Level I of the CFA® 2025 Exam

Questions with Answers - Corporate Issuers

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Learning Module 1: Organization Forms, Corporate Issuer Features and Ownership

Q.4050 A business structure whose growth is limited to the financing ability and level of risk appetite of the owner is *most likely* a:

A. Sole trader.

B. General partnership.

C. Limited partnership.

The correct answer is **A.**

In a sole trader business structure, the growth potential of the business is inherently tied to the personal financial capacity and willingness to take risks of the sole proprietor. This type of business structure is characterized by a single individual owning and operating the business, making all the decisions regarding its operation, and being solely responsible for all financial aspects, including funding.

There is a direct link between the owner's personal finances and the business's financial health which significantly limits the business's growth to the owner's ability to finance it and their appetite for risk.

The owner's resources, both financial and otherwise, define the scale and scope of the business's operations. Unlike corporations or partnerships, where the financial burden and decision-making processes are shared among multiple stakeholders, a sole trader must rely entirely on their own resources and judgment to grow the business.

B is incorrect. General partnerships involve two or more individuals (or entities) who agree to share the profits, losses, and management of a business. While each partner's financial contribution and risk tolerance can influence the business's growth, the collective resources and risk appetite of all partners offer a broader base for business expansion than a sole trader structure.

Partners can pool their resources, share the financial burden, and bring diverse skills and perspectives to the business, potentially enabling greater growth than a sole proprietorship limited by a single individual's capabilities and risk tolerance.

C is incorrect. Limited partnerships consist of at least one general partner (GP) who manages the business and is personally liable for its debts, and one or more limited partners (LPs) who contribute capital but do not participate in management and whose liability is limited to their investment. This structure allows for the injection of capital from limited partners without requiring them to take on management responsibilities or unlimited liability.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (a) Compare the organizational forms of businesses.

Q.4052 Which of the following is *most likely* a downside of a sole trader?

A. It is expensive to initiate.

B. It does not generate adequate profit.

C. The owner has unlimited liability.

The correct answer is **C.**

The primary downside of operating as a sole trader, is the aspect of unlimited liability. This means that the sole proprietor is personally responsible for all the debts and obligations of the business. In the event that the business incurs debt or faces legal action, the owner's personal assets (such as personal savings, car, and home) can be used to settle the business debts.

This risk is significantly higher compared to other business structures like corporations, where the liability of shareholders is limited to the amount they have invested in the company.

A is incorrect. It typically requires fewer formalities and less regulatory paperwork. The costs associated with initiating a sole proprietorship are often limited to obtaining the necessary licenses or permits for the specific type of business, which are usually minimal.

B is incorrect. The potential for a sole trader to generate adequate profit is not inherently limited by the business structure itself. Like any business, the profitability of a sole proprietorship depends on various factors such as the nature of the business, market demand, the business owner's skills and efforts, and effective management practices.

Many sole traders successfully operate profitable businesses across a wide range of industries. Therefore, stating that a sole trader does not generate adequate profit as a downside is misleading. The capacity to generate profit is influenced by the business strategy and execution rather than the business structure.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (a) Compare the organizational forms of businesses.

Q.4053 Which of the following is *least likely* correct regarding sole trader?

A. The owner funds the business.

B. Profits are taxed as personal income.

C. It has a legal identity; hence it is considered separate from the owner.

The correct answer is **C.**

One of the key characteristics of a sole trader business is that it does not have a separate legal identity from its owner. In this business structure, the business and the owner are legally considered the same entity.

This means the owner is personally responsible for all liabilities and obligations of the business. Unlike corporations, which are separate legal entities, a sole trader's business debts and legal issues are directly linked to the owner.

A is incorrect. In a sole proprietorship, the owner provides the initial capital and may also seek additional funding through loans or personal savings. The owner's personal assets are often used as collateral for business loans, further emphasizing the lack of legal separation between the owner and the business. This direct funding by the owner highlights the personal stake and risk involved in a sole proprietorship.

