33 PRIVATE EQUITY INVESTMENTS

1. The party in a private equity fund that has unlimited liability for the firm's debts, and this party's share in fund profits, respectively, is referred to as:

	Unlimited liability	Share in fund profits
(A)	Manager	Management fees
(B)	General partner	Carried interest
(C)	Limited partner	Distribution waterfall

2. Dr. Jason Bruno is a qualified investor in the US who is considering a $10 million investment in a private equity fund. Upon reading the fund's prospectus, Dr. Bruno encounters several contract terms and expressions with which he is unfamiliar. In particular, he would like to know the meaning of ratchet and distributed paid-in capital (DPI). The most appropriate answer by the fund's manager to Dr. Bruno would be that ratchet and DPI, respectively, is:

	Ratchet	DPI
(A)	The general partner's share of fund profits	The general partner's realized return
(B)	The year the fund was set up	Dividends paid out as a fraction of paid-in-capital
(C)	The allocation of equity between shareholders and management	The limited partner's realized return from the fund

3. Pauler Investment Co. ("Pauler") just proposed to make a sizeable investment in Bada Cork, a recently established Hungarian producer of synthetic wine bottle corks with a patented new technology. Pauler is looking to make further strategic acquisitions in small venture capital companies in the food and beverage industry and has set up a fund to manage the portfolio companies. It has also brought onboard Kristina Sandorf as portfolio manager. Upon receiving her contract, Sandorf complains to a friend of the contract terms proposed by Pauler. In particular, she grumbles that an earn-out clause is inserted, which she believes would give Pauler priority on the earnings and dividends of companies in the portfolio ahead of herself.

In her description of earn-outs, Sandorf is:

(A) correct.

(B) incorrect, because earn-outs refer to tying the acquisition price paid by Pauler for the portfolio companies to the companies' future performance.

(C) incorrect, because earn-outs refer to Pauler having priority over Bada's assets in case of bankruptcy or liquidation.

4. The Jefferson Group is a large private equity firm managing a multi-billion dollar portfolio. Which of lie the following is the least likely source of value-added the Jefferson Group would provide to its portfolio companies (as compared o a public firm)?

(A) Aligning the interests between private equity owners and limited partners.

(B) Obtaining cheap credit.

(C) Reengineering the portfolio companies.

5. An analyst is considering the performance of two private equity funds, Delta and Kappa.

Performance of private equity fund Delta and Kappa		
	Delta	Kappa
DPI	2.0	0.0
RVPI	0.0	2.0
TVPI	2.0	2.0

The most appropriate conclusion an analyst can draw from the table is that:

(A) Kappa has distributed $2.0 for every dollar invested.

(B) Delta has yet to turn a profit.

(C) Kappa may be a younger fund than Delta.

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6. Mavis Krager, manager of alternative investments for the Richmond Group, is considering the merits of some private-equity opportunities. Richmond Group likes to invest in private-equity funds, but will also do its own deals if the opportunity is right. One deal on the table is an equity stake in Melton Motors, a chain of privately held auto dealerships. The company is well run, but has come upon hard times lately because of credit problems. Krager thinks Melton will solve its financial problems and become profitable again. She is considering investing $7 million in the company. Also under discussion is The Apple House, a large privately held orchard in Wisconsin. Richmond Group is considering investing $1 million.

To determine whether the deals are worthwhile Krager decides to estimate a price for each company based on a post-money valuation. Apple House offer is $25.00 per share and Melton Motors offer price is $2.50 per share. The investment firm prefers to focus on companies willing to price their stocks at least 20% below their true value and fund the investments only once. To calculate her valuations, Richmond uses the data below:

	Melton Motors	The Apple House
Required ROI	5X	10X
Number of shares held by current owners	1.5 million	80,000
Estimated value of company at end of investment period	$51 million	$29 million
Expected length of investment	5 years	10 years

Just as Krager finishes her assessment of the two private-equity deals, a contact at The Apple House calls her and says the management team is considering a leveraged buyout (LBO) and wants Richmond Group to help finance it. Since the firm hasn't financed an LBO for years, Krager gets out a book she has not read since college to bone up on the valuation equations and reacquaint herself with terms specific to LBOs.

What action should Richmond Group take with regard to:

	Melton Motors	The Apple House
(A)	Don't' buy stake	Buy stake
(B)	Don't buy stake	Don't buy stake
(C)	Buy stake	Don't but stake

7. The most appropriate pairing for valuing a buyout and a venture capital investment, respectively, is:

	Buyout	Venture capital
(A)	Pre-money valuation	Relative value approach
(B)	Discounted cash flow	Pre-money valuation
(C)	Relative value approach	Discounted cash flow

8. An investor in a private equity fund realizes that the residual value to paid-in capital (RVPI) is fairly large relative to the distributed to paid-in capital (DPI). The most appropriate conclusion drawn by the investor would be that:
(A) there were significant cash flows from the fund to the investor.
(B) it will take longer for the investor to realize a return from the fund.
(C) the fund successfully earned profits from its investments.

