CFA Institute

2012 Modular Level I, Vol. 1, p. 66

Study Session 1-2-b

Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.

A is correct because there is no violation of Standard III (A) Loyalty, Prudence, and Care by performing a cost-benefit analysis showing that voting all proxies might not benefit the client, and concluding voting proxies may not be necessary in all instances.

10. Correct answer: B  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, pp. 71-72  
Study Session 1-2-c  
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.  
  
B is correct because, according to Standard III (B) Fair Dealing, members and candidates may provide more personal, specialized, or in-depth service to clients willing to pay for premium services through higher management fees or higher levels of brokerage. Members and candidates can differentiate their services to clients, but different levels of service must not disadvantage or negatively affect clients. In addition, the different service levels should be disclosed to clients and prospective clients and be available to everyone (i.e., different service levels should not be offered selectively). The newsletter recipients are not even clients, because the newsletter is free, and the manager does not even know if the recipients of the newsletter have acted on her recommendations, nor does she know whom these recipients are, so the manager's obligation is to first serve clients who are paying her a management fee.

11. Correct answer: B  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, pp. 85-87, 88-89  
Study Session 1-2-b  
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.  
  
B is correct because Standard III (D) Performance Presentation does not prohibit showing past performance of funds managed at a prior firm as part of a performance track record as long as showing that record is accompanied by appropriate disclosures about where the performance took place and the person's specific role in achieving that performance, which has been done in this case.

12. Correct answer: A  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, pp. 99-100, 123-125  
Study Session 1-2-c  
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.  
  
A is correct because golf is a business independent of the financial industry and the board obligation would not be a conflict of interest requiring disclosure according to Standard IV (B) Additional Compensation Arrangements, which requires members and candidates to obtain permission from their employer before accepting compensation or other benefits from third parties for the services rendered to the employer or for any services that might create a conflict with their employer's interest.

13. Correct answer: B  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, p. 101  
Study Session 1-2-b  
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.   
  
B is correct because a supervisor's responsibilities under Standard IV (C) Responsibilities of Supervisors include instructing those subordinates to whom supervision is delegated about methods to prevent and detect violations of laws, rules, regulations, and the Code and Standards. Laws would also include legal restrictions.

14. Correct answer: A  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, pp. 63-64, 71-72, 107-110, 131-132  
Study Session 1-2-b  
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.  
  
A is correct as the analyst violated Standard III (B) Fair Dealing by selectively distributing the recommendation internally at the investment bank prior to communicating her recommendation to clients. This might also be a violation of Standard III (A) Loyalty, Prudence, and Care, which requires that members must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.

15. Correct answer: A  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, p. 110  
Study Session 1-2-b  
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.  
  
A is correct because Standard V (A) Diligence and Reasonable Basis applies to the level of review necessary in selecting an external adviser or subadviser and would include reviewing the adviser's adherence to its stated strategy.

16. Correct answer: C  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, p. 136  
Study Session 1-2-c  
Recommend practices and procedures designed to prevent violations of the Code of Ethics and Standards of Professional Conduct.  
  
C is correct because the referral arrangements should be disclosed to clients "before entry into any formal agreement for services" and not after the fact.

17. Correct answer: C  
  
"Guidance for Standards I-VII," CFA Institute  
2012 Modular Level I, Vol. 1, p. 140  
Study Session 1-2-b  
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.  
  
C is correct because discussing the level of difficulty of the examination did not violate Standard VII (A) Conduct as Members and Candidates in the CFA Program. Standard VII (A) and the Candidate Pledge was violated by candidates revealing broad topical areas and formulas tested or not tested on the exam.

18. Correct answer: C  
  
"Guidance for Standards I-VII," CFA Institute  
2011 Modular Level I, Vol. 1, pp. 145-146  
Study Session 1-2-b  
Distinguish between conduct that conforms to the Code and Standards and conduct that violates the Code and Standards.  
  
C is correct because according to Standard VII (B) Reference to CFA Institute, the CFA Designation, and the CFA Program, this is an accurate statement concerning the CFA designation.

Study Session 2, 3 – Quantitative Methods (19-32) Q=14

19. Correct answer: B

"The Time Value of Money," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2012 Modular Level I, Vol. 1, pp. 266-267

Study Session 2-5-c

Calculate and interpret the effective annual rate, given the stated annual interest rate and the frequency of compounding.

Use the formula for effective annual rate:

EAR = (1 + Periodic interest rate)m – 1

Iteratively substitute the possible frequency of compounding until the EAR is 10.47%.

For weekly compounding, (1 + 0.10 / 52)52 – 1 = 0.10506 = 10.50%

For monthly compounding, (1 + 0.10 / 12)12 – 1 = 0.10471 = 10.47%

For quarterly compounding, (1 + 0.10 / 4)4 – 1 = 0.10381 = 10.38%

Thus, the correct answer is monthly compounding.

20. Correct answer: C

"Discounted Cash Flow Applications," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2012 Modular Level I, Vol. 1, pp. 327-329

Study Session 2-6-e, f

Calculate and interpret the bank discount yield, holding period yield, effective annual yield, and money market yield for a U.S. Treasury bill.

Convert among holding period yields, money market yields, effective annual yields, and bond equivalent yield.

First calculate the initial price (P0) of the T-bill:

rBD = D/F x 360/t, P0 = 100 – D

0.0325 = D/100 x 360/90,D = 0.8125

P0 = 100 – 0.8125 = 99.1875

Then calculate the holding period yield (HPY) (recall that T-bills are pure discount instruments and do not pay coupons):

HPY = (Pt – P0) ÷ P0

HPY = (100 – 99.1875) ÷ 99.1875 = 0.00819

Finally, convert the HPY into effective annual yield:

EAY = (1 + HPY)365/t – 1

EAY = (1 + 0.00819)365/90 – 1 = 0.03364 = 3.36%

21. Correct answer: C

"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2012 Modular Level I, Vol. 1, pp. 387-390

Study Session 2-7-g

Calculate and interpret (1) a range and a mean absolute deviation and (2) the variance and standard deviation of a population and of a sample.

The sample mean is:



The sample variance is:



The sample standard deviation is the (positive) square root of the sample variance.

|  |  |  |  |
| --- | --- | --- | --- |
| Value | | Diff. from mean [value – (–0.20)] | Difference squared |
| –3 | | –2.8 | 7.84 |
| –11 | | –10.8 | 116.64 |
| 3 | | 3.2 | 10.24 |
| –18 | | –17.8 | 316.84 |
| 18 | | 18.2 | 331.24 |
| 20 | | 20.2 | 408.04 |
| –6 | | –5.8 | 33.64 |
| 9 | | 9.2 | 84.64 |
| 2 | | 2.2 | 4.84 |
| –16 | | –15.8 | 249.64 |
|  | | | |
|  | Sum of squared differences | | 1,563.6 |
|  | Divided by n – 1 | | 173.7333333 |
|  | Square root | | 13.18079411 |

22. Correct answer: B

"Common Probability Distributions," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2012 Modular Level I, Vol. 1, pp. 507-509

Study Session 3-9-f, g

Calculate and interpret probabilities, given the discrete uniform and the binomial distribution functions.

Construct a binomial tree to describe stock price movement.

Across two periods, there are four possibilities: an up move followed by an up move ($96.8 end value), an up move followed by a down move ($79.2 end value), a down move followed by an up move ($79.2 end value), and a down move followed by a down move ($64.8 end value).

The probability of an up move followed by a down move is 0.75 times 0.25 equals 0.1875. The probability of a down move followed by an up move is 0.25 times 0.75 also equals 0.1875. Both of these sequences result in an end value of $79.2. Therefore, the probability of an end value of $79.2 is (0.1875 + 0.1875) = 37.5%.

23. Answer = C

“The Time Value of Money,” Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle

2012 Modular Level I, Vol. 1, pp. 266–267

Study Session 2-5-c

Calculate and interpret the effective annual rate, given the stated annual interest rate and the frequency of compounding.

C is correct. The effective annual rate (EAR) is (1 + Periodic interest rate)n– 1. In this case, the periodic interest rate is 0.20/12 = 0.01667 and the EAR is (1.01667)12 – 1 = 0.21939 = 22%.

24. Correct answer: B

"Hypothesis Testing," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA

2012 Modular Level I, Vol. 1, pp. 599-600

Study Session 3-11-e

Explain and interpret the p-value as it relates to hypothesis testing.

As the p-value (0.0567) exceeds the stated level of significance (0.05), we cannot reject the null hypothesis. We therefore accept the null hypothesis.

25. Correct answer: A

"Technical Analysis," Barry M. Sine, CFA, and Robert A. Strong, CFA

2012 Modular Level I, Vol. 1, p. 662

Study Session 3-12-c

Demonstrate the uses of trend, support, and resistance lines, and change in polarity.