B is incorrect. Profits being taxed as personal income is a characteristic feature of a sole trader. Since the business and the owner are considered the same legal entity, the income generated by the business is directly attributed to the owner. Therefore, the profits from the business are reported on the owner's personal income tax returns.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (b) Describe key features of corporate issuers.

Q.4067 Which of the following statements regarding the types of corporations is *least likely* true?

A. Nonprofit corporations cannot generate profit.

B. Selling shares is more difficult for private companies than for public companies.

C. Private and public companies can be distinguished by their number of shareholders.

The correct answer is **A.**

The term "nonprofit" can be misleading. Nonprofit corporations can, in fact, generate profit, but the key distinction is how they use their profits. Unlike for-profit corporations, nonprofits must reinvest their profits back into the organization's mission and operations rather than distributing them to shareholders or owners. Profits in nonprofit corporations are typically used for the organization's self-preservation, expansion, or plans.

B is incorrect. Private companies do not have their shares listed on a public stock exchange, which means there is less liquidity and fewer potential buyers. The process of selling shares in a private company often involves negotiating directly with potential buyers, which can be more time-consuming and complex compared to selling shares of a public company through a stock exchange. Additionally, private companies may have restrictions on share transfers, further complicating the process.

C is incorrect. Typically, public companies have a larger number of shareholders and are required to meet specific regulatory requirements, including disclosing financial information to the public. In contrast, private companies usually have fewer shareholders and are subject to fewer regulatory obligations. The number of shareholders is one of several criteria that can distinguish between private and public companies, alongside factors such as the trading of shares on public stock exchanges and the level of regulatory oversight.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (b) Describe key features of corporate issuers.

Q.4074 Which of the following *best explains* the importance of owner-operator separation in a corporation?

A. Prevents conflicts and mismanagement of a business.

B. Creates more opportunities for a company to finance itself.

C. Ensures that the management of a business is in the best interest of the owners.

The correct answer is **B.**

The importance of owner-operator separation in a corporation primarily lies in its ability to broaden the avenues through which a company can secure financing. This separation allows the corporation to attract capital from a wide range of investors, including those who may not possess the expertise or desire to be involved in the day-to-day operations of the business.

By distinguishing the roles of owners (shareholders) and operators (management), corporations can leverage the strengths of professional management while providing investment opportunities to individuals and entities looking to invest capital without taking on operational responsibilities. This structure enhances the company's ability to raise funds, as it can appeal to a larger pool of potential investors, thereby facilitating growth and expansion opportunities.

A is incorrect. While preventing conflicts and mismanagement is a crucial aspect of corporate governance, it is not the primary reason why owner-operator separation is important. The separation does indeed help in delineating the roles and responsibilities within the corporation, which can contribute to reducing conflicts of interest and improving management practices.

However, the core benefit of this separation is its facilitation of a broader financing base, rather than directly preventing mismanagement. Effective corporate governance mechanisms, such as a well-structured board of directors, are designed to oversee management actions and protect the interests of the shareholders, thereby indirectly addressing conflicts and mismanagement.

C is incorrect. Ensuring that the management of a business acts in the best interest of the owners is a fundamental principle of corporate governance, but it is not the primary rationale behind the separation of ownership and operation in a corporation. This separation indeed helps in aligning the interests of management with those of the shareholders through various mechanisms, including performance-based compensation and oversight by the board of directors.

However, the key significance of owner-operator separation is its role in enabling the company to access a wider pool of capital by appealing to investors who prefer not to be involved in the daily operations of the business. While aligning interests is critical, the main advantage of this separation is its contribution to the company's financial flexibility and growth potential.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (b) Describe key features of corporate issuers.

Q.4081 Which of the following is *most likely* correct regarding the financing of a corporation?

