CFA
LEVEL II

EXPLANATION - ALTERNATIVE INVESTMENT 1

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Explanation - Alternative Investment 1

Question 1

The correct answer is B.

Statement 1 is incorrect. PE firms tend to have a long-term, rather than short-term focus in their investment strategies, which often exceeds 10 years. Restructuring is generally a lengthy process and requires a long-term perspective.

Statement 2 is correct with regard to both manager compensation and the use of *tag-along, drag-along clauses.*

Question 2

The correct answer is A.

Because REITs are not able to retain earnings as other companies do, REITs make frequent secondary equity offerings, in order to finance growth and property acquisitions. REITs' required distributions result in a dividend yield that is significantly higher than those of most other publicly-traded equities. REITs' focus on income from rental properties leads to low volatility of reported income.

Question 3

The correct answer is A.

Population growth has been found to be a major economic factor driving economic value for storage REITs. Job creation is a more important driver of economic value for an office REIT than is population growth. Retail sales growth is a more important driver of economic value for a retail REIT than is population growth.

Question 4

The correct answer is A.

A tag-along, drag-along clause is less a control mechanism for private equity firms and more a tool to tie portfolio manager interests to the portfolio companies. The clause gives portfolio managers the right to obtain an equity stake in the portfolio companies should the private equity firm decide to dispose of its holding.

Priority in claims and board representation are both effective tools that give PE firms greater control over portfolio companies. Priority in claims allows the PE firm to receive distributions before all other owners. Should the portfolio company experience a major event (bankruptcy, restructuring, IPO, etc.), the private equity firm can gain control of the company through board representation.

Question 5

The correct answer is B.

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Liquidation is a sale of last resort for bankrupt or insolvent firms and generally results in low exit values. The value realized on the sale to management in a management buyout typically varies, but lags behind values from a secondary market sale or an IPO.

A secondary market sale is analogous to a private sale of the firm to another firm. Secondary market sales use large amounts of debt financing and could result in the second highest valuation after an IPO. An IPO is a sale of the entire firm or part of the firm (e.g. a division) to the public. As a result of the increased post-IPO liquidity, transparency and access to capital, the private equity firm can realize the highest exit value of a firm through the IPO process.

Question 6

The correct answer is C.

Studies have found that the majority of hedge fund styles can be relatively closely replicated using traditional market exposures such as stock and bond indices, currency, and commodity market returns. These traditional market risk factors have been found to explain 50%–80% of hedge fund returns.

Question 7

The correct answer is A.

Leverage results in higher returns to equity investors when the return on investment exceeds the cost of debt. Even if debt is cheap, low investment returns would not lead to higher returns due to use of leverage. Similarly, even if return on investment is high, as long as it does not exceed the cost of debt, leverage will not generate higher returns.

Question 8

The correct answer is C.

The calculation requires four steps:

Step 1: Calculate the expected future value of Milat's $35 million investment in four years using an IRR rate of 40%:

W = ($35 million) X (1.40)4 = $134.46 million

Step 2: Milat's fractional ownership of the venture capital firm is the future expected wealth divided by the exit value:

f = $134.46 million / $150 million = 0.8964, or 89.64%

Step 3: Calculate the number of shares required by Milat (S_{pe}) for its fractional ownership of 89.64%:

S_{pe} = 1,000,000 [0.8964 / (1   0.8964)] = 8,652,510

Step 4: The share price is the value of Milat's initial investment divided by the number of shares Milat requires:

P = INV_1 / S_{pe} = $35 million / 8,652,510 = $4.05

(Note that both the NPV and IRR approach will yield the same answers.)

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Question 9

The correct answer is B.

Mortgage REITs are publicly traded securities that make loans secured by real estate, therefore they are publicly traded debt investments. REOCs are classified as equity (not debt) securities, while bank debt is classified as a private rather than public investment.

Question 10

The correct answer is C.

The terminal value under each scenario is the expected earnings multiplied by the P/E ratio. The expected terminal value is the weighted average of the three scenarios (all in $ million):

Scenario 1: Terminal value = $20 X 10 = $200
Scenario 2: Terminal value = $7 X 6 = $42
Scenario 3: terminal value = $0

Expected terminal value = ($200 + $42 + $0) / 3 = $80.67

The expected terminal value is then discounted at the IRR rate to arrive at the post-money (POST) valuation:

$POST = FV / (1 + r)^N = \$80.67 / (1 + 0.25)^4 = \$33.04$

The pre-money (PRE) valuation is the post-money valuation less the investor's initial investment:

PRE = POST − INV = $33.04 − $5.0 = $28.04

Question 11

The correct answer is C.