9. Is Lester correct in his interpretation of performance reporting requirements for private equity firms?
(A) Yes.
(B) No. Although the method suits the liquidity position as it assumes only realized gains are reinvested, it is not recommended due to its complexity.
(C) No. Although it is recommended it does not suit the liquidity position of PE firms as it assumes funds are reinvested at the IRR and the fund is often illiquid.

10. Which of Lester's multiples should he use in order to calculate the realized, unrealized, and total return on the fund?
    (A) Metric One gives total return, Multiple Two gives realized returns and Metric Three gives unrealized returns.
    (B) Metric Two gives realized returns and Metric Three gives unrealized returns. They should be added together to get total return.
    (C) Metric One gives total return, Multiple Two gives unrealized returns and Metric Thee gives realized returns.

11. Which of the following is closest to the pre-money valuation for the Venture Capital investment, and the fractional ownership required by Titan?
    (A) $8 million and 60%.
    (B) $20 million and 60%.
    (C) $12 million and 40%.

12. Which of the following is most accurate regarding exit routes for PE investments?
    (A) An IPO likely to lead to the highest price, is flexible but also costly.
    (B) An IPO is likely to lead to the highest price but is costly and not flexible.
    (C) An IPO is likely to lead to the lowest price but has a low cost.

13. In a private conversation with his best friend, Harry Veeslay, CFA, makes the following statements:

    Statement 1: Private equity (PE) firms generally focus on short-term results. For example, they frequently use restructuring of acquired companies in an effort to quickly divest them for a profit.

    Statement 2: PE firms also want to ensure that the interests of portfolio company managers and of limited partners are aligned. For example, they frequently tie manager compensation to firm performance and include tag-along, drag-along clauses to give management a stake in the firm under certain trigger events.

    With regard to Veeslay's statements:
    (A) only one is correct.
    (B) both are correct.
    (C) both are incorrect.

14. The Nishan private equity fund was established five years ago and currently has a paid-in capital of $300 million and total committed capital of $500 million. The fund paid its first distribution three years ago of $50 million, $100 million the year after and $200 million last year. The fund's distributed to paid-in capital (DPI) multiple is closest to:
    (A) 0.70.
    (B) 0.67.
    (C) 1.17.

15. A private equity investor makes a $5 million investment in a venture capital firm today. The investor expects to sell the firm in four years. He believes there are three equally possible scenarios at termination:

1. expected earnings will be $20 million, and the expected P/E will be 10.
2. expected earnings will be $7 million, and the expected P/E will be 6.
3. expected earnings will be zero if the firm fails.

The investor believes that ROI of 2.44x is appropriate. The expected terminal value and the investor's pre-money valuation, respectively, are closest to (all in $ million):

	Expected terminal value	Pre-money valuation
(A)	$121.00	$56.39
(B)	$80.67	$28.06
(C)	$9.00	$3.69

16. Which of the following statements most accurately describes the components of returns on a leveraged buyout (LBO) investment:

(A) The return on common shares, the increase in the price multiple on exit, and the equity held by management.

(B) The return on preference shares, the increase in the price multiple on exit, and the reduction in debt claims.

(C) The interest earned on debt financing, the return on common shares and the return on preference shares.

17. The relevant measure of cash flows for the limited partners (LPs), and the LPs' realized return from investment in the private equity fund, respectively, is:

	Return metric	LP's realized return
(A)	Paid-in-capital	Net IRR
(B)	Net IRR	Distributed to paid-in-capital
(C)	Gross IRR	Residual value to paid-in capital

18. Christina Wagner is a CFA level II candidate currently studying about hedge funds, private equity and commodity futures. One of her friends is fascinated by what Wagner is learning and asks several questions on the topic. In particular, she is curious to know what exit options are available to a promising young venture capital (VC) firm if it is having difficulty attracting buyers due to poor market conditions. What should be Wagner's most appropriate response?

(A) Since an initial public offering is not feasible, the VC firm should be sold to another firm through a buyout or secondary market sale.

(B) The VC firm should be liquidated in the absence of prospective buyers through the sale of the firm's assets.

(C) The VC firm should consider the acquisition of another firm and sell the merged entity once capital market conditions have improved.

