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CFA Level I 6th Mock Exam
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FinQuiz.com – 6th Mock Exam 2015 (AM Session)

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Questions 1 through 18 relate to Ethical Standards

1. Victor Solanki is an economic analyst at Gate Associates. He is preparing a research report on Monte Corp., an oil explorer and producer. Based on industry and economic analysis, Solanki projects Monte's quarterly earnings to rise by 5% provided local government implements its proposed policy of permitting oil exploration in neighboring untapped areas. Based on his discussion with Cindy Davis, a government official, she is hopeful that the government will implement the policy, as discussions with local environmentalists have gone well. Solanki issues a report with the recommendation, "Monte's earnings will rise by 5% in the coming quarter which is projected to have a favorable effect on its share price. I recommend a strong 'buy'."

   Solanki is in violation of the CFA Institute Standards of Professional Conduct because he has:

   A. failed to separate opinion from fact in his recommendation.
   B. acted on material nonpublic information by issuing the report.
   C. issued a recommendation which lacks a reasonable and adequate basis.

   Correct Answer: A

   Reference:
   CFA Level I, Volume 1, Study Session 1, Reading 2, LOS a

   Solanki is in violation of the standards because he has stated his opinion of earnings growth as fact; actual growth may not match his forecast. Standard V (B) 'Communication with Clients and Prospects' requires members and candidates to distinguish opinion from fact.

   Solanki has not acted on material nonpublic information by issuing the report. Solanki does not receive any confidential information in his discussion with Davis. She is merely predicting the government's actions that may or may not materialize. Acting on this immaterial information does not constitute a violation.

   Solanki's recommendation does not lack a reasonable and adequate basis since his forecast is backed by industry and economic analysis.

2. Gus Morrison manages the accounts of several institutional clients. He purchases the stock of Core Tech, a technology giant, for their accounts based on research analyst Jules Wright's recommendation. Wright serves a sell-side research firm and happens to be a close friend of Morrison's. He does not disclose this relationship to his clients believing it will not influence his impartiality. A few months following the allocation, the Core Tech stock's market price heavily declines due to the announcement of a major fraud committed by its chief executive officer.

   With respect to the CFA Institute Standards of Professional Conduct, Morrison is *most likely*:

   A. in compliance.
   B. in violation; he did not uphold his duty of loyalty, prudence and care.
   C. in violation; he did not conduct proper due diligence when using Wright's recommendation.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS b

Morrison is in violation of the standard relating to loyalty, prudence and care because he has failed to disclose his relationship with Wright. As their portfolio manager, Morrison should disclose all actual and potential conflicts of interest so that clients can evaluate those conflicts.

Neither Morrison nor Wright could have anticipated the fraud incidence. Furthermore, the incident does not put a question mark on the expertise or skills of Wright. Since there is no doubt about the expertise of the research analyst, it is incorrect to state that Morrison failed to conduct proper due diligence when relying on her research and recommendation.

3. Renee Irving is part of a team of five analysts who is working on developing a research report on a pharmaceutical company. Irving strongly believes the stock should be rated as a 'weak hold'. Her recommendation is based on a discussion with a medical expert who believes the company's latest drug has more side-effects than originally claimed. Her team members are of the collective opinion that her recommendation is too conservative and that a 'hold' recommendation is more appropriate given that the drug has provided promising results in numerous trial runs. Irving does not agree with the group's recommendation.
Irving's *best* course of action would be to:

   A. request for a change in assignment.
   B. request her name to be withdrawn from the report.
   C. continue identifying herself with the report and disclose her difference in opinion.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

Irving's best course of action would be to continue identifying herself with the report. She can also consider disclosing her difference in opinion. Even though she does not agree with the group's recommendation, there is nothing to suggest that their recommendation lacks a reasonable and adequate basis or is not independent and objective.

4. Which of the following activities *most likely* represents market manipulation and is a violation of the CFA Institute Standards of Professional Conduct?

   A. An investment analyst over-exaggerates his firm's performance in order to win new client accounts.
   B. A global hedge fund increases the price of an oil producer's stock when it makes a significant purchase of its shares.
   C. A dealer firm purchases and sells shares of stock between two accounts in order to sell it to clients at an attractive price.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS b

Option C highlights market manipulation. The dealer firm is artificially attempting to distort prices with the intent of misleading its clients who will believe the security is trading at an attractive price.

Option A highlights misrepresentation of investment performance and not market manipulation.

Option B does not highlight market manipulation; this is because the impact of the trade on the oil producer's price is understandable given the size of the global hedge fund. Any trade undertaken by the fund will have a significant impact on security price.

5. Joyce Mildstorm recently shifted to a competitor asset advisory firm and was careful not to solicit any clients prior to leaving her previous employer. Mildstorm's first assignment involves preparing a research report on a security systems manufacturer, which she had coincidentally covered at her previous employer. To preserve the confidentiality of her past employer, Mildstorm recollects information on the manufacturer from public sources as well as relies on her memory. At the conclusion of her research, Mildstorm discovers that her new recommendation matches the original one.

Mildstorm has *most likely*:

A. not conducted proper due diligence when generating her latest recommendation.
B. violated the standard relating to record retention by relying on memory to prepare the report.
C. violated the standard concerning employer loyalty by preparing a report on a client of her previous employer.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS b

By relying on memory to recreate information records, Mildstorm's actions are inconsistent with the standard concerning record retention. She should only use information collected public sources or directly from the covered company.

Mildstorm has conducted proper due diligence by using information from public sources to prepare the research report.

Mildstorm has not violated the standard concerning employer by covering the manufacturer at her new employer.

6. According to the CFA Institute Standards of Professional Conduct concerning disclosure of conflicts, potential conflict situations that could prohibit a member or candidate from fulfilling his or her duties to the employer should be dealt with by:

   A. documenting the conflict.
   B. reporting it to the employer.
   C. disassociating from the situation.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

Should a member or candidate come across a potential conflict situation that could prevent him or her from fulfilling their duties to their employer, they should report to their employer first and aim to promptly resolve the conflict. Neither disassociating from the situation nor documenting the conflict is the solution.

7. After conducting thorough analysis and compiling his research report, Jason Woods arrives at a weak sell recommendation for a financial services firm. His supervisor instructs Woods that his recommendation is too conservative and that he should revise it to a strong sell. Woods' *best* course of action would be to:

   A. reevaluate the thoroughness of his research process.
   B. maintain a weak sell recommendation and issue the report.
   C. issue a strong sell recommendation to avoid violating his duty of loyalty to his employer.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

Woods must issue a weak sell recommendation and not come under the pressure of his supervisor to issue a strong sell recommendation. Based on the information provided in the case, he has conducted thoroughly analysis and thus should base his recommendation on his own independent and objective judgment. Additionally, there is no need to revise the thoroughness of his research process. By pressurizing Woods to revise his recommendation, the supervisor is violating the standard concerning independence and objectivity

8. According to the CFA Institute Standards of Practice Handbook, which of the following compliance procedures are members and candidates *least likely* recommended to consider?

   A. Prohibiting employee participation in equity-related IPOs.
   B. Offering different levels of service to clients on a selective basis.
   C. Limiting the number of employees who will know that a recommendation is to be disseminated.

Correct Answer: B

Reference: CFA Level I, Volume 1, Study Session 1, Reading 2, LOS a

In order to deal fairly and objectively with clients and prospects, a recommended procedure for claiming compliance is to limit the number of people who are aware of the fact that a recommendation is to be disseminated.

Members and candidates are recommended to encourage their employer to develop formal policies related to equity or equity-related IPOs. Firms should require prior approval for participating in equity IPOs with prompt disclosure of investment actions taken following the offering. However, the emphasis is on placing limitations on participation and not imposing a ban.

Members and candidates should disclose the different service levels being offered to clients and should not offer different service levels selectively.

9. In order to assure fair dealing, members and candidates should issue an investment recommendation:

   A. to all its clients first followed by within the firm.
   B. simultaneously both within the firm and to all its clients.
   C. simultaneously to both suitable clients and within the firm.

   Correct Answer: B

   Reference:
   CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

   In order to assure fair dealing, the Standards of Practice Handbook encourages simultaneous dissemination to both within the firm and to all clients. Dissemination to suitable client accounts is considered a violation of this standard.

10. Francis Meyer is a derivatives trader at Walsh & Spencer. Meyer has made Laura Peterson, a trader serving the firm and reporting to Meyer, in charge of monitoring trades executed for client accounts with a low risk tolerance. Due to a hectic work schedule, Peterson inadvertently overlooks an accidental allocation of a high risk equity stock to the accounts.

    With respect to the CFA Institute Standards of Professional Conduct concerning responsibility of supervisors, Meyer is:

    A. not in violation as Peterson's conduct is not covered by the standards.
    B. not in violation once she has delegated her supervisory responsibilities to Peterson.
    C. in violation because she remains responsible for her supervisory duties despite the delegation.

    Correct Answer: C

    Reference:
    CFA Level I, Volume 1, Study Session 1, Reading 2, LOS b

By delegating her supervisory responsibilities, Meyer does not appease herself of those duties. That is, she remains accountable for the delegated responsibilities. Negligence in the workplace constitutes a violation of the standard concerning misconduct as it reflects adversely on professional competence. By unintentionally allowing the allocation of an unsuitable stock to client accounts, both Meyer and Peterson are in violation of the standard concerning responsibility of supervisors.

11. Catherine Tike serves a brokerage firm. The firm executes trades for client accounts directed to it by Kyle Investments, an investment management firm. Tike has had an excellent performance year generating substantial capital gains for several client accounts. In return for her exceptional performance, the Kyle's CEO offers her a fully paid cruise trip to the Maldives.

According to the Standards of Practice Handbook, Tike should:

A. decline the offer as the additional compensation is excessive.
B. accept the offer and notify her employer immediately afterwards.
C. obtain a written consent from her employer before accepting the offer.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

Tike's best course of action is to seek written consent from her employer before accepting the offer. The standard relating to additional compensation arrangements requires members and candidates to not accept gifts, benefits, compensation or consideration that competes with or is expected to compete with their employer's interests unless they receive a written consent from all parties involved.

12. Trinity Associates manages an equity fund with a mandate of investing in growth oriented securities. As Trinity has had a hard time attracting new clients therefore this year he fund's senior manager has decided to revise the mandate to include value oriented securities. The fund advertises the change in mandate to all potential clients who had rejected the fund's previous mandate.

    According to the Standards of Practice Handbook Trinity Associates is:

    A. fully in compliance.
    B. in violation; the change has not been disclosed to all its clients.
    C. in violation; the mandate can be revised only after notifying potential clients.

    Correct Answer: B

    Reference:
    CFA Level I, Volume 1, Study Session 1, Reading 2, LOS b

    The firm is in violation of the Standards of Professional Conduct by failing to communicate the change in recommendation to current clients. The standard requires disclosure of all information relevant to investment analysis, recommendations or actions to clients and prospects. However, notifying potential clients prior to a change in mandate is not necessary.

13. Sarah Ali is an investment analyst serving a firm managing several equity funds in the country of Lartha. Local laws permit investment analysts to undertake trades for accounts in which they have a beneficial ownership at the same time as their employer. However, client account trades have transaction priority. Ali has identified the stock of Gerard Tech as attractive for her investment portfolio, the firm's equity fund and her client accounts.

    In order to claim compliance with the Code and standards, after allocating the stock to client accounts, Ali is *most likely* required to purchase the stock in the following order:

    A. herself followed by her employer.
    B. her employer followed by herself.
    C. simultaneously for both herself and her employer.

    Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

The CFA Institute Standards of Professional Conduct concerning transaction priority requires client and employer trades to be given preference to those conducted for an account in which a member or candidate has a beneficial ownership. Local laws are less strict in this regard as they place transactions undertaken on behalf of employers and beneficial ownership accounts at par.

The standard relating to Knowledge of the Law defines applicable law as the strictest between local laws or regulations and the Code and Standards. Given that the Code and Standards are stricter with respect to transaction priority, Ali can only purchase the stock for her portfolio after she has acquired it for her firm's equity fund.

14. Dana Irk and Carl Sholes are CFA Level II candidates who have recently sat for the Level II exam and are awaiting their results. In a discussion between the two candidates they make a comment each:

> Irk: "This year the exam did not feature any questions on currency futures."
>
> Scholes: "I found the quantitative techniques section particularly difficult this year as there were long calculations in many questions."

Which candidate's statement is *most likely* in violation of the CFA Institute Standards of Professional Conduct?

A. Irk only.
B. Scholes only.
C. Both Irk and Scholes.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS a

Irk's comment is in violation of the standard concerning conduct as members and candidates in the CFA program; this is because she is discussing a topical area which has not been covered by the exam and in this manner is sharing confidential exam information.

Scholes' comment is also in violation as he is disclosing exam information related to long calculations in quantitative techniques. When expressing a personal opinion, a person is prohibited from disclosing content specific information.

15. Hart Lewis, a fund manager at Maritime Inc., runs an emerging market fixed income hedge fund. The latest securities being evaluated by Lewis are African corporate bonds. Due to the inefficiency of the corporate bond markets in which the issuers operate, security prices have not increased to reflect the early signs of recovery in the credit markets and economy. Lewis takes advantage of the information lag and purchases a significant number of corporate bonds for the fund. Bond prices immediately surge following the fund's purchase leaving investors to question whether the firm has engaged in market manipulation.

Has Lewis engaged in market manipulation?

A. No.
B. Yes, his activities have artificially distorted bond prices.
C. Yes, he has engaged in information based manipulation.

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS b

Lewis has not engaged in market manipulation. Standard II (B) Market manipulation does not preclude transactions undertaken on legitimate trading strategies based on perceived market inefficiencies. Lewis's intent was to exploit the market inefficiency rather than to distort price and mislead market participants. Therefore, he has not engaged in market manipulation of any kind, transaction- or information-based.

16. Veronica Welsh is an investment manager serving an asset advisory firm. Dissatisfied with the current broker's performance Gray Inc., one of Welsh's clients, requests her to redirect his account trades to Smith Bay, a competing brokerage firm. Smith Bay provides average execution and charges a fee higher than the current broker. Welsh chooses not to disclose details of the directed brokerage arrangement to Gray and further decides to allocate the transactions of three other client accounts to Smith Bay.

According to the Standards of Practice Handbook, with respect to directing to trades through Smith Bay, Welsh should:

A. not undertake the arrangement to avoid violating his duty of loyalty to Gray Inc.
B. direct the trades of the three client accounts after disclosing the details of the arrangement.
C. disclose to Gray Inc that it will not be receiving best price and execution prior to directing trades.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS a

Brokerage commission is an asset of the client and is used to benefit the client, so client-directed brokerage does not violate any duty of loyalty. However, given that the brokerage arrangement with Smith Bay does not provide best price and execution, disclosure to Gray Inc. is warranted.

Welsh should not direct the trades of the other three client accounts to Smith Bay. This is because they have not made a request and directing trades to a broker that does not provide best price and execution will be a violation of his duty of loyalty to them.

17. Dale Carlson and Monica Singh are two traders dealing in Asian equities and serving the same brokerage firm. During a trading session, Carlson receives an overseas telephone call. Singh overhears the conversation and discovers that the caller is an Asian trader who has received news from an inside source that an Asian automobile maker is diversifying its line of business and will be signing an agreement to acquire a pharmaceutical. Upon the conclusion of the telephone call, Carlson enters a buy order for the Automobile manufacturer. Although she is aware that Carlson has undertaken an illegal trade, Singh is unsure of what action she should take.

Based on the standard concerning Knowledge of the Law, Singh's *best* course of action is to:

A. consult the firm's legal department.
B. report the incident to legal authorities.
C. disassociate from trading Asian equities.

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

Carlson is acting on material nonpublic information by trading on inside information. It is necessary for Singh to take action and disclose the unethical activity to her supervisor. Since Singh is uncertain of what course of action to take, she should consult her firm's compliance or legal department who can advise her accordingly.

The Code and Standards do not compel members and candidates to report the illegal activity to regulatory organizations unless mandated by the applicable law.

Singh should consider disassociating from trading Asian activities if her employer does not take any action to put an end to the illegal activity.

18. Alan Brown is a retired investment manager who earned his CFA charter fifteen years ago. He recently retired and has since not paid his annual CFA dues or signed the professional conduct statement. In a discussion with his son, Brown states "My fifteen years as a CFA Institute member has equipped me with strong investment management skills and has enabled me to adopt a more analytical and reasoned approach when addressing client needs."

Is Brown's statement in violation of the CFA Institute's Standards of Professional Conduct?

A. No.
B. Yes, he has overstated his competency as a CFA Institute member.
C. Yes, his right to refer to himself as a CFA Institute member has been suspended until he resumes paying his dues and signs the professional conduct statement.

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 2, LOS c

Brown is not in violation of the Code and Standards; this is because his claims of the merits of being a CFA Institute member are facts. The program enhances portfolio management skills and enables managers to handle client affairs in a more informed manner.

Brown has ceased to be a member of the CFA Institute and he cannot identify himself as such since he has not paid his annual dues or signed the professional conduct statement. However, he is not in violation by merely referring to the years in which he was an active member.

Questions 19 through 32 relate to Quantitative Methods

19. An ascending triangle pattern:

    A. produces a horizontal trendline connecting the high prices.
    B. implies that buyers are bearish, waiting for price declines before trading.
    C. suggests that a positive price trend is always quickly offset by a negative price trend.

    Correct Answer: A

    Reference:
    CFA Level I, Volume 1, Study Session 3, Reading 12, LOS e

    In an ascending triangle pattern, a horizontal trendline connects the high prices while an upward sloping trendline connects the low prices. The price patterns suggests that buyers are getting more and more bullish as demonstrated through their trading at increasingly higher prices to halt sell-offs instead of waiting for further price declines.

20. A portfolio manager is short listing ten stocks for an equity fund he is developing. He is selecting stocks from an equity index fund comprising of twelve company stocks. He will gradually add the stocks to the fund but is not concerned about the order in which they are selected.

    The number of ways the manager can select his sample from the equity index is approximately:

    A. 66.
    B. 75.
    C. 132.

    Correct Answer: A

    Reference:
    CFA Level I, Volume 1, Study Session 2, Reading 8, LOS o

$$ {}_nC_r = \frac{n!}{(n-r)!\,r!} = \frac{12!}{(12-10)!\,10!} = 66.0\,. $$

21. A factor that distinguishes ratio from interval scales is that at least one:

A. fails to rank data.
B. has a natural point of origin.
C. orders data based on an underlying characteristic.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 7, LOS a

A factor that distinguishes ratio from interval scales is that the former has an actual point of origin, zero. Interval scales do not have an actual zero as a zero value does not amount to the absence of something.

A limitation of the nominal scale is that it fails to rank data.

Ordinal scales order data based on a particular characteristic.

22. After compiling the returns for a stock index fund (Exhibit), Jeremy Marshall proceeds to measure the riskiness of the fund.

Exhibit:
Data Concerning Returns for
The Stock Index Fund

Year	Returns (%)
2005	25.7
2006	18.2
2007	31.5
2008	33.0
2009	33.5
2010	37.0

Marshall makes the following comments upon the conclusion of his analysis:

Comment 1: “Based on my calculations, the mean absolute deviation (MAD) is approximately 6.29.”

Comment 2: “The MAD is a superior measure to variance in that it uses all the observations in a sample.”

Marshall is *least* accurate with respect to:

A. Comment 1.
B. Comment 2.
C. both of the comments.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 7, LOS g

Marshall is incorrect with respect to both his comments. Based on the data provided, MAD should equal 5.24. Both the MAD and standard deviation incorporate all the observations in a sample.

$$\text{MAD} = \frac{\sum_{i=1}^{n} \left| X_I - \overline{X} \right|}{n}$$

$$\overline{X} = \frac{25.7 + 18.2 + 31.5 + 33.0 + 33.5 + 37.0}{6} = 29.81667$$

MAD =

$$\frac{|25.7-29.81667|+|18.2-29.81667|+|31.5-29.81667|+|33.0-29.81667|+|33.5-29.81667|+|37.0-29.8166}{6}$$

= 5.24

23. A key tenet of the Elliot Wave Theory is that:

A. market waves follow patterns described by the Fibonacci sequence.
B. in a bull market each impulse wave is followed by another impulse wave.
C. secondary market offerings have the potential to change the supply and demand equilibrium.

Correct Answer: A

Reference
CFA Level I, Volume 1, Study Session 3, Reading 12, LOS g

A key tenet of the Elliot wave theory is market waves follow patterns that are ratios of the numbers in the Fibonacci sequence.

Secondly, the theory states that the market moves in a pattern of five waves in a bull market. Each impulse wave is followed by a corrective wave.

24. Scottsdale Limited is a manufacturing firm which is exploring two factory expansion projects, Alpha and Seta. Scottsdale can only undertake one of the two projects. Both projects require an outlay of $300,000 each. Alpha and Seta are projected to generate $45,000 and $25,000, respectively, in cash flows in perpetuity. The cost of capital for Alpha and Seta is 8% and 4% respectively.

Which project will Scottsdale undertake based on the:

	NPV Rule?	IRR Rule?
A.	Alpha	Seta
B.	Seta	Seta
C.	Seta	Alpha

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 6, LOS b

NPV (Alpha) = - $300,000 + $45,000/0.08 = $262,500
NPV (Seta) = - $300,000 + $25,000/0.04 = $325,000
Based on the NPV rule, Seta should be selected.

Investment = CF/IRR
IRR (Alpha) = $45,000/$300,000 = 0.15 or 15%
IRR (Seta) = $25,000/$300,000 = 0.0833 or 8.33%
Based on the IRR rule, Alpha should be selected.

25. The mean average monthly return generated by a stock index mutual fund is 4.5% while the standard deviation is 6.7% over the past 96 months. The endpoints of the intervals that must contain at least 36% of monthly returns according to Chebyshev's inequality are:

A. – 8.90% to 17.90%.
B. – 3.88% to 12.88%.
C. 4.50% to 8.38%.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 7, LOS h

According to Chebyshev's inequality, 36% of the observations must fall within 1.25 standard deviations of the mean. The interval around the sample mean is 4.5% ± (1.25 × 6.7%) = 4.50% ± 8.38%. The lower endpoint containing at least 36% of the observations is **–** 3.88% while the higher endpoint is 12.88%.

26. An analyst strongly believes that the weather conditions in a particular country influence the attendance of shareholders in company meetings. He intends to prove the relationship using hypothesis testing. A fellow analyst claims that the analysis may be prone to bias because his colleague is using an extensive number of variables to prove this notion.

The statistical analysis is subject to the bias known as:

A. data mining.
B. relationship.
C. sample selection.

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 3, Reading 10, LOS k

The analysis is subject to data mining bias. This is exhibited by the analyst's attempts to test numerous variables to prove his notion. Data mining relates to the overuse of data to search for statistically significant patterns. Too much digging is a warning sign of this bias.