Ratchet is a contract term that specifies the allocation of equity between management and shareholders.

DPI, or distributed to paid-in capital, is the cumulative distributions paid out from the fund as a fraction of cumulative invested capital. DPI measures the limited partners' realized return from the fund.

Note: The GP's share of fund profits is called *carried interest*. The year the fund was set up is called the *vintage*. There should be no distinction between realized and unrealized return for the GP. Also, there is no term for dividends over paid-in capital as dividends are seldom paid out from a private equity fund.

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Question 12

The correct answer is C

The answer requires four steps:

Step 1: Calculate the post-money (POST) valuation, which is simply the pre-money (PRE) valuation plus the investment:

POST = PRE + INV = $6 million + $10 million = $16 million

Step 2: Calculate the private equity firm's fractional ownership in the portfolio company:
f = INV / POST = $10 million / $16 million = 0.625
Step 3: If the founders currently hold 300,000 shares, the number of shares to be held by the private equity firm to have 62.5% ownership is:
Number of shares = 300,000 [0.625 / (1-0.625)] = 500,000
Step 4: Given the private equity firm's $10 million investment and 500,000 shares, the share price is calculated as:
P = $10 million / 500,000 = $20.00

Question 13

The correct answer is C.

Venture capital investments often have high and increasing working capital (current assets less current liabilities) requirements to finance growth. Buyouts typically have low requirements due to more reliable cash flows and earnings and a substantial asset base.

Stable EBITDA (or EBIT) growth is generally a characteristic of buyout investments. These firms traditionally have a history of stable sales and cash flows and have already established a strong market position. The high amount of debt required by the private equity firm to make the investment also requires that the buyout firm have stable and steady earnings to finance the interest payments.

Question 14

The correct answer is A.

In discounted cash flow REIT models, investors generally use intermediate-term cash flow projections and a terminal value based on historical cash flow multiples. FFO does not adjust for the impact of recurring capital expenditures needed to keep properties operating. AFFO adjusts for routine maintenance type capital expenditures, but assumptions and estimates (which may vary widely) are required in the calculation of AFFO.

Question 15

The correct answer is A.

NAV after distributions is calculated as NAV before distributions minus carried interest (the general partner's profit from the fund) minus distributions from the fund.

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Question 16

The correct answer is C.

The IRR approach in venture capital firm valuations can be thought of as a reverse NPV calculation, where the IRR rate is used to first calculate the investor's expected future wealth.

Both the IRR and NPV approach use exit values and fractional ownership calculations.

Question 17

The correct answer is B.

Investors may be motivated to choose hedge fund replication strategies over actual investments in hedge funds when: (1) hedge fund managers are not earning a positive alpha, (2) investors feel that the fees paid to hedge fund managers are not justified, and (3) investors have objections to hedge funds' lack of transparency or liquidity.

Question 18

The correct answer is A.

The three sources of value-added a private equity firm provides over public firms are: reengineering the portfolio firms, obtaining debt on favourable terms (cheap credit), and aligning the interests between private equity owners (the limited partners) and portfolio managers.

Question 19

The correct answer is B.

Demand for industrial properties are most affected by level of industrial activity in the economy (evidenced by import-export activity). Demand for retail real estate is most influenced by consumer spending and demand for office properties is most influenced by job growth.

Question 20

The correct answer is A.

Certificates are issued by banks and hence the investor is exposed to credit risk. As commodity indexes are denominated in U.S. dollars, Non-U.S. investors are exposed to currency risk in any instrument that invests in an index. However, indexes focus exclusively on short term contracts.

Question 21

The correct answer is A.

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NAVPS per share can be calculated by beginning with assets, subtracting liabilities, and then dividing the result by the number by shares outstanding. Thus, $3,000,000-$2,000,000 = $1,000,000 and $1,000,000/100,000 = $10.00 per share.

Question 22

The correct answer is C.

Hospitality properties such as hotels represent relatively risky investments because these properties do not use long-term leases and their performance may be highly correlated with the business cycle. The core commercial income-producing real estate property types are retail, multi-family, office, industrial and warehouse. These core property types are the main properties used to create a low-risk real estate portfolio.

Question 23

The correct answer is C.

After growth in the GDP, the most important factor driving demand for industrial properties is retail sales growth. More important to the value of a residential REIT than retail sales growth is job creation and population growth. More important to the value of a health care REIT is population growth.