Support level is defined to be "a low-price range in which buying activity is sufficient to stop the decline in price."

26. Correct answer: C  
  
"The Time Value of Money," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, pp. 286-290  
Study Session 2-5-d, e, f  
Solve time value of money problems for different frequencies of compounding.  
Calculate and interpret the future value (FV) and present value (PV) of a single sum of money, an ordinary annuity, an annuity due, a perpetuity (PV only), and a series of unequal cash flows.  
Demonstrate the use of a timeline in modeling and solving time value of money problems.

After year 3 the 30-year fixed-rate loan has the lowest payment. The loan payments, summarized in the table, are calculated using a financial calculator following the table.

|  |  |  |
| --- | --- | --- |
| Loan | Initial Payment ($) | Payment after 3 years ($) |
| 30-year fixed | 536.82 | 536.82 |
| 15-year fixed | 759.82 | 759.82 |
| ARM | 463.12 | 559.15 |

Payment on the 30-year fixed is:  
N = 12 × 30 = 360; I / Y = (5 / 12) = 0.41667; PV = 100,000; FV = 0; calculate PMT = 536.82  
Payment on the 15-year fixed is:  
N = 12 × 15 = 180; I / Y = (4.385 / 12) = 0.36542; PV = 100,000; FV = 0; calculate PMT = 759.13  
Calculations for the ARM  
Initial payment:   
N = 12 × 30 = 360; I / Y = (3.75 / 12) = 0.31250; PV = 100,000; FV = 0; calculate PMT = 463.12  
Balance at end of year 3:   
N = 12 × 27 = 324; I / Y = (3.75 / 12) = 0.31250; FV = 0; PMT = 463.12; calculate PV = 94,270.54  
Payment after the end of year 3:  
N = 324; I / Y = (5.5 / 12) = 0.45833; PV = 94,270.54; FV = 0; calculate PMT = 559.15

27. Correct answer: B  
  
"Statistical Concepts and Market Returns," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, pp. 404-406  
Study Session 2-7-l  
Explain measures of sample skewness and kurtosis.   
  
Most equity return series have been found to be leptokurtotic.

28. Correct answer: A  
  
"Probability Concepts," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, p. 437  
Study Session 2-8-b  
Explain the two defining properties of probability and distinguish among empirical, subjective, and a priori probabilities.   
  
The two defining properties of a probability are as follows:  
1. The probability of any event E is a number between 0 and 1.   
2. The sum of the probabilities of any set of mutually exclusive and exhaustive events equals 1.

29. Correct answer: A  
  
"Probability Concepts," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, pp. 466-467  
Study Session 2-8-f  
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.  
  
Given that X and Y are independent, their joint probability is equal to the product of their individual probabilities. In this problem, we calculate 0.2 × 0.5 = 0.1.

30. Correct answer: A  
  
"Common Probability Distributions," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, pp. 516-519  
Study Session 3-9-c, l  
Interpret a cumulative distribution function.   
Determine the probability that a normally distributed random variable lies inside a given interval.  
  
First standardize the value of interest, –0.40, for the given normal distribution:  
Z = (X – μ) / σ = (–0.40 – 5.00) / 2 = –2.70.  
Then use the given table of values to find the probability of a Z value being 2.70 standard deviations below the mean (i.e., when z ≤ 0). The value is 1 – P(Z ≤ +2.70).   
In this problem, the solution is: 1 – 0.9965 = 0.0035 = 0.35%

31. Correct answer: A  
  
"Discounted Cash Flow Applications," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, p. 592  
Study Session 3-11-a  
Define a hypothesis, describe the steps of hypothesis testing, describe and interpret the choice of the null and alternative hypotheses, and distinguish between one-tailed and two-tailed tests of hypotheses.   
  
When the null and alternative hypotheses are of the form: H0: θ = θ0 versus Ha: θ ≠ θ0, the correct approach is to use a two-tailed test.

32. Correct answer: C  
  
"Hypothesis Testing," Richard A. Defusco, CFA, Dennis W. McLeavey, CFA, Jerald E. Pinto, CFA, and David E. Runkle, CFA  
2012 Modular Level I, Vol. 1, pp. 619-620  
Study Session 3-11-i  
Identify the appropriate test statistic and interpret the results for a hypothesis test concerning (1) the variance of a normally distributed population, and (2) the equality of the variances of two normally distributed populations based on two independent random samples.  
  
The test statistic is the ratio of the variances, with the larger variance in the numerator. Here the test statistic is 28 ÷ 4 = 7. The degrees of freedom are 4 by 4. As it is a two-tailed test, the correct critical value at α = 5% is 9.60. As the test statistic is less than the critical value, we cannot reject the null hypothesis. We therefore accept the null hypothesis.

Study Session 4, 5, 6 – Economics (33-44) Q=12

33. Correct answer: B

"Demand and Supply Analysis: Introduction," Richard V. Eastin and Gary L. Arbogast, CFA

2012 Modular Level I, Vol. 2, pp. 11-13

Study Session 4-13-f

Calculate and interpret individual and aggregate inverse demand and supply functions and individual and aggregate demand and supply curves.

Initial Price Quantity Relationship

QDPizza = 11 – 0.70 PPizza + 0.009 × $500 – 0.20 × 1.25 = 15.25 – 0.70 PPizza

Resulting Demand Curve: PPizza = 21.79 – 1.43 QDPizza

Price Quantity Relationship at New Income Level

QDPizza = 11 – 0.70 PPizza + 0.009 × $700 – 0.20 × 1.25 = 17.05 – 0.70 PPizza

Resulting Demand Curve: PPizza = 24.36 – 1.43 QDPizza

The slope of her demand curve for pizza will still be –1.43 even with the higher income of $700 as the income effect will result in a parallel shift of the initial demand curve to the right.

34. Correct answer: C

"Demand and Supply Analysis: Consumer Demand," Richard V. Eastin and Gary L. Arbogast, CFA

2012 Modular Level I, Vol. 2, pp. 71-72

Study Session 4-14-a, b

Describe consumer choice theory and utility theory.

Describe the use of indifference curves, opportunity sets, and budget constraints in decision-making.

As he is indifferent between all three baskets, all three must fall on the same indifference curve. The MRSBA at basket 2 is 4, meaning that the slope of the indifference curve at that point is –4, hence ∆A / ∆B = –4 = (A – 50) / (30 – 35): Solve for A = 70: greater than 60.

35. Correct answer: B

"Demand and Supply Analysis: The Firm," Gary L. Arbogast, CFA, and Richard V. Eastin

2012 Modular Level I, Vol. 2, pp. 120-124

Study Session 4-15-d, e, h

Calculate and interpret total, average, marginal, fixed, and variable costs.

Describe breakeven and shutdown points of production.

Distinguish between short-run and long-run profit maximization.

|  |  |  |
| --- | --- | --- |
| Revenue Cost Relationship | Short-Run Decision | Long-Term Decision |
| TR ≥ TC | Stay in market | Stay in market |
| TR > TVC but TR < TFC + TVC | Stay in market | Exit market |
| TR < TVC | Shut down production to zero | Exit market |
| where TR = Total Revenue; | | |
| and TC = Total Costs; TVC = Total Variable Costs; TFC = Total Fixed Costs.  Hence, if the selling price is $3.00, total revenue will be $3.00 per unit × 900 units = $2,700; only firm X's variable costs are covered and it should continue operating, while firms Y and Z should immediately shut down production. | | |

36. Correct answer: C

"Aggregate Output, Prices, and Economic Growth," Paul R. Kutasovic, CFA, and Richard G. Fritz

2012 Modular Level I, Vol. 2, pp. 220-223

Study Session 4-17-a, c

Calculate and explain gross domestic product (GDP) using expenditure and income approaches.

Compare nominal and real GDP and calculate and interpret the GDP deflator.

|  |  |  |
| --- | --- | --- |
|  | Nominal GDP | Real GDP |
| 2010 | 2,800 × 9 + 2,000 × 47 = 119,200 | 119,200 |
| 2011 | 3,000 × 11 + 1,800 × 52 = 126,600 | 3,000 × 9 + 1,800 × 47 = 111,600 |
|  | | |
| GDP Deflator = Nominal GDP / Real GDP × 100 = 126,600 / 111,600 × 100 = 113.4 | | |

37. Correct answer: C

"Monetary and Fiscal Policy," Andrew Clare, PhD, and Stephen Thomas, PhD

2012 Modular Level I, Vol. 2, pp. 409-411

Study Session 5-19-l, n

Describe the tools of fiscal policy including their advantages and disadvantages.

Explain the implementation of fiscal policy and the difficulties of implementation.

