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

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Questions 1 through 18 relate to Ethical & Professional Standards

1. Janice Hart is a research analyst serving Time Associates, an investment banking firm. She has been asked to write a research report on Blue Inc. Time was the chief underwriter of Blue Inc.'s stock when it had undertaken an IPO two years ago. In addition, two of Time's directors continue to hold a significant proportion of Blue Inc. shares.

   Hart's *best* course of action will be to:

   A. decline writing the research report due to the presence of a conflict of interest.
   B. write the research report and disclose the special relationship to clients on a request basis.
   C. write the research report and include a disclosure of the special relationship between Time Associates and Blue Inc.

   Correct Answer: C

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

   In order to comply with the standard relating to disclosure of conflicts Hart's best course of action would be to write the research report and disclose the special relationship between Time Associates and Blue Inc. Being an underwriter in an IPO represents a relationship that could threaten the independence and objectivity of the report writer.

2. Wallace Associates is a sell-side research firm with clients primarily from the financial services sector. Midland Trust is Wallace Associates' most recent client. Sarah Parker, a research analyst has been assigned Midland Trust. Parker is compensated with a basic research fee and agent options, which allow her to purchase 2% of her client's common shares if the stock performs well. After conducting thorough research using public sources, she determines that a buy recommendation will be most appropriate. She includes a small footnote at the end of the report that discloses the volume and expiration date of the options she is eligible for.

   According to the Standards of Practice Handbook, Parker is in:

   A. violation because her disclosure is not prominent.
   B. compliance because she has disclosed the extent of her participation in the options.
   C. violation because the acceptance of the agency options may impair her independence and objectivity.

   Correct Answer: C

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

   The standard relating to disclosure of conflicts requires members and candidates to disclose the volume and expiration date of any agent options received. Although Parker has complied in this regard, she is in violation because she should not have accepted options which were contingent on the report's recommendation and have the potential to impair her independent and objective judgment. She should have agreed to a flat fee only.

3. Trisha Jose is a supervisor at a commercial bank. She has been informed that particular employee has been deliberately delaying sending reminders to clients whose accounts are overdue.

   With respect to the employee, Jose's *best* course of action to take is:

   A. dismissal.
   B. issuing a warning.
   C. suspension of responsibilities.

Correct Answer: C

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

The employee is violating his duty of loyalty to his employer by not performing his role as employee properly. Therefore, as supervisor, Jose must respond promptly and conduct a thorough investigation of the activities to determine the scope of the wrongdoing. Jose must also increase supervision the employee's responsibilities pending the outcome of the investigation. Simply warning or dismissing the employee is not considered the appropriate course of action according to the Code and Standards.

4. An investment manager notifies clients of a change in recommendation via email. He then calls three of his oldest clients to discuss the change in greater detail. Not all his clients receive the recommendation at the same time and are unhappy with the delay in notification.

Has the investment manager dealt with his clients fairly?

A. Yes, he is only required to ensure each client is fairly dealt with.
B. No, he should have discussed the recommendation in greater detail with all his clients.
C. No, he should have ensured each client received the recommendation at the same time.

Correct Answer: A

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

Members and candidates are required to deal with clients and prospects fairly and objectively when making investment recommendations, taking investment action or engaging in other professional activities. However, the manager is not required to ensure that each client is dealt with equally because it is not possible to reach all the clients at the same time. Furthermore, since he has sent the investment recommendation to all his clients, discussing it in greater detail with a select few does not constitute a violation.

5. According to the Standards of Practice Handbook, an investment manager who learns that his client is engaged in an illegal activity should:

   A. seek legal counsel.
   B. inform legal authorities.
   C. disclose the activity to the CFA Institute.

   Correct Answer: A

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

   An investment manager who learns that his client is engaged in an illegal activity should inform their supervisor of the activity and together they can work to remedy the violations. If that does not prove successful, the investment manager and his supervisor should seek the advice of a legal counsel to determine the appropriate steps to take.

   Disclosing an illegal activity to legal and regulatory authorities is considered a violation of the Code and Standards unless disclosure is required by law. Similarly, members and candidates cannot disclose confidential client information to the CFA Institute unless permissible under the applicable law.

6. Joyce & Monroe (J&M) is an investment bank with its own research division. Investment banker Ron Howard serves J&M and has recently arranged corporate financing for its client, Westdale Limited. Westdale will be using the financing to expand production to Australia. Several weeks later J&M's chief research analyst issues a research report on Westdale wherein he recommends, "Westdale's decision to expand into Australia is an excellent move because the potential market for its products should be vast. I am extremely confident that the company will see a remarkable and positive difference in its earnings over the coming months. Based on this, I recommend a strong BUY." According to the Standards of Practice Handbook, the analyst's recommendation is *most likely* in violation with respect to the standard concerning:

   A. misrepresentation; he is guaranteeing investment performance.
   B. disclosure of conflicts; he has not disclosed J&M's relationship with Westdale.
   C. communication with clients and prospects; he has failed to separate opinion from fact.

Correct Answer: B

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

The analyst's recommendation is not in compliance with the Code and Standards as he has not disclosed J&M's relationship with Westdale. By arranging corporate financing, J&M's relationship with the manufacturer will be long-term and should be disclosed on each report sent to clients and prospects. Failing to do so may give clients the impression that the relationship impairs the analyst's independent and objective judgment.

The analyst is not in violation of the standard relating to misrepresentation because he has not made any attempt to guarantee investment performance. The statement, 'I am extremely confident that the company will see a remarkable and positive difference in its earnings over the coming months.' provides evidence that is making a projection with no attempt to make any guarantee.

The analyst is not in violation of the standard relating to communication with clients and prospects; he has separated opinion from fact. His recommendation is based on an opinion of the potential market for Westdale's products; using the terms 'should be vast' provides evidence that he is voicing his opinion.

7. According to the Standards of Practice Handbook, adequate compliance procedures are *least likely* those that:

   A. meet industry standards.
   B. are uniform on a global basis.
   C. can be tailored to the circumstances of a firm.

Correct Answer: B

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

The Code and standards define adequate compliance procedures as those that meet industry standards, regulatory requirements, requirements of the Code and standards, and the circumstances of the firm. Being globally uniform is not a requirement.

8. When managing pooled assets to a specific mandate, investment manager (‘s):

   A. actions are not governed by the suitability standard.
   B. must consider the suitability of an investment for clients.
   C. need not consider the suitability of an investment for clients.

Correct Answer: C

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

When managing pooled funds to a stated mandate, investment managers need not consider the suitability of the investment for those investing in the fund. The responsibility of determining the suitability of an investment for a client lies on those members and candidates who have an advisory relationship with clients.

However, the actions of members and candidates as investment managers continue to be governed by the suitability standard. They are required to “make investment decisions and take investment actions that are consistent with the stated objectives and constraints of the portfolio”.

9. Which of the following *most likely* to be the key feature of GIPS standards? GIPS standards:

   A. rely on the integrity of input data.
   B. address every aspect of performance measurement.
   C. have evolved over time to focus primarily on returns.

Correct Answer: A

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

One of the key features of GIPS standards include that the GIPS rely on the integrity of the input data.

The GIPS standards do not address every aspect of performance measurement. Historically the GIPS standards focus primarily on returns but the standards evolved overtime to address additional areas of investment performance.

10. Nelson Won, CFA, is a tax advisor at a financial services firm. His recent article, on how tax minimization strategies can be effectively implemented for client portfolios with high tax brackets, has increased his popularity in the industry. Won is offered to deliver a lecture on tax minimization strategies to employees of an investment management firm in New Zealand. The firm offers to pay for his travel expenses and hotel accommodation. Won accepts the offer, informs his employer, and travels to New Zealand with the trip fully paid by his employer. At the conclusion of the lecture, Won is invited to a game of golf at an exclusive club by the senior investment manager. He accepts the offer and informs his supervisor of the invitation upon his return. According to the Standards of Practice Handbook, Won is most likely:

    A. in violation; he should have paid for the New Zealand trip out of his own pocket.
    B. in violation; he did not seek written permission prior to accepting the golf game offer.
    C. in compliance; details of the golf game were not available to him before departing for New Zealand.

    Correct Answer: C

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

    By asking his employer to pay for his trip and declining the investment management firm's offer, Won has taken the necessary steps to avoid the appearance of any potential conflicts of interest.

    Details of the golf game were not available to Won before his departure to New Zealand and so disclosing the details after his return is the most appropriate course of action. Won's actions are in compliance with the Code and Standards with regard to both his decisions.

11. Conduct that constitutes a violation of the CFA Institute Standards of Professional Conduct concerning 'Conduct as Members and Candidates in the CFA Program' includes:

    A. cheating on an MBA exam.
    B. soliciting employer clients prior to departing.
    C. not following security measures implemented for the CFA exam.

Correct Answer: C

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

Out of the three options presented, option C corresponds to conduct that violates the standard in question.

Option A is incorrect. Conduct that constitutes violation includes cheating or assisting others to cheat on a CFA exam or any other CFA Institute exam; the standard does not address cheating on exams other than the aforementioned.

Option B highlights conducts that represents a violation of the standard concerning loyalty to employer.

12. Fredric Hart has shifted to Trust Management from Rightway Investments, both of which are brokerage firms providing asset advisory services. At Trust Management Hart prepares a brief introduction letter where he highlights the type of accounts and asset classes he managed as well as the performance results achieved at Rightway. Hart's first client at Trust Management is Denver Sports Inc. He will be responsible for managing the client's pension plan. After conducting a suitability analysis, Hart determines that direct real estate is a suitable asset class and makes an allocation basing his decision on the following three reasons: 1) Denver has low liquidity needs, 2) Denver has a long-time horizon and 3) Denver is in a low capital gains tax bracket.

    According to the Standards of Practice of Handbook, Hart is *most likely* in violation of the standard concerning:

    A. loyalty to employer; he has divulged confidential past employer information.
    B. loyalty, prudence and care; he has not acted in the best interests of his clients.
    C. client confidentiality; information concerning account types is considered confidential information.

Correct Answer: B

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

Hart is in violation of the standard concerning loyalty, prudence and care by failing to consider whether the real estate allocation is suitable for the plan participants. His ultimate clients are the plan participants and not Denver Sports.

Hart is not in violation of the standard concerning employer loyalty. He can present his past performance at Rightway Investments to the employees of Trust Management as long as he clearly discloses that he achieved the performance at his former employer. Information concerning past performance track record is not considered confidential.

Hart is not in violation of the standard concerning client confidentiality as information concerning account type and asset classes is general information related to the skills of the manager.