A. A corporation raises equity capital by issuing stocks.

B. A corporation raises debt capital by issuing both equity and debt securities.

C. The claims of equity holders and bondholders on a corporation are comparable.

The correct answer is **A.**

A corporation raises equity capital primarily through the issuance of stocks. This process involves selling shares of the company to investors, who in return gain ownership interest in the corporation. Equity financing is a critical method for companies to raise funds without incurring debt. By issuing stocks, a corporation can access capital to fund expansion, pay off debt, or invest in new projects without the obligation to repay the principal or pay interest to the investors.

Instead, shareholders expect to earn a return on their investment through dividends and appreciation in the value of the stock. This form of financing offers the advantage of not burdening the company with debt, but it does dilute the ownership and potentially the control of the original owners.

B is incorrect. Debt capital is specifically raised through the issuance of debt instruments, such as bonds, loans, or notes. These instruments represent a fixed obligation on the part of the corporation to repay the borrowed amount along with interest at specified intervals. Unlike equity financing, debt financing does not confer ownership rights to the lenders but does impose mandatory repayment obligations.

C is incorrect. The claims of equity holders and bondholders on a corporation are fundamentally different. Bondholders, as debt financiers, have a priority claim on the assets and earnings of the corporation compared to equity holders. In the event of liquidation, debt obligations must be satisfied before any assets are distributed to equity holders.

Furthermore, bondholders typically receive fixed interest payments for their investment, whereas equity holders' returns, in the form of dividends, are not guaranteed and depend on the company's profitability. This distinction highlights the different risk and reward profiles associated with debt and equity financing.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (b) Describe key features of corporate issuers.

Q.4087 Which of the following is the *most likely* advantage of investing in private companies?

A. The share price valuation is transparent.

B. The potential return is higher than that of public companies.

C. Buying and selling shares of a private company is relatively easy.

The correct answer is **B.**

Investing in private companies often presents a higher potential return compared to public companies. This advantage primarily stems from the opportunity to invest in these companies during their early stages of growth, where the valuation is relatively lower, and the growth prospects are high. As private companies mature and potentially go public or get acquired, early investors can realize significant gains on their initial investment.

This high-reward scenario is attractive to investors who are willing to accept the higher risks associated with private investments, including less liquidity and transparency. The potential for outsized returns compensates for these risks, making the higher potential return a significant advantage of investing in private companies.

A is incorrect. The share price valuation of private companies is not transparent. Unlike public companies, whose share prices are readily available and constantly updated on stock exchanges, private companies do not have their shares traded in an open market.

This lack of a public trading platform means that share prices are not determined by market forces of supply and demand in real-time. Instead, valuations of private companies are typically conducted during funding rounds or when a significant financial event occurs, such as a merger or acquisition.

This process can lead to less frequent and less transparent valuations, making it challenging for investors to ascertain the current market value of their investment at any given time.

C is incorrect. Buying and selling shares of a private company is relatively difficult compared to public companies. In public markets, shares can be bought and sold with ease through stock exchanges, providing liquidity and flexibility to investors. However, private company shares do not have this luxury as they are not listed on public exchanges.

Transactions involving private shares often require direct negotiation between the buyer and seller, adherence to specific legal and regulatory requirements, and sometimes, the approval of the company itself. This process can be time-consuming and complex, significantly reducing the liquidity of private company investments and making it a less attractive feature for potential investors.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (c) Compare publicly and privately owned corporate issuers.

Q.4089 Which of the following statements regarding share issuance in a private company is *least likely* correct?

A. Private companies may issue additional shares in the capital market to raise capital from many investors.

B. Buyers of private company shares are invited to purchase shares through an offering memorandum.

C. Due to a lack of regulation, share issuance may only be restricted to accredited investors.

The correct answer is **A.**

Private companies do not issue additional shares in the capital market to raise capital from many investors. Instead, they typically raise funds through private placements, targeting a limited number of sophisticated or accredited investors. The capital market is generally associated with public companies, which issue shares that are traded on stock exchanges, allowing them to raise capital from a broad investor base.

Private companies, by their very nature, are restricted in their ability to publicly solicit investment, which is why they rely on private placements and direct negotiations with potential investors. This approach allows private companies to maintain control over their shareholder base and avoid the regulatory complexities of public markets.