Question 24

Part 1)
The correct answer is A.

The category that 3CC would most likely recommend as first choice is private equity option. Chekov prefers equity to debt option and Chanwit prefers private over public option. Clarkson wants to eliminate private debt option. Their statements are also consistent with the real estate market expectations.

Part 2)
The correct answer is A.

A mortgage REIT is a public debt form of real estate investing. Current income is a source of returns since an investor of a mortgage REIT would receive cash flows attributable to mortgage payments into the pool. Capital appreciation only exists for an equity investor of properties and not a debt investor. Inflation hedge is possible for an equity investor if property values/cash flows are positively correlated with inflation.

Part 3)
The correct answer is A.

All real estate values are affected by cost and availability of capital. Apartments and other multi-family units are considered commercial real estate. Hotels require more active management making them more risky ventures as more operational expertise is needed. This additional risk requires a higher rate of return.

Part 4)
The correct answer is A.

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The cap rate is NOI for next year divided by the current value. Since the asking price for both properties is same, higher NOI for Green Oaks hotel would have to have a higher cap rate. Net operating income is not calculated using the debt service. The amount owed at the end of a loan is determined by the interest rate, term of the loan and the amount borrowed. The discount rate is the sum of the cap rate and growth rate. The growth rate is not determined by the amount owed at the end of a loan period.

Part 5)
The correct answer is A.

Both Green Oaks and Blue Ridge meet the minimum criteria. (Study Session 13, LOS 40.m)

	Green Oaks Hotel	Blue Ridge Apartments
NOI	$2,187,500	$2,125,000
Annual Debt Service	$113,621 X 12 = $1,363,452	$101,493 X 12 = $1,217,916
DSCR	$2,187,500/$1,363,452 = 1.60X	$2,125,000/$1,217,916 = 1.74X
Cash flows (PMT)	$2,187,500 − $1,363,452 = $824,048	$2,125,000 − $1,217,916 = $907,084
Equity (PV)[1]	$6,250,000	$7,500,000
Sales Price − Debt in 10 Years (FV)	$30,000,000 − $11,222,397 = $18,777,603	$30,000,000 − $11,144,755 = $18,855,245
Sales Date (N)	10	10
Levered IRR	20.66%	18.40%

[1]Equity is based on (1-LTV) of the asking price

This question tested from Session 13, Reading 40, LOS a.

Part 6)
The correct answer is B.

Clarkson's concerns about Lincoln Hedonic Index if individual properties don't sell more than once are unfounded. Hedonic Index construction does not require multiple sales of the same property.

Question 25

The correct answer is A.

$$MV = \frac{NOI}{r - g} = \frac{NOI}{C}$$

Where:

MV = estimated market value

NOI = the net operating income from a real estate investment.

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r = the rate that equity investors require from a real estate investment.

g = the growth rate of NOI (assumed to be constant).

C = *r*   *g* = the market capitalization rate.

As the riskiness of a real estate investment increases, the uncertainty of its future cash flows increases. This has the effect of increasing investors' required return (*r*) and increasing the capitalization rate. As cap rates rise, values decline.

Question 26

The correct answer is B.

The gross income multiplier approach does not use a capitalization rate.

Question 27

The correct answer is A.

The pre-money valuation (PRE) is simply the venture capital firm's post-money valuation (POST) less the capital investment (INV):

PRE = POST − INV = $1.5 million − $300,000 = $1.2 million.

The ownership proportion is the investor's fractional ownership of the firm value after the capital infusion:

Ownership proportion = INV/POST = $300,000 / $1.5 million = 0.20 or 20%.

Question 28

The correct answer is C.

The problem in survivorship bias is that only the returns for survivors will be reported and the index return will be biased upwards. Backfill bias results when a new hedge fund is added to an index and the fund's historical performance is added to the index's historical performance. The problem is that only funds that survived will have their performance added to the index, resulting in an upward bias in index returns.

Question 29

The correct answer is A.

All assets and liabilities of a company are taken at current market value when calculating NAVPS. NAVPS is a superior measure of a company's net worth when compared to its book value per share.

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Question 30

The correct answer is B.

Step 1: Discount the future value of the company to obtain the post-money valuation (POST).

POST = future value / $(1 + r)^{\text{investment period}}$

POST for Melton = \$51 million / $(1 + 13.7\%)^5$ = \$26.839 million.
POST for Apple = \$29 million / $(1 + 13.7\%)^{10}$ = \$8.031 million.

Step 2: Calculate pre-money valuation.