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| --- | --- | --- | --- |
| The fiscal multiplier is 1 ÷ [1 – c(1 – T)] | | | |
| where |  | | |
|  | c | marginal propensity to consume = consumption ÷ disposable income | |
|  | T | the tax rate | |
|  | | | |
| Assuming pre-tax income of $100 | | | |
| Disposable income | | | $100 × (1 – 0.25) = $75 |
| Marginal propensity to consume | | | $70 ÷ $75 = 0.933 |
| The fiscal multiplier | | | 1 ÷ [1 – 0.933 × (1 – 0.25)] = 3.33 |
|  | | | |
| With government expenditure of $1.25 Billion, total incomes and spending will rise by $1.25 Billion × 3.33 = $4.2 Billion | | | |

38. Correct answer: C

"Demand and Supply Analysis: Introduction," Richard V. Eastin and Gary L. Arbogast, CFA

2012 Modular Level I, Vol. 2, pp. 31-36, 41-42

"International Trade and Capital Flows," Usha Nair-Reichert, PhD, and Daniel Robert

Witschi, PhD, CFA

2012 Modular Level I, Vol. 2, pp. 452-455

Study Sessions 4-13-j, l; 5-20-d

Describe the impact of government regulation and intervention on demand and supply.

Calculate and interpret consumer surplus, producer surplus, and total surplus.

Compare types of trade and capital restrictions and their economic implications.

The loss in consumer surplus because of higher prices is represented by area E + F + G + H. This exceeds the gains from producer surplus (E) and government revenues on imports (G). Hence the net welfare effect to the country is a loss of [E + F + G + H] – [E] – [G] = F + H.

39. Correct answer: A  
  
"Demand and Supply Analysis: Introduction," Richard V. Eastin and Gary L. Arbogast, CFA   
2012 Modular Level I, Vol. 2, pp. 44-53  
Study Session 4-13-m  
Calculate and interpret price, income, and cross elasticities of demand, including factors that affect each measure.  
  
The cross-price elasticity is positive, indicating that as the price of Y increases, more of X is demanded, making X and Y substitutes.

40. Correct answer: B  
  
"Demand and Supply Analysis: Introduction," Richard V. Eastin and Gary L. Arbogast, CFA  
2012 Modular Level I, Vol. 2, pp. 31-33  
"Demand and Supply Analysis: Consumer Demand," Richard V. Eastin and Gary L. Arbogast, CFA   
2012 Modular Level I, Vol. 2, pp. 87-88  
Study Sessions 4-13-l; 4-14-e  
Calculate and interpret consumer surplus, producer surplus, and total surplus.  
Compare substitution and income effects.

|  |  |
| --- | --- |
| On rearrangement, the demand function is QTennis Match = 45 – 5.0 × PTennis Match The number of matches played per month at $4.00/match = 45 – 5.0 × 4.00 = 25 The Y-intercept of the demand curve occurs when Q = 0: P = 9 The X-intercept of the demand curve occurs when P = 0: Q = 45 The club will be able to charge the consumer surplus: the area under the demand curve above the per match price to a total of 25 matches: 0.5 × ($9.00 – $4.00) × 25 = $62.50. This is illustrated in the diagram as triangle A. |  |

41. Correct answer: B  
  
"The Firm and Market Structures," Richard G. Fritz and Michele Gambera, CFA  
2012 Modular Level I, Vol. 2, pp. 191-196  
Study Session 4-16-b, c, d  
Explain the relationships between price, marginal revenue, marginal cost, economic profit, and the elasticity of demand under each market structure.   
Describe the firm's supply function under each market structure.  
Describe and determine the profit-maximizing price and output for firms under each market structure.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Output (units) | Price ($/unit) | Total Revenues | Total Costs ($/unit) | Profit |
| 20 | 2,800 | 56,000 | 10,600 | 45,400 |
|  |  |  |  |  |
| 60 | 2,400 | 144,000 | 66,600 | 77,400 |
|  |  |  |  |  |
| 100 | 2,000 | 200,000 | 170,600 | 29,400 |

42. Correct answer: B  
  
"Understanding Business Cycles," Michele Gambera, CFA, Milton Ezrati, and Bolong Cao, CFA   
2012 Modular Level I, Vol. 2, pp. 323-325  
Study Session 5-18-d  
Explain the types of unemployment and describe measures of unemployment.  
  
Unemployment rate = Unemployed / Labor force × 100 = 95 / 750 × 100 = 12.6%.

43. Correct answer: B  
  
"Understanding Business Cycles," Michele Gambera, CFA, Milton Ezrati, and Bolong Cao, CFA   
2012 Modular Level I, Vol. 2, pp. 339-343  
Study Session 5-18-i, j  
Describe economic indicators, including their uses and limitations.  
Identify the past, current, or expected future business cycle phase of an economy based on economic indicators.  
  
Average weekly initial claims for unemployment insurance are a leading indicator of economic activity and a decline is an indicator of rehiring at the start of a recovery.

44. Correct answer: B  
  
"Currency Exchange Rates," William A. Barker, CFA, Paul D. McNelis, and Jerry Nickelsburg  
2012 Modular Level I, Vol. 2, pp. 525-533  
Study Session 5-21-f, g, h  
Convert forward quotations expressed on a points basis or in percentage terms into an outright forward quotation.  
Calculate and interpret a forward discount or premium.  
Calculate and interpret the forward rate consistent with the spot rate and the interest rate in each currency.  
  
Covered interest arbitrage will ensure identical terminal values by investing the same initial amounts at the respective country's domestic interest rates:  
GBP investment: £2.0979 × (1 + 0.016025 × 180 / 360) = £2.1147  
NZD investment: NZ$1 × (1 + 0.032875 × 180 / 360) = NZ$1.0164  
The forward rate is determined by equating these two terminal amounts:   
GBP / NZD Forward Rate = £2.1147 / NZ$1.0164 = £2.0806 / NZ$  
Forward points = (Forward – Spot) × 10,000 = (2.0806 – 2.0979) × 10,000 = –173.0

Study Session 7, 8, 9, 10 – Financial Reporting and Analysis (45-68) Q=24

45. Correct answer: A

"Financial Statement Analysis: An Introduction," Elaine Henry, CFA, and Thomas R. Robinson, CFA

2012 Modular Level I, Vol. 3, p. 31

Study Session 7-22-e

Identify and explain information sources that analysts use in financial statement analysis besides annual financial statements and supplementary information.

Information about management compensation and any potential conflicts of interest that may exist between management and shareholders is typically provided in the proxy statement.

46. You have answered incorrectly.

Correct answer: B

"Financial Reporting Mechanics," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Karen O'Connor Rubsam, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, pp. 46-51

Study Session 7-23-b, e

Explain the accounting equation in its basic and expanded forms.

Explain the relationships among the income statement, balance sheet, statement of cash flows, and statement of owners' equity.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Given Assets = Liabilities + Equity.  First calculate ending equity ($318,000, see calculation below)  $800,000 = Liabilities + $318,000  Total Liabilities = $ 482,000 | | | | |
| Contributed capital | | | $  50,000 | |
| Initial retained earnings | | | 225,000 | |
| Sales revenues | 450,000 | |  | |
| Investment income | 5,000 | |  | |
| Expenses | (402,000) | |  | |
| Net income for the year | 53,000 | |  | |
| Dividends paid | | (10,000) | |  |
| Increase in retained earnings | | 43,000 | | 43,000 |
| Ending owners' equity | |  | | $318,000 |

47. Correct answer: C

"Financial Reporting Standards," Elaine Henry, CFA, Jan Hendrik van Greuning, CFA, and Thomas R. Robinson, CFA

2012 Modular Level I, Vol. 3, pp. 121-123

Study Session 7-24-d

Describe the International Accounting Standards Board's Conceptual Framework, including the objective and qualitative characteristics of financial statements, required reporting elements, and constraints and assumptions in preparing financial statements.

Relevance and faithful representation are the two fundamental qualitative characteristics that make financial information useful according to the IASB Conceptual Framework.

48. Correct answer: C

"Understanding Income Statements," Elaine Henry, CFA, and Thomas R. Robinson, CFA

2012 Modular Level I, Vol. 3, pp. 202-203

Study Session 8-25-k, l

Describe, calculate, and interpret comprehensive income.

Describe other comprehensive income, and identify the major types of items included in it.

Total comprehensive income = Net income + other comprehensive income

Net Income = revenues – expenses

Other comprehensive income includes gains or losses on available-for-sale securities and translations adjustments on foreign subsidiaries.

(Revenues – expenses) + gain on AFS – loss on FX translation

(12,500 – 10,000) + 1,475 – 325 = 3,650.

49. Correct answer: C

"Understanding Balance Sheets," Elaine Henry, CFA, and Thomas R. Robinson, CFA

2012 Modular Level I, Vol. 3, pp. 223-225

Study Session 8-26-e

Describe different types of assets and liabilities and the measurement bases of each.