13. Marie Thatcher serves the CFA Institute Board of Governors, which is responsible for the oversight and responsibility for the Professional Conduct Program. She also manages the investment portfolios of several friends and family members. In a discussion with one of her clients, Thatcher states, “As a board member, I will take additional steps to ensure that your interests are looked after and violations of the Code and Standards are avoided at all costs. Furthermore, as your portfolio manager I will be kept up-to-date with the latest developments of and revisions in the Code and Standards.”

Thatcher’s statement is *most likely*:

A. in violation; she is guaranteeing client account performance.
B. in compliance with the CFA Institute Standards of Professional Conduct.
C. in violation; she is using her association with the CFA Institute to further professional goals.

Correct Answer: C

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

Thatcher's statement is in violation of the standard concerning Conduct as Members and Candidates of the CFA Program as she is implying that as a member of the CFA Institute Board of governors she in a unique and superior position when ensuring compliance with ethical standards.

Thatcher is not attempting to guarantee client account performance. In fact, her position allows her to stay abreast the latest developments in the Code and Standards, which she can apply when managing client portfolios.

14. Two investment managers engaged in a debate that quickly turned into a conflict disrupting the working environment of their fellow co-workers.

Which of the following has *most likely* been violated?

A. Code of Ethics only.
B. Standards of Professional Conduct only.
C. Both Code of Ethics and Standards of Professional Conduct.

Correct Answer: C

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

Both the Code of Ethics and Standards of Professional Conduct are being violated. The Code of Ethics is being violated as the investment managers are not acting in a respectful manager towards each other and their colleagues as well as their employer; disrupting the concentration of the work environment is an act of disrespect. Furthermore the two managers are in violation of the standard concerning misconduct as engaging in a conflict and disturbing colleagues will adversely reflect on their professional reputation.

15. In order to comply with the CFA Institute Code of Ethics, members and candidates must:

A. promote the integrity of the legal system.
B. maintain their duty of loyalty towards clients, prospects and employers.
C. place the integrity of the investment profession above their own personal interests.

Correct Answer: C

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

In order to comply with the CFA Institute Code of Ethics, members and candidates must, amongst other actions:

- place the integrity of the investment profession above their own personal interests and
- promote the integrity of and uphold the rules governing capital markets.

The duty to maintain loyalty towards clients, prospects and employers falls under the Standards of Professional Conduct.

16. Which of the following statements *least likely* highlights a benefit of claiming compliance with GIPS standards?

    A. GIPS standards eliminate the need for the investor to conduct in-depth due diligence.
    B. Investment managers can assure clients that the reported historical track record is complete.
    C. Prospective clients can easily compare the performance of their investment managers across different firms.

Correct Answer: A

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

Compliance with the GIPS standards does not eliminate the need for the investor to conduct in-depth due diligence.

The benefits of claiming compliance with the GIPS standards include:

- Investment managers claiming compliance can assure clients that the reported historical track record is complete and fairly presented.
- Investors have more confidence in the integrity of a performance presentation as prospective clients can compare the performance presentations from different investment management firms.

17. Hollard Associates manages two funds, a diversified fund and a fixed-income fund. The diversified fund is three years old while the fixed-income fund is as old as the firm (five years old). The performance records of both funds are GIPS-compliant. The firm is now considering claiming compliance to the GIPS standards. Which of the following statements *most* accurately highlights what Hollard Associates should do in order to claim compliance?

Hollard Associates should:

A. wait for at least two years to claim compliance.
B. only claim compliance for the fixed-income fund.
C. can claim compliance by presenting performance since both composites' creation dates.

Correct Answer: C

Reference:
CFA Level I, Volume 1, Study Session 1, Reading 4, LOS b

Hollard Associates can claim compliance by presenting GIPS compliant performance since the composites' inception dates, three years for the diversified fund and five years for the fixed income fund. The GIPS standards require firms to initially present five years of annual investment performance that is compliant with the GIPS standards. Should the firm or composite be in existence for less than five years, the firm must present performance since the firm's inception or composite's inception date.

Hollard Associates cannot partially claim compliance by claiming compliance for the fixed-income fund.

18. Which of the following is not a section of the Global Investment Performance Standards?

A. Hedge funds
B. Private equity
C. Wrap fee portfolios

Correct Answer: A

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

Out of the three options listed, 'hedge funds' is not one of the sections found within the provisions of the Global Investment Performance Standards.

Questions 19 through 32 relate to Quantitative Methods

19. A limitation *most likely* associated with IRR is that it:

    A. is sensitive to the external discount rate.
    B. it does not represent an achievable rate of return on an investment.
    C. cannot be calculated for projects with an unconventional cash flow pattern.

Correct Answer: B

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

A limitation of the IRR method is that it assumes that all project cash flows are invested at the IRR, which is an unrealistic assumption, given the tendency of interest rates to change. Therefore the IRR cannot be assumed to represent an achievable rate of return.

The IRR estimate and IRR rankings are not affected by any external interest or discount rate because a project's cash flows determine the internal rate of return.

The IRR can be calculated for a project with an unconventional cash flow pattern as demonstrated below:

CF_0 = - 45,000; CF_1 = 12,000; CF_2 = - 57,805; CF_3 = 61,000; CF_4 = 400,000
IRR = 72.12%

20. Tara Gibbons would like to ensure she lives comfortably during her retirement, which will commence thirty years from now. Her financial manager, Raul Peterson, advises that she should save a fixed amount each year for the next twelve years and determines that her savings will grow to $45,155 by the end of the twelfth year if she does so. Peterson also determines that the present value of the funds required for retirement will amount to $250,878 at t = 12. Funds are invested to generates 6% annual rate of return.

    For the savings to grow from $45,155 to $250,878, Gibbons will need to make an annual investment of:

    A. $19,000.
    B. $19,635.
    C. $35,042.

    Correct Answer: A

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

    We need to determine the amount of savings per year from t = 13 to t = 30.
    On t = 12, Gibbons would have saved $45,155. The additional amount of total savings required for retirement is $205,723 ($250,878 – $45,155).

    The annuity payment is determined as follows:
    PV = $205,723
    r = 6% = 0.06
    N = 18

    $$\text{Present value annuity factor} = \left[\frac{1-\frac{1}{(1+r)^N}}{r}\right] = \left[\frac{1-\frac{1}{(1+0.06)^{18}}}{0.06}\right] = 10.8276$$

    A = PV/Present value annuity factor
    = $205,723/10.826 =$18,999.8646 or approximately $19,000

21. A desirable property of an estimator includes:

    A. consistency.
    B. universality.
    C. independence.

Correct Answer: A

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

Desirable properties of estimators include unbiasedness, efficiency, and consistency.

22. Mona Patel has invested a portion of her savings in a fund with a stated annual rate of 4%, which is compounded quarterly.

If Patel's fund was continuously compounded, the fund's stated annual rate of return would have been *closest* to:

A. 3.98%.
B. 4.00%.
C. 4.06%.

Correct Answer: A

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

A stated annual rate of 4% is equivalent to an EAR of 4.06%

To convert to continuously compounded rate of return: LN (1+4.06%) = 3.98%

23. Which of the following cycles is *most likely* a component of the Kondratieff Wave?

A. 18-year cycle
B. Presidential cycle
C. Decennial pattern

Correct Answer: A

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

Three 18-year cycles make up the longer 54-year Kondratieff Wave.

24. The National Fund is managed by Douglas Webb and is used to finance equity purchases on behalf of firm client accounts. The exhibit below demonstrates the movement in the fund over a four year period:

	1 ($)	2 ($)	3 ($)	4($)
Beginning value	5,000,000	6,250,000	8,120,000	11,050,000
Investment	1,000,000	2,250,000	1,050,000	(2,000,000)
Ending value	6,250,000	8,120,000	11,050,000	9,230,000

The annualized time-weighted rate of return for the National Fund is *closest* to:

A. 16.56%.
B. 23.74%.
C. 38.15%.

Correct Answer: B

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

Y1 HPR: ($6,250,000 + $1,000,000 – $5,000,000)/$5,000,000 = 0.450
Y2 HPR: ($8,120,000 + $2,250,000 – $6,250,000)/$6,250,000 = 0.659
Y3 HPR: ($11,050,000 + $1,050,000 – $8,120,000)/$8,120,000 = 0.490
Y4 HPR: [$9,230,000 + (- $2,000,000)] – $11,050,000]/$11,050,000 = - 0.346
Time-weighted return = $[(1.450)(1.659)(1.490)(0.654)]^{1/4}$ – 1 = 0.2374 or 23.74%

25. Howard Briggs is conducting a hypothesis test to determine whether the difference in mean returns between two asset classes is statistically significant. Briggs is using a 95% confidence interval. A decision to decrease the level of confidence to 90% will *most likely*:

A. increase the probability of a Type I error.
B. increase the probability of a Type II error.
C. decrease the probability of a Type I and Type II error.

Correct Answer: B

Reference:
CFA Level I, Volume 1, Study Session 3, Reading 11, LOS c

Since the confidence interval is measured as 1 – significance level, decreasing the level of confidence will increase the level of significance. The significance level measures the probability of incorrectly rejecting the null (Type I error); therefore, increasing this level will increase the probability of a Type-I error. Put differently, the probability of a Type-II error decreases (the probability of incorrectly failing to reject the null).

26. A portfolio is fully invested in an index fund tracking the S&P500. The returns earned by the index over the past three years are highlighted in the exhibit below:

	S&P 500 Equity Index (%)
Year 1: Return	18.5
Year 2: Return	15.1
Year 3: Return	22.2
Mean Return	18.6
Sample variance	3.6

The portfolio's coefficient of variation is *closest* to:

A. 0.10.
B. 0.19.
C. 5.17.

Correct Answer: A

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

Coefficient of variation = $s/\overline{R} = 1.897/18.6 = 0.101989$

27. When a short term moving average crosses from above the longer term moving average it is called a:

A. dead cross.
B. golden cross.
C. neutral cross.

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 3, Reading 12, LOS e
When a short term moving average crosses from above the longer term moving average the movement is considered to be bearish and is called a dead cross.

When a short-term moving average line crosses from underneath a longer-term average, the movement is considered bullish and is called a golden cross.

28. Lindsay Thomas, an independent investor, has been following the price of a stock for the previous eight months observing a head and shoulders pattern. After peaking at $67, Thomas forecasts a decline in share price. She estimates the neckline at $50. The closing price of the stock at the end of the current trading day is $59.

    If Thomas undertakes a short sale, her expected profit on the transaction will be *closest* to:

    A. $9 per share.
    B. $26 per share.
    C. $33 per share.

Correct Answer: B

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

Based on the observed head and shoulders pattern, the price target is $33 (calculated below):
Price target = Neckline – (Head – Neckline) = $50 – ($67 – $50) = $33

If Thomas sells the stock short at the closing price of $59 and closes the short position at $33, she can earn a profit of $26.