B is incorrect. It accurately describes a common practice among private companies. When private companies decide to raise capital, they often do so through the issuance of shares to a select group of investors. This process is typically facilitated by an offering memorandum or private placement memorandum (PPM), which provides detailed information about the company, the terms of the share offering, and the associated risks.

The use of a PPM helps to ensure that potential investors are well-informed about the investment opportunity and the company's prospects. This practice is in line with the regulatory requirements for private placements, which are designed to protect investors while allowing companies to raise the necessary funds.

C is incorrect. It correctly identifies a regulatory aspect of private share issuance. Private companies often restrict share offerings to accredited investors, who are deemed to have the financial sophistication and capacity to absorb the risk of such investments. Accredited investors typically include individuals with a high net worth, certain institutional investors, and professionals with financial expertise.

The rationale behind this restriction is to protect less sophisticated investors from the risks associated with investing in private companies, which may include limited liquidity, less transparency, and higher volatility. By limiting share issuance to accredited investors, private companies can comply with regulatory exemptions that simplify the capital-raising process.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (c) Compare publicly and privately owned corporate issuers.

Q.4090 Regarding registration and disclosure requirements of private and public companies, which of the following statements is *least likely* correct?

A. Private companies are not subject to any regulatory oversight.

B. Private companies are subject to some level of regulatory oversight.

C. Public companies are subject to greater regulatory and reporting requirements compared to private companies.

The correct answer is **A.**

While it's true that private companies are subject to less regulatory and reporting requirements compared to public companies, it's inaccurate to say that they are not subject to any regulatory oversight at all. Private companies are still required to follow applicable laws and regulations, such as tax laws, labor laws, environmental regulations, and in some jurisdictions, certain financial reporting standards. The level of regulatory oversight might be lesser compared to public companies, but it is not non-existent.

B is incorrect. It accurately states that private companies are subject to some level of regulatory oversight. Private companies, despite not being publicly traded, must comply with a range of regulations that govern their financial reporting, tax obligations, and ethical conduct. This includes, but is not limited to, the filing of tax returns, adherence to employment laws, and compliance with specific industry regulations.

C is incorrect. Public companies are required to register with regulatory authorities such as the Securities and Exchange Commission (SEC) in the United States. This registration process involves disclosing detailed financial information, operational strategies, and potential risks to investors and the public. Public companies must also adhere to strict ongoing reporting requirements, including quarterly and annual financial reports, disclosures of material events, and compliance with market regulations.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (c) Compare publicly and privately owned corporate issuers.

Q.4643 Which of the following is *most likely* a characteristic of general partnership?

A. GP operated

B. Owner operated

C. Partners operated

The correct answer is **C.**

Partner operated is a feature of general partnership. In a general partnership (GP), the business is typically operated by the partners themselves. Other features of the general partnership are shared unlimited liability and no separate legal identity.

A is incorrect. GP operated owner-operator relationship is a feature of limited partnership. Other features of limited partnership include no separate legal identity and the General Partner having unlimited liability while the Limited Partners having limited liability.

B is incorrect. Owner operated is a feature of a sole proprietor. "Owner operated" refers to a business where the owner(s) are directly involved in the day-to-day operations and management of the company. Other features of sole proprietorships are no separation of legal identity, and the owner has sole unlimited liability.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (a) Compare the organizational forms of businesses.

Q.4644 All of the following are characteristics of corporate issuers except:

A. The legal distinction between the owners and the corporation does not exist.

B. Involvement in the management of the company is not a requirement for owners.

C. Income generated by corporations is subject to taxation at both the corporate and individual levels.

The correct answer is **A.**

A corporation is treated as an independent and distinct legal entity, separate from the individuals who own it. This separation is a fundamental characteristic of the corporate structure and has several implications such as limited liability and continuity of the corporation's existence even if there are changes in ownership or management.

B is incorrect. Shareholders are not obligated to exert managerial influence on the company. Although, in certain instances, a significant shareholder might assume a role in senior management or join the board of directors, the majority of shareholders do not assume managerial duties.