The allowance for doubtful accounts increases by the bad debt expense recognized for the year and decreases by the amounts written off during the year.

|  |  |
| --- | --- |
| Beginning balance allowance | 56 |
| Plus bad debt expense | ? |
| Less write-offs | (84) |
| Ending balance allowance | 92 |
| Therefore Bad debt expense = 120 | |

50. Correct answer: A

"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, pp. 313-314

Study Session 8-27-i

Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.

Cash flow debt coverage ratio = CFO ÷ Total debt.

105.9 ÷ 512.8 = 20.6%

51. Correct answer: C

"Inventories," Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, p. 410

Study Session 9-29-b

Describe different inventory valuation methods (cost formulas).

Specific identification matches the actual historical costs of the specific inventory items to their physical flow: the costs remain in inventory until the actual identifiable inventory is sold.

52. Correct answer: A

"Long-Lived Assets," Elaine Henry, CFA, and Elizabeth A. Gordon

2012 Modular Level I, Vol. 3, pp. 445-447

Study Session 9-30-a

Distinguish between costs that are capitalized and costs that are expensed in the period in which they are incurred.

|  |  |
| --- | --- |
| The interest costs can be capitalized.  Under IFRS any amounts earned by temporarily investing the funds are deducted from the capitalized amount.  The costs related to the preferred shares cannot be capitalized. | |
|  | |
| Capitalized costs | |
| Interest costs | 0.08 × 5,000,000 = 400,000 |
| Less interest income | 0.07 × 2,000,000 × 0.5 = (70,000) |
| Total capitalized costs | 330,000 |

53. Correct answer: B

"Income Taxes," Elbie Antonites, CFA, and Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, p. 509

Study Session 9-31-g

Describe the valuation allowance for deferred tax assets: when it is required and what impact it has on financial statements.

A valuation allowance is required under U.S. GAAP if there is doubt about whether a deferred tax asset will be recovered. Under IFRS the deferred tax asset is written down directly.

54. Correct answer: C

"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, pp. 273-274, 298-300

"Non-Current (Long-Term) Liabilities," Elizabeth A. Gordon and Elaine Henry, CFA

2012 Modular Level I, Vol. 3, pp. 536-541, 543-546

"Introduction to the Valuation of Debt Securities," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 492-498

Study Sessions 8-27-a; 9-32-b, c; 16-57-c, d

Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.

Describe the effective interest method and calculate interest expense, amortisation of bond discounts/premiums, and interest payments.

Explain the derecognition of debt.

Calculate the value of a bond (coupon and zero-coupon).

Explain how the price of a bond changes if the discount rate changes and as the bond approaches its maturity date.

The book value of the bonds on 1 January 2011 is equal to the present value of the remaining coupon payments and principal discounted at the market rate at time of issue (3% per period).

Coupon = 0.08 × 0.5 × 5,000,000 = 200,000; there are 4 years remaining or 8 coupon payments.

Book value = 200,000 PV Annuity (n = 8; i = 3%) + 5,000,000 PV (n = 8; i = 3%)

= 1,403,938 + 3,947,046

= 5,350,984

Using a financial calculator: PMT = 200,000; FV = 5,000,000; I% = 3%; N = 8;

Compute PV = 5,350,984

Because the market interest rate when the bonds are bought back (8%) is equal to the coupon rate, the company can buy back the bonds at par, $5,000,000.

Cost of repurchase $5,000,000

Book value 5,350,984

Gain on retirement 350,984

On the cash flow statement the gain would be deducted from net income in calculating the cash from operations under the indirect method, and the cash paid to repurchase the bonds would be a cash outflow in the financing section.

55. Correct answer: A

"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, pp. 273-274

"Accounting Shenanigans on the Cash Flow Statement," Marc A. Siegel

2012 Modular Level I, Vol. 3, pp. 612-613

Study Sessions 8-27-a; 10-34

Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.

The candidate should be able to analyze and describe the following ways to manipulate the cash flow statement:

• stretching out payables,

• financing of payables,

• securitization of receivables, and

• using stock buybacks to offset dilution of earnings.

The sale of a long-term receivable would increase cash from investing activities; the other two activities mentioned are operating activities.

56. Correct answer: C

"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA

2012 Modular Level I, Vol. 3, pp. 312-313

"Long-Lived Assets," Elaine Henry, CFA, and Elizabeth A. Gordon

2012 Modular Level I, Vol. 3, pp. 443-446

Study Sessions 8-27-I; 9-30-a

Calculate and interpret free cash flow to the firm, free cash flow to equity, and performance and coverage cash flow ratios.

Distinguish between costs that are capitalized and costs that are expensed in the period in which they are incurred.

|  |  |  |
| --- | --- | --- |
| Example | Capitalizing delivery cost as opposed to expensing it | |
|  |  | |
| FCFF | CFO + interest × (1 – t) – capital expenditures | |
|  | capital expenditures | If capitalized, the amount capitalized increases capital expenditures and is recorded as a cash outflow from investing activities. |
|  | CFO | The CFO will be higher by amount capitalized, i.e., the amount not expensed. |
|  |  |  |
| Since capital expenditures and CFO increase by the same amount, FCFF is unchanged. | | |

57. Correct answer: C  
  
"Financial Reporting Mechanics," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Karen O'Connor Rubsam, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA  
2012 Modular Level I, Vol. 3, p. 75  
Study Session 7-23-f  
Describe the flow of information in an accounting system.  
  
The general journal records transactions in the order in which they occur (chronological order) and is therefore sorted by date.

58. Correct answer: B  
  
"Financial Reporting Standards," Elaine Henry, CFA, Jan Hendrik van Greuning, CFA, and Thomas R. Robinson, CFA  
2012 Modular Level I, Vol. 3, pp. 107-108  
Study Session 7-24-b  
Describe the roles and desirable attributes of financial reporting standard-setting bodies and regulatory authorities in establishing and enforcing reporting standards and describe the role of the International Organization of Securities Commissions.   
  
Without the recognition of the standards by the regulatory authorities, such as the U.S. Securities and Exchange Commission, the private sector standard-setting bodies, such as U.S. FASB, would have no authority.

59. You have answered incorrectly.  
  
Correct answer: C  
  
"Understanding Income Statements," Elaine Henry, CFA, and Thomas R. Robinson, CFA,   
2012 Modular Level I, Vol. 3, pp. 197-201  
"Financial Analysis Techniques," Elaine Henry, CFA, Thomas R. Robinson, CFA, and Jan Hendrik van Greuning, CFA   
2012 Modular Level I, Vol. 3, pp. 342-344  
Study Sessions 8-25-j; 8-28-b, c  
Evaluate a company's financial performance using common-sized income statements and financial ratios based on the income statement.  
Classify, calculate and interpret activity, liquidity, solvency, profitability, and valuation ratios.  
Describe the relationships among ratios and evaluate a company using ratio analysis.  
  
Common-sized analysis of the income statements shows that Company A has a lower percentage cost of goods sold and hence a higher gross margin than the industry.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Co A | Co B | Industry | Co A | Co B |
| Sales | $10,500 | $8,250 | 100.0% | 100% | 100% |
| Cost of goods sold | 6,353 | 5,239 | 62.8% | 60.5% | 63.5% |
| Gross margin |  |  | 37.2% | 39.5% | 36.5% |
| Company A earns a higher gross margin than both Company B and the industry. | | | | | |
|  | | | | | |
| Pretax earnings | 683 | 454 | 5.4% | 6.5% | 5.5% |
| Taxes | 205 | 145 | 1.7% | 2.0% | 1.8% |
| Tax rate = taxes ÷ pretax earnings |  |  | 32% | 30% | 32% |
| The tax rates for the companies are not higher than the industry. | | | | | |

The interest rate is not a function of sales and cannot be analyzed on a common sized income statement. Tax rates are determined based on taxes ÷ pretax earnings, not as a percentage of sales (as shown in common sized analysis).

60. Correct answer: A  
  
"Understanding Balance Sheets," Elaine Henry, CFA, and Thomas R. Robinson, CFA   
2012 Modular Level I, Vol. 3, pp. 219-221, 236  
Study Session 8-26-c, e  
Describe alternative formats of balance sheet presentation.  
Describe different types of assets and liabilities and the measurement bases of each.  
  
Under U.S. GAAP, intangibles must be valued at historical cost, whereas under IFRS, they can be valued at cost or revaluation.

61. Correct answer: A  
  
"Understanding Cash Flow Statements," Elaine Henry, CFA, Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, and Michael A. Broihahn, CFA   
2012 Modular Level I, Vol. 3, pp. 273-274  
Study Session 8-27-a  
Compare cash flows from operating, investing, and financing activities and classify cash flow items as relating to one of those three categories given a description of the items.  
  
Only the cash flows for the purchase of the shares in an affiliated company are cash from investing activities; therefore the net amount is –$275,000. Cash flows from trading securities are operating activities.