29. Priori probabilities are based on:

    A. logical analysis.
    B. data from prior periods.
    C. relative frequencies of occurrence.

Correct Answer: A

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

Priori probabilities are based on logical analysis rather than on observations or personal judgment. Empirical probabilities are estimated as a relative frequency of occurrence based on historical data.

30. Walsh Enterprises, a web based books delivery system, has been in existence for 30 years and always maintained an inventory turnover ratio of 140 times. Using inventory information from the firm’s inception, Celia Young estimates Walsh Enterprises’ annual mean inventory turnover ratio as 130 times with an annual population standard deviation of 50 times. Young is attempting to determine whether the slowdown in inventory movement is statistically significant. She is using a 90% confidence interval for her analysis.

    Young will *most likely* conclude that the slowdown in inventory movement (assuming normal distribution) is:

    A. statistically insignificant.
    B. statistically significant; the mean ratio exceeds the higher critical value.
    C. statistically significant; the mean ratio falls below the lower critical value.

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 3, Reading 11, LOS g

Since the population mean and standard deviation are known, a z-test will be used to conduct hypothesis testing.

Using a 10% significance level, the upper and lower rejection points are + 1.645 and – 1.645. The null hypothesis is rejected if it declines below – 1.645 and Thomas will conclude that the inventory slowdown is statistically significant.

The z-test statistic is calculated as follows:

$$z = \frac{\overline{X} - \mu_0}{\sigma / \sqrt{n}} = \frac{130 - 140}{50\sqrt{30}} = -0.0365$$

Since – 0.0365 is greater than – 1.645, the null hypothesis is not rejected and Thomas will conclude that the slowdown in inventory turnover is not statistically significant.

31. A financial analyst is evaluating the liquidity position of a manufacturing concern. For the purposes of analysis, he has compiled various financial measures such as the cash, quick and current ratios and cash operating cycles over a ten-year period. The data used by the analyst can *most likely* be classified as:

    A. panel.
    B. time-series.
    C. longitudinal.

Correct Answer: C

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

The analyst is using longitudinal data; all his observations are measures of liquidity and are related to the same manufacturing concern. Longitudinal data consist of observation (s) of the same observational unit through time.

Panel data consist of observations through time on a single characteristic of multiple observational units.

32. Which of the following is *most likely* a step in hypothesis testing?

A. Stating the confidence level
B. Identifying the sampling error
C. Identifying potential sampling biases

Correct Answer: A

Reference:
CFA Level I, Volume 1, Study Session 3, Reading 11, LOS a

Out of the three options presented, hypothesis testing does not include identifying potential sampling biases and sampling errors.

Stating the confidence interval (or put differently, stating the significance level) is one of the steps executed during hypothesis testing.

Questions 33 through 44 relate to Economics

33. Grace Corp. is seeking to expand its existing production facilities. Its management is debating on whether to automate production or maintain manual procedures. Automation will require purchasing machinery units while manual procedures will require employing additional labor. The projected marginal product per day and price of each factor for the first four months following expansion is illustrated in the exhibit below:

Exhibit

Month	**Marginal Product per Day**		**Price of Input ($ per unit of input)**	
	Labor	Machinery	Labor	Machinery
1	200	600	100	245
2	320	760	100	245
3	400	820	120	250
4	480	1,080	110	255

Given the independence of the two decisions, during which month will Grace favor manual over automated procedures?

A. 2
B. 3
C. 4

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 15, LOS k

Grace Manufacturing will favor a manual over automated production process when the marginal product per monetary unit of input cost of labor exceeds that of machinery. This occurs during the second month as calculated in the table below.

Month	$MP_{Input}/Price_{Input}$	
	Labor	Machinery
1	2.00	2.45
2	3.20	3.10
3	3.33	3.28
4	4.36	4.24

34. Excess demand and supply in the automobile industry is given by the following respective equations:

$Q^x_d = 15,000 – 300P_x$
$Q^x_s = - 2,000 + 400P_x$

There will be excess demand if the unit price of each automobile is:

A. less than $24.29.
B. less than $130.00.
C. greater than $24.29

Correct Answer: A

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

Equilibrium is reached when the demand and supply functions intersect; this occurs at a price of $24.29.
$15,000 – 300P_x = - 2,000 + 400P_x$
$P_x = 17,000/700 = \$24.29$

Demand will exceed supply if the unit price of an automobile is lower than the equilibrium price of $24.29. For instance, when the unit price is $24.00 demand and supply is 7,800 and 7,600 units, respectively; i.e. there is an excess demand of 200 units.

35. Which of the following competitive market structures is *most likely* characterized by a large number of potential buyers and sellers, low barriers to entry, and firms with pricing power?

A. Oligopoly
B. Perfectly competitive
C. Monopolistically competitive

Correct Answer: C

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

When markets are monopolistically competitive, there are a large number of potential sellers and buyers, the market has low barriers to entry, and all firms have some pricing power. In perfectly competitive markets sellers have no pricing power. Oligopoly market structures are characterized by high barriers to entry and exit.

36. The economic activity in a developing country has started to accelerate resulting in higher domestic inflation. In order to maintain its exchange rate target, the government's actions will *most likely* lead to a (n):

    A. increase in domestic money supply.
    B. decrease in foreign currency reserves.
    C. decrease in the cost of short-term borrowing.

Correct Answer: B

Reference:
CFA Level 1, Volume 2, Study Session 5, Reading 19, LOS k

In trying to maintain the exchange rate target, the government will need to sell foreign currency reserves, thereby decreasing reserves, and buy domestic currency. This will have the effect of reducing domestic money supply and raising short-term interest rates (cost of borrowing).

37. A South African company undertook the following transactions, translated into the South African Rand (ZAR), in the financial year 2013:

- Borrowed ZAR 50 million from a U.S. bank
- Purchased machinery worth ZAR 1.4 million from Japan
- Received ZAR 2.5 million interest income on Dutch fixed income investments
- Issued ZAR 0.5 million worth of its corporate bonds to an investor in Brazil.
- Acquired financial leases worth ZAR 1.1 million during the year.
- Total sales proceeds received on foreign sales amounted to ZAR 48.8 million.

The total value of the transactions reflected in the current account is *closest* to (in ZAR millions):

A. 51.3.
B. 51.8.
C. 99.3.

Correct Answer: A

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

The value of the transactions reflected in the current account balance is ZAR 51.8 million ZAR (2.5 + 48.8) million.

Foreign borrowing, debt issues, and purchase of machinery are all transactions reflected in the financial account while the acquisition of leases is reflected in the capital account.

38. Grace Singh is a research analyst based in Australia. She is attempting to forecast exchange rate movements using data collected in the exhibit:

	Spot rate	Expected Spot Rate in One Year
AUD/GBP	1.8255	1.8010
GBP/EUR	0.8141	0.8350
GBP/MXN	0.0460	0.0602

Based on the data in the exhibit, the expected appreciation in the EUR against the MXN over the next year is *closest* to:

A. – 21.63%.
B. + 2.57%.
C. + 34.23%.

Correct Answer: A

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

MXN/EUR (Spot) = 0.8141 × (1/0.0460) = 17.6978
MXN/EUR (Expected) = 0.8350 × (1/0.0602) = 13.8704
Percentage change in MXN/EUR = (13.8704/17.6978 – 1) = - 21.63%

39. Firms operating in perfectly competitive markets will maximize profits if:

A. total revenues at least cover total costs.
B. marginal revenues exceed marginal costs.
C. total revenues at least cover variable costs.

Correct Answer: A

Reference:
CFA Level 1, Volume 2, Study Session 4, Reading 15, LOS h

A firm operating in a perfectly competitive market will maximize profits if total revenue is greater or equal to total costs, that is, both fixed and variable costs are covered and marginal revenues equal to marginal costs.

40. A-Tech is the sole software developer in its country's market. The total revenue, marginal revenue and cost functions of the developer are as follows:

Total revenue = $1{,}500Q_D – 12.5Q^2_D$
Marginal revenue = $1{,}500 – 25Q_D$
Marginal cost = $650 + 10Q_D$

A-Tech's profit will be maximized if its level of output equals:

A. 2 units.
B. 24 units.
C. 57 units.

Correct Answer: B

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

Profit will be maximized when marginal revenue equals marginal cost. This will occur when the level of output is equal to 24 units (see below).

$1{,}500 – 25Q_D = 650 + 10Q_D$
$850 = 35Q_D$

Q_D = 24.2857 units or approximately 24 units

41. Green Alliance operates in an industry in which an increase in product demand has led to an increase in short-run economic profits. Cost of production has increased as a consequence of an increased demand for resources by companies entering the industry. The recent industry changes have forced industry participants to revise product prices upwards in light of output expansion.

The slope of Green Alliance's supply curve in the long run is *most likely*:

A. flat.
B. positive.
C. negative.

Correct Answer: B

Reference:
CFA Level 1, Volume 2, Study Session 4, Reading 15, LOS i

The slope of Green Alliance's long run supply curve is upward sloping. Higher production costs due to larger number of competitors entering the industry imply that market prices must rise to cover input costs producing a positive slope.

42. Which of the following factors will *most likely* influence the success of a collusive agreement?

    A. Degree of regulation
    B. Severity of retaliation
    C. Availability of substitutes

Correct Answer: B

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

Among the listed factors, only the strength of retaliation has the potential to influence the success of a collusive agreement; oligopolists will be less likely to break the agreement if the threat of retaliation by other firms in the market is severe.

43. The sustainable growth rate of potential GDP is calculated as the sum of the growth rates in labor, capital and:

    A. real GDP.
    B. technology.
    C. natural resources.

Correct Answer: B

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

The sustainable growth rate of potential GDP is equal to the sum of growth rates in technology, labor, and capital.

44. In December 2011 the value of the Fisher and Paasche index was 115.6 and 125.1 respectively. The value of the price index when the consumption basket is held constant was *closest* to:

A. 106.82.
B. 120.26.
C. 135.38.

Correct Answer: A

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

The price index when the components of the consumption basket are held constant is known as the Laspeyres' index (I_L).
Fisher index = $\sqrt{I_p \times I_L}$
$I_L = (115.6)^2 \div 125.1 = 106.82$

Questions 45 through 68 relate to Financial Reporting and Analysis

45. An equity investor is utilizing the following metrics to screen stock investments:

- P/BV < 0.69.
- Dividend yield ≥ 3.5%
- NI/Sales ≥15%

Given the screening criteria, the equity investor is *most likely* a:

A. Value investor.
B. Growth investor.
C. Market-oriented investor.

Correct Answer: A

Reference:
CFA Level I, Volume 3, Study Session 10, Reading 34, LOS g

A low P/BV ratio and a high dividend yield is an indication of value investing.