19. Which of the following statements is the least appropriate?
    (A) Leverage in a leveraged buyout investment can be disadvantageous as debt increases risk to the investor if the firm cannot meet its interest obligation.
    (B) Leverage in a leveraged buyout investment can be advantageous as debt amortization can magnify investor returns.
    (C) Debt amortization in a leveraged buyout investment increases risk to the investor as it is a burden on the firm's cash flow.

20. A private equity fund pays a management fee of 3% of PIC and carried interest of 20% to the general partner using the total return method based on committed capital. In 2008 the fund has drawn down 80% of its committed capital of $250 million, and has a net asset value (NAV) before distributions of $260 million. The 2008 management fee and carried interest paid, respectively, is (in millions):

	Management fees	Carried interest
(A)	7.8	2.0
(B)	7.5	50.0
(C)	6.0	2.0

21. Private equity values have declined significantly over the last year. Which of the following risk factors is the least likely reason for the decline?
    (A) Investment-specific risk.
    (B) Tax risk.
    (C) Market risk.

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22. The DPI of Bud Rosewood I for 20X5 is closest to:
    (A) 1.23.
    (B) 1.33.
    (C) 1.43.

23. The RVPI of Bud Rosewood I for 20X5 is closest to:
    (A) 0.79.
    (B) 0.82.
    (C) 0.85.

24. How do you evaluate the comments made by Cheung?
    (A) Both comments are correct.
    (B) Only Comment 1 is correct.
    (C) Only Comment 2 is correct.

25. In relation to Fund Alpha, Zograff is right about:
    (A) both metrics.
    (B) only about the "cash-on-cash" return.
    (C) only about the unrealized return.

26. The private equity firm Purcell & Hyams (P&H) is considering a $17 million investment in Eizak Biotech. Eizak's owners firmly believe that with P&H's investment they could develop their "wonder" drug and sell the firm in six years for $120 million. Given the project's risk, P&H believes a ROI of 4.83x is reasonable.
    The pre-money valuation (PRE) and P&H's fractional ownership, respectively, are closest to (in millions):

	PRE	Fractional ownership
(A)	$7.85	0.14
(B)	$7.85	0.68
(C)	$24.86	0.68

27. Regarding Point 1 that Porter makes, which of the following is most accurate?
    (A) Porter's liability would be limited to his investment, Weber's would be unlimited.
    (B) Weber's liability would be limited to his investment, Porter's would be unlimited.
    (C) Porter and Weber both have limited liability as they are both partners in a limited liability partnership.

28. For the example given in Point 2, how much carried interest would Porter be entitled to after the fund exits the investment?
    (A) $3.6 million.
    (B) $3.6 million if the total proceeds of $48 million are more than the committed capital of the fund.
    (C) None.

29. Regarding Point 3, are the comments relating to ratchet mechanisms correct?
    (A) Correct.
    (B) Incorrect, ratchet mechanisms increase the price the PE firm must pay for the portfolio company based on future performance.
    (C) Incorrect, with regard to the shareholders increasing their allocation.

30. Assuming that the round one investors do not participate in the second round of financing for the startup, the round one investors' fractional ownership after the second round is closet to:
    (A) 25%.
    (B) 30%.
    (C) 40%.

31. Which of the following is not a typical source of value creation in private equity investments?
    (A) The ability to re-engineer the firm and operate it more efficiently.
    (B) The liability to obtain debt financing on more advantageous terms.
    (C) The separation of interests between management and private equity ownership tot allow management to focus on core skills.

32. Which of the following is Squire least likely to suggest as a possible control mechanism to include on the term sheet?
    (A) A tag-along, drag-along clause.
    (B) Performance related compensation.
    (C) Autonomy for management to make strategic changes to the business.

33. The PE firm has asked Squire to assist them in using the Leveraged Buy Out (LBO) model to determine the return the firm should expect from the transaction. Which of the following is closest to the IRR that the PE Firm can expect from this deal?
    (A) 11.5%.
    (B) 24.7%.
    (C) 58.6%.

34. Which of the following is closest to the IRR that the senior management can expect from this deal?
    (A) 11.5%.
    (B) 26.2%.
    (C) 58.6%.

35. Contrary to most public companies, the magnitude that debt is typically utilized in private equity (PE) LBO transactions and the way this debt is quoted, respectively, is:

	Debts is utilized	Debts is quoted
(A)	more heavily	as a multiple of EBITDA
(B)	less heavily	as a multiple of sales
(C)	more heavily	as a multiple of equity

36. Which of the following is the least likely disadvantage in calculating the net asset value (NAV) for a private equity fund?
    (A) The limited partners use a third party to calculate the NAV of a private equity fund.
    (B) Only capital commitments already drawn down are included in the NAV calculation.
    (C) NAV may be difficult to calculate since firm values are not known with certainty prior to exit.