62. Correct answer: B  
  
"Financial Analysis Techniques," Elaine Henry, CFA, Thomas R. Robinson, CFA, and Jan Hendrik van Greuning, CFA   
2012 Modular Level I, Vol. 3, pp. 351-354, 359-361   
"Working Capital Management," Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA   
2012 Modular Level I, Vol. 4, pp. 163-167  
Study Sessions 8-28-b; 11-40-c   
Classify, calculate and interpret activity, liquidity, solvency, profitability, and valuation ratios.  
Evaluate working capital effectiveness of a company based on its operating and cash conversion cycles, and compare the company's effectiveness with that of peer companies.  
  
Cash conversion cycle = Days sales outstanding + Days of inventory on hand – Days of payables

|  |  |  |  |
| --- | --- | --- | --- |
|  | Accounts receivable Days in sales (DSO) | Inventory Days on hand (DHO) | Accounts payables Days in payables |
| Turnover | Sales A/R | Cost of Goods Sold Inventory | Purchases Payables |
|  | 4,800 ÷ 625 | 2,880 ÷ 710 | 2,940 ÷ 145 |
|  | = 7.68 times | = 4.06 times | = 20.3 times |
| In days | 365 ÷ 7.68 | 365 ÷ 4.06 | 365 ÷ 20.3 |
|  | = 48 days | = 90 days | = 18 days |
| Cash conversion cycle = DSO + DOH – Days in Payables = 48 + 90 – 18 = 120 days | | | |

63. Correct answer: C  
  
"Inventories," Michael A. Broihahn, CFA  
2012 Modular Level I, Vol. 3, pp. 414-416  
Study Session 9-29-d, e  
Calculate and compare the cost of sales, gross profit, and ending inventory using perpetual and periodic inventory systems.  
Compare cost of sales, ending inventory, and gross profit using different inventory valuation methods.  
  
When using the FIFO inventory method the ending inventory, the cost of goods sold and the gross margin are the same under either the perpetual or periodic methods.

64. Correct answer: A  
  
"Long-Lived Assets," Elaine Henry, CFA, and Elizabeth A. Gordon  
2012 Modular Level I, Vol. 3, pp. 476-478  
Study Session 9-30-g, k   
Describe the revaluation model.  
Compare the financial reporting of investment property with that of property, plant, and equipment.   
  
For investment properties, when using the fair value model of revaluing assets, all increases and decreases affect the net income. Here, it is 54.5 – 48.0 = 6.5.

65. Correct answer: B  
  
"Income Taxes," Elbie Antonites, CFA, and Michael A. Broihahn, CFA  
2012 Modular Level I, Vol. 3, pp. 501-502  
Study Session 9-31-d, e  
Calculate income tax expense, income taxes payable, deferred tax assets, and deferred tax liabilities, and calculate and interpret the adjustment to the financial statements related to a change in the income tax rate.  
Evaluate the impact of tax rate changes on a company's financial statements and ratios.

|  |  |  |
| --- | --- | --- |
| Deferred tax liability = taxable temporary difference × tax rate. | | |
| In 2010 if the rates had not changed, the deferred tax liability would be: | 0.30 × 4,000 = | £1,200 |
| But with the lower tax rate, the deferred tax liability will be: | 0.25 × 4,000 = | £1,000 |
| Effect of the change in rate therefore is a decrease in the liability: |  | £ (200) |
| Alternative calculation = change in rate × taxable difference: | –5% × 4,000 | £ (200) |

66. Correct answer: B  
  
"Financial Reporting Quality: Red Flags and Accounting Warning Signs," Thomas R. Robinson, CFA, and Paul Munter  
2012 Modular Level I, Vol. 3, p. 595  
Study Session 10-33-d  
Describe common accounting warning signs and methods for detecting each.  
  
The most appropriate way to identify a LIFO liquidation is by reviewing the inventory footnotes for a decrease in the LIFO reserve. Although a LIFO liquidation may result in an increase in gross margin or changes in inventory out of line with changes in sales, there are other factors that could explain those changes.

67. Correct answer: C  
  
"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA  
2012 Modular Level I, Vol. 3, pp. 634-635  
"Financial Statement Analysis," Pamela Peterson Drake, CFA  
2012 Modular Level I, Vol. 4, pp. 221-223  
Study Sessions 10-35-b; 11-41  
Forecast a company's future net income and cash flow.  
The candidate should be able to demonstrate the use of pro forma income and balance sheet statements.

|  |  |  |
| --- | --- | --- |
| Net income is calculated as follows: | | |
| Sales | $2,500 | Given |
| Variable costs | (750) | 30% of Sales |
| Fixed costs | (1,400) | Given |
| Interest expense | (25) | 0.05 × 500 average debt |
| Earnings before taxes | 325 |  |
| Taxes | (81.25) | 25% of EBT |
| Net income | $243.75 | Rounded to $244 |

68. Correct answer: B  
  
"Long-Lived Assets," Elaine Henry, CFA, and Elizabeth A. Gordon  
2012 Modular Level I, Vol. 3, pp. 452-453  
"Financial Statement Analysis: Applications," Thomas R. Robinson, CFA, Jan Hendrik van Greuning, CFA, Elaine Henry, CFA, and Michael A. Broihahn, CFA  
2012 Modular Level I, Vol. 3, pp. 648-650  
Study Sessions 9-30-d; 10-35-e   
Calculate depreciation expense.   
Explain appropriate analyst adjustments to a company's financial statements to facilitate comparison with another company.

|  |  |
| --- | --- |
| The expected remaining useful life of a company's overall asset base | = net PPE ÷ depreciation expense. |
| Depreciation expense equals the change in accumulated depreciation A | 375 – 250 = 125 |
| The expected remaining useful life | 2,125 ÷ 125 = 17 years |
|  |  |
| A When there are no asset dispositions or acquisitions, as appears to be the case here, because the gross PPE does not change. | |

Study Session 11 – Corporate Finance (69-78) Q=10

69. Correct answer: B

"Capital Budgeting," John D. Stowe, CFA, and Jacques R. Gagne, CFA

2012 Modular Level I, Vol. 4, pp. 10-13, 19-21

Study Session 11-36-c, d, e

Explain how the evaluation and selection of capital projects is affected by mutually exclusive projects, project sequencing, and capital rationing.

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, and profitability index (PI).

Explain the NPV profile, compare NPV and IRR methods when evaluating independent and mutually exclusive projects, and describe the problems associated with each of the evaluation methods.

The NPV of project A is €1,780.59

1,780.59 =–2,450+ +++

The NPV of project B is €1,765.36

1,765.36 = –2,450 ++++

Because Project A has a higher NPV and the projects are mutually exclusive, only Project A should be accepted.

70. Correct answer: B

"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela Peterson Drake, CFA

2012 Modular Level I, Vol. 4, pp. 59-61

Study Session 11-37-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.

Based on equation (10) with D/E referring to the debt-to-equity ratio:



If the tax rate increases, then the bracketed term decreases, making the equity beta decrease because the asset beta is unchanged.

71. Correct answer: B

"Dividends and Share Repurchases: Basics," George H. Troughton, CFA, and Gregory Noronha, CFA

2012 Modular Level I, Vol. 4, pp. 142-143

Study Session 11-39-d

Calculate and compare the effects of a share repurchase on earnings per share when (1) the repurchase is financed with the company's excess cash and (2) the company uses funded debt to finance the repurchase.

Convert the P/E to the earnings yield (E/P): 1 ÷ 12.5 = 8%. Because the after-tax cost of the external funds is higher than the earnings yield (i.e., 9% > 8%), the EPS will decrease after the repurchase.

72. Correct answer: B

"Working Capital Management," Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA

2012 Modular Level I, Vol. 4, pp. 160-161

Study Session 11-40-a

Describe primary and secondary sources of liquidity and factors that influence a company's liquidity position.

A "pull" on liquidity occurs when disbursements are made too quickly (e.g., current liabilities are paid instead of being held or when credit availability is reduced or limited). A "drag" on liquidity occurs when receipts lag (i.e., non-cash current assets do not convert to cash quickly). Consequently, a reduction in a credit line is a "pull" on liquidity.

73. Correct answer: B

"The Corporate Governance of Listed Companies: A Manual for Investors," Kurt Schacht, CFA, James C. Allen, CFA, and Matthew Orsagh, CFA, CIPM

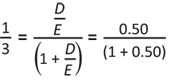
2012 Modular Level I, Vol. 4, pp. 242-243, 245-246

Study Session 11-42-c

Describe board independence and explain the importance of independent board members in corporate governance.

Under best practices in corporate governance procedures, independent board members should have a "lead" director when the board chair is not independent.

74. Correct answer: C  
  
"Cost of Capital," Yves Courtois, CFA, Gene C. Lai, and Pamela Peterson Drake, CFA  
2012 Modular Level I, Vol. 4, pp. 41-45  
Study Session 11-37-a, b  
Calculate and interpret the weighted average cost of capital (WACC) of a company.  
Describe how taxes affect the cost of capital from different capital sources.  
  