46. TS Associates issues $1,000,000 face value of ten-year bonds dated January 1, 2010. The total interest expense on the bonds for the ten-year period is $653,123 while the annual coupon rate is 6%. Using the straight-line method, the interest expense for the fiscal year 2012 is *closest* to:

A. $54,877.
B. $60,000.
C. $65,312.

Correct Answer: C

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

Total interest payments = $1,000,000 × 6% × 10 = $600,000

Given that total interest expense exceeds interest payments, the bonds are issued at a discount of $53,123 ($653,123 – $600,000). The discount would be amortized by $5,312 ($53,123/10) each year under the straight line method. Annual interest expense is thus equal to $65,312 ($60,000 + $5,312).

47. Which of the following ratios will *least likely* be affected by a company's choice of the fair value over cost model for reporting long-lived assets (assuming fair value is always higher than carrying value) over the long-term?

    A. Debt-to-equity
    B. Interest coverage
    C. Cash flow to revenue

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 30, LOS g

A company's decision to choose one reporting model over the other in the case of long-lived assets will affect the debt-to-equity ratio and return on assets ratio but not the cash flow to revenue ratio. Revaluation gains or losses and the associated depreciation charges do not impact cash flows or revenues.

Interest coverage ratio will be higher if the cost model is used provided fair value always exceeds carrying value and consecutively increases; this is because depreciation charges will be lower for the latter. A lower depreciation charge translates into higher operating profit and interest coverage ratio. The debt-to-equity ratio will be affected as all revaluations will be recorded as part of the revaluation surplus in equity.

48. On January 1, 2012 TRX Associates purchased a component. Tim Rubin, TRX Associates' chief financial analyst, is of the option that the component's balance sheet value may need to be reduced. Rubin collects relevant financial information in the exhibit below:

Exhibit: Relevant Financial Information for the Component

Carrying amount	£423,000
Undiscounted expected future cash flows	£420,000
Present value of expected future cash flows	£415,000
Fair value	£455,000
Costs to sell	£28,000

If TRX prepares and presents its financial statements in accordance with IFRS, Rubin is *most likely*:

A. Incorrect.
B. correct; the component will be valued at £415,000.
C. correct; the component will be valued at £420,000.

Correct Answer: A

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 30, LOS h

Under IFRS, an asset is impaired if the carrying amount of the asset exceeds its recoverable amount with the latter equal to the higher of fair value less costs to sell and value in use (present value of expected future cash flows).

Fair value less costs to sell = £455,000 – £28,000 = £427,000

Given that fair value less costs to sell is higher than present value of expected future cash flows, value in use will equal to £427,000. The component is not considered impaired because the value in use is greater than the carrying amount of £423,000. Therefore, the component's value will not be reduced.

49. The notes to a company's financial statements disclose the present value of lease payments relating to the next five years as $35,000. These payments concern an operating lease,which the company had entered into two years ago. If the company's total assets and equity are $450,000 and $300,000, respectively, the debt-to-equity ratio after capitalizing the effect of the lease transaction equals:

A. 50.0%.
B. 61.7%.
C. 74.4%.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 32, LOS i & l

Total debt (before including lease payments) = $450,000 – $300,000 = $150,000
Debt-to-equity ratio (including lease payments) = ($150,000 + $35,000)/$300,000 = 61.67%

50. One of Silvex Corp.'s assembly machines was revalued upwards giving rise to deferred tax effects. The company will *most likely* classify the associated tax effects as an adjustment to total:

A. assets.
B. equity.
C. liabilities.

Correct Answer: B

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

Since the revaluation is classified in equity (as part of revaluation surplus) the associated deferred taxes will be recognized as direct adjustments to total equity.

51. An analyst has collected information for two companies in the paint manufacturing industry, Violet and Technard.

Exhibit: Selective Financial Information for Violet and Technard

	Violet	Technard
ROE	14.5%	13.3%
Asset turnover	1.6	1.8
EBIT margin	7.7%	6.1%

Which of the following reasons *most likely* justifies why Violet has a higher ROE? Higher:

A. efficiency.
B. return on assets.
C. financial leverage.

Correct Answer: C

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

Technard reports higher financial leverage (see below) and so Violet's higher ROE cannot be attributed to this measure.

ROE = ROA × Financial leverage
Financial leverage (Violet) = 14.5%/12.32%* = 1.18
Financial leverage (Technard) = 13.3%/10.98%* = 1.21

Relative to Technard, Violet reports lower efficiency (as measured asset turnover); therefore, higher return on equity cannot be attributed to this factor.

Violet's higher return on equity can be attributed to higher return on assets (see below).
*Return on assets = Asset turnover × EBIT margin
Return on assets (Violet) = 1.6 × 7.7% = 12.32%
Return on assets (Technard) = 1.8 × 6.1% = 10.98%

52. The write-off of a particular account receivable is reflected by reducing:

A. bad debt expense.
B. sales returns and allowances.
C. allowance for doubtful accounts.

Correct Answer: C

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 26, LOS d

The write-off of an accounts receivable is reflected by reducing allowance for doubtful accounts and accounts receivable by the same amount. The other two accounts, bad debt expense and sales returns and allowances, are not affected.

53. TSO Limited reported the following information for the fiscal year 2013:

Exhibit

Beginning retained earnings	$45,550
Cash dividends paid	$1,200
Equity	$85,350
Contributed capital	$36,155
Operating income	$7,520
Taxes paid	$2,140

Based on the information presented, reported net income for 2013 is *closest* to:

A. $2,445.
B. $4,845.
C. $5,380.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Sessions 7 & 8, Readings 23 & 27, LOS b & d

Ending retained earnings = Assets – Liabilities – Contributed capital or,
Ending retained earnings = Equity – Contributed capital = $85,350 – $36,155 = $49,195

Cash dividends paid = Beginning retained earnings + Net income – Ending retained earnings
Net income = $1,200 – $45,550 + $49,195 = $4,845

54. According to the Conceptual Framework's qualitative characteristics of financial reports, information that is materially misstated is not:

A. relevant.
B. consistent.
C. faithfully represented.

Correct Answer: A

Reference:
CFA Level I, Volume 3, Study Session 7, Reading 24, LOS d

According to the Conceptual Framework's qualitative characteristics, information that is materially misstated is not relevant; this is because such information can affect a user's decisions.

Faithful representation is another qualitative characteristic but does not discuss the concept of materiality. Information that faithfully represents an economic phenomenon that it purports to represent is ideally complete, neutral, and free from error.

55. Arc Inc. has entered into a five-year contract to construct a new production plant on January 1, 2013 at a contract price of £63,500. The estimated costs to complete the project are £55,000. The exhibit below illustrates the estimated project completion percentage over the life of the project. Arc Inc. complies with IFRS with respect to financial reporting.

Exhibit:

Year	Estimated Completion Percentages (%)
1	20
2	15
3	5
4	40
5	20
Total	100

If the estimated loss in the second year of the project is $500, the profit reported in the second year of the project using the percentage-of-completion method is *closest* to:

A. £775.
B. £1,275.
C. £2,475.

Correct Answer: A

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

A loss is reported in the same year it is expected regardless of whether the IFRS or U.S. GAAP are being followed.

At the end of year 1, project revenues and costs total £12,700 (£63,500 × 0.20) and £11,000 (£55,000 × 0.20) respectively. By the end of the second year, 35% of the project is complete and total project revenues and costs to date are £22,225 (£63,500 × 0.35) and £19,250 (£55,000 × 0.35), respectively. Given that 20% is already recognized, £9,525 (£22,225 – £12,700) of project revenues and £8,250 (£19,250 – £11,000) is respectively recognized in the second year.

After accounting for losses, net income generated in the second year equals £775 (£9,525 – £8,250 – £500).

56. Standard-setting bodies:

A. are self-regulated organizations.
B. can recognize the standards they set.
C. exert control over entities that participate in the capital markets of their jurisdiction.

Correct Answer: A

Reference:
CFA Level I, Volume 3, Study Session 7, Reading 24, LOS b

Standard-setting bodies are typically self-regulated organizations and are responsible for setting standards only. These bodies cannot enforce standards nor can they recognize the standards they set; Option B and C represent the responsibilities of standard-setting bodies.

Regulatory authorities have the legal authority to exert control over the entities that participate in capital market within their jurisdiction.

57. Xilta, a surgical equipment manufacturer, is constructing a new building for its administrative staff. Total construction costs amount to $450,000. Xilta has acquired a three-year loan at an interest rate of 6% to finance the construction. Only 5% of the loan proceeds are required for the first few months and so the company invests the remaining proceeds at an annual interest rate of 5% for eight months.

Ignoring any compounding effects, the total amount of interest to be capitalized under:

	IFRS?	U.S. GAAP?
A.	$12,750	$27,000
B.	$66,750	$81,000.
C.	$81,000	$81,000.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 30, LOS a

Under IFRS any income earned on temporarily investing the borrowed funds is deducted from the amount eligible for capitalization. This is not the case for U.S. GAAP where the full amount of interest expense is capitalized.

Interest income = $450,000 × 0.95 × 5% × 8/12 = $14,250
Amount of interest eligible for capitalization (IFRS) = ($450,000 × 6% × 3) – $14,250 = $66,750

Amount of interest eligible for capitalization (U.S. GAAP) = ($450,000 × 6% × 3) = $81,000

58. Which of the following items will *most likely* be higher if a lease is operating as opposed to financing in nature under U.S. GAAP?

A. Total asset turnover
B. Financing cash outflows
C. Net income in the later years

Correct Answer: A

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

Total asset turnover will be higher if a lease is reported as operating. This is because, unlike finance leases, the associated leased asset is not reported on the balance sheet. With a lower total assets balance, this reported measure is higher when leases are operating in nature.

The net income reported in the later years of a lease term is higher when leases are financing in nature; this is because the sum of depreciation charges and interest expenses is lower relative to the rental under operating leases. A major part of the asset has been depreciated as well as the lease liability reduced due to lease payments reducing the lease liability reported under finance leases.

Financing cash outflows are higher under finance lease because the portion of the lease payment that reduces the carrying amount of the lease liability will be reflected as a financing cash outflow rather than an operating cash outflow. Lease rentals are reported as operating cash outflows under operating leases.