27. A portfolio is invested in stocks A and B with 30% of the portfolio invested in A. The exhibit below illustrates the covariance matrix and expected returns with respect to the portfolio.

Stock	A E(R) = 12%	B E(R) = 8%
	Covariance Matrix	
Stock	A	B
A	450	225
B	225	180

The correlation between stocks A and B is *closest* to:

A. 0.00.
B. 0.63.
C. 0.79.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 8, LOS k

$$p(R_A, R_B) = Cov(R_A, R_B) / \sigma(R_A)\sigma(R_B)$$
$$= 225/[(450)^{0.5} \times (180)^{0.5}] = 0.79057$$

28. The rate of return on U.S. Treasury debt *most likely* reflects compensation for:

A. illiquidity.
B. default risk.
C. maturity differences.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 5, LOS b

The difference between the interest rate on longer-term Treasury debt and shorter-term Treasury debt reflects the maturity premium.

U.S. Treasury debt can be converted to cash quickly and thus its rate of return does not reflect an illiquidity premium. Debt can be bought and sold quickly without affecting market prices.

U.S. Treasury debt is issued by the U.S. government and thus does not entail default risk as they are guaranteed by the full faith of the government.

29. Larc Enterprises, a software manufacturer, is in the process of evaluating three takeover targets. The company's management is determining the ability of the target to generate efficiency gains in production following takeover.
45% of the companies which have produced steady productivity gains have been taken over, P (Takeover) = 0.45. 30% of the companies which have secured efficiency gains in the past have continued to do so after being taken over, P(Gains) = 0.30. The probability that the target will generate gains following a takeover, $P(Gains|Takeover)$, is 0.20.

Using Baye's formula, the probability that the takeover will occur given that the target has generated production efficiency gains, $P(Takeover|Gains)$ is *closest* to:

A. 0.20.
B. 0.30.
C. 0.67.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 8, LOS n

The probability that a takeover will occur given the information that the target has generated productive efficiency gains, $P(Takeover|Gains)$, is calculated as follows:

$$P(Takeover|Gains) = \frac{P(Gains|Takeover)}{P(Gains)} P(Takeover) = \frac{0.20}{0.30} \times 0.45 = 0.30$$

30. An analyst is using a stock's past performance to generate forecasts concerning the future. In the past twelve years, the stock has paid a dividend in only nine years. The analyst will use the Binomial model to determine the expected number of times the stock will pay dividend over the next twelve years.

The probability that the stock will pay a dividend in exactly nine out of twelve years is *closest* to:

A. 0.09.
B. 0.26.
C. 0.75.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 9, LOS f

$$p(x) = P(X = x) = \frac{n!}{(n-x)!x!} p^x (1-p)^{n-x} = \frac{12!}{(12-9)!(9)!} 0.75^9 (0.25)^3 = 0.258$$

31. The probability that a uniform random variable with limits 2 and 7 is less than or equal to 4 is *closest* to:

A. 0.142.
B. 0.285.
C. 0.571.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 2, Reading 9, LOS i

To determine the probability, we need to find the area under the curve with base equal to 2 (4 – 2) and height of (1/7). The probability, F(4), is equal to 2/7 or 0.285.

32. Douglas McGreggor is an economic analyst who is 90% confident that the Brazilian GDP will rise to 4.6% in the coming year. His forecast is based on monthly economic data pertaining to the past twenty years. The mean monthly GDP over the period of analysis is 5.2% while the sample standard deviation is 9.0%. The analyst will be using a t-critical value of 1.646 for the purposes of analysis.

Will a confidence interval constructed from the data provided include the population mean?

A. Yes.
B. No, the population mean will exceed the upper limit of the interval.
C. No, the population mean will fall below the lower limit of the interval.

Correct Answer: A

Reference: CFA Level I, Volume 1, Study Session 3, Reading 10, LOS j

The confidence interval for the population mean is determined as follows:

$$\overline{X} \pm t_{0.05}\frac{s}{\sqrt{n}} = 5.2\% \pm (1.646)\frac{9.0\%}{\sqrt{20\times 12}} = 4.2438\% \text{ to } 6.1562\%$$

Since the population mean lies within the interval, McGreggor can be 90% confident that the range includes the population mean.

Question 33 through 44 relate to Economics

33. A U.S. based manufacturer is expecting ARS 5 million from its Argentinean client in six months. To hedge foreign currency risk he has engaged in a forward contract. The current spot rate is USD/ARS 0.1289 and is expected to appreciate by 1.5% at contract expiration. Data regarding forward points is shown in exhibit below:

Exhibit

Maturity	**Forward Points (%)**
One month	- 1.3
Three months	- 3.8
Six months	- 7.2

At the expiration of the forward contract the manufacturer will receive USD:

A. 0.60 million.
B. 0.64 million.
C. 0.71 million.

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 6, Reading 21, LOS e

The manufacturer will receive USD 0.60 million (0.1196 × 5 million) by selling ARS 5 million at the expiration of the contract. The rate at which the transaction will take place is USD/ARS 0.1196 (calculated below):

Forward/Transaction rate = USD/ARS 0.1289 × (1 – 0.072) = 0.1196

34. Taylor House is a German equity market analyst. He forecasts the Brazilian Real (BRL) to appreciate against the Euro in the coming months, which will influence the cost of imports and exports.

Based on House's exchange rate forecast which of the following situations will *most likely* materialize?

A. Long-run aggregate supply will decrease.
B. Short-run aggregate supply will decrease.
C. Aggregate demand curve will shift leftwards.

Correct Answer: B

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 17, LOS h

A change in the exchange rate will have no impact on long-run aggregate supply. However, a forecasted depreciation (appreciation) of the domestic (foreign) currency will increase the cost of BRL denominated imports and raw materials. This, in turn, will increase production costs in Germany causing the aggregate supply curve to shift to the left.

In response to a depreciation of the domestic currency, the Euro, German exports will be relatively cheaper relative to other foreign products being sold in Germany. Exports will increase and imports will decline as a result of the decline in the value of the Euro. The aggregate demand curve will shift to the right.

35. Jacqueline Smart is an economic analyst in Russia. Smart is making predictions for the future value of the USD in terms of the domestic currency, the Ruble (RUB). Based on her market analysis, Smart forecasts the nominal exchange rate to depreciate by 3% and the U.S and Russian price levels to appreciate by 6% and 8% respectively.

Based on Smart's forecasts, the relative purchasing power of RUB denominated income will approximately:

A. increase by 5%.
B. decrease by 5%.
C. increase by 6%.

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 6, Reading 21, LOS a

A depreciation in the real value of the RUB/USD by an approximate 5% (- 3% + 6% – 8%) means that it will cost less to buy U.S. goods. Stated differently, the Russian investor's real purchasing power relative to U.S. goods has increased.

36. An analyst has gathered the following market share data for an industry comprising of four companies.

	Company	**Market Share**
1.	Köln	55%
2.	TZR	25%
3.	WOK	10%
4.	Lure	10%

The industry's two firm HHI is closest to:

A. 0.80
B. 36.5
C. 0.37

Correct Answer: C

Reference:
CFA Level 1, Volume 2, Study Session 4, Reading 16, LOS g

Two firm HHI = $0.55^2 + 0.25^2 = 0.3650 \approx 0.37$

37. Brazil manufactures 85 tons of steel in a typical year. However, domestic demand is 120 tons and thus 15 tons is imported at the world price, $780 per ton. Domestic authorities impose a tariff of 10% on the imports raising domestic price to $795. After the imposition of tariffs domestic steel manufacturing increases to 100 tons while domestic demand declines to 110 tons.

The loss in consumer surplus arising from the imposition of tariffs is *closest* to:

A. $187.50.
B. $1,725.00
C. $1,837.50.

Correct Answer: B

Reference:
CFA Level 1, Volume 2, Study Session 6, Reading 20, LOS e

Loss in consumer surplus = ($795 – $780) × 110 + 0.5 × ($795 – $780) × (120 – 110) = $1,725.00

38. Trace Corp operates in a perfectly competitive market. The supply and demand functions are as follows:

$Q_D = 40 - 4P$
$Q_S = 12 + 2P$

Based on the supply and demand functions, the optimal price is *closest* to:

A. 4.67.
B. 8.67.
C. 21.33.

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 16, LOS d

The optimal price, 4.67, is found at the intersection of the market supply and demand curves, where Q* represents equilibrium quantity.

$P = 10 - 0.25Q_D = -6 + 0.5Q_S$
$16 = 0.75Q^*$
$Q^* = 21.3333$

Based on the market demand curve, the optimal price is 4.67 [10 – 0.25(21.3333)].

39. Market structures where there is no single optimum price and output analysis that fits all market situations are *most likely* characterized as:

    A. oligopoly.
    B. perfect competition.
    C. monopolistic competition.

    Correct Answer: A

    Reference:
    CFA Level 1, Volume 2, Study Session 5, Reading 16, LOS d

    There is no single price and output analysis that fits all oligopoly market situations. The interdependence among the firms makes market structures provide a set of varied, complex alternatives.

    In perfectly competitive markets the optimal price and output is where the market supply and demand curves intersect; i.e. the equilibrium price and quantity, respectively.

    In the case of monopolistic competition, in the short run, output is maximized where marginal revenue is equal to marginal cost while the optimal price is determined from the demand curve.

40. The peak phase of the business cycle is characterized by:

    A. a decline in business hiring rates.
    B. a slowly rising unemployment rate.
    C. heightened investment in shares of company with steady positive cash flows.

    Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 18, LOS a

The peak phase of the business cycle is characterized by a declining hiring rate. However, the unemployment rate continues to fall.
During business cycle recessions there will be higher demand for safe assets such as the stocks of companies with stable operating cash flows.

41. In 2011, the inflation rate in South Africa was – 1.8% and real GDP value was ZAR 545.6 million representing a decrease of 0.5% from the previous year. In the same year GDP at market prices equaled ZAR 625.5 million.

Based on the data provided, the nominal GDP in 2010 would have been *closest* to (in millions):

A. ZAR 593.80.
B. ZAR 645.14.
C. ZAR 668.78.

Correct Answer: C

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 17, LOS c

All ZAR figures are in millions.
Inflation rate = Percentage change in GDP price deflator
GDP price deflator$_{2011}$
= Nominal GDP/Real GDP × 100
= ZAR 625.5/ZAR 545.6 × 100
= 114.64

GDP price deflator$_{2010}$
= 114.64/0.982 = 116.74

Real GDP$_{2010}$
= ZAR 545.6 × 1.05 = ZAR 572.88

Nominal GDP$_{2010}$
= (116.74/100) × ZAR 572.88
= ZAR 668.78

42. The automobile industry in Kyrone, a developing country situated in South Asia, comprises of 8 manufacturers each with an equal market share. The Herfindahl-Hirschman index (HHI) and the four-firm concentration ratio, respectively, are *closest* to:

A. 0.125 and 50%.
B. 0.016 and 50%.
C. 0.500 and 100%.

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 16, LOS g

HHI = 1/8 = 0.125

Each firm has a market share of 12.5% (1/8 × 100), therefore the four-firm concentration ratio is 50% (12.5% × 4).

43. The aggregation process *most likely* involves:

A. using inverse demand functions in the case of market demand.
B. summing the market prices quoted by all sellers in the case of market supply.
C. summing the quantity demanded by all individual buyers in the case of market demand.