C is incorrect. Corporate income incurs taxation at both the corporate and individual levels, unless the company opts not to distribute any dividends.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (b) Describe key features of corporate issuers.

Q.4646 Which of the following least likely represents a distinction between an initial public offering (IPO) and a direct listing?

A. The utilization of an underwriter.

B. The decision to raise new capital.

C. The ownership of shares by employees in the private company.

The correct answer is **C.**

A company having employee shareholders can pursue a public listing through either an IPO or a direct listing, and the ownership of shares by employees remains consistent regardless of the chosen transaction.

A is incorrect. In an IPO, an underwriter is employed to oversee the process and underwrite the acquisition of new shares, whereas a direct listing does not involve this intermediary.

B is incorrect. An IPO generates fresh capital for the company going public by issuing new shares to the public, whereas a direct listing solely lists already-existing shares without issuing new ones.

CFA Level 1, Topic 4 – Corporate Issuers, Learning Module 1: Organizational Forms, Corporate Issuer Features, and Ownership, LOS (b) Describe key features of corporate issuers.

Q.162 Which one of the following statements is *least accurate* regarding shareholder rights?

A. Shareholders do not like takeover defenses.

B. Shareholders cannot vote without attending meetings.

C. Cumulative voting gives small shareholders more rights.

The correct answer is **B.**

Shareholders have the ability to vote without attending meetings. This is facilitated through proxy voting, a process that allows shareholders to delegate their voting power to a representative, who then votes on their behalf at the shareholder meeting.

Proxy voting ensures that shareholders' voices are heard and their votes counted, even if they cannot physically attend the meeting. This mechanism is crucial for the exercise of shareholder rights, as it enables broader participation in the company's decision-making processes.

A is incorrect. They can entrench management and prevent takeovers that might otherwise offer a premium to the current stock price, thereby benefiting shareholders.

C is incorrect. Cumulative voting is a mechanism that can give small shareholders more rights, particularly in the election of board members.

In a cumulative voting system, shareholders have a number of votes equal to the number of shares they own multiplied by the number of directors to be elected. They can allocate these votes in any manner they choose, including concentrating all their votes on a single candidate. This system contrasts with straight voting, where shareholders can only vote their shares once per candidate.

Cumulative voting allows minority shareholders to have a greater impact on the election outcome, potentially securing representation on the board. This can lead to more balanced governance and ensure that the interests of minority shareholders are considered.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS (b): Describe a company’s stakeholder groups and compare their interests.

Q.1591 Which of the following ESG factors would *most likely* be considered a social factor?

A. Biodiversity

B. Data security and privacy

C. Lobbying and political contributions

The correct answer is **B.**

Data security and privacy are crucial aspects of the social dimension within the Environmental, Social, and Governance (ESG) framework. This factor primarily concerns how companies manage and protect personal and sensitive information of their customers and employees.

Effective management of data security and privacy can enhance customer trust and loyalty, which are vital for long-term business sustainability. Moreover, it addresses broader social concerns related to individual rights and freedoms, making it a key social factor in ESG considerations.

A is incorrect. Biodiversity falls under the environmental category of ESG factors. It concerns the variety and variability of life on Earth and is critical for maintaining ecosystem services that humans rely on, such as pollination, water purification, and climate regulation. Environmental factors like biodiversity are essential for assessing a company's environmental stewardship and its impact on natural resources and ecosystems.

C is incorrect. Lobbying and political contributions are considered governance factors within the ESG framework. These activities relate to how a company interacts with governments, political processes, and regulatory frameworks. Effective governance practices, including transparency and accountability in lobbying and political contributions, are crucial for preventing corruption and ensuring that a company is managed in the interests of all its stakeholders.

CFA Level I, Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS C: Describe environmental, social, and governance factors of corporate issuers considered by investors.

Q.1596 Which of the following corporate structural issues *least likely* requires the shareholders' approval?