59. The exhibit below illustrates selective financial information for Hoarce Inc. for the fiscal years 2012 and 2013.

Exhibit

	2013	2012
Total assets	$500,000	$615,000
Current assets	$120,000	$100,000
Current liabilities	$105,250	$95,000
Revenue	$45,850	$51,200
Total equity	$325,000	$300,000

Based on the information presented above, which of the following statements is *most likely* correct? Hoarce Inc.'s:

A. efficiency has improved.
B. solvency position has deteriorated.
C. need for capital to fund current assets has increased.

Correct Answer: A

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

Measure	Ratio	2013	2012
Efficiency	Total asset turnover	$45,850/$500,000 = 9.17%	$51,200/$615,000 = 8.33%
Solvency	Total debt-to-equity	($500,000 – $325,000)/$325,000 = 53.8%	($615,000 – $300,000)/$300,000 = 105.0%

Haorce Inc.'s efficiency and solvency positions have improved as evidenced by the respective increase in total asset turnover and decline in total debt-to-equity. A company's need for capital to fund current assets is measured by the net operating cycle. There is insufficient data to determine this measure.

60. The use of periodic versus perpetual inventory systems will result in the same value for cost of sales and ending inventory using the:

A. FIFO and LIFO method.
B. FIFO and specific identification method.
C. FIFO and weighted average cost method.

Correct Answer: B

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

The use of the periodic versus perpetual inventory systems will result in the same value for cost of sales and ending inventory using the specific identification and FIFO method of inventory valuation.

The choice of system will affect the ending inventory and cost of sales when either the LIFO or weighted average cost method is used.

61. The exhibit below illustrates selective financial information for Thompson Walsh for the financial years 2013 and 2014.

Exhibit

$ millions	2014	2013
Current assets	48	45
Current liabilities	50	37
Revenue	85	80

Based on the information presented in the exhibit, Thompson Walsh's efficiency:

A. has improved.
B. has deteriorated.
C. cannot be interpreted based on the information presented.

Correct Answer: C

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

The company's working capital has declined to a negative value, ($48 million – $50 million = - $2 million), in the year 2014. A negative working capital produces a working capital ratio that cannot be interpreted.

62. ARDA Associates has reported two transactions for the financial year ending 2013. The applicable tax rate is 30%.

Transaction 1: Payment of $300,000 as advanced rent at the end of the year. Tax authorities require advanced rent to be taxed on a cash basis.

Transaction 2: A company purchased machinery worth $100,000 on January 1, 2013. The useful life of the machine is 25 years and the machine is depreciated using the straight-line method for accounting purposes. Tax authorities require the double declining method be used for depreciation purposes. The machine has a zero salvage value.

Which of the following statements is *most likely* correct with respect to the transactions?

A. Transaction 2 will give rise a deferred tax liability of $1,200.
B. Transaction 2 will give rise a deferred tax liability of $4,000
C. Transaction 1 will give rise a deferred tax liability of $300,000.

Correct Answer: A

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 31, LOS b & c

Transaction 1 will give rise to an asset account (prepaid rent) with a carrying amount of $300,000 and a tax base of $0; a temporary taxable difference will arise which will equal $300,000. Since the carrying amount of the asset is greater than its tax base, a deferred tax liability equal to $90,000 ($300,000 × 30%) will be recognized on the balance sheet.

With respect to Transaction 2, the carrying amount of the asset at the end of the fiscal year 2014 is $96,000 [$100,000 – ($100,000 – $25,000)/4] while the tax base is $92,000 [$100,000 – (1/25 × 2 × $100,000)]; this will give rise to a deferred tax liability of $1,200 [($96,000 – $92,000) × 30%].

63. Dale Buchanan is a credit analyst evaluating the debt repaying ability of two companies in the same industry, Rax Limited and Halt. The exhibit below includes selective financial information with respect to the two companies.

Exhibit

	Rax Limited	Halt
Operating earnings	45	30
Interest payments	12	13
Total debt	35	25
Total equity	120	108

Which company demonstrates a greater ability to service debt?

A. Halt Limited due to lower financial leverage.
B. Rax Limited due to lower interest payments.
C. Rax Limited due to a higher interest coverage ratio.

Correct Answer: C

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

All $ figures are in millions

Based on the information presented, the ability of either company to service its debt is measured by the interest coverage ratio (Operating earnings or EBIT/interest payments).
Rax Limited (Interest coverage ratio) = $45/$12 = 3.75
Halt (Interest coverage ratio) = $30/$13 = 2.31

Although lower interest payments serve to reduce a company’s interest coverage ratio, it is not a direct measure of debt repayment capability.

The leverage ratio measures the degree of financial risk in a company’s capital structure and is not relevant in measuring debt repayment capability.

64. The exhibit below demonstrates inventory value assessments for Targer Limited for the fiscal year ended December 31, 2012. On January 2, 2013 the inventory was revalued.

Exhibit: Inventory Value Assessments (2012-2013)

Carrying value – January 1, 2012	£100,000
Market value – July 13, 2012*	£85,000
Carrying value – December 31, 2012	£80,000
Revaluation – January 2, 2013	£110,000

*Market value is equal to the net realizable value

On the date of revaluation, the inventory will be valued at an amount equal to:

A. £80,000.
B. £105,000.
C. £110,000.

Correct Answer: B

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

On July 13, 2012 the inventory was written down to its market value of £85,000 and an impairment loss of £25,000 would have been recorded on the income statement. On the date of revaluation, the inventory increased by £30,000 (£110,000 – £80,000) in value. However, the upwards revaluation will be limited to the impairment loss; thus inventory will be valued at £105,000 (£80,000 + £25,000) on January 2, 2013.

65. On its balance sheet, ARC Limited reports a deferred tax asset arising from the different depreciation methods being used for financial reporting and tax purposes. After further assessment concerning future recoverability, ARC Limited reduces the carrying amount of the asset using a valuation allowance.

At the end of the financial year Lindsay Smart reassesses the valuation allowance and determines that any uncertainty concerning future recoverability has been alleviated. Smart will *most likely* reverse the valuation if the firm complies with:

A. IFRS but not U.S. GAAP.
B. U.S. GAAP but not IFRS.
C. neither U.S. GAAP nor IFRS.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 9, Reading 31, LOS g & j

The recognition of a valuation allowance is only applicable under U.S. GAAP whereby a deferred tax asset is recognized in full but reduced by a valuation allowance if all or some of the deferred tax asset will not be realized. Subsequent to initial recognition, should circumstances change such that the valuation allowance is reduced, the reversal will increase deferred tax asset and operating income.

Under IFRS, a deferred tax asset is recognized only if it is probable the sufficient taxable profit will be available against which the temporary difference can be utilized; this suggests that a deferred tax asset will be recognized to the extent it is recoverable.

66. Revenue from barter transactions will be measured under:

A. U.S. GAAP at the carrying amount of the asset surrendered.
B. IFRS on the basis of fair value of revenues from similar non-barter transactions with unrelated parties.
C. U.S. GAAP on the basis of fair value if a company has not received cash payments for such services in the past.

Correct Answer: B

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

Under IFRS, revenue from barter transactions will be measured based on the fair value of revenues from similar non-barter transactions with unrelated parties.

Under U.S. GAAP, revenue can only be recognized at fair value if a company has received cash payments for such services in the past and can use its past experience to determine fair value; otherwise revenue from barter transactions will recognized at the carrying amount of the asset surrendered.

67. Qualitative characteristics that enhance the usefulness of relevant and faithfully represented information include information:

    A. not presented in a manner so as to bias a users' decisions.
    B. presented in a consistent manner across time and between entities.
    C. which is understandable to a wide range of users including those with minimal business knowledge.

Correct Answer: B

Reference:
CFA Level I, Volume 3, Study Session 8, Reading 24, LOS d

Qualitative characteristics that enhance the usefulness of relevant and faithfully represented information include information that is comparable; this implies that information is consistent across time and between entities enabling users to make comparisons more easily.

Financial reports, which are presented in such a manner so as not to bias a user's decisions are said to be faithful represented; this represents a qualitative (as opposed to an enhancing) characteristic of financial reports.

Enhancing qualitative characteristics also include understandability; this implies that information is prepared for and should be understandable by users who have a reasonable knowledge of business and economic activities.

68. Unrealized gains or losses on available for sale securities are *most likely* excluded from:

A. equity.
B. net income.
C. other comprehensive income.

Correct Answer: B

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

Unrealized gains or losses on available for sale securities are excluded from net income; however they are included in equity as a component of other comprehensive income.

Questions 69 through 76 relate to Corporate Finance

69. Natalie Brooks is contemplating an investment in the GR stock. She would like to ensure that she is entitled to the first dividend payment upon purchase. The corporation has declares a dividend of $2.50 on December 1. On December 3 the share price will be reduced by the dividend per share and the stock will trade at the reduced price. The dividend will be paid on December 15.

    In order to receive dividends, Brooks should purchase shares of GR stock on:

    A. December 2.
    B. December 3.
    C. December 15.

    Correct Answer: A

    Reference:
    CFA Level I, Volume 4, Study Session 11, Reading 38, LOS b

    The ex-dividend date is the date on which shares first trade without the dividend. This date corresponds to December 3. In order to be entitled to the declared dividend, Brooks should own shares on or purchase shares before the ex-dividend date; that is, she should have made her purchases by December 2.

70. The exhibit below summarizes key financial results for IAO Inc. for the years 2012 and 2013:

Exhibit

	2012	2013
Degree of financial leverage	2.5	1.8
Operating income (in millions)	$10.6	$11.2
Net revenues (in millions)	$25.5	$20.2

    Based on the information presented, the percentage change in net income is *closest* to:

    A. – 28.0%
    B. – 9.6%.
    C. + 10.2%.

Correct Answer: C

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 37, LOS b

Degree of financial leverage is measured as the percentage change in net income relative to the percentage change in operating income.

Percentage change in net income
= DFL × Percentage change in operating income
= 1.8 × (11.2/10.6 – 1)
= 0.101889 or 10.2%

71. A company's suppliers have modified its credit terms from 2/10 net 30 to 3/10 net 30. The impact of the change in credit policy will *most likely*:

A. increase the available cash flow.
B. lengthen the net operating cycle.
C. increase the number of days of payables.

Correct Answer: A

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

A higher discount offered will prompt the company to pay off its accounts payable more quickly. This will lengthen the net operating cycle (number of days of inventory + number of days of receivables – Number of days of payables), decrease the number of days of payables, as well as decrease the available cash; the latter holds true because the company will be making payments to its suppliers on an earlier date.

72. The exhibit below illustrates selective financial information for a manufacturing concern for the years 2012 and 2013.

	2013	2012
Current ratio	0.8	1.2
Quick ratio*	0.5	0.8
Current liabilities (in millions)	\$30.5	\$32.7
Cost of goods sold (in millions)	\$15.6	\$18.4

*Differs from the current ratio by excluding the inventory balance only.