Correct Answer: C

Reference:
CFA Level 1, Volume 2, Study Session 4, Reading 13, LOS d

Aggregating demand involves summing the quantity demanded by all individual buyers. The demand function, and not the inverse demand function, is multiplied by the number of buyers.

Aggregating market supply involves summing the quantity supplied, not the price, by all sellers.

44. If the market demand for a product always responds positively to an increase in price resulting in a positively sloped demand curve, the product is *most likely* classified as:

A. Giffen.
B. normal.
C. inferior .

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 4, Reading 14, LOS f

In the case of Giffen goods, the magnitude of the income effect is larger and negative such that it overpowers the substitution effect. This will result in a positively sloped demand curve and will imply that consumers will buy more (less) of the product when price increases (decreases).

In the case of normal goods, the market demand's response to price changes is always inverse; a decrease in price will increase quantity demanded producing a negatively sloped demand curve.

In the case of inferior, non-Giffen goods, an increase in income will cause the consumer to buy less of the good. Demand curves are negatively sloped for inferior goods in general.

Questions 45 through 68 relate to Financial Reporting and Analysis

45. The receipt of payment in advance of delivering the goods to the final customer is *most likely* classified in the financial statements and recorded, respectively, as:

	classification:	recorded:
A.	prepaid revenue	increase in assets and revenue.
B.	unearned revenue	increase in assets and liabilities.
C.	accrued revenue	increase in assets and revenue.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 26, LOS e

The receipt of payment in advance of delivering the goods to the final customer is classified as unearned revenue. The transaction is recorded by increasing assets (cash) and liabilities (deferred or unearned revenue).

46. An analyst is determining whether there is an improvement in a firm's solvency from the data available in exhibit below.

Exhibit:

	2011	2010
Operating profit	$24,560	$21,278
Net profit	$17,548	$16,740
Net interest expense	$10,460	$10,030
Interest payments	$9,430	$8,900
Current assets*	$30,500	$25,700
Current liabilities	$21,080	$18,850

*This figure includes the closing inventory balance that equals $12,200 and $14,520 in 2010 and 2011, respectively.

The analyst will *most likely* conclude that the firm's solvency position has improved due to an increase in:

A. operating profit by $3,282.
B. current ratio from 1.36 in 2010 to 1.45 in 2011.
C. interest coverage ratio from 2.39 in 2010 to 2.60 in 2011.

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 28, LOS e

Solvency measures the ability of a company to meet its long-term debt obligations. The interest coverage ratio is one measure of solvency which is calculated as 'EBIT (or operating profit)/Interest payments'.

Interest coverage ratio (2010) = $21,278/$8,900 = 2.39

Interest coverage ratio (2011) = $24,560/$9,430 = 2.60

47. Tranvix Associates is a financial services firm, which operates from a rented office building. On January 1, 2013 the firm paid a cumulative $48,000 in rent for the next three months. The exhibit below illustrates the company's rent prepayment schedule for any typical financial year that ends on December 31.

Exhibit: Tranvix's Rent Prepayment Schedule

Payment Date	Amount paid
January 1	$48,000
April 1	Same
July 1	Same
October 1	Same

Assuming all rental transactions are recorded and adjusted at the end of each quarter, on August 31, 2013 Tranvix Asscoiates will decrease:

A. cash by $48,000.
B. equity by $32,000.
C. current liabilities by $32,000.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 7, Reading 23, LOS d

Monthly rental is \$16,000 (\$48,000/3). On August 31, 2013 two months of rental have accrued. Therefore, the relevant accounting entry is to decrease prepaid rent (current assets) by \$32,000 (\$16,000 × 2) and increase rent expense (or decrease net income which is a component of equity) by the same amount.

48. Which of the following is *least likely* an example of a contra account?

A. Trade discounts to offset revenue.
B. Deferred tax assets to offset tax expense.
C. Allowance for bad debts to offset accounts receivable.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 7, Reading 23, LOS a

A contra account is used to offset or deduct the value of another account. Deferred tax asset is not an example of a contra account as changes in the deferred tax asset are added to taxes payable to determine tax expense.

49. Which of the following financial statement implications results from the company's conservative expense recognition policy?

A. Equity will be understated.
B. Profitability ratios will be overstated.
C. Operating cash outflows will be overstated.

Correct Answer: A

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 25, LOS d

A conservative expense recognition policy will result in recognizing expenses sooner rather than later (i.e. accelerating expense recognition). This will serve to understate profitability and consequently retained earnings, which in turn will understate equity.

A company's overall cash flow statement and its individual components will not be affected by a company's expense recognition policy.

50. Which of the following equations *most* accurately illustrates how free cash flow to the firm (FCFF) is calculated from cash flow from operations (CFO) under IFRS if interest and dividends received are classified in investing activities while interest paid in financing activities?

    A. FCFF = CFO – fixed capital investment
    B. FCFF = CFO + interest received + dividends received – fixed capital investment
    C. FCFF = CFO + Interest(1 – tax rate) + interest received + dividends received – fixed capital investment

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 27, LOS c

CFO represents cash flow from operations under IFRS if interest paid was included in financing activities. Since this is the case in the question, the CFO does not have to be adjusted for Interest(1 – tax rate).

Since interest and dividends received are placed in investing activities, these should be added back to determine CFO.

51. The exhibit below illustrates selective financial information concerning Gadget Enterprises for the years 2012 and 2013.

Exhibit

$ Millions	2013	2012
Cash on hand	15	12
Net revenue	220	250
Operating income	160	130
Net income	85	90

Based on the data presented, which of the following conclusions is *most* valid?

A. The company's efficiency has improved.
B. The company's cash to income ratio has improved by 32.4%.
C. The amount of cash generated per $1 of revenue has increased by 42.05%.

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 27, LOS i

All $ figures are in millions.
The company's cash to income ratio has improved by 1.56%
(0.09375/0.092308 – 1).

Cash to income ratio (2013) = $15/$160 = 0.093750
Cash to income ratio (2012) = $12/$130 = 0.092308

The change in the company's efficiency cannot be determined based on the data presented.

Cash/revenue (2013) = $15/$220 = 0.068182
Cash/revenue (2012) = $12/$250 = 0.048000

The amount of cash generated per dollar of revenue has increased by 42.05%
(0.068182/0.04800 – 1).

52. The exhibit below highlights selective financial information concerning Rake Corp. and Industry averages.

Exhibit

	Rake Corp	Industry Average
Average sales growth	20%	16%
Average inventory	$23 million	$28 million
Cost of goods sold	$121 million	$115 million

Based on the information presented in the exhibit, which of the following conclusions is *most* valid? Rake Corp.:

A. has obsolete inventory on hand.
B. has inadequate inventory levels.
C. is efficiently managing its inventory.

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 29, LOS h

All $ figures are in millions.

	Rake	Industry Average
Inventory turnover	$121/$23 = 5.26	$115/$82 = 4.11
Days of inventory on hand	365/5.26 = 69 days	365/4.11 = 89 days

Relative to the industry, a higher inventory turnover ratio, lower number of days of inventory on hand, above-average sales growth and minimal inventory write-downs all point towards highly effective inventory management.

Minimal write-downs coupled with above average industry sales growth can also indicate efficient inventory management.

53. A company issued 7% fixed-rate corporate bonds at their par value. A few days later, the market interest rate moved to 6%. The company uses the fair value option to record all assets and liabilities. If the company continues to carry fixed rate bonds at their historical cost:

A. net income will be understated.
B. the debt-to-capital ratio will be overstated.
C. economic liabilities will be lower than the debt's amortized cost.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 32, LOS b

At the time of issuance, market interest rate was 7% (bonds are issued at par and hence have a market rate of interest equal to the coupon rate). A few days later, the rate declined resulting in fair value of the liability increasing relative to the historical amortized cost. If the company fails to increase the value of the liability to its fair value, debt-to-capital ratio will be understated as debt is carried at a lower value.

Net income will understated because the increase in value of the liability is not recognized as a gain in the income statement.

The decrease in market interest rates will cause the value of economic liabilities to rise above amortized cost.

54. A company uses the FIFO method of inventory accounting while taxation authorities require the LIFO method for tax purposes. The difference between the carrying amount and tax base is *most likely* attributable to a:

A. permanent difference.
B. taxable temporary difference.
C. deductible temporary difference.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 31, LOS f

The carrying amount of the asset is greater than its tax base giving rise to a taxable temporary difference. Under LIFO, ending inventory comprises of older, relatively cheaper inventory units while ending inventory under FIFO comprises recent, relatively expensive inventory units.

55. The exhibit below illustrates the provision for income taxes as well as profit before taxes for a manufacturing concern for the financial years 2012, 2013 and 2014.

Exhibit

$'000	2014	2013	2012
Current income taxes	785	652	850
Deferred income taxes	(420)	20	(205)
Profit before taxes	1,058	1,041	945

The effective tax rate is the highest in:

A. 2012.
B. 2013.
C. 2014.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 31, LOS d

All $ figures are in thousands.

Effective tax rate (2014) = ($785 – $420)/$1,058 = 0.344499 or 35.0%

Effective tax rate (2013) = ($652 + $20)/$1,041 = 0.6455 or 65.0%

Effective tax rate (2012) = ($850 – $205)/$1,045 = 0.6172 or 62.0%

The effective tax rate is the highest in the year 2013.

56. On January 1, 2012, Howard Inc. entered into a lease to acquire equipment. The lease requires five annual payments starting on January 1, 2012 and does not transfer title of ownership to Howard Inc. at the end of the term. The company prepares and presents its financial statements in accordance with IFRS. Details concerning the lease are summarized in the exhibit below:

Exhibit: Details Concerning Howard Inc.'s Lease Transaction

Useful life of the equipment	6 years
Fair value of the equipment	$21,000
Salvage value of the equipment	$0
Term of the lease	5 years
Annual lease payments	$4,900
Discount rate	10%

Using fair values to record the leased asset and liability on the balance sheet upon initial recognition, the interest expense reported in the fiscal year 2013 is *closest* to:

A. $0.
B. $1,610.
C. $2,100.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 32, LOS h

The lease undertaken by Howard Inc. is a finance lease. This is evident by the following:

- The lease term is for the major part of the economic life of the asset, 83.33% (5 years/6 years), despite the title of ownership not being transferred.
- The present value of the leased payments is substantially all of the fair value of the leased asset.
    - Present value of lease payments at a discount rate of 10%:
        - CF_0 = \$4,900
        - CF_1 = \$4,900
        - CF_2 = \$4,900
        - CF_3 = \$4,900
        - CF_4 = \$4,900
        - PV = \$20,432.34
    - Fair value of leased asset \$21,000. Therefore, the proportion of leased asset to the fair value of equipment is 97.3%.

Interest expense is calculated in the exhibit below:

Year	Lease liability, 1 January	Annual lease payment, 1 January	Interest (at 10% accrued in previous year)	Reduction of lease liability, 1 January	Lease liability on 31 December after Lease Payment on 1 January same year
2012	\$21,000	\$4,900	\$0	\$4,900	\$16,100
2013	\$16,100	\$4,900	\$1,610	\$3,290	\$12,810

57. Which of the following measures will be higher under an operating lease relative to a finance lease during the initial years of a lease term?

    A. Debt-to-equity ratio
    B. Total asset turnover
    C. Operating cash flows

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 32, LOS h

Total asset turnover will be higher under an operating lease; this is because the lease is treated as a rental and the underlying asset is not recorded on the balance sheet. For a finance lease, the lessee will record an asset on the balance sheet equal to the lower of the present value of the leased asset and present value of leased payments.