Convert D/E to the weight for debt:  
  
  
  
The weight for equity is one minus the weight of debt:  
  
  
WACC = weight of debt × cost of debt × (1 – tax rate) + weight of equity × cost of equity



75. Correct answer: C  
  
"Measures of Leverage," Pamela Peterson Drake, CFA, Raj Aggarwal, CFA, Cynthia Harrington, CFA, and Adam Kobor, CFA   
2012 Modular Level I, Vol. 4, pp. 97-98  
Study Session 11-38-b  
Calculate and interpret the degree of operating leverage, the degree of financial leverage, and the degree of total leverage.

|  |  |  |
| --- | --- | --- |
| DOL = | quantity x contribution margin |  |
| [quantity x contribution margin – fixed costs] |

|  |  |  |
| --- | --- | --- |
| DOL (100,000 units) = | $20 x 100,000 | = 1.333 |
| [$20 x 100,000 – $500,000] |

|  |  |  |
| --- | --- | --- |
| DOL (200,000 units) = | $20 x 200,000 | = 1.143 |
| [$20 x 200,000 – $500,000] |

|  |  |  |
| --- | --- | --- |
| DOL (300,000 units) = | $20 x 300,000 | = 1.091 |
| [$20 x 300,000 – $500,000] |

The DOL is lowest at the 300,000 units production level.

76. Correct answer: B  
  
"Dividends and Share Repurchases: Basics," George H. Troughton, CFA, and Gregory Noronha, CFA   
2012 Modular Level I, Vol. 4, pp. 135-136  
Study Session 11-39-b  
Describe dividend payment chronology, including the significance of declaration, holder-of-record, ex-dividend, and payment dates.  
  
The ex-dividend date is normally determined by the security exchange on which the shares are listed. The corporation determines the holder-of-record date and declaration date.

77. Correct answer: C  
  
"Dividends and Share Repurchases: Basics," George H. Troughton, CFA, and Gregory Noronha, CFA  
2012 Modular Level I, Vol. 4, pp. 139-141  
Study Session 11-39-c  
Compare share repurchase methods.  
  
Of the methods listed, open market repurchases take the longest time to execute.

78. Correct answer: B  
  
"Working Capital Management," Edgar A. Norton, Jr., CFA, Kenneth L. Parkinson, and Pamela Peterson Drake, CFA  
2012 Modular Level I, Vol. 4, p. 164  
Study Session 11-40-c, f  
Evaluate working capital effectiveness of a company based on its operating and cash conversion cycles, and compare the company's effectiveness with that of peer companies.  
Evaluate a company's management of accounts receivable, inventory, and accounts payable over time and compared to peer companies.  
  
The days in payables =

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Accounts payable | = | Accounts payable |  |
| (Purchases ÷ 365) | ((Change in inventory + Cost of goods sold) ÷ 365) |

|  |  |  |
| --- | --- | --- |
| = | $600 | = 35.3 |
| (($1,200 – $1,000 + $6,000) ÷ 365) |

Study Session 13, 14 – Equity Investments (79-90) Q=12

79. Correct answer: C

"Market Organization and Structure," Larry E. Harris

2012 Modular Level I, Vol. 5, pp. 64-66

Study Session 13-47-l

Describe the objectives of market regulation.

Regulators impose minimum levels of capital that apply across the board to all regulated firms, not the optimum level that is firm-specific and determined by the firms themselves.

80. Correct answer: C

"Overview of Equity Securities," Ryan C. Fuhrmann, CFA, and Asjeet S. Lamba, CFA

2012 Modular Level I, Vol. 5, pp. 173-174

Study Session 14-50-a

Describe characteristics of types of equity securities.

Putable common shares facilitate raising capital because of their appeal to investors over callable common shares. The put feature gives investors the right to sell the shares back to the issuing company when the market price is below the pre-specified put price.

81. Correct answer: B

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA

2012 Modular Level I, Vol. 5, pp. 297-299

Study Session 14-52-i

Explain the use of enterprise value multiples in equity valuation and demonstrate the use of enterprise value multiples to estimate equity value.

Enterprise Value (EV) = Market capitalization + MV of debt + MV of preferred stock – cash & short-term investments

EV = 45 + 10 – 2.5 = 52.5; EV/EBITDA = 52.5 / 15 = 3.5

82. Correct answer: A

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA

2012 Modular Level I, Vol. 5, pp. 271, 289-292, 296

Study Session 14-52-h

Calculate and interpret the following multiples: price to earnings, price to an estimate of operating cash flow, price to sales, and price to book value.

Dividend growth rate = (1 – Payout ratio) × ROE = 0.4 × 12.5 = 5%;

Justified forward P/E: P0 / E1 = p / (r – g); Where p is the payout ratio

= 0.60 / (0.10 – 0.05) = 12x

Intrinsic value: P0 = P0 / E1 × E1 = 12 × $3 = $36

83. Correct answer: B

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA

2012 Modular Level I, Vol. 5, pp. 277-279

Study Session 14-52-d

Calculate the intrinsic value of a non-callable, non-convertible preferred stock.

Because the current market value is well below the retraction price, retraction is likely and the preferred share will be priced on the basis of its retraction feature.

Quarterly dividend = ($50 × 0.08) / 4 = $1 a share;

Quarterly required return = 12% / 4 = 3%;

V0 = [$1 / 1.03 + 1 / 1.032 + 1 / 1.033 + … + 1 / 1.0311 + 1 / 1.0312 + 50 / 1.0312] = $45.02

Using a financial calculator:

PMT = $1; N = 12; FV = $50; I = 3%; Compute PV = $45.02

84. Correct answer: A

"Overview of Equity Securities," Ryan C. Fuhrmann, CFA, and Asjeet S. Lamba, CFA

2012 Modular Level I, Vol. 5, p. 192

"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA

2012 Modular Level I, Vol. 5, pp. 292-297

Study Sessions 14-50-g; 14-52-h, i

Distinguish between the market value and book value of equity securities.

Calculate and interpret the following multiples: price to earnings, price to an estimate of operating cash flow, price to sales, and price to book value.

Explain the use of enterprise value multiples in equity valuation and demonstrate the use of enterprise value multiples to estimate equity value.

The EV/EBITDA approach is most useful when comparing companies with significant differences in capital structure. EBITDA is computed prior to payment to any of the company's financial stakeholders and is not impacted by the amount of debt leverage.

85. Correct answer: A  
  
"Market Organization and Structure," Larry E. Harris   
2012 Modular Level I, Vol. 5, pp. 41-44  
"Market Efficiency," W. Sean Cleary, CFA, Howard J. Atkinson, CFA, and Pamela Peterson Drake, CFA   
2012 Modular Level I, Vol. 5, pp. 129, 133  
Study Sessions 13-47-e; 13-49-b  
Compare the positions an investor can take in an asset.  
Distinguish between market value and intrinsic value.  
  
A stock whose intrinsic value is less than its current market price is overvalued. Therefore, the most appropriate strategy is to sell the stock short. Short sellers profit by selling at high prices and repurchasing at lower prices.

86. Correct answer: A  
  
"Financial Analysis Techniques," Elaine Henry, CFA, Thomas R. Robinson, CFA, and Jan Hendrik van Greuning, CFA   
2012 Modular Level I, Vol. 3, pp. 368-370, 374-376, 380-381  
"Introduction to Industry and Company Analysis," Patrick W. Dorsey, CFA, Anthony M. Fiore, CFA, and Ian Rossa O'Reilly, CFA   
2012 Modular Level I, Vol. 5, pp. 250-254  
Study Sessions 8-28-c, d, e; 14-51-k  
Describe the relationships among ratios and evaluate a company using ratio analysis.  
Demonstrate the application of the DuPont analysis of return on equity, and calculate and interpret the effects of changes in its components.  
Calculate and interpret ratios used in equity analysis, credit analysis, and segment analysis.  
Describe the elements that should be covered in a thorough company analysis.  
  
Selling unproductive land and using the proceeds from the sale to buy back shares reduces the total assets. Holding sales constant, the decrease in assets would improve the asset turnover. Buying back shares increases the firm's financial leverage. Both the increase in asset turnover and financial leverage will lead to a higher return on equity.

87. Correct answer: A  
  
"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA   
2012 Modular Level I, Vol. 5, pp. 272-275  
Study Session 14-52-c  
Explain the rationale for using present-value of cash flow models to value equity and describe the dividend discount and free-cash-flow-to-equity models.   
  
FCFE is a measure of the firm's dividend paying capacity.