The company's number of days of inventory has *most likely*:

A. shortened by 4 days.
B. shortened by 55 days.
C. lengthened by 45 days.

Correct Answer: C

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

The difference between the current ratio and quick ratio is equal to the inventory divided by liabilities.
2013:

Inventory/current liabilities = 0.8 – 0.5 = 0.3

Inventory = 0.3 × \$30.5 million = \$9.15 million

Days of inventory on hand = Inventory/(Cost of goods sold/365) = \$9.15/(\$15.6/365) = 214.09 days

2012:
Inventory/current liabilities = 1.2 – 0.8 = 0.4
Inventory = 0.4 × \$32.7 million = \$13.08 million
Days of inventory on hand = \$13.08 million/(\$18.4 million/365) = 259.47 days

The number of days of inventory on hand has increased by approximately 45 days (259 – 214).

73. Karl Salone is the chief financial officer at T.R. Enterprises. While evaluating the company's liquidity position, Salone makes the following observations:

Observation 1: The company routinely pays its vendors prior to the stated due dates.

Observation 2: Following the recent deterioration in economic conditions, arranging short-term borrowing is more restrictive in terms of both availability and cost.

Observation 3: Due to technological advances in the industry, a significant proportion of T.R. Enterprises' inventory has become obsolete.

How many of the above observations reflect a drag on liquidity?

A. 1
B. 2
C. 3

Correct Answer: B

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

Observation 1 reflects a pull on liquidity while observations 2 and 3 reflect a drag on liquidity.
By paying vendors prior to the stated due date, T.R. Enterprises will forgo the use of funds representing a pull on liquidity.

When access to capital becomes scarce, this reflects a drag on liquidity.
Obsolete inventory ties up a company's funds by increasing storage and other interest costs; this represents a drag on liquidity.

74. Relative to a stock dividend, a cash dividend:

A. decreases the current ratio.
B. does not affect financial leverage ratios.
C. has no economic impact on company value.

Correct Answer: A

Reference:
CFA Level I, Volume 4, Study Session 11, Reading 38, LOS a

Cash dividends affect a company's capital structure while stock dividends have no economic impact on a company. Unlike cash dividends, a company does not have to pay additional money when issuing stock dividends.

Cash dividends affect a company's financial leverage ratios as retained earnings (component of equity) is reduced. This increases the degree of leverage.

Cash dividends decrease the current ratio as the company needs to pay cash for issuing this dividend. An outflow of cash reduces total current assets and the numerator of the current ratio.

75. Bill Somers, an equity analyst, is evaluating the stock of Westmore Associates. Somers has collected the following data with respect to the Westmore stock and equity market:

Exhibit:
Data Concerning the Market and Westmore Associates' Stock

Current dividend per share	\$3.50
Return on equity	5%
Earnings per share	\$7.50
Market required rate of return	8%
Risk-free rate	3%
Forecasted next period's price per share	\$25.50
Current price per share	\$22.35

The cost of equity (r_e) using the discounted dividend model (DDM) is *closest* to:

A. 16.76%.
B. 18.36%.
C. 18.74%.

Correct Answer: C

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

The cost of retained earnings (r_e) is equal to the sum of the dividend yield and sustainable growth rate.

$r_e = D_1/P_0 + g$

$g = ROE \times (1 - D/EPS) = 5\% \times (1 - \$3.50/\$7.50) = 2.6667\%$

$r_e = (\$3.50 \times 1.026667)/\$22.35 + 0.026667 = 0.18744$ or 18.74%

76. The code of ethics covered by the codes of corporate governance *least likely* prohibits:

A. donating cash to management.
B. management from holding company shares.
C. a compensation package dominated by the basic salary.

Correct Answer: B

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

A strong code of ethics should encourage management to hold company shares. This will help align the interests of management with shareholders and will more than likely result in decisions being made which are in the best interests of the latter.

A strong code of ethics will prohibit the use of corporate assets by insiders for personal reasons. This includes lending cash to insiders.

A strong code of ethics will also prohibit compensation packages dominated by the fixed basic salary. In order to incentivize management, a greater proportion of the compensation package should be variable and performance based with a focus on maximizing shareholder wealth.

Questions 77 through 88 relate to Equity Investments

77. The market price of Yacto's stock decreased by $2 over the financial year 2013. If the share price at the beginning of the year was $52.50, what dividend yield must the company maintain to ensure total return is equal to 15%?

    A. 3.81%.
    B. 11.19%.
    C. 18.81%.

    Correct Answer: C

    Reference:
    CFA Level 1, Volume 4, Study Session 14, Reading 48, LOS e

    Total return = $(P_t - P_{t-1} + D_t)/P_{t-1}$
    The total return can be separated into the price return and dividend yield.
    Price return = – $2/$52.50 = – 0.03810 or – 3.8095%
    Dividend yield = D_t/P_{t-1}
    Dividend yield = 15.000% – (– 3.8095%) = + 18.8095%

78. A trader who purchases a global registered share will *most likely*:

    A. not need to be concerned with currency conversions.
    B. be able to track the performance of the underlying index.
    C. have an indirect, economic interest in a foreign company.

    Correct Answer: A

    Reference:
    CFA Level 1, Volume 4, Study Session 14, Reading 48, LOS e

    A trader who purchases a global registered share need not be concerned with currency conversions as the same share is quoted and traded in different currencies.

    An ETF represents a portfolio of depository receipts that tracks an index while a global registered share represents an actual (and not indirect) ownership interest in a company.

79. ABC Limited has reported a return on equity, net profit margin and financial leverage ratio of 15.0%; 0.32; and 2.5 respectively. Asset turnover of ABC Limited is *closest* to:

   A. 0.12.
   B. 0.19.
   C. 18.75%

   Correct Answer: B

   Reference:
   CFA Level 1, Volume 4, Study Session 14, Readings 49, LOS a.

   ROE = Net profit margin × Asset turnover × Financial leverage

   Asset turnover = ROE ÷ (Net profit margin × Financial leverage)
   = 0.15 ÷ (0.32 × 2.5) = 0.18750

80. Blake Associates is a financial services firm operating in a fragmented industry. Lucas Mathews, a market analyst, determines that the structure of the industry will have implications for the company's market share, coordination among industry players, and price competition in the industry.

   Which of the following conclusions is *most likely* valid concerning industry structure?

   A. Price competition is fierce.
   B. The relationship among industry players is cooperative.
   C. A small increase in Blake's market share can significantly increase its profitability.

   Correct Answer: A

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

A fragmented industry is highly competitive due to several reasons. Firstly, the large number of players makes coordination difficult because there are too many competitors for industry members to monitor effectively. Secondly, each player has a small piece of the market's share and any attempt to increase market share, even by a small amount, will not bring a significant change to a company's fortunes.

81. An analyst has collected the following information concerning a value weighted index:

	Beginning of Period		End of Period	
Security	Price ($)	Shares	Price ($)	Shares
A	45.56	100	51.87	100
B	61.05	200	67.00	200
C	88.07	300	91.35	300

The return on the index is *closest* to:

A. 6.50%.
B. 7.42%.
C. 18.51%.

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 46, LOS e

The value of the index is the change in market capitalization over the period:
Beginning market capitalization = ($45.56 × 100) + ($61.05 × 200) + ($88.07 × 300) = $43,187.00

Ending market capitalization = ($51.87 × 100) + ($67.00 × 200) + ($91.35 × 300) = $45,992.00

Return = ($45,992.00/$43,187.00) – 1 = 6.50%

82. A brokered market:

A. is organized as an order-driven market.
B. uses a crossing network to organize market trades.
C. is the platform for trading unique and infrequently traded instruments.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 45, LOS j

A brokered market is one in which brokers arrange trades among their clients. They organize markets for which organizing a trade is difficult because instruments are unique, infrequently traded and/or expensive.

An order-driven market is not organized for these instruments because few traders would submit orders to brokers operating in such markets.

83. Sylvia Perez has purchased a 3-month put option with an exercise price of $35.00 by paying $5.50. The purpose behind the option purchase is to protect her investment from adverse price movements. Perez will exercise the option if the share price:

A. rises above $35.00.
B. declines below $35.00.
C. declines below $40.50.

Correct Answer: B

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 45, LOS c

A put option is exercised when the market price of the stock declines below the exercise price. In Perez's case, she will exercise her put option when the share price declines below $35.00.

84. The exhibit below illustrates the limit order book for the Japanese equity market:

Exhibit:
Japanese Equity Market's Limit Order Book

Bid Size	Limit price (¥)	Offer Size
	172.68	10
	168.90	12
	163.57	8
	160.00	5
14	158.42	
16	151.75	
7	146.89	
9	145.63	

The market bid-ask spread is *closest* to:

A. 1.58.
B. 16.68.
C. 27.05.

Correct Answer: A

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

The market bid-ask spread is equal to the difference between the best bid (highest bid price) and best offer (lowest offer or ask price). The market bid-ask spread in the Japanese equity market is 1.58 (160.00 – 158.42).

85. In contrast to public equity firms, the private equity firm:

A. operates in larger, unregulated markets.
B. management tend to focus on maximizing short-term results.
C. has less effective corporate governance policies and procedures.

Correct Answer: C

Reference:
CFA Level 1, Volume 4, Study Session 14, Reading 48, LOS c

Private equity firms score lower in terms of corporate governance effectiveness.

Since private equity firms hold investments of relatively longer holding periods, management are better able to better manage their company for long-term value creation. Thus, management is able to focus on the long-term. In the case of public equity firms management is pressurized to focus on short-term results.

In contrast to public equity firms, private equity firms are not subject to the stringent regulatory requirements often imposed on the former. Furthermore, public equity markets are much larger than private equity markets.

86. In contrast to the method of fundamentals, the method of comparables:

A. does not consider the future.
B. is based on the law of one price.
C. is more sensitive to assumptions.

Correct Answer: B

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

The method of comparables is based on the law of one price; identical assets should sell for the same price.

A failure to consider the future is a criticism aimed at price multiples in general. Multiples calculated from trailing or current values of the divisor do not consider the future whereas forward price multiples do.

The method of fundamentals is sensitive to the assumptions used as it depends on cash flow forecasts or discounting to present value. However, the method of comparables involves comparing the price multiple of the subject company to a benchmark and so is not sensitive to assumptions used.