A lessee who has undertaken an operating lease will report lower debt (no lease liability is reported) and higher equity (profit is higher as only rental expense is deducted). Thus, debt-to-equity ratio will be lower for operating leases. Operating cash flows will be lower under operating leases as the full lease payment is shown as operating cash outflow. For a finance lease, only the portion of the lease payment relating to interest expense reduces operating cash flow.

58. On an income statement depreciation expense is grouped by:

A. nature
B. function
C. either nature or function.

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 25, LOS

On an income statement depreciation can be grouped by nature whereby depreciation on equipment as well as depreciation on administrative facilities is combined into a single line item.

Depreciation can also be grouped by function, which involves including the expense as part of cost of goods sold. In this case, depreciation is related to equipment used to generate sales.

59. Investing in the common stock of another company is *most likely* classified as a (n):

A. financing activity.
B. investing activity.
C. operating activity.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 7, Reading 23, LOS a

The purchase of another entity's equity securities is classified as an investing activity.

60. E-rote publishes newsletters on a monthly basis by the same name. To subscribe readers must pay an annual fee of $450 at the start of the year. E-rote currently has 100 subscribers and this number is unexpected to change in the foreseeable future. The company's fiscal year commences March 1^{st}.

For the fiscal year ending in 2013, the cumulative adjusting accounting entry required on December 31, 2012 is:

A. increasing revenues by $75,000.
B. decreasing liabilities by $375,000.
C. decreasing revenues by $375,000.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 7, Reading 23, LOS d

At the beginning of the year, customers have prepaid $4,500 ($450 × 100). E-rote will record a cash payment and establish an unbilled subscription account (liability) amounting to $4,500 each.

By December 31, 2012, ten months have passed. The adjustment accounting entry would be to reduce the unbilled subscription account and increase revenues by $375,000 ($4,500/12 × 10 × 100).

61. Martino Ramirez is the financial officer at Sky Gates. He is analyzing the movements in the company's inventory account for the fiscal year ended December 31, 2013 (Exhibit). The company uses the LIFO method of inventory accounting. Sky Gates' LIFO reserve has increased by $45 over the same period.

Exhibit: Movement in Sky Gates' Inventory Account
For the Year 2013

Transaction	Quarter	Number of Units	Price per Unit ($)
Purchase	1	100	5
Sale	2	90	10
Purchase	3	210	8
Sale	4	200	10

Relative to LIFO, ending inventory using the FIFO method of inventory accounting is higher by:

A. $45.
B. $60.
C. $100.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 29, LOS e

Ending inventory using the FIFO method:
Total sales units = 200 + 90 = 290

Using the FIFO method, the first units purchased are assumed to be sold first. This means the 100 units purchased in the first quarter will be fully sold. The remainder 190 (290 – 100) units will be sold from the 210 units purchased in the third quarter. The number of units remaining in ending inventory is thus 20 units (210 – 190).
Ending inventory = 20 × $8 = $160.

Ending inventory using the LIFO method:
Total sales units = 200 + 90 = 290

Using the LIFO method, the most recent units purchased are assumed to be sold first. This means the 210 units purchased in the third quarter will be fully sold. The remainder 80 (290 – 210) units are assumed to be sold from the 100 units purchased in the first quarter. The number of units remaining in ending inventory is thus 20 units (100 – 80).
Ending inventory = 20 × $5 = $100.

Ending inventory reported under FIFO is higher by $60 ($160 – $100).

62. In response to rising input costs, CR Builders has set a target for reducing the number of days of inventory on hand by twenty. The exhibit below highlights selective financial information concerning the company for the fiscal year 2013.

Exhibit

Days of inventory on hand (beginning of year)	145
Cost of goods sold – 2012	$455,000
Cost of goods sold – 2013	$575,000

In order to meet its target, CR Builders will need to adjust its average inventory balance by:

A. reducing it by $120,000.
B. increasing it by $16,164.
C. increasing it by $5,900,000.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 28, LOS b

Days of inventory on hand will need to be reduced to 125 days (145 – 20).
Days of inventory on hand = $\frac{Average\ inventory}{Cost\ of\ goods\ sold} \times 365$
Average inventory (2012) = (145 × $455,000)/365 = $180,753.42

Average inventory (2013) = (125 × $575,000)/365 = $196,917.81

Average inventory balance will need to be increased by approximately $16,164 ($196,917.81 – $180,753.42).

63. The financial statement effects of an anti-dilutive security are:

A. permitted to be recognized under IFRS only.
B. not incorporated in the calculation of EPS under IFRS and U.S. GAAP.
C. permitted to be recognized if it decreases diluted EPS relative to basic EPS.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 25, LOS h

Anti-dilutive securities are not included in the calculation of diluted EPS under IFRS or US GAAP. Anti-dilutive securities increase a company's EPS relative to the basic EPS.

64. For the fiscal year 2012 Lakewood Inc. reported net income and revenues of $45,550 and $65,000 respectively. The company collected $58,000 in cash from its credit sales. Current assets increased by $30,000 over the same year.

Relative to revenue earned on a cash basis, Lakewood Inc.'s accrued revenues are *most likely*:

A. equal.
B. higher by $7,000.
C. lower by $28,000.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 27, LOS f

Increase (Decrease) in accounts receivable = Revenue – cash received from customers

Accounts receivable increased by $7,000 ($65,000 – $58,000). Relative to cash receipts from customers, revenue on an accrual basis is higher by $7,000.

65. Which of the following factors will *most likely* lead to a decline in the interest coverage ratio?

  A. A decrease in cost of sales.
  B. An increase in interest income.
  C. An increase in amortization expense.

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 28, LOS e

The interest coverage ratio is calculated with EBIT or operating earnings in the numerator and interest expense in the denominator. An increase in amortization expense will reduce operating earnings thereby decreasing this measure.

A decrease in cost of sales will increase gross profit and hence operating income which in turn will lead to an increase in the interest coverage ratio.

Interest income does not feature in the calculation of this measure and so an increase in interest income will not affect this measure.

66. Low quality financial reporting can *most likely* result from:

  A. using short depreciable life of assets.
  B. stretching accounting principles to achieve a desired outcome.
  C. exercising pessimistic assumption about collectability of receivables .

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 10, Reading 33, LOS i

Using extraordinarily long depreciable lives, unrealistically optimistic assumption about collectability of receivables and stretching accounting principles to achieve a desired outcome will lead to low financial reporting quality.

67. An analyst estimates that the days-of-sales-outstanding for a company would decrease from 15 days in the current year to 12 days in the coming year. Total sales (all on credit) equaled $267 million in the current year and are expected to increase to $350 million next year.

    To achieve the lower DSO, the company's accounts receivable balance must:

    A. increase by $252,486.
    B. decrease by $350,957.
    C. increase by $517,934.

    Correct Answer: C

    Reference:
    CFA Level I, Volume 3, Study Session 10, Reading 33, LOS c

    Receivable turnover:365/15 = 24.333 and 365/12 = 30.42
    Accounts receivable: 267 million/24.3 = 10,987,654
    350/30.42 = 11,505,588

    Hence, the difference is $517,934

68. A gain or loss on debt extinguishment:

A. is not disclosed on the income statement if immaterial.
B. does not include debt issuance costs when the IFRS are used.
C. is disclosed as a separate line item on the cash flow statement when using the indirect method.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 32, LOS c

Under IFRS, debt issuance costs are included in the measurement of the liability and thus are a part of its carrying amount; therefore, these costs are not included as part of gain or loss on debt extinguishment.

A gain or loss on debt extinguishment is not disclosed as a separate line item when immaterial; this does not imply that it is excluded from the income statement.

When preparing a statement of cash flows using the indirect method, net income is adjusted to remove the effects of gains or losses on debt extinguishment.

Questions 69 through 76 relate to Corporate Finance

69. The exhibit below illustrates financial data for a corporation.

Exhibit

	2013	2012
Closing accounts receivable balance	$450,000	$390,000
Annual sales on credit	$5,800,000	$5,435,000
Average accounts receivable	$460,000	$470,000

The percentage change in the number of days of receivables is *closest* to:

A. – 8.3%.
B. + 8.0%.
C. + 15.4%.

Correct Answer: B

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 39, LOS b

Number of days of receivables
= Accounts receivables/Average day's sales on credit
= Accounts receivables/(sales on credit/365)

Number of days of receivables (2013) = $450,000/($5,800,000/365) = 28.3 days
Number of days of receivables (2012) = $390,000/($5,435,000/365) = 26.2 days
The number of days of receivables has increased by 8.0% (28.3/26.2 – 1).

70. The shape of the marginal cost of capital schedule can *least likely* be attributable to:

A. economies of scale in raising new capital.
B. methodology used in estimating flotation costs.
C. debt covenants restricting issuance of new debt.

Correct Answer: B

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 36, LOS k

The marginal cost of capital schedule is a step-up cost schedule, which results from the cost of capital changing as more capital is raised. The shape of the schedule can be attributed to debt covenants that may make raising debt more costly. A company with an existing debt with a bond covenant may restrict the company from issuing debt with similar seniority as existing debt. Thus a company may need to incur higher costs in raising additional debt.

The shape of the schedule may also be attributable to the deviation of increasing marginal costs of capital from the target capital structure. This deviation may arise from economies of scale in raising new capital, which encourages a company to issue new securities in proportions, which may be larger and result in the marginal capital structure deviating from the proportions required by the target.

Flotation costs do not influence the shape of the marginal cost of capital schedule.

71. A company's current credit terms are 4/5 net 30. If the company continues to pay on the 15th of each month, a decision to modify the terms to 3/8 net 30 will *most likely*:

A. increase cost of trade credit.
B. decrease cost of trade credit.
C. not influence cost of trade credit.

Correct Answer: A

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 39, LOS f

To evaluate the impact of the change in credit terms, the cost of credit will be calculated for each credit terms based on the stated payment date.

Cost of trade credit = $\left(1+\frac{Discount}{1-Discount}\right)^{\left(365/Nofdaysbeyonddiscountoeriod\right)}-1$

Cost of trade credit (4/5 net 30) = $\left(1+\frac{0.04}{1-0.04}\right)^{\left(365/10\right)}-1=343.71\%$

Cost of trade credit (3/8 net 30) = $\left(1+\frac{0.03}{1-0.03}\right)^{\left(365/7\right)}-1=389.51\%$

Changing the terms of the credit policy will increase the cost of trade credit if the customer continues to pay on the 15th of each month.

72. Which of the following statements inaccurately illustrates the impact of taxes on the cost of capital?

A. The cost of debt is adjusted for the tax shield.
B. The before and after-tax cost of preferred stock is always identical.
C. Estimating cost of equity is particularly challenging as taxes influence dividend income and capital gains.

Correct Answer: C

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 36, LOS f

Although estimating the cost of equity is challenging, this component is not to be adjusted for taxes.

The cost of preferred stock is similarly not adjusted for taxes. Thus, the before and after-tax cost of preferred stock is identical.

The cost of debt is the only cost of capital component to be adjusted for taxes. Interest paid on cost of debt is tax deductible. Hence, the interest on debt financing is taken as a deduction to arrive at taxable income.

73. Glec Corp issued noncallable, nonconvertible preferred stock at an original price of $38.50. The dividend yield quoted on the stock is 5% while dividend per share is equal to $1.50. Glec's weighted average cost of capital is 10%.