37. The most relevant market risk to a private equity investor is:
    (A) both short-term and long-term macro changes.
    (B) long-term macro changes only.
    (C) short-term macro changes only.

38. The Austrian private equity firm RD primarily makes leveraged buyout investments as the firm's management strongly believes that debt makes companies more efficient. The least likely explanation of management's rationale is to:
    (A) Transfer risk.
    (B) Increase firm efficiency.
    (C) reduce the internal tax shield.

39. A private equity firm is guaranteed to receive 80% of the residual value of a leveraged buyout investment, with the remaining 20% owing to management. The initial investment is $500 million, and the deal is financed with 70% debt and 30% equity. The projected multiple is 2.0. The equity component consists of:
    - $120 million preference shares.
    - $25 million private equity firm equity.
    - $5 million management equity.

    At exit in 5 years the value of debt is $150 million and the value of preference shares is $300 million. The payoff multiple for the private equity firm and for management, respectively, is closest to:

	Private equity	Management
(A)	5.10	22.0
(B)	3.03	11.0
(C)	6.34	46.0

40. The founders of a small technology firm are seeking a $1 million venture capital investment from prospective investors. The firm is expected to have revenues of $15 million in four years and comparable firms are valued at 2X revenues. ROI of 10x is deemed appropriate given the risk of the investment.
    The pre-money valuation (PRE) of the technology firm is closest to (in millions):
    (A) $3.45.
    (B) $2.33.
    (C) $2.00.

41. The pair of terms that correctly identifies the method of profit distribution between limited partners (LPs) and general partners (GPs), and the allocation of equity between shareholders and management of a portfolio company, respectively, is:

	Method of profit distribution	Equity allocation
(A)	Carried interest	Distribution waterfall
(B)	Distribution waterfall	Ratchet
(C)	Ratchet	Carried interest

42. Which of the following terms correctly describes the risk to a private equity firm in long-term interest and exchange rates, and the provision that specifies the method of profit distribution between the limited partners (LPs) and general partner (GP), respectively?

	Risk in long- term rates	Profit distribution
(A)	Capital risk	Carried interest
(B)	Market risk	Distribution waterfall
(C)	Market risk	Carried interest

43. The primary advantage of an initial public offering (IPO) as an exit route in private equity is that it:
(A) offers the highest exit value potential.
(B) is more cost-efficient and flexible than alternative exit routes.
(C) is appropriate for firms regardless of firm size and operating history.

44. The private equity firm Purcell & Hyams (P&H) is considering a $10 million investment in Eizak Biotech. Eizak's owners firmly believe that with P&H's investment they could develop their "wonder" drug and sell the firm in six years for $120 million. Given the project's risk, ROI of 10x is deemed appropriate. Four years after this investment, an additional round of investment of $7 million is needed (Series B shares). Series B investors agree that the exit will still occur in two years but at a much higher valuation of $150 million. ROI for Series B investors is 5x. The fractional ownership for P&H after the second round would be closest to:
(A) 0.75.
(B) 0.64.
(C) 0.23.

45. Private equity firms can maintain control over portfolio companies in a variety of ways. Which of the following contract terms would least likely achieve this goal?
(A) Tag-along, drag-along clauses.
(B) Board representation.
(C) Priority in claims.

46. The Milat Private Equity Fund (Milat) makes a $15 million investment in a promising venture capital firm. Milat expects the venture capital firm could be sold in four years for $150 million and determines that the appropriate ROI is 4x. The founders of the venture capital firm currently hold 1 million shares. Milat's fractional ownership in the firm and the appropriate share price, respectively, is closest to:

	Fractional Ownership	Share price
(A)	89.64%	$3.63
(B)	40%	$22.50
(C)	60%	$15.00

47. The net asset value (NAV) after distributions of a private equity fund is calculated as:
    (A) NAV before distributions + Capital called down – Management fees.
    (B) NAV before distributions – Carried interest – Distributions.
    (C) NAV before distributions + Carried interest – Distributions.

48. An analyst makes the following statements on the risk and costs of private equity investments:

    Statement 1: Committed capital is the initial capital in a private equity fund to obtain first round financing. As committed capital is used up, investors are required to make additional commitments to finance firm projects and expansion.

    Statement 2: The J-Curve refers to the risk pattern in a private equity investment over time. Risk in private equity investments initially typically declines as more capital is drawn down but increases closer to exit since exit timing and values are difficult to predict.