PRE = POST − investment.

PRE for Melton = \$26.839 million − \$7 million = \$19.839 million.
PRE for Apple = \$8.031 million − \$5 million = \$3.031 million.

Step 3: Determine the fractional ownership.

F = INV / POST

F for Melton = \$7 million / \$26.839 million = 26.08%.
F for Apple = \$5 million / \$8.039 million = 62.26%.

Step 4: Determine the number of shares the firm must buy.

Stake = Entrepreneurs' shares X [F / (1 − F)].

Stake for Melton = 1.5 million * [26.08% / (1 − 26.08%)] = 529,258 shares.
Stake for Apple = 80,000 * [62.26% / (1 − 62.26%)] = 131,951 shares.

Step 5: Calculate stock price per share.

P = INV / Stake

P for Melton = \$7 million / 529,258 = \$13.23
P for Apple = \$5 million / 131,951 = \$37.89

Melton's calculated value is 22% below the current offer price. Apple's is 9.8% below the current offer price. Richmond Group should not buy either stake.

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Question 31

The correct answer is A.

Commodities are consumable/transferable assets. Pricing is driven by supply and demand rather than the generation of cash flows, hence interest rates are not a significant factor in pricing.

Question 32

The correct answer is A.

Three main methods are used by appraisers to estimate value: cost, income, and sales comparison. The cost approach is based on replacement cost, and is usually used for unusual properties for which comparable market prices are not available. The sales comparison approach estimates a property's value based on what comparable properties are selling for. The income approach uses net operating income to value a property.

Question 33

The correct answer is C.

Lafonte's statement is correct. Private equity firms can use scenario analysis to estimate terminal value in both venture capital and LBO investments. Under scenario analysis, terminal values are calculated under multiple scenarios using different assumptions.

Green's statement is incorrect. Private equity firms often use a relative value approach to estimate terminal value in both venture capital and LBO investments. Under the multiple of net income approach, terminal year net income is multiplied by the P/E ratio to project terminal equity value.

Question 34

The correct answer is B.

Both statements are incorrect. Committed capital refers to the amount of funds investors committed to over the life of the private equity fund. Funds from committed capital are drawn down over time as the firm needs more capital. If the firm needs financing beyond investors' committed capital, it would have to look for additional sources of funds.

The J-Curve refers to a pattern in private equity investment return, not risk. The return on investments usually declines initially, then increases as exit nears.

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Question 35

The correct answer is A.

The calculation requires four steps *(all figures in millions except for fractional data)*:

Step 1: The terminal value must first be discounted to the time of the second-round financing to arrive at the post-money ($POST_2$) valuation:

$POST_2$ = (\$120 million) / $(1.30)^2$ = \$71.01 million

Step 2: The pre-money valuation (PRE_2) at the second round of financing is:

PRE_2 = \$71.01 million − \$7 million = \$64.01 million.

Step 3: The PRE_2 valuation then has to be discounted back at the appropriate discount rate to the time of the first-round financing to arrive at the post-money ($POST_1$) valuation:

$POST_1$ = (\$64.01 million) / $(1.50)^4$ = \$12.64 million

Step 4: The fractional ownership (f_1) for first-round investors is:

$f_1 = INV_1 / POST_1$ = \$10 million / \$12.64 million = 0.79.

Question 36

The correct answer is B.

Both valuation approaches are limited to use with income producing properties. Neither approach can provide an accurate value estimate for owner-occupied properties because the benefit derived by the owner is difficult to measure in monetary terms.

Question 37

The correct answer is A.

NAV is usually calculated by the fund's general partner, which could result in a subjective and inflated NAV. Limited partners, however, often use third party valuations to arrive at an objective and up-to-date NAV. This scenario thus describes a countermeasure to an issue in calculating NAV rather than a disadvantage itself.

The other two answers are both disadvantages in calculating NAV.

Question 38

The correct answer is C.

Adding long volatility strategies to a portfolio of short volatility strategies would increase the volatility of portfolio returns and decrease the portfolio's Sharpe ratio. However, the resulting portfolio returns distribution will be more normally distributed and skewness and kurtosis characteristics of the return distribution will be more attractive to investors.

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Question 39

The correct answer is B.

Producers taking short hedges will force the futures price down and may well lead to backwardation. If manufacturers are taking out long hedges the term structure is likely to be in contango. High convenience yields would lead to backwardation.

Question 40

The correct answer is A.