The preferred stock's current price per share is *closest* to:

A. $30.00.
B. $38.50.
C. $150.00

Correct Answer: A

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 36, LOS g

Dividend yield = Dividends per share/price per share
Given that the cost of preferred stock = dividends per share/price per share, dividend yield should equal to the cost of preferred stock.
Price of preferred stock = $1.50/0.05 = $30.00

74. An analyst made the following comments with respect to the principles of capital budgeting:

Comment 1: The required rate of return comprises of several components one of which includes financing costs.

Comment 2: Cash flows are incorporated based on an analysis of implicit opportunity costs.

Is the analyst *most likely* correct with respect to his comments?

A. Only with respect to Comment 1.
B. Only with respect to Comment 2.
C. Yes, with respect to both comments.

Correct Answer: C

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 35, LOS b

The analyst is correct with respect to Comment 1. Financing costs are ignored when estimating cash flows because they are already reflected in the required rate of return.

He is also correct with respect to comment 2. Cash flows are based on opportunity costs. That is, incremental cash flows are determined by comparing what cash flows would have been with or without an investment.

75. Which of the following board practices is *most* supportive of shareowner protection?

    A. The former chief executive has assumed the role of board chair.
    B. To ensure equal representation, two of the four board members are independent.
    C. Nonexecutive board members meet twice a year with only one meeting conducted in the presence of executive members.

Correct Answer: C

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 40, LOS b

Independent (nonexecutive) board members should meet at least once annually without executives present. This will allow them to make decisions without the influence from executive members.

Corporate governance codes recommend that appointing a former chief executive as board chair could compromise the independence of the board and their ability to act without the undue influence of management and in best interests of shareowners.

Independent board members should make up a majority of the board. A board comprising of 2 nonexecutives and 2 executives does not satisfy this criterion.

76. When evaluating the quality of an audit committee, an investor should consider that:

    A. all members are financial experts.
    B. a majority of the members are independent.
    C. the appointment of external auditors is a matter of shareowner voting.

Correct Answer: C

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 40, LOS e

When evaluating an audit committee, an investor should consider:

- all committee members are independent;
- whether any of the members serving the committee are financial experts (this implies that all members are not required to be financial experts); and
- the board puts the appointment of external auditors to shareowner vote.

Questions 77 through 88 relate to Equity Investments

77. Joanne Bennett has purchased 100 shares of stock each worth $56.50. The stock does not pay an annual dividend. Bennett uses a leverage ratio of 1.8 to make the purchase with a call money rate of 4.0%. Three months after the investment the market price rises to $60.00.

Ignoring commissions, the return on the investment is *closest* to:

A. – 14.35%
B. + 6.19%.
C. + 7.95%.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 13, Reading 45, LOS f

A leverage ratio of 1.8 indicates that Bennett has financed 55.56% (1 ÷ 1.8) of the purchase price with equity. The equity investment is $3,138.89 (0.5556 × $56.50 × 100) while the borrowed amount is $2,511.11 [($56.50 × 100) – $3,138.89]. The interest cost is $100.44 ($2,511.11 × 0.04).

Remaining equity = $3,138.89 + [($60.00 × 100) – $5,650] – $100.44 = $3,388.45

Return = ($3,388.45 – $3,138.89)/$3,138.89 = 7.95%

78. An analyst is conducting research on a semi-strong-form efficient market. In his research report, the analyst will *most likely* conclude that:

A. insider trading will not generate active returns.
B. technical analysis will generate abnormal portfolio returns.
C. investors cannot gain from exploiting publically available information.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 47, LOS d & e

A market which is semi-strong-form efficient is also weak-form efficient. In such markets prices reflect all publically known and available information. No investor has access to information that is not already available to the public and therefore, investors cannot generate abnormal profit from exploiting publically available information (fundamental analysis) and/or predicting security prices (technical analysis).

However, a market which is semi-strong-form efficient does not necessarily have to be strong-form efficient. A market in the latter state will make insider trading strategies unprofitable as prices reflect all private information.

79. Adjusting a market-capitalization-weighted index for its market float will ensure:

    A. rebalancing frequency is minimized.
    B. securities that have increased in price the most are not overrepresented.
    C. the index is representative of the number of shares available to the public.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 13, Reading 46, LOS d

By adjusting the market capitalization of each constituent security in a market-capitalization-weighted index for its market float, the index is representative of the securities that are available to the public for investment.

80. The exhibit below illustrates the beginning and ending market capitalization of an equally weighted index. The market capitalizations exclude the dividends paid on index shares.

Stock	Beginning Market Capitalization	Total dividends	Ending Market Capitalization
A	$14,500	$250	$16,870
B	$25,670	$140	$20,370
C	$30,090	$190	$35,670
D	$21,030	$150	$26,790

The total return of the index is *closest* to:

A. 1.30%.
B. 11.31%.
C. 37.59%.

Correct Answer: B

Reference:
CFA Level 1, Volume 4, Study Session 13, Reading 46, LOS e

Weight of each security = ¼ × 100 = 25%

Total return (Stock A) = [($16,870 + $250)/($14,500) – 1] × 100 = 18.07%
Total return (Stock B) = [($20,370 + $140)/($25,670) – 1] × 100 = - 20.10%
Total return (Stock C) = [($35,670 +$190)/($30,090) – 1] × 100 = 19.18%
Total return (Stock D) = [($26,790 + $150)/($21,030) – 1] × 100 = 28.10%

Index total return = (0.25)(18.07%) + (0.25)(- 20.10%) + (0.25)(19.18%) + (0.25)(28.10%) = 11.31%

81. Which of the following is the *most* suitable trading strategy when a market is weak-and semi-strong form efficient?

A. Passive portfolio management
B. Active portfolio management based on technical analysis
C. Active portfolio management based on fundamental analysis

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 47, LOS e

When a market is weak- and semi-strong form efficient, active strategies based on exploiting price patterns (technical analysis) or public information (fundamental analysis) are not expected to generate abnormal returns. In such a scenario, passive portfolio management strategies should outperform active strategies.

82. A U.S. manufacturer of electric components has experienced a stable market share relative to its European competitors. Which of the following factors *most likely* influences the stability of the manufacturer's market share in the international market?

   A. High switching costs
   B. Fast pace of innovation
   C. Stringent government regulation

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 49, LOS g
When switching costs are high, customers will be reluctant to shift their purchases to other companies. Therefore, the demand for the U.S. manufacturer's products will be relatively stable resulting in a stable market share.

When the pace of innovation is rapid, the quality and performance of products will improve and will lower the costs of switching. This will cause the market share to become unstable.

The degree of government regulation should not directly influence the stability of a company's market share in the international market.

83. The stock of Lake Associates, a newly established firm, is trading at a market price of $55 per share. Company management has announced an annual dividend per share of $2.55 for the next three years. At the end of the three years, the stock is expected to trade at a price of $60. The required rate of return is 12%.

Lake Associates' stock is *most likely*:

A. overvalued.
B. undervalued.
C. fairly valued.

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 50, LOS a

Lake Associates' stock is selling for a price greater than its intrinsic value making it overvalued ($55 vs. $48.83 respectively).

Intrinsic value = $\frac{\$2.55}{(1.12)} + \frac{\$2.55}{(1.12)^2} + \frac{\$2.55+\$60.00}{(1.12)^3} = \$48.83$

84. Which of the following will *least likely* be the objective for a company issuing securities in the primary market.

A. Raising capital.
B. Increasing liquidity.
C. Enhancing the marker value of equity.

Correct Answer: C
Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 48, LOS f

Companies issue securities in the primary market to improve liquidity and raise capital. However the management's actions cannot influence the market value of equity that is why this will least likely be an objective.

85. The exhibit below illustrates selective balance sheet information for two companies in the farming industry:

Exhibit

	Company A*	Company B**
Current assets	$450,000	$352,350
Noncurrent assets	$925,000	$895,000
Current liabilities	$125,120	$105,000
Noncurrent liabilities	$50,050	$63,100
Market share price	$145.80	$52.10
Number of shares	10,000	12,500

*The book value of assets and liabilities equal their respective market value.
**The book value of Company B's noncurrent assets is 10% greater than market value.

Using the asset valuation model, which of the following conclusions is *most likely* valid?

A. Relative to B, company A is favorably valued.
B. Relative to A, company B is favorably valued.
C. An investor will be indifferent between the two companies.

Correct Answer: B

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 50, LOS j

Company A:
Adjusted book value
= ($450,000 + $925,000) – ($125,120 + $50,050)
= $1,199,830

Adjusted book value per share
= $1,199,830/10,000
= $119.98

Company B:
Adjusted book value
= [$352,350 + (1.1 × $895,000) – ($105,000 + $63,100)
= $1,168,750

Adjusted book value per share
= $1,168,750/12,500
= $93.50

Comparing their respective intrinsic values with market values, Company B is undervalued (or favorably valued) as each share is selling at a price less than the intrinsic value. Company A is overvalued as each share's market price exceeds intrinsic value.

86. A quality unique to dealers is that they:

A. do not trade with their clients.
B. provide liquidity to their clients.
C. create new financial products by repackaging securities.

Correct Answer: B

Reference:
CFA Level 1, Volume 4, Study Session 13, Reading 45, LOS d

Dealers fill their clients' orders by trading with them. Dealers allow clients to trade with them when they want to trade; in this way they provide liquidity to them.

87. The exhibit below illustrates the selective financial information of a firm for the financial years 2012 and 2013:

$'000s	2013:	2012:
Net profit	45	31
Net revenues	34	30
Average total assets	89	110
Average total liabilities	70	90

Which of the following statements concerning the firm is *most likely* correct? Firm's:

A. financial leverage has increased.
B. return on equity has deteriorated.
C. productive efficiency has improved.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 49, LOS k

Based on the calculated ratios, return on equity has improved, financial leverage has decreased and productive efficiency has improved.
Return on equity (2013) = $45/($89 – $70) = 2.37
Return on equity (2012) = $31/($110 – $90) = 1.55

Financial leverage (2013) = $89/($89 – $70) = 4.68
Financial leverage (2012) = $110/($110 – $90) = 5.50

Productive efficiency (2013) = $34/$89 = 0.38
Productive efficiency (2012) = $30/$110 = 0.27

88. Which of the following statements is *most likely* correct regarding the issues index providers need to consider when managing indexes?

A. Price-weighted indexes are significantly affected by rebalancing.
B. Equally weighted indexes are significantly affected by rebalancing.
C. Market capitalization weighted indexes are affected equally by rebalancing and reconstitution.

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 13, Reading 46, LOS c

Equally weighted indexes will need to be rebalanced frequently to ensure the equal weighting scheme is maintained.

Price-weighted indexes are not rebalanced because the weight of each constituent security is determined by its price.

While rebalancing is less of a concern to market capitalization index providers, an index provider will need to change the weights of other securities in order to maintain the market capitalization of the index. Therefore, reconstitution needs to be considered by index providers managing this type of index.

Questions 89 through 94 relate to Derivatives

89. An investor purchases 100 shares of AXZ Inc. at \$65 per share and also buys one put option covering 100 shares, with strike price of \$55 and pays \$2 per share put premium. If at the expiration of the put, share trades at \$58 and the investor sells his shares at that price, his net profit is *closest* to:

    A. \$100
    B. −\$600
    C. −\$900

    Correct Answer: C

    Reference:
    CFA Level 1, Volume 6, Study Session 17, Reading 59, LOS b

    The loss on his stock = (\$58 − \$65) × 100 = − \$700
    Paid for put premium = \$2 × \$100 = \$200
    As put expires worthless so his total loss = \$200 + \$700 = \$900

90. In contrast to over-the-counter derivatives markets, exchange-traded derivatives markets provide:

    A. liquidity,
    B. flexibility.
    C. transparency.

    Correct Answer: C

    Reference:
    CFA Level 1, Volume 6, Study Session 17, Reading 57, LOS a

Exchange-traded derivatives markets provide transparency to their participants as full information on all transactions is disclosed to exchanges and regulatory bodies. In contrast, many transactions in OTC markets will retain a degree of privacy with lower transparency.