A. The approval of an anti-takeover measure.

B. The sale of 10% of the firm to a third party.

C. Moving a factory from one continent to another.

The correct answer is **C.**

Moving a factory from one continent to another is a decision that typically falls under the purview of the company's management and operational strategy, rather than requiring direct approval from shareholders. This type of decision is considered part of the day-to-day operations and strategic management of the company, aimed at optimizing production, reducing costs, or accessing new markets.

While significant in terms of operational impact and potential financial implications, such decisions are generally not subject to shareholder vote unless they significantly alter the nature or scope of the business. The management team is expected to make these decisions based on their expertise and understanding of the company's strategic needs.

A is incorrect. The approval of an anti-takeover measure is a significant decision that directly affects the ownership and control structure of the company. Anti-takeover measures, such as poison pills or golden parachutes, are designed to make it more difficult or less attractive for another entity to take over the company.

These measures can significantly impact shareholder value and rights, making it essential for shareholders to have a say in their implementation. Shareholder approval is required for such measures to ensure that the interests of the shareholders are adequately considered and protected.

B is incorrect. The sale of a significant portion of the firm, such as 10% to a third party, is a decision that can have a profound impact on the company's ownership structure, control, and strategic direction. Transactions of this magnitude can affect shareholder value and dilute existing ownership percentages.

Therefore, it is a common practice and often a legal requirement for companies to seek shareholder approval for such transactions. This ensures that shareholders have a voice in decisions that could materially affect their investment and the future direction of the company. Shareholder approval in this context serves as a mechanism for ensuring transparency and fairness in significant corporate transactions.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS (b): Describe a company's stakeholder groups and compare their interests.

Q.1598 Which of the following firms will *most likely* face adversity in raising equity capital for fixed investments?

A. Firms that separate voting rights across different classes.

B. Firms that regularly hold meetings with shareholders.

C. Firms that regularly pay dividends.

The correct answer is **A.**

Firms that separate voting rights across different classes of shares are likely to face more challenges in raising equity capital for fixed investments. This structure can create a disparity between ownership and control, leading to potential conflicts of interest between different shareholder groups. When voting rights are separated from economic rights, it can deter potential investors who may feel that their ability to influence company decisions is limited, despite having a financial stake in the company.

This separation can also signal to the market that the company's management or controlling shareholders are unwilling to share control, which can be perceived negatively by potential investors. As a result, these firms may find it more difficult to attract equity capital since investors might be wary of investing in a company where they could have limited say in its operations and strategic direction.

B is incorrect. Regular communication and engagement with shareholders are generally viewed positively by investors. Holding meetings with shareholders allows firms to provide updates on their performance, strategy, and future plans, fostering transparency and trust.

It also provides an opportunity for shareholders to voice their concerns and ask questions, which can help strengthen the relationship between the company and its investors.

C is incorrect. Regular dividend payments can be perceived positively by investors, as they indicate a company's profitability and ability to generate consistent returns for shareholders. In some cases, dividend-paying firms may even be more attractive to investors seeking stable income streams.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS (b): Describe a company’s stakeholder groups and compare their interests.

Q.1599 While evaluating a firm's ownership structure, which of the following issues regarding equity is *most likely* considered negative?

A. Shareholders have the power to nominate board members.

B. In a recently privatized firm, all voting rights are held by previous owners.

C. The safeguard of inferior voting rights of shareholders are in bylaws and articles of association.

The correct answer is **B.**

This situation can significantly limit the power and influence of new shareholders in the company's decision-making processes. Voting rights are a critical aspect of share ownership, providing shareholders with a mechanism to influence the company's strategic direction, elect the board of directors, and make decisions on significant corporate actions.

When voting rights are concentrated in the hands of previous owners, it can lead to a misalignment of interests between the controlling parties and the minority shareholders. Furthermore, this scenario can deter potential investors who seek an active role in governance, thereby affecting the company's ability to raise capital and potentially impacting its market valuation.