88. Correct answer: A  
  
"Introduction to Industry and Company Analysis," Patrick W. Dorsey, CFA, Anthony M. Fiore, CFA, and Ian Rossa O'Reilly, CFA   
2012 Modular Level I, Vol. 5, p. 254  
"Equity Valuation: Concepts and Basic Tools," John J. Nagorniak, CFA, and Stephen E. Wilcox, CFA   
2012 Modular Level I, Vol. 5, pp. 284-286  
Study Sessions 14-51-k; 14-52-e  
Describe the elements that should be covered in a thorough company analysis.  
Calculate and interpret the intrinsic value of an equity security based on the Gordon (constant) growth dividend discount model or a two-stage dividend discount model, as appropriate.  
  
Net profit margin = Net earnings / Sales; Net earnings = Net profit margin × Sales;  
DPS = (Net earnings × Payout ratio) / # of outstanding shares;  
Therefore, Next year's DPS = ($180 million × 0.15 × 0.60) / 8 million = $2  
V = 2 / 1.12 + 2(1.25)1 / 1.122 + 2(1.25)2 / 1.123 + [2(1.25)2 (1.05) / (0.12 – 0.05)] / 1.123  
= $1.79 + $1.99 + $2.22 + $33.36 = $39.36

89. Correct answer: A  
  
"Market Organization and Structure," Larry E. Harris   
2012 Modular Level I, Vol. 5, pp. 44-46  
Study Session 13-47-f  
Calculate and interpret the leverage ratio, the rate of return on a margin transaction, and the security price at which the investor would receive a margin call.  
  
Initial equity (%) in the margin transaction = 1 / Leverage ratio = 1 / 1.66 = 0.60;  
Initial equity per share at the time of purchase = $36 × 0.60 = $21.60;  
Price at which margin call occurs: Equity per share / Price per share = Maintenance margin %  
= ($21.60 + P – $36) / P = 0.30; 0.7P = $14.40; P = $20.57.

90. Correct answer: C  
  
"Market Efficiency," W. Sean Cleary, CFA, Howard J. Atkinson, CFA, and Pamela Peterson Drake, CFA   
2012 Modular Level I, Vol. 5, pp. 139-140, 147-148  
Study Session 13-49-d, e, f, g  
Contrast the weak-form, semi-strong form, and strong-form market efficiency.  
Explain the implications of each form of market efficiency for fundamental analysis, technical analysis, and the choice between active and passive portfolio management.  
Describe identified market pricing anomalies and explain possible inconsistencies with market efficiency.  
Contrast the behavioral finance view of investor behavior to that of traditional finance.  
  
If securities markets are semi-strong form efficient, active trading to exploit price patterns or public information is not likely to generate abnormal returns. Thus, both technical and fundamental analyses become futile exercises.

Study Session 17 – Derivatives (91-96) Q=6

91. Correct answer: A

"Derivative Markets and Instruments," Don M. Chance, CFA

2012 Modular Level I, Vol. 6, pp. 7-10

Study Session 17-60-b

Define forward contracts, futures contracts, options (calls and puts), and swaps and compare their basic characteristics.

A is correct because a swap is a series of forward payments. Specifically, a swap is an agreement between two parties to exchange a series of future cash flows. Given that the contract is for 1 year and the floating rate is based upon 3-month LIBOR, at least 4 payments will be made during the year.

92. Correct answer: C

"Forward Markets and Contracts," Don M. Chance, CFA

2012 Modular Level I, Vol. 6, p. 37

Study Session 17-61-d

Describe the characteristics of equity forward contracts and forward contracts on zero-coupon and coupon bonds.

C is correct because the portfolio manager entered into a contract to sell the stock to the dealer at $160 per share in 2 months' time. 31,250 shares × EUR 160 = EUR 5,000,000.

93. Correct answer: A

"Futures Markets and Contracts," Don M. Chance, CFA

2012 Modular Level I, Vol. 6, p. 60

Study Session 17-62-d

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

A is correct because the future has a price limit of $5; therefore, it settled at the highest possible level of $111. Therefore, the marked to market value would be ($111 – $106) × 40 = $200

94. Correct answer: C  
  
"Option Markets and Contracts," Don M. Chance, CFA  
2012 Modular Level I, Vol. 6, p. 116  
Study Session 17-63-n  
Explain how cash flows on the underlying asset affect put-call parity and the lower bounds on option prices.  
  
C is correct because a cash flow such as a dividend payment is required for an early exercise. A dividend payment doesn't guarantee early exercise, as the dividend also needs to be large enough to justify the early exercise.

95. Correct answer: B  
  
"Swap Markets and Contracts," Don M. Chance, CFA  
2012 Modular Level I, Vol. 6, pp. 136-140   
Study Session 17-64-b  
Describe, calculate, and interpret the payments of currency swaps, plain vanilla interest rate swaps, and equity swaps.  
  
B is correct because the bank's payments are based upon a notional principal of EUR 50,000,000 and an interest rate of 4.5%. The payment is: EUR 50,000,000 × (0.045) × (180 / 360) = EUR 1,125,000.

96. Correct answer: B  
  
"Risk Management Applications of Option Strategies," Don M. Chance, CFA  
2012 Modular Level I, Vol. 6, pp. 159-164  
Study Session 17-65-a  
Determine the value at expiration, profit, maximum profit, maximum loss, breakeven underlying price at expiration, and payoff graph of the strategies of buying and selling calls and puts, and determine the potential outcomes for investors using these strategies.  
  
B is correct because buying a call gives the owner the right to buy the stock at the exercise price. The investor predicts that the stock will increase to $95 at the end of two months. He will be able to exercise the call, buy the stock at $88, and sell it at $95, thereby making a profit.

Study Session 18 – Alternative Investments (97-102) Q=6

97. Correct answer: C

"Investing in Commodities," Ronald G. Layard-Liesching

2012 Modular Level I, Vol. 6, p. 263

Study Session 18-67-a

Explain the relationship between spot prices and expected future prices in terms of contango and backwardation.

C is correct because when a commodity market is in backwardation, the futures price is below the spot price as market participants believe the spot price will be lower in the future. When spot prices are below the futures price, the market is said to be in contango.

98. Correct answer: A

"Alternative Investments," Bruno Solnik and Dennis McLeavey

2012 Modular Level I, Vol. 6, pp. 205-207

Study Session 18-66-g

Calculate the net operating income (NOI) from a real estate investment, the value of a property using the sales comparison and income approaches, and the after-tax cash flows, net present value, and yield of a real estate investment.

A is correct because to arrive at the estimated value of the property, subtract operating expenses from gross income ($625,000 – (3.75% × $625,000) – $65,000 – $27,000 – $62,000 = $447,563). Then divide the net operating income by the cap rate ($447,563 / 0.085) = $5,265,441). Note that neither depreciation nor financing costs are deducted as operating expenses.

99. Correct answer: B

"Alternative Investments," Bruno Solnik and Dennis McLeavey

2012 Modular Level I, Vol. 6, pp. 216-218

Study Session 18-66-i

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

B is correct because you calculate the probability of success as (1 – 0.35) × (1 – 0.20) × (1 – 0.15) × (1 – 0.15) × (1 – 0.15) = 0.319345. Then calculate the NPV from success

– 2,500,000 = 1,755,701 x 0.319345 = 560,674.

Subtract the NPV of failure, – 2,500,000 × (1 – 0.319345 or 0.680655) = –1,701,638. The difference between the NPVs is the expected NPV of the project, 560,674 – 1,701,638 = –$1,140,964.

100. Correct answer: B  
  
"Alternative Investments," Bruno Solnik and Dennis McLeavey   
2012 Modular Level I, Vol. 6, pp. 190-192  
Study Session 18-66-a  
Distinguish between an open-end and a closed-end fund, and explain how net asset value of a fund is calculated and the nature of fees charged by investment companies.  
  
B is correct because it results in the lowest cost over 3 years, as the table below shows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Year 1 | Year 2 | Year 3 | Total |
| Class A | 1.00 + 2.75 | 1.00 | 1.00 | 5.75 |
| Class B | 1.25 | 1.25 | 1.25 + 1.00 | 4.75 |
| Class C | 1.25 | 1.25 | 1.25 + 1.50 | 5.25 |

101. Correct answer: B  
  
"Alternative Investments," Bruno Solnik and Dennis McLeavey   
2012 Modular Level I, Vol. 6, pp. 231-233  
Study Session 18-66-o  
Describe alternative valuation methods for closely held companies, and distinguish among the bases for the discounts and premiums for these companies.  
  
B is correct because the cost approach attempts to determine what it would cost to replace the company's assets in their present form, not original cost.

102. Correct answer: B  
  
"Alternative Investments," Bruno Solnik and Dennis McLeavey   
2012 Modular Level I, Vol. 6, pp. 227-229  
Study Session 18-66-m  
Describe 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 database.  
B is correct because hedge fund managers themselves decide whether they want to be included in a database. Managers who have funds with an unimpressive track record will not wish to have that information exposed.

Study Session 15, 16 – Fixed Income (103-114) Q=12

103. Correct answer: C

"Features of Debt Securities," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 335-336

Study Session 15-53-d

Explain the provisions for redemption and retirement of bonds.