The components of a private equity firm's returns are the return on preference shares, the increased price multiple and the reduction in debt claims. The private equity firm should see an increase in the price multiples as the operational efficiencies of the LBO firm improve. The second component is the value of the interest-bearing preference shares. The third component is the reduction in debt over the time period to exit.

Question 41

The correct answer is C.

Delta's distributed to paid-in capital (DPI) ratio of 2.0 indicates that investors in the fund realized a profit of $2.0 for every dollar invested and that this profit has already been paid out. Kappa's multiples indicate that the fund has yet to pay out profits to its investors. The residual value to paid-in capital (RVPI) of 2.0 implies that all returns are still unrealized and will be paid out in future years. One likely explanation for Kappa's multiples is that the fund is younger than Delta.

Question 42

The correct answer is B.

Real estate values are sensitive to the cost and availability of debt capital since of the large amounts of borrowing are required to purchase real estate properties. Real estate is heterogeneous, as no two properties are the same. Direct ownership of real estate properties is management intensive. Other unique characteristics possessed by real estate properties include: fixed location, high unit value, depreciation, high transaction cost, illiquidity, and difficult to value.

Question 43

The correct answer is C.

A clawback provision in a private equity prospectus requires the general partner to repay part of previously distributed profits if the fund subsequently underperforms.

Since carried interest is paid on a total return basis using committed capital, the general partner of RDO would only receive interest when the portfolio value exceeds committed capital ($50 million). First-year profit is $5 million, bringing the portfolio value to $35 million, therefore no carried interest is

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paid. Since no profit was distributed to the general partner in the first year, a clawback does not apply in the second year.

Question 44

The correct answer is A.

Due to the unregulated nature of hedge funds, hedge funds are required to provide only minimal disclosure to investors (and even less disclosure to non-investors). Hedge funds often have a one, two, or three year lockup periods, while mutual funds generally have daily liquidity. Hedge fund fees are generally higher than mutual fund fees, because on top of a management fee (typically 2%), hedge funds also charge a performance fee (typically 20% of profits.)

Question 45

The correct answer is B.

The collateral yield is the return on the cash used to collateralize the futures position and is independent of the futures price.

Question 46

Part 1)
The correct answer is A.

Market value of land		$1,250 million
Replacement cost, including constructor's profit	$630.00 X 2.5 million = $1,565 million	
Reduction for curable deterioration	− $10 million	
Reduction for incurable deterioration	(15/75) X $1,575 million = − $313 million	
Reduction for obsolescence	− $50 million	
Building value		$1,202 million
Total Cost Value		$2,452 million

Part 2)
The correct answer is A.

Net operating income	$264,000,000
Debt coverage service ratio	2.18X

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Annual debt service	\$264,000,000/2.18 = \$121,220,135
Cash flows (PMT) for 10 years	\$264,000,000 − \$121,220,135 = \$142,779,865
Cash initial outflow year 0 (PV)	\$2,350,000,000 X 0.40 = \$940,000,000
Terminal value (FV) in 10 years	\$2,800,000,000 − \$909,893,015 = \$1,890,106,985

PMT = \$142,779,865; PV = − \$940,000,000; FV = \$1,890,106,985; N = 10; Solve for I/Y.
Internal rate of return is 19.23%.

Part 3)
The correct answer is C.

The estimated market value is the net operating income divided by the capitalization rate. We determine the rate using comparable properties, and we have three of them.
Property A the cap rate is \$192 million/\$1,600 million = 12.0%.
Property B the cap rate is \$550 million/\$5,500 million = 10.0%.
Property C the cap rate is \$715 million/\$6,500 million = 11.0%.
The average cap rate is 12.0% + 10.0% + 11.0% / 3 = 11.0%.

Market value = NOI / capitalization rate = \$264 million / 11.0% = \$2.40 billion.

Part 4)
The correct answer is A.

Data on management, sales strategy, working capital, exit strategy, and risk suggest Belgarrique is a buyout candidate and KinderWerks is a venturecapital candidate. Data on the companies' chief goals is inconclusive. Data on company financing is a red herring, as companies active in capital markets tend to be better candidates for buyouts than venture capital. However, five of the seven pieces of information in the relevant table above reflect characteristics that suggest Belgarrique is a buyout candidate, while KinderWerks is a better target for venture capital.

Part 5)
The correct answer is B.

The target IRR method uses one discount rate, and it cannot compensate for a possibility of lower profits or failure. Klios can adjust a discount rate to compensate for a possibility of failure, but not both adverse actions. However, he can adjust to terminal value to account for more than one potential outcome.

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