Exchange-traded markets provide their participants with liquidity as contract terms are standardized. Although over-the-counter markets offer contracts that are flexible and customized, this does not mean that there is an absence of liquidity. Many OCT contracts can be easily created and offset with by doing the exact opposite transaction often with the same party. On the other hand, some exchange-traded derivatives may have very little trading interests and thus liquidity. Liquidity is driven by trading interest, which may be strong or weak in both markets.

91. A three-month call option with an exercise price of \$55 is being sold for \$8. A three-month Treasury bond is being sold in the market place with the same face value as the option's exercise price. The underlying is currently worth \$60 and the risk-free rate is 4.30%.

    Assuming the put-call parity holds, a put option is being sold for:

    A. \$0.73.
    B. \$2.42.
    C. \$12.34.

    Correct Answer: B

    Reference:
    CFA Level 1, Volume 6, Study Session 17, Reading 58, LOS m

    Put-call parity = $c_0 + X/(1 + r)^T = S_0 + p_0$
    $p_0 = \$8 + [\$55/(1.043)^{0.25} - \$60 = \$2.42$

92. Which of the following statements is *most likely* correct regarding derivatives? Derivatives:

    A. may have an indefinite life span.
    B. transform the nature of a party's risk exposure.
    C. take their value and characteristics from the underlying.

Correct Answer: C

Reference:
CFA Level 1, Volume 6, Study Session 17, Reading 57, LOS a

Derivatives take their performance from an underlying asset; this suggests that they take their value and certain other characteristics from the underlying asset. Derivatives have a definite life-span which is agreed upon at the time of contract initiation.

Similar to insurance, derivatives transfer risk from one party to another such that the risk itself does not change but the party bearing it does.

93. Jason Briggs purchased a 3-month call option by paying $0.08. The exercise price of the option is $1.32 while the underlying is priced at $1.35.

Is the option currently in-the-money and at what price will break-even occur?

	In-the-money?	Break-even price?
A.	No	$1.27.
B.	Yes	$1.40.
C.	Yes	$1.43.

Correct Answer: B

Reference:
CFA Level 1, Volume 6, Study Session 17, Reading 59, LOS a

The call option is in-the-money as the underlying price is greater than the exercise price ($1.35 vs. $1.32 respectively).

Break-even price = $X + c_0$ = $1.32 + $0.08 = $1.40

94. Jill Howard owns 1,000 shares in RST Corp. She is concerned about a decline in the value of her investment and is seeking to undertake a derivatives-based strategy that will protect against potential losses but will allow her to participate in stock price increases to the maximum extent possible.

Which of the following strategies will be *most* appropriate for Howard?

A. Covered call
B. Protective put
C. Equity forward contract on RST stock.

Correct Answer: B

Reference:
CFA Level 1, Volume 6, Study Session 17, Readings 59, LOS b

Given Howard's requirements, a protective put strategy will be most appropriate. Such a strategy will provide downside protection from a decline in stock price and at the same time upside potential, as any increase in stock price is unlimited.

While a covered call provides protection against a potential decline in stock prices, upside potential is limited. Once prices rise beyond the call's exercise price, the option is exercised by the option holder and the seller will be obligated to make a payment to the option holder; this obligation will serve to reduce expected return.

An equity forward contract is unsuitable because Howard is required to deliver at the agreed upon forward price regardless of the stock price at contract expiration. Being short an equity forward, if the stock price rises, Howard will have no choice but to deliver her stock or make cash payment at the forward price; she will be unable to increase her expected return by selling at the higher market price.

Questions 95 through 106 relate to Fixed Income

95. Jason Stambaugh purchases a three-year corporate bond that pays annual coupon at a rate of 6%. The bond's yield-to-maturity is 5% and it is priced at 104.3294 per 100 of par value. The bond's coupon payment periods are evenly spaced.

The bond's Macaulay duration is *closest* to:

A. 2.25
B. 2.84
C. 3.17.

Correct Answer: B

Reference:
CFA Level I, Volume 5, Study Session 16, Reading 55, LOS b

The Macaulay duration for the bond is 2.84.

Period	Cash flow	Present value	Weight	Period × Weight
1	6	5.7143	0.0556	0.05556
2	6	5.4422	0.05298	0.1060
3	106	91.5667	0.89140	2.6742
Total		102.7233	1.000000	2.8358

96. A bond portfolio comprises of three fixed-rate issues. Details concerning the three issues are summarized in the exhibit below. The bonds pay annual coupons. Assume there is no accrued interest.

Bond	Time to maturity	Market value	Par value	Coupon Rate	Modified duration	Yield-to-maturity
A	8 years	$120,000	$100,000	4.00%	7.83	3.24%
B	5 years	$98,550	$100,000	5.25%	4.42	5.06%
C	12 years	$105,300	$100,000	8.90%	11.45	8.68%

The modified duration of the bond portfolio is *closest* to:

A. 4.25.
B. 7.90.
C. 7.97.

Correct Answer: C

Reference:
CFA Level I, Volume 5, Study Session 16, Reading 55, LOS e

The portfolio's modified duration is equal to 7.97.
Portfolio market value = $120,000 + $98,550 + $105,350 = $323,850
Modified duration = ($120,000/$323,850)(7.83) + ($98,550/$323,850)(4.42) + ($105,300/$323,850)(11.45) = 7.9681

97. When interest rates are lower relative to a callable bond's coupon rate, an investor should *least likely* expect a reduction in:

A. call risk.
B. expected life.
C. price sensitivity.

Correct Answer: A

Reference:
CFA Level I, Volume 5, Study Session 16, Reading 55, LOS d

When interest rates decline relative to a callable bond's coupon rate, the issuer is more likely to exercise the option to refinance the debt at the lower cost of funds. The investor will face a higher degree of call risk since he must reinvest the proceeds at a lower interest rate.

When interest rates are low, the effective duration of a callable bond is lower relative to a non-callable bond. This is because the price appreciation of the former bond is restricted by the presence of the call option. With a lower effective duration, price sensitivity is lower for callable bonds relative to non-callable bonds.

When interest rates are falling, the bond is more likely to be called thus lowering the effective duration and expected life (time in receipt of underlying cash flows) of the bond.

98. A 5-year, 8% annual coupon-paying bond is priced at 94.2404 per 100 of par value and has a yield-to-maturity of 9.50%. If interest rates rise to 10.00% immediately following investment, the future value of reinvested coupons per 100 of par value is *closest* to:

A. 48.84.
B. $53.72.
C. $61.72

Correct Answer: B

Reference:
CFA Level I, Volume 5, Study Session 16, Reading 55, LOS a

Future value of reinvested coupons:

$$\left[8\times(1.10)^{4}\right]+\left[8\times(1.10)^{3}\right]+\left[8\times(1.10)^{2}\right]+\left[8\times(1.10)^{1}\right]+8=48.84$$

99. Don Sullivan, a fixed income analyst, is comparing EV/EBITDA and debt/EBITDA ratios across issuers. He observes that the difference between the two ratios has narrowed for a particular issuer.

Based on his observation concerning the issuer, Sullivan will *most likely* conclude that there is a decline in:

A. equity cushion.
B. enterprise value.
C. interest coverage.

Correct Answer: A

Reference:
CFA Level I, Volume 5, Study Session 16, Reading 56, LOS j

Bond investors use EV because it shows the amount of equity cushion beneath the debt. Narrow differences between the EV/EBITDA and debt/EBITDA ratios indicate that there is a smaller equity cushion and therefore higher risk.

Interest coverage ratio is measured by dividing enterprise value by interest payments.

100. The expected percentage loss on a bond following a 45 basis points rise in rates is 6.53%. If the market value of the bond investment is $5,120,466 and the modified duration is 8.352, the expected loss is *closest* to:

A. $192,448.
B. $334,366.
C. $2,792,628.

Correct Answer: A

Reference:
CFA Level I, Volume 5, Study Session 16, Reading 55, LOS b

Money duration = Ann. Mod. Dur. × PV^{Full} = 8.352 × $5,120,466 = $42,766,132.03
Expected loss = $42,766,132.03 × 0.0045 = $192,447.59

101. Best effort offerings:

A. are less risky relative to underwritten offerings.
B. are mechanisms used to issue bonds in the secondary market.
C. include a guarantee to sell the bond issue at the negotiated offering price.

Correct Answer: A

Reference:
CFA Level I, Volume 5, Study Session 15, Reading 52, LOS c

Best effort offerings are less risky relative to underwritten offerings as they do not involve a guarantee by the investment bank to sell the underlying bond issue. Best effort offering is a mechanism to issue bonds in the primary market. This offering tries to sell the bond issue at the negotiated offering price and does not include any guarantee.

102. Sally Hutchkins invested in a British corporate bond that is priced to settle on 12 June 2018. Details regarding her investment are as follows:

Coupon rate	8%
Coupon payment frequency	Semi-annually
Coupon payment dates	13 April and 13 October
Maturity date	13th October 2022
Day count convention	n/360
Yield to maturity	6.00%

Assuming there are 60 days in the settlement period, the full price of the issue settling on 12th June 2018 is *closest* to:

A. €106.45.
B. €107.79.
C. €108.85.

Correct Answer: C

Reference:
CFA Level I, Volume 5, Study Session 15, Reading 53, LOS d

The price at the beginning of the period is equal to €107.7861.

$$PV = \frac{4}{(1.03)^1} + \frac{4}{(1.03)^2} + \frac{4}{(1.03)^3} + \frac{4}{(1.03)^4} + ... + \frac{104}{(1.03)^9} = 107.7861$$

The full price of the issue on 12th June is €108.85.
$PV^{Full} = 107.7861 \times (1.03)^{60/180} = 108.85337$

103. Allan Brown is comparing cash flow structures of bonds with his colleague. During their discussion, Brown makes the following statements:

Statement 1: "Throughout the life of bond issue, interest payments for the partially amortized bond are higher relative to that of the fully amortized bond issue."

Statement 2: "Both fully and partially amortizing bonds call for fixed periodic payments."

Brown is *most likely* correct with respect to:

A. statement 1.
B. statement 2.
C. both of the statements.

Correct Answer: B

Reference:
CFA Level I, Volume 5, Study Session 15, Reading 51, LOS e

Statement 1 is incorrect. In the first year of the issue, interest payments are equal for the two payment structures. Thereafter, payments for partially amortized bonds are higher relative to fully amortized bonds. In the case of partially amortized bonds a greater portion of the principal remains outstanding as principal is not fully amortized.

Statement 2 is correct. A fully amortized bond calls for a fixed periodic payment schedule. A partially amortized bond also makes fixed periodic payments until maturity.