A is incorrect. The power of shareholders to nominate board members is generally viewed as a positive aspect of a firm's ownership structure. This power ensures that shareholders have a say in the composition of the board, which is responsible for overseeing the company's management and strategic direction. The ability to nominate board members can lead to a more accountable and transparent governance structure, where the board is more closely aligned with the interests of the shareholders.

C is incorrect. The safeguard of inferior voting rights of shareholders through bylaws and articles of association can also be seen as a positive feature. This mechanism can provide a balance between protecting the interests of minority shareholders and allowing for efficient decision-making by the company. By establishing clear rules on voting rights in the company's bylaws and articles of association, firms can prevent potential abuses of power and ensure that all shareholders are treated fairly.

CFA Level I, Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS b: Describe a company’s stakeholder groups and compare their interests.

Q.4049 Which of the following is *least likely* accurate about dual-class structures?

A. Dual-class shares are difficult to remove.

B. Dual-class shares enable founders or insiders to maintain control over a company.

C. There is no conflict of interest between management and shareholders with dual-class shares.

The correct answer is **C.**

Dual shares can exacerbate these conflicts due to the disproportionate voting power they grant to certain classes of shareholders, typically founders or insiders. This structure allows a small group of shareholders to maintain control over significant corporate decisions, including the election of board members, strategic direction, and mergers and acquisitions, despite owning a minority of the company's equity. This concentration of power can lead to decisions that favor the interests of controlling shareholders over those of the minority shareholders, thereby increasing the potential for conflicts of interest rather than mitigating them.

A is incorrect. Their structure is designed to concentrate voting power with a certain class of shareholders, often the company's founders or insiders. This concentration of power means that any changes to the share structure, including the removal of dual-class shares, would require the approval of these controlling shareholders. Given that the dual-class structure is typically established to maintain their control over the company, it is unlikely that these shareholders would vote in favor of removing this mechanism. Therefore, while difficult, it is not impossible to dismantle dual-class shares, but it requires the consent of those who benefit most from their existence.

B is incorrect. Dual-class shares are specifically designed to enable founders or insiders to maintain control over a company. This is achieved by creating different classes of shares, each with different voting rights. Typically, one class is granted significantly more voting power per share than the other, allowing a small group of shareholders to control major decisions without owning a majority of the company's equity. This structure is often used by companies seeking to go public while retaining decision-making power within a select group, ensuring that strategic vision and control remain consistent. The ability of dual-class shares to preserve founder or insider control is a defining characteristic and not an inaccuracy.

CFA Level I, Topic 4- Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS (b): Describe a company's stakeholder groups and compare their interests.

Q.4051 Which of the following stakeholder’s roles is *most likely* responsible for executing the strategy set by the board and running day-to-day operations?

A. Managers.

B. Employees.

C. Shareholders.

The correct answer is **A.**

Managers are most likely responsible for executing the strategy set by the board and running day-to-day operations within a company. This role is crucial as it bridges the gap between the company's strategic vision and its operational execution.

Managers are tasked with translating the board's strategic objectives into actionable plans and overseeing their implementation. Their responsibilities also include managing teams, solving operational problems, and adapting to changes in the business environment to maintain or improve the company's competitive position.

B is incorrect. While employees are indeed vital to a company's operations, their primary role is to perform specific tasks and duties as directed by their managers. They do not typically have the authority or responsibility to execute strategies or make high-level operational decisions. Their role is more focused on the execution of day-to-day tasks rather than strategic oversight or management of the company's overall operations.

C is incorrect. Shareholders are not directly involved in the day-to-day management or operational execution of the company's strategy. Shareholders invest capital into the company and have ownership interests, but their role is more aligned with governance and oversight through mechanisms like the election of the board of directors. They provide the necessary financial resources and expect returns on their investments, but the execution of strategies and daily operational management falls outside their purview.

CFA Level I, Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS b: describe a company’s stakeholder groups and compare their interests.

Q.4096 Regarding the risk-return profile, at which of the following investor perspectives do equity holders and bondholders *most likely* converge?