87. Gem Inc. has paid a dividend of $4.55 in the current year. From next year onwards, annual dividend will grow at an indefinite rate of 2%. The company's shareholders require an 8% return to compensate for the risk associated with equity shares. The intrinsic value of the stock is *closest* to:

A. $75.83.
B. $77.35.
C. $78.90.

Correct Answer: B

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

$$V_0 = \frac{D_0(1+g)}{r-g} = \frac{\$4.55(1+0.02)}{0.08-0.02} = \$77.35$$

88. Lockwood Associates is a recently established financial services firm. The company will not be paying its shareholders dividends in the near future due to insufficient profits. The date for initiating dividend payments is highly uncertain.

Which model will be *most* suitable for valuing the intrinsic value of company stock?

A. Free cash flow model
B. Gordon growth model
C. Dividend discount model

Correct Answer: A

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

Given that the company is not currently paying dividends and is not expected to in the near future, a free cash flow model is the most optimal model to use for valuing the intrinsic value of Lockwood's stock.

The Gordon growth model is unsuitable because it generally assumes a perpetual dividend growth rate. Lockwood Associates does not pay dividends and so this model is unsuitable for valuing the company's stock. The dividend discount model assumes that the company is paying dividends and so is also unsuitable for valuation purposes.

Questions 89 through 94 relate to Derivatives

89. Which of the following derivative instruments entails default risk which is from the short to the long only?

    A. Swaps
    B. Options
    C. Forwards

    Correct Answer: B

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

    In contrast to forwards and swaps, where either party could default to the other, default risk in options is one-sided. The option buyer has no further obligations beyond the payment of the premium upon contact initiation. However, the seller is obligated to deliver if the buyer exercises the option. Therefore, the seller could default to the buyer.

90. Which of the following statements *most* accurately describes margin in securities and futures markets?

    Margins in:

    A. futures markets are set by federal regulators.
    B. securities markets magnify the gains and losses on an investment.
    C. securities and futures markets serve to reduce the amount required for investment.

    Correct Answer: B

    Reference:
    CFA Level 1, Volume 6, Study Session 17, Reading 59, Pages 82-83, LOS c

Margin in securities markets is viewed as a loan and is used to reduce the amount of funds required for investment. Margin is also viewed as gearing and maximizes the percentage gains and losses to an investor.

Margin requirements are set by clearinghouses in futures markets and by federal regulators in securities markets.

Margin in the futures markets is viewed as a form of collateral. When a trader enters into a futures market, (s) he must deposit margin; however the remaining amount is not borrowed.

91. Which of the following factors will have the *most* significant and positive impact on call option prices where the underlying is non-financial in nature?

Increase in:

A. volatility.
B. interest rates.
C. underlying cash flows.

Correct Answer: A

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

Volatility has a significant impact on option prices. An increase in volatility will increase call option prices because it increases both possible upside and downside values of the underlying (a positive impact).

Interest rates do not have a significant impact on option prices when the underlying is non-financial in nature (for example, the underlying is not a bond or interest rate).

Since the underlying price is reduced by the present value of cash flows, an increase in cash flows will reduce the lower bound of European call option prices.

92. Jacqueline Rogers holds shares with a current market price of $25 and would like to protect her investment from a decline in value. She undertakes a protective put strategy by purchasing 6-month options selling for $2.55 each with an exercise price of $22. On the expiration date of the options, the market price declines to $20.

The breakeven price of the share at expiration is *closest* to:

A. $22.55.
B. $24.55.
C. $27.55.

Correct Answer: C

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

Breakeven price = (S_t*) = S_0 + p_0 = $25 + $2.55 = $27.55

93. Consider a put option selling for $4 in which the exercise price is $34 and the price of the underlying is $36. If the price of the underlying at expiration is $37, the profit for the option seller is *closest* to:

A. 0
B. $4
C. $7

Correct Answer: B

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

Put value at expiration: $-\ p_T\ = -\max(0, X - S_T) = -(0, 34 - 37) = 0$
Profit for put seller = $-\ p_T + p_o = -0 + 4 =$ $4

94. Over the counter derivatives are:

A. subject to the risk of default.
B. are guaranteed against default through the clearinghouse.
C. are guaranteed against decrease in value through the clearinghouse.

Correct Answer: A

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

Option A is correct. Over the counter derivatives are subject to a greater risk of default while exchange traded derivatives are guaranteed against default through the clearinghouse.

Questions 95 through 106 relate to Fixed Income

95. Alex Cunningham is comparing three fixed-income securities held in his investment portfolio. He would like to determine the issue offering the highest interest yield. Details regarding the three issues are summarized in the exhibit below:

Exhibit:
Details Concerning Fixed Income Issues

	A	B	C
Full price per 100 of par value	$98.85	$99.70	$103.30
Accrued interest	$5.40	$3.10	$2.85
Coupon rate	3%	2%	3%
Coupon payment frequency	Annually	Quarterly	Semi-annually

Which issue offers the highest interest yield?

A. A
B. B
C. C

Correct Answer: A

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

Interest yield = Coupon payments/Flat price

Flat price = Full price – accrued interest

Interest yield (A) = $3/($98.85 – $5.40) = 0.032103 or 3.2103%
Interest yield (B) = $2/($99.70 – $3.10) = 0.020704 or 2.07040%
Interest yield (C) = $3/($103.30 – $2.85) = 0.0298656 or 2.98656%

96. A 5%, fifteen-year callable bond issue is priced at 98.56 per 100 of par value at the time of issue. The par value of each bond is $1,000. The bond is first callable on December 31, 2018 at a price of 105.34 of par value. Thereafter, call prices will steadily decline being equal to 103.45 in the year 2019 and finally declining to 100 in 2020, the year of maturity.

The call premium in 2018 is *closest* to:

A. $1.44.
B. $34.50.
C. $53.40.

Correct Answer: C

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

Call premium = Price paid above par when the bond is first called

Call premium (2018) = ($105.34 – $100)/100 × 1,000 = $53.40

97. A deferred coupon bond:

A. is issued at a premium to par.
B. permits in kind interest payments.
C. provides tax advantages to the issuer.

Correct Answer: C

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

Deferred coupon bonds are issued at a discount to par. They provide tax advantages if the issuer is able to delay the taxes due on interest income, which is typically first paid a few years after bond issuance.

A payment in kind bond gives the issuer the option to pay interest in kind or in cash or a mixture of the two.

98. Karl Tatsimo invests in two bond issues; a two-year, 5.00% semi-annual coupon payment corporate bond priced at 95.67 per 100 of par value and a three-year, 3.00% semi-annual coupon payment government bond priced at 93.45 per 100 of par value.

The corporate bond's annual yield-to-maturity stated on a semi-annual basis is:

A. equal to 7.37%.
B. equal to that of the government bond.
C. lower than that of the government bond.

Correct Answer: A

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

The corporate government bond's yield stated on a semi-annual basis is higher. Corporate bond's annual yield-to-maturity quoted on a semi-annual basis is 7.368% (3.684% × 2) or 7.37%:

$$95.67 = \frac{2.5}{(1+r)^1} + \frac{2.5}{(1+r)^2} + \frac{2.5}{(1+r)^3} + \frac{102.50}{(1+r)^4}, \text{ r = 3.684\%}$$

The government bond's annual yield-to-maturity quoted on a semi-annual basis is 5.394% (2.697% × 2):

$$93.45 = \frac{1.5}{(1+r)^1} + \frac{1.5}{(1+r)^2} + \frac{1.5}{(1+r)^3} + \frac{1.50}{(1+r)^4} + \frac{1.50}{(1+r)^5} + \frac{101.50}{(1+r)^6}, \text{ r = 2.697\%}$$

99. Fixed-income securities that are issued with a maturity of less than one year are *most likely* known as:

A. Eurobonds.
B. money market securities.
C. capital market securities.

Correct Answer: B

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

Fixed-income securities with a maturity of less than one year are known as money market securities. Fixed income securities with a maturity exceeding one year are known as capital market securities.

Eurobonds are used to classify bonds by currency denomination as opposed to by maturity.

100. In the event of company default, the debt category that will rank the highest is:

A. first lien debt.
B. second lien debt.
C. senior unsecured debt.

Correct Answer: A

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

In the event of default, senior debt will rank higher than subordinated debt. Within senior debt first lien debt holds a higher ranking relative to second lien debt.

101. A risk of relying on credit agency ratings *least likely* include that they:

A. may be fallible.
B. overestimate event risk.
C. tend to lag bond prices and credit spread movements.

Correct Answer: B

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

Risks in relying on agency ratings include:

- they may be fallible; historical events have confirmed that ratings agencies did not see the accounting fraud being committed by companies.
- Idiosyncratic or event risk is difficult to anticipate and capture.
- Ratings tend to lag market pricing of credit. Bond prices and credit spreads tend to move more quickly due to changes in perceived creditworthiness than changes in the credit ratings.

102. The Jameson Foundation has a fixed income portfolio comprising of three corporate bonds, A, B and C. The exhibit below summarizes details concerning the fixed income portfolio:

Exhibit

	A	B	C
Annual modified duration	3.4	7.8	12.3
Annual modified convexity	12.2	16.9	23.8
Price per par value	92.34	95.78	99.35

If the yield changes by 50 basis points, the security that will exhibit the greatest percentage price change is:

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

Correct Answer: C

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

Bond C exhibits the greatest absolute percentage price change of 6.1203%.

$$\%\Delta PV^{Full} = \left(-AnnModDur \times \Delta Yield\right) + \left[\frac{1}{2} \times AnnConvexity \times \left(\Delta Yield\right)^2\right]$$

$$\%\Delta PV_A^{\ Full} = \left(-3.4 \times 0.0050\right) + \left[\frac{1}{2} \times 12.2 \times \left(0.0050\right)^2\right] = -0.016848$$

$$\%\Delta PV_B^{\ Full} = \left(-7.8 \times 0.0050\right) + \left[\frac{1}{2} \times 16.9 \times \left(0.0050\right)^2\right] = -0.03879$$

$$\%\Delta PV_C^{\ Full} = \left(-12.3 \times 0.0050\right) + \left[\frac{1}{2} \times 23.8 \times \left(0.0050\right)^2\right] = -0.061203$$

103. Which of the following prices is *most likely* quoted by dealers?

A. Clean price
B. Matrix price
C. Invoice price

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

The clean price is quoted by dealers. This price is also known as the flat price or quoted price.

The full price or invoice price is the price paid by the buyer and received by the seller on the settlement date.