104. Daniel Monroe is a fixed income analyst who has observed the following prices and yields to maturity on zero-coupon bonds:

Maturity	Price	Yield-to-Maturity
1 year	98.50	4.5774%
2 years	97.01	4.0434%
3 years	95.00	3.6854%
4 years	93.67	3.0374%

The "3y1y" forward rate stated on a semi-annual basis is *closest* to:

A. 1.11%.
B. 2.12%.
C. 2.22%.

Correct Answer: C

Reference:
CFA Level I, Volume 5, Study Session 15, Reading 53, LOS h

The "3y1y" forward rate is 2.22% (0.011088 × 2). A = 6 (periods), B = 8 periods, and B – A = 2 periods

$$\left(1+\frac{0.036854}{2}\right)^6 \times \left(1+IFR_{6,2}\right)=\left(1+\frac{0.030374}{2}\right)^8$$

$IFR_{6,2}$ = 0.011088

105. Kyle Rubin invests in a 7% annual coupon-paying corporate bond issue with a remaining term to maturity of three years. The exhibit below illustrates the annual government spot rates based on their terms to maturity:

Exhibit: Government Bond Spot Rates

Term	Rate (%)
1-year	2.10
2-year	2.54
3-year	3.00
4-year	3.67
5-year	4.10
6-year	4.90

If the Z-spread is 140 basis points, the price of the bond per 100 of par value is *closest* to:

A. \$96.62.
B. \$107.28.
C. \$107.55.

Correct Answer: B

Reference:
CFA Level I, Volume 5, Study Session 15, Reading 53, LOS i

Price =

$$\frac{\$7}{(1+0.0210+0.014)^1}+\frac{\$7}{(1+0.0254+0.014)^2}+\frac{\$107}{(1+0.030+0.014)^3}=107.2760$$

106. A 5% annual coupon-paying, four-year U.S. corporate bond is trading at a price of 101.510 per 100 of par value. A four-year, 3% annual coupon-paying, government bond is trading at a price of 101.083. The current four-year U.S swap rate benchmark is 3.6780%.

The corporate bond's G-spread is *closest* to:

A. 90 basis points.
B. 187 basis points.
C. 271 basis points.

Correct Answer: B

Reference:
CFA Level I, Volume 5, Study Session 15, Reading 53, LOS i

The G- spread is the spread of the corporate bond yield over the four-year government bond yield. The G-spread is equal to 1.8676% (4.5783% - 2.7107%) or 187 basis points.

The corporate bond issue's yield-to-maturity is 4.5783%.

$$101.510 = \frac{5}{(1+r)^1} + \frac{5}{(1+r)^2} + \frac{5}{(1+r)^3} + \frac{105}{(1+r)^4}$$

r = 4.5783%

The government bond's yield-to-maturity is 2.5134%.

$$101.083 = \frac{3}{(1+r)^1} + \frac{3}{(1+r)^2} + \frac{3}{(1+r)^3} + \frac{103}{(1+r)^4}$$

r = 2.710657%

Questions 107 through 112 relate to Alternative Investments

107. The high water mark fee structure

    A. protects clients from paying twice for the same performance.
    B. reflect the highest cumulative return used to calculate the management fee.
    C. can be based either on fund's assets under management or on fund's realized profits.

Correct Answer: A

Reference:
CFA Level 1, Volume 6, Study Session 18, Reading 60, LOS f

Option A is correct. The high water mark provision in a fee structure reflect the highest cumulative return used to calculate the incentive fees and it protects clients from paying twice for the same performance.

108. Which of the following is *most likely* the motivation for an investor capitalizing in private equity through 'distressed investing'?

    A. Company's high growth potential in future
    B. Selling company to strategic buyer at better price.
    C. Expectation that company's debt may increase in value

Correct Answer: C

Reference:
CFA Level 1, Volume 6, Study Session 18, Reading 60, LOS d

Distressed investing typically entails buying debt of mature but troubled companies that are in financial difficulties. These companies may be in bankruptcy proceedings, have defaulted on debt, or seem likely to default on debt.

Some investors buy companies' debt in expectation of the company and its debt increasing in value. Some investors buy debt and plan to be more active in the management and direction of the company.

109. Which of the following arguments *most likely* represents a justification for investing in real estate?

A. Low degree of regulation
B. Suitable for investors with moderate levels of wealth
C. Potential for long-term returns driven by income generation and capital appreciation

Correct Answer: C

Reference:
CFA Level 1, Volume 6, Study Session 18, Reading 60, LOS d

Real estate provides the potential for long-term returns in the form of income generation and capital appreciation.

Real estate may be subject to government regulations affecting factors such as property modifications, transfer of ownership, and restrictions on ownership.

Real estate typically requires large investment and is thus restricted to a certain class of investors.

110. Gramathon Associates is a hedge fund that manages $250 million worth of investments. The fee structure quoted by the fund is "2 and 20". Management fees are calculated based on the assets under management at the beginning of the year. At the end of the current year, the value of the fund rises to $300 million. If the incentive fee is based on the management fee and is calculated at year-end, the net-of-fees return earned by a fund investor is *closest* to:

A. 14.0%.
B. 14.4%.
C. 16.4%.

Correct Answer: B

Reference:
CFA Level 1, Volume 6, Study Session 18, Reading 60, LOS f

All \$ figures are in millions
Management fees = \$250 × 0.02 = \$5
Incentive fees = (\$300 – \$250 – \$5)(0.20) = \$9
Net-of-fees return = (\$300 – \$250 – \$5 – \$9)/\$250 = 14.4%

111. Paul Oriel manages his own investment portfolio that comprises of stocks and bonds. Oriel is exploring alternative investment categories for the portfolio. He has a long-time horizon and desires return potential, diversification and inflation protection from his chosen investment category.

Based on Oriel's specifications he should *most likely* select:

A. hedge funds.
B. commodities.
C. private equity.

Correct Answer: B

Reference:
CFA Level 1, Volume 6, Study Session 18, Reading 60, LOS d

A feature that sets commodities apart from hedge funds and private equity is inflation protection. Commodities are effective hedges against inflation. Additionally, commodities have had historically low correlations with traditional investments (bonds and stocks) and are thus effective for portfolio diversification.

Investors may invest in commodities if they believe prices will increase in the short or intermediate term (return potential).

112. Which of the following is *most likely* an alternative investment category?

A. Real estate
B. Index tracking funds
C. Exchange traded funds

Correct Answer: A

Reference:
CFA Level 1, Volume 6, Study Session 18, Reading 60, LOS b

Categories of alternative investments include:

- Hedge funds
- Private equity funds
- Real estate
- Commodities
- Other

Exchange traded funds and index-tracking funds do not represent an alternative investment category.

Questions 113 through 120 relate to Portfolio Management

113. Based on the capital market theory, the capital allocation line is a combination of two asset classes that are:

    A. uncorrelated.
    B. positively correlated.
    C. negatively correlated.

    Correct Answer: A

    Reference:
    CFA Level 1, Volume 4, Study Session 12, Reading 43, LOS a

    According to the capital market theory, the capital allocation line is a combination of risk-free asset that has a zero correlation with a risky asset.

114. Liquidity needs for which of the following client's are comparatively low?

    A. Banks
    B. Foundations
    C. Insurance Companies

    Correct Answer: B

    Reference:
    CFA Level 1, Volume 4, Study Session 12, Reading 44, LOS e

    Option B is correct. Banks require high liquidity to meet repayments of deposits and insurance companies require high liquidity to meet insurance claims.

115. Therma Oliver is contemplating investment in the stock of Gile Inc. The expected annual return of the stock and risk-free rate of return is 9% and 3% respectively. If the beta of the stock is 1.5, the market risk premium based on the capital asset pricing model (CAPM) is *closest* to:

    A. 1%.
    B. 4%.
    C. 7%.

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 43, LOS g

$E(r) = r_f + B_i(R_m – r_f)$

Market Risk Premium = R_m - R_f = $\frac{9\% - 3\%}{1.5} = 4\%$

116. If a point representing the estimated return of an asset plots above the security market line (SML), the asset will *most likely*:

A. be fairly valued.
B. not be considered for investment.
C. has a risk level which is low relative to its expected return.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 43, LOS f

Should a point representing an asset plot above the SML, the asset should be considered for investment; this is because the asset is undervalued as it provides a level of risk that is low relative to the expected return.

If the point plots below the SML, the security is overvalued and should be sold short. This implies that the level of risk is high relative to expected return.

117. Lewis Smith's wants to diversify his equity portfolio by including a corporate bond issue. The expected annual return and standard deviation of his current portfolio is 15.4% and 22.5%, respectively. The bond issue being evaluated has an expected annual return and standard deviation of 7.8% and 9.9%, respectively. The risk-free rate of return is 4% and the correlation between the existing portfolio and the bond issue is 0.40.

Smith *best* course of action would be to:

A. invest in the bond issue as its standard deviation is lower than that of the portfolio.
B. avoid the bond issue since the expected return is lower than the existing portfolio return.
C. invest in the bond issue as the Sharpe ratio of the bond issue is greater than that of the portfolio.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 42, LOS f

Smith should invest in the bond issue as the Sharpe ratio of the new portfolio is higher than that of the current portfolio (see below).

Invest if:

$$\frac{E(R_{new}) - R_f}{\sigma_{new}} > \frac{E(R_P) - R_f}{\sigma_P} \times p_{new,p}$$

$$\frac{E(R_{new}) - R_f}{\sigma_{new}} = \frac{0.078 - 0.040}{0.099} = 0.3838$$

$$\frac{E(R_P) - R_f}{\sigma_P} \times p_{new,p} = \frac{0.154 - 0.04}{0.225} \times 0.40 = 0.202667$$

118. Debra Bates, aged 32, is divorced and mother to two children, ages 3 and 6 respectively. She works as a marketing executive and would like her financial advisor to review her financial situation. Her advisor notes the following information on Bates:

- Her annual salary of $720,000 comfortably covers her lavish lifestyle.
- She would like to finance her children's college education.
- She believes her pension will be sufficient for her retirement.
- She is extremely qualified and her employer would not like her to search for alternative employment.
- During her interview with her advisor, she stated 'I have always disliked bearing financial loss. As a child, my parents went through financial difficulty and I would not like to live a similar life. That is why I prefer caution while investing."

Based only on the information provided, Bates is *most likely* said to have a (n):

A. high ability and willingness to tolerate risk.
B. high ability to tolerate risk, but low willingness to tolerate risk.
C. low ability to tolerate risk, but high willingness to tolerate risk.

Correct Answer: B

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 44, LOS d

Bates is said to have a high ability to tolerate risk but a low willingness to tolerate risk.

Her high ability is evident from her secure employment and retirement, comfortable lifestyle and a salary that adequately covers her living expenses.

119. Carlos Reid has a risk-aversion coefficient of 5.2 and a utility function of $U = E(r) - \frac{1}{2}A\sigma^2$. Reid's portfolio manager has identified three potential securities for his client. Expected risk and return details concerning the potential investments are summarized in the exhibit below:

Exhibit

Security	Expected Return (%)	Expected Risk (%)
A	16.3	11.9
B	12.4	9.8
C	22.1	19.8

Reid will derive the highest utility from Security:

A. A.
B. B.
C. C.

Correct Answer: A

Reference: CFA Level 1, Volume 4, Study Session 12, Reading 42, LOS h

$U_A = 0.153 – 0.5(5.2)(0.119)^2 = 0.12618$

$U_B = 0.124 – 0.5(5.2)(0.098)^2 = 0.09903$

$U_C = 0.221 – 0.5(5.2)(0.188)^2 = 0.11907$

120. When a client's ability to take risk is above average but willingness is below average, the portfolio manager should:

A. asses the investor's risk tolerance as average overall.
B. seek to counsel the client and explain the conflict and its implications.
C. aim to change the client's willingness to take risk by modifying the elements of his personality.

Correct Answer: B

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 44, LOS d

When a client's ability to take risk is above average but willingness is below average, the portfolio manager should seek to counsel the client and explain the conflict and its implications.