C is correct because a sinking fund provision requires retirement of a portion of the bond issue each year, rather than retirement of the entire issue at maturity.

104. Correct answer: A

"Risks Associated with Investing in Bonds," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 359-363

Study Session 15-54-g

Describe yield-curve risk and explain why duration does not account for yield-curve risk.

A is correct because duration assumes that all interest rates across the yield curve change by the same amount and therefore each bond's yield changes by the same amount.

105. Correct answer: B

"Understanding Yield Spreads," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 464-465

Study Session 15-56-i

Calculate the after-tax yield of a taxable security and the tax-equivalent yield of a tax-exempt security.

B is correct because the after-tax yield of the taxable security is lower than the yield on the tax-exempt security for both investors. After-tax yield = Pre-tax yield × (1 – Marginal tax rate). For Investor A, the After-tax yield = 6.30% × (1 – 0.45) = 3.47%. For Investor B, the After-tax yield = 6.30% × (1 – 0.30) = 4.41%. Both are less than 4.50% and the investor will choose the investment with the highest after-tax yield.

106.correct answer: A

"Understanding Yield Spreads," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 455-456

Study Session 15-56-d

Define a spot rate.

A is correct because a STRIPS security is a zero-coupon bond with no default risk and therefore represents the appropriate discount rate for a cash flow certain to be received at the maturity date for the STRIPS.

107. Correct answer: A

"Introduction to the Valuation of Debt Securities," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 489-490

Study Session 16-57-c

Calculate the value of a bond (coupon and zero coupon).

A is correct because

+++=1,406 +1,339 +1,275 + 1,214 = 5,234

108. Correct answer: A

"Introduction to the Valuation of Debt Securities," Frank J. Fabozzi, CFA

2012 Modular Level I, Vol. 5, pp. 492-495

Study Session 16-57-d

Explain how the price of a bond changes if the discount rate changes and as the bond approaches its maturity date.

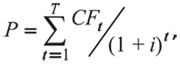
A is correct because the bond is priced below its par value but will be worth exactly par value at maturity. Over time, assuming a stable discount rate, the value of the bond must rise so that it is equal to par at maturity.

109. Correct answer: A  
  
"Introduction to the Valuation of Debt Securities," Frank J. Fabozzi, CFA  
2012 Modular Level I, Vol. 5, p. 498  
Study Session 16-57-c  
Calculate the value of a bond (coupon and zero coupon).

|  |  |  |
| --- | --- | --- |
| A is correct because the value of a zero-coupon bond is = | Maturity value | , where i is the |
| (1 + i)no. of years x 2 |

|  |  |  |
| --- | --- | --- |
| semi-annual discount rate or | $1,000 | = $122.74. |
| (1.06)18x2 |

110. Correct answer: C  
  
"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi, CFA  
2012 Modular Level I, Vol. 5, pp. 537-548  
Study Session 16-58-b  
Calculate and interpret the traditional yield measures for fixed-rate bonds and explain their limitations and assumptions.  
  
C is correct because the yield to worst for a callable bond is the lowest of the yields to call for each possible call date and the yield to maturity. The yield to call or yield to maturity solves the following equation: , where i is the yield to call or yield to maturity, CFt is the cash flow at date t, and T is the maturity or call date. The yield to call if the bond is called in one



|  |  |  |
| --- | --- | --- |
| year is 8.57%, because 105 = | 10 + 104 | . The yield to call if the bond is called in two years is |
| 1.08571 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8.15%, because 105 = | 10 | + | 10 + 102 | . The yield to maturity of the bond is 8.06%, because |
| 1.08151 | 1.08152 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 105 = | 10 | + | 10 | + | 10 + 100 | . The yield to worst is the lowest of these and occurs |
| 1.08061 | 1.08062 | 1.08063 |

when the bond is held until maturity (i.e., it is the yield to maturity).

111. Correct answer: B  
  
"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi, CFA  
2012 Modular Level I, Vol. 5, pp. 563-564  
Study Session 16-58-f  
Distinguish the relations among the nominal spread, the zero-volatility spread, the option-adjusted spread, and option cost.  
  
B is correct because for short-term securities, the difference between the nominal spread (which does not account for the shape of the yield curve) and the zero-volatility spread or Z-spread (the spread over the entire theoretical spot rate curve) is small. This difference grows with the maturity of the security and as the slope of the yield curve increases.

112. Correct answer: B  
  
"Yield Measures, Spot Rates, and Forward Rates," Frank J. Fabozzi, CFA  
2012 Modular Level I, Vol. 5, pp. 570-572  
Study Session 16-58-h  
Explain a forward rate and calculate spot rates from forward rates, forward rates from spot rates, and the value of a bond using forward rates.  
  
B is correct because z6 = [(1+z1) x (1+1f1) x (1+1f2) x (1+1f3) x (1+1f4) x (1+1f5)]1/6 – 1, which is then multiplied by 2 to convert to a bond-equivalent basis, where the forward rates are adjusted to a semi-annual basis and z1 = 1f0. Therefore, z6 = [1.0025 × 1.0035 × 1.0050 × 1.0075 × 1.0110 × 1.0150]0.166 – 1 = 0.0074 × 2 = 1.48%

113. Correct answer: A  
  
"Introduction to the Measurement of Interest Rate Risk," Frank J. Fabozzi, CFA  
2012 Modular Level I, Vol. 5, pp. 608-612  
Study Session 16-59-a  
Distinguish between the full valuation approach (the scenario analysis approach) and the duration/convexity approach for measuring interest rate risk, and explain the advantage of using the full valuation approach.  
  
A is correct because the full valuation approach allows modeling of the response to both parallel and non-parallel yield curve changes and will reflect cash flows that change when interest rates change, whereas the duration/convexity approach assumes parallel yield curve changes and fixed cash flows.

114. Correct answer: B  
  
"Introduction to the Measurement of Interest Rate Risk," Frank J. Fabozzi, CFA  
2012 Modular Level I, Vol. 5, pp. 620-621  
Study Session 16-59-d  
Calculate and interpret the effective duration of a bond, given information about how the bond's price will increase and decrease for given changes in interest rates.

|  |  |  |
| --- | --- | --- |
| B is correct because the effective duration of a bond is D = | V– – V+ | where V–, V0, and V+ |
| 2 x V0 x Δy |

are the values of the bond when the yield falls, under the current yield, and when the yield rises, respectively, and ∆y is size of the yield change.

|  |  |  |
| --- | --- | --- |
| Therefore, D = | 94.474 – 91.041 | = 3.09 |

Study Session 12 – Portfolio Management (115-120) Q=6

115. Correct answer: C

"Portfolio Management: An Overview," Robert M. Conroy and Alistair Byrne

2012 Modular Level I, Vol. 4, pp. 296-300

Study Session 12-43-c

Describe the steps in the portfolio management process.

C is correct. Performance measurement is a part of the feedback step of the portfolio management process.

116. Correct answer: B

"Portfolio Risk and Return – Part I," Vijay Singal

2012 Modular Level I, Vol. 4, p. 335

Study Session 12-44-c

Calculate and interpret the mean, variance, and covariance (or correlation) of asset returns based on historical data.

B is correct. Cov(A,B) = ρABσAσB = 0.75 × 0.4 × 0.3 = 0.09

117. Correct answer: A

Portfolio Risk and Return – Part I," Vijay Singal

2012 Modular Level I, Vol. 4, pp. 373-379

Study Session 12-44-h

Describe the selection of an optimal portfolio, given an investor's utility (or risk aversion) and the capital allocation line.

A is correct. The optimal risky portfolio lies at the point of tangency between the capital allocation line and the efficient frontier of risk assets.

118. Correct answer: B  
  
"Portfolio Risk and Return – Part II," Vijay Singal  
2012 Modular Level I, Vol. 4, p. 418  
Study Session 12-45-g  
Calculate and interpret the expected return of an asset using the CAPM.  
  
B is correct. E(RGBK) = 0.03 + 0.65 × (0.09 – 0.03) = 0.069

119. Correct answer: B  
  
"Portfolio Risk and Return – Part II," Vijay Singal  
2012 Modular Level I, Vol. 4, pp. 412-415  
Study Session 12-45-d  
Explain return generating models (including the market model) and their uses.  
  
B is correct. A return generating model based on factors such as earnings growth and cash flow generation is a fundamental factor model.

120. Correct answer: A  
  
"Portfolio Risk and Return – Part II," Vijay Singal  
2012 Modular Level I, Vol. 4, pp. 429-431  
Study Session 12-45-h  
Describe and demonstrate applications of the CAPM and the SML.  
  
A is correct. Jensen's alpha = Rp – [Rf + βp(Rm – Rf)]   
= 0.155 – [0.025 + 1.2 × (0.118 – 0.025)] = 0.0184