104. Based on the information provided in the exhibit below, Tower Two Inc.'s interest coverage is *closest* to:

Exhibit

	$ '000s
Gross profit	2,450
Operating expenses	950
Operating income	1,500
Interest expense	85
Interest income	20
Depreciation and amortization	320

A. 17.65x.
B. 21.41x.
C. 28.00x.

Correct Answer: B

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

All $ calculations are in thousands.
Interest coverage ratio = EBITDA/Interest expense
EBITDA = Operating profit + Depreciation and amortization
Interest coverage ratio = ($1,500 + $320)/$85 = 21.41x

105. Relative to an option-free, a putable bond will *most likely*:

A. trade at a higher yield.
B. trade at a higher price.
C. is associated with a higher reinvestment risk.

Correct Answer: B

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

Putable bonds can be exercised if interest rates rise after the issue date, thus depressing the bond price. Bondholders can put the bond back to the issuer and get cash. This cash can be reinvested to earn a rate of interest in line with the higher market interest rates; this will also serve to lower reinvestment risk.

Since the put provision has value to bondholders, the price of a putable bond will be higher than the price of an otherwise similar bond issued without the put provision. Similarly, the yield on a bond with a put provision will be lower than the yield on an otherwise similar non-putable bond.

Putable bonds have lower reinvestment risk relative to option-free bonds (see above).

106. An investor purchases a 2-year, 10% annual coupon payment corporate bond at a market discount rate of 5%. The forward curve for one-year rates is demonstrated in the exhibit below:

Exhibit

Time period	Forward rate
0y1y	1.0535%
1y1y	2.7984%
2y1y	3.0367%
3y1y	4.7842%

Using the forward rates, the price of the corporate bond per 100 of par value is *closest* to:

A. $109.30.
B. $113.32.
C. $115.78.

Correct Answer: C

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

Firstly, spot rates for the first three years need to be determined.

The implied one-year spot rate (z_1) is 1.0535%

The two-year implied rate (z_2) is 1.9222%:

$(1 + z_2)^2$ = [(1+ 1.0535%) × (1 + 2.7984%)] = [(1.0105) × (1.0280)]
$(1 + z_2)^2$ = 1.0388
$(1 + z_2)$ = 1.0192
z_2 = 0.019222 or 1.9222%

$$\text{Price of the bond} = \frac{10}{(1.010535)^1} + \frac{110}{(1.019222)^2} = 115.7858$$

Questions 107 through 112 relate to Alternative Investments

107. The exhibit below illustrates real estate valuation data collected by Simone Irk, an investment analyst. The data collected by Irk concerns real estate investment trusts (REITs). The analyst would like to employ a direct capitalization approach when comparing the relative valuations of the three REITs (A, B and C).

Exhibit:
Valuation Data Concerning REIT A, B, and C

REIT	Funds from operations	Net Gains from Sales of Real Estate	Recurring Capital Expenditures	Capitalization Rate
A	\$35,000	\$4,200	\$12,000	5%
B	\$80,000	\$12,400	\$28,000	8%
C	\$75,000	\$9,900	\$33,500	6%

Using adjusted funds from operations (AFFO), the REIT with the highest valuation is:

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

Correct Answer: C

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

AFFO = Funds from operations + recurring capital expenditures

Value = AFFO/Capitalization rate

Value (REIT A) = (\$35,000 – \$12,000)/0.05 = \$460,000

Value (REIT B) = (\$80,000 – \$28,000)/0.08 = \$650,000

Value (REIT C) = (\$75,000 – \$33,500)/0.06 = \$691,667

108. The *most* suitable measure for evaluating the performance of alternative investments, in general, is the:

A. Sharpe ratio.
B. Sortino ratio.
C. value added risk (VAR).

Correct Answer: B

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

There are several performance evaluation issues associated with alternative investments with one being that they do not exhibit normal distribution of returns and so standard deviation cannot be used as a risk measure. Investment returns can be leptokurtic and negatively skewed which requires downside risk measures to be used such as the Sortino ratio. This ratio uses downside deviation rather than standard deviation to measure the probability that the portfolio return will fall below some minimum acceptable return.

The Sharpe ratio is an inappropriate risk-return measure for the reason that it uses standard deviation in its denominator. Similarly, VAR when calculated using standard deviation will underestimate the VAR for a negatively skewed return distribution.

109. When commodity futures prices are higher than spot prices, the futures market is said to be in a state of:

A. contango and the convenience yield is low.
B. contango and the convenience yield is high.
C. backwardation and the convenience yield is low.

Correct Answer: A

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

When commodity futures prices are higher (lower) than spot prices, the futures market is said to be in a state of contango (backwardation) and convenience yields are low or negligible (high).

110. The characteristics that make a company particularly attractive as an LBO target *least likely* include a firm:

A. with depressed stock price.
B. that is inefficiently managed.
C. with weak & unsustainable cash flows.

Correct Answer: C

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

The characteristics that make a company particularly attractive as an LBO target include:

- undervalued/depressed stock price
- willing management
- inefficiently managed companies
- strong and sustainable cash flows

111. A hedge fund with $120 million of initial investment, 2-20 fee structure and a hurdle rate of 5%, earned 35% return at year end. Assuming management fee is based on assets under management at year end and incentive fee is calculated net of management fee and is based on return in excess of the hurdle rate, an investor's net return in $ terms is *closest* to:

A. $15.12 million
B. $27.40 million
C. $32.88 million

Correct Answer: C

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

Management Fees = $120 million × 2% = $2.4 million
Hurdle rate = $120 million × 5% = $6 million
Incentive Fees = ($162 − $120 – $6 − $2.4)million × 20% = $6.72 million
Total Fees = $2.4 million + $6.72 million = $9.12 million

Investment Return in $ terms = ($162 −$120 −$9.12)million = $32.88 million

Investment Return in % terms = $\frac{(\$162 - \$120 - \$9.12)\text{million}}{\$120\ million} = 27.40\%$

112. An analyst listed the following characteristics of alternative investments as an asset class in general.

1. Less transparency
2. High level of regulation
3. Narrow manager specialization
4. Potentially problematic historical risk and return data

How many characteristics he identified correctly?

A. 2
B. 3
C. 4

Correct Answer: B

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

The characteristics common to nay alternative investments include:

- Illiquidity of underlying investments
- Narrow manager specialization
- Low correlation with traditional investments
- Low level of regulation and less transparency
- Limited and potentially problematic historical risk and return data
- Unique legal and tax considerations

Questions 113 through 120 relate to Portfolio Management

113. Maxine Carrell, a university professor, made the following statements during a lecture:

Statement 1:“The capital allocation line joins the optimal risky portfolio and the risk-free asset.”

Statement 2:“The portfolio of an optimal investor must lie on the capital allocation line.”

Carrell is *most likely* correct with respect to:

A. Statement 1 only.
B. Statement 2 only.
C. Statement 1 and Statement 2.

Correct Answer: C

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

Carrell’s both statements are correct.

The capital allocation line joins the optimal risky portfolio and the risk-free asset.

The portfolio of an optimal investor must lie on the capital allocation line.

114. If an investor is opting for an investment strategy that offers guaranteed outcome, then such an investor will *most likely* be classified as:

A. risk seeker.
B. risk averse.
C. risk neutral.

Correct Answer: B

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

If an investor is opting for an investment strategy that offers guaranteed outcome, then such an investor will be classified as **risk averse.**

115. In contrast to open-end funds, a disadvantage of investing in closed-end funds is that they:

A. have a limited ability to grow.
B. charge fees for investing in and redeeming from the fund.
C. may require the manager to liquidate assets for meeting redemptions at a point in time when least desirable.

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 41, LOS e

Closed-end funds have a limited ability to grow. This is because these funds do not accept money for investment into the fund. New investors invest in the fund by buying existing shares and investors liquidate by selling existing shares. Thus, the number of outstanding shares does not change.

Load funds, another classification for mutual funds, charge investors fees for fund investment and redemption.

A disadvantage of open-end funds is that the asset manager will need to sell assets to meet fund redemptions. However, this may come at a time when the investor may not want to redeem from the fund.

116. The exhibit below summarizes data concerning annual returns, annual standard deviation and betas for an investor's two asset portfolio. The portfolio's expected return is equal to 15%.

Exhibit:

Asset	Annual Return (%)	Annual Standard Deviation (%)	Beta
A	14	10	1.5
B	18	16	0.9

The amount invested in both assets is respectively *closest* to:

	Asset A:	Asset B:
A.	17%	83%
B.	42%	58%.
C.	75%	25%.

Correct Answer: C

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

75% is invested in Asset A and 25% in Asset B where w_A = weight of Asset A and w_B = weight of Asset B in the portfolio.

$15 = (14)(w_A) + (18)(1 – w_A)$
$w_A = 0.75$
$w_B = 1 – 0.75 = 0.25$

117. Mitchell Young holds an investment portfolio comprising two equity securities, A and B. The portfolio is equally invested in the two securities. The exhibit below summarizes annual risk and return data concerning Young's portfolio:

Exhibit

Security	Annual Return (%)	Annual Standard Deviation (%)
A	22	17
B	16	13

If the covariance of returns between the two securities is – 0.0157, the correlation between the two securities is *closest* to:

A. – 0.71.
B. – 0.44.
C. + 0.19.

Correct Answer: A

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

$$Cov_{R_A,R_B} = p_{R_A,R_B}\sigma_A\sigma_B$$

$$p_{R_A,R_B} = \frac{-0.0157}{0.17 \times 0.13} = -0.710407$$

118. The slope of the capital allocation line (CAL) is measured using the:

A. Sharpe ratio.
B. Treynor ratio.
C. information ratio.

Correct Answer: A

Reference:
CFA Level 1, Volume 4, Study Session 12, Reading 43, LOS b & h

With total return on its y-axis, the risk-free rate of return as the intercept, and total risk (standard deviation) on its x-axis, the slope of the CAL is the Sharpe ratio.

119. The exhibit below summarizes risk, return and beta information concerning the Lightman Foundation's investment portfolio.

Exhibit:

Stock	Annual Standard Deviation (%)	Beta	Weight in Portfolio (%)
A	23.5	1.5	25
B	9.4	0.6	30
C	8.5	1.1	10
D	12.5	0.3	35
Total			100

Based on the information presented, portfolio beta is *closest* to:

A. 0.14.
B. 0.77.
C. 0.87.

Correct Answer: B

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

Portfolio beta = (0.25)(1.5) + (0.30)(0.6) + (0.10)(1.1) + (0.35)(0.3) = 0.77

120. Tactical asset allocation:

A. focuses on adding portfolio value in the short-run.
B. deviates from policy exposures to nonsystematic risk factors.
C. selects securities with an expected return higher than the asset class benchmark.

Correct Answer: A

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

Tactical asset allocation involves a deliberate deviation from the policy exposures to systematic risk factors with the objective of adding value from forecasts of near-term returns of those asset classes.

Security selection involves selecting securities, which have a higher expected return than the benchmark for the purposes of enhancing portfolio return.