    With respect to the analyst's statements:
    (A) both are incorrect.
    (B) both are correct.
    (C) only one is correct.

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49. A private equity firm is considering the valuation characteristics of both a venture capital and a buyout investment. Increasing working capital requirements and stable EBITDA growth is most likely associated with:

	Increasing working capital	Stable EBITDA growth
(A)	Buyout	Venture capital
(B)	Buyout	Buyout
(C)	Venture capital	Buyout

50. Norah Cyly is the recently appointed manager of a private equity fund that invests exclusively in venture capital investments in online fashion and media advertising companies. In a discussion with the fund's assistant portfolio manager, Cyly makes the following statements on control mechanisms and exit routes:

    Statement 1: Earn-outs are mainly used in venture capital investments. They relate the acquisition price paid by the limited partners to the future performance of the portfolio companies.

    Statement 2: It is generally difficult to value venture capital investments using the portfolio companies' cash flows or EBIT or EBITDA growth, since both cash flows and earnings are difficult to predict with certainty.

    With respect to her statements, Cyly is:
    (A) correct on Statement 2 only.
    (B) correct on both statements.
    (C) correct on Statement 1 only.

51. A private equity investor is considering making an investment in a venture capital firm. The investor values the firm at $1.5 million following a $300,000 capital investment by the investor. The venture capital firm's pre-money (PRE) valuation and the investor's proportional ownership, respectively, are:

	PRE valuation	Ownership proportion
(A)	$1.5 million	25%
(B)	$1.2 million	20%
(C)	$1.5 million	20%

52. Which of the following lists correctly identifies exit routes in private equity, arranged from lowest to the highest exit values?
(A) Management buyout, liquidation, IPO.
(B) Initial public offering (IPO), management buyout, secondary market sale.
(C) Liquidation, secondary market sale, IPO.

53. A private equity investor expects to realize a return on her venture capital investment in two years and expects to sell the firm for $30 million. She expects to make an investment of $5 million at an ROI of 2x. The post-money value of her investment today is closest to:
(A) $15 million.
(B) $10 million.
(C) $60 million.

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54. RDO is a private equity fund with $50 million in committed capital and an investment in three portfolio companies totalling $30 million. The fund earned a healthy profit of $5 million after its first year on the sale of one of the companies but suffered a $2 million loss after its second year on the sale of the second company. The fund pays carried interest of 20% on a total return basis using committed capital and also has a clawback provision.

The clawback the general partner must pay at the end of the second year is:
(A) $400,000.
(B) $600,000.
(C) $0.

55. Analysts Jordan Green and Noelle Lafonte are discussing terminal value estimation in venture capital and buyout investments.

Lafonte states: "Private equity firms often use scenario analysis in both venture capital and buyout investments to estimate terminal value."

Green adds: "Private equity firms only use the multiple of net income approach in leveraged buyout (LBO), but not in venture capital investments to estimate terminal value.

With respect to their statements:

(A) Lafonte is correct but Green is incorrect.

(B) Green is correct but Lafonte is incorrect.

(C) Neither Vafonte nor Green is incorrect.

56. An implicit cost in private equity of additional financing or issuing stock options to management is called:

(A) dilution cost.

(B) capital cost.

(C) management and performance cost.

57. The Dragonhill Group manages a $250 million private equity fund. Investors committed to a total of $300 million over the term of the fund and specified carried interest of 20% and a hurdle rate of 10%. Carried interest is distributed on a deal-by-deal basis. 60% of the $250 million has been invested at the beginning of year 1 in Deutsch Co. (Deutsch), with the remaining 40% invested in Reiner Ltd (Reiner).

Both firms are sold at the end of the third year, realizing a $45 million profit for Deutsch and a $35 million profit for Reiner.

The carried interest paid to the fund's general partner after Deutsch and Reiner, respectively, is:

	Deutsch	Reiner
(A)	$9 million	$0
(B)	$0	$7 million
(C)	$9 million	$7 million

58. A private equity firm makes a $10 million investment in a portfolio company. The founders of a portfolio company currently hold 300,000 shares and the pre-money valuation is $6 million. The number of shares to be held by the private equity firm, and the appropriate share price, respectively, are closest to:

	Number of shares	Share price
(A)	500,000	$20.00
(B)	500,000	$32.00
(C)	480,000	$20.83

59. Which of the following pairs correctly identifies the fees paid to agents for raising funds for the private equity firm, and the fees paid to the general partner (GP) for investment banking services, respectively?

	Fees to agents	Fees to GP
(A)	Transaction fees	Administrative costs
(B)	Placement fees	Transaction fees
(C)	Administrative costs	Placement costs

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