A. Maximum loss.

B. Return potential.

C. Investment risk.

The correct answer is **A.**

The convergence of investor perspectives between equity holders and bondholders at the point of maximum loss is primarily due to the nature of their investments. For both types of investors, the maximum loss is theoretically the total amount of their initial investment. This is because, in the worst-case scenario, such as the bankruptcy of the issuing company, both equity holders and bondholders could potentially lose their entire investment.

Equity holders, as shareholders of the company, have ownership stakes and thus directly bear the company's performance risks. In contrast, bondholders, as creditors, have a fixed claim on the company's assets and income. However, if the company fails to meet its obligations and goes bankrupt, both parties stand to lose their invested capital, aligning their interests at this extreme end of the risk spectrum.

B is incorrect. Equity holders benefit from the company's growth and profitability through stock price appreciation and dividends, which can significantly exceed the original investment. On the other hand, bondholders receive fixed interest payments and the return of the principal amount, limiting their return potential to the bond's interest rate, regardless of how well the company performs.

C is incorrect. Equity holders are exposed to higher levels of risk since they are residual claimants; they are paid after all other claims on the company's assets and earnings, such as bondholders, are satisfied. This makes equity investments riskier, especially in the event of a company's financial distress or bankruptcy.

Bondholders, being creditors of the company, have a higher claim on the company's assets and earnings than equity holders, making their investment generally less risky. Therefore, the risk profiles of equity holders and bondholders are inherently different, with equity holders facing higher risks and bondholders enjoying relatively lower risks due to their priority in the company's capital structure.

CFA Level I, Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS a: Compare the financial claims and motivations of lenders and shareholders.

Q.4647 Which of the following parties most likely retains residual claims on an issuer's cash flows?

A. Debtholders

B. Government

C. Shareholders

The correct answer is **C.**

Shareholders typically have residual claims on an issuer's cash flows, meaning they are entitled to any remaining funds after all other obligations, such as debt payments and operating expenses, have been satisfied.

A is incorrect. Debtholders have priority claims on cash flows, meaning they must be paid interest and principal before shareholders receive any distributions.

B is incorrect. The government generally does not have a residual claim on an issuer's cash flows unless it is owed taxes or other dues. However, these obligations do not constitute residual claims in the same sense as shareholder equity.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS a: Compare the financial claims and motivations of lenders and shareholders.

Q.4648 Which of the following features is least likely associated with equity?

A. Variable returns

B. Perpetual existence

C. Priority in payment

The correct answer is **C.**

Equity typically does not have priority in payment compared to debt. Debt holders, such as bondholders or lenders, have priority claims on a company's assets and earnings, meaning they must be paid before equity holders receive any distributions.

A is incorrect. Variable returns are a characteristic of equity. Equity holders, such as shareholders, receive returns in the form of dividends, which are not fixed but rather variable and depend on the company's performance and the decisions of its management. The returns to equity holders can fluctuate based on factors such as the company's profitability, dividend policy, and overall market conditions.

B is incorrect. Unlike debt, which typically has a finite maturity date by which the principal amount must be repaid, equity investments represent ownership in a company and do not have a predetermined expiration date. If the company continues to operate, equity holders retain their ownership stake indefinitely. This perpetual nature of equity distinguishes it from debt.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS a: Compare the financial claims and motivations of lenders and shareholders.

Q.4649 Which of the following primary stakeholder groups in a corporation is most likely responsible for executing the board’s strategy and run operations?

A. Managers

B. Customers

C. Employees

The correct answer is **A.**

Managers are responsible for executing the strategic decisions made by the board of directors and overseeing the day-to-day operations of the corporation. They translate the board's vision and objectives into actionable plans, allocate resources, manage personnel, and ensure that the organization operates efficiently and effectively.

B is incorrect. Customers are external stakeholders who purchase goods or services from the corporation. While customers are essential to the success of a business and their needs and preferences inform strategic decisions, they are not responsible for executing the board's strategy or running the corporation's operations.

C is incorrect. While employees are tasked with executing the board's strategy and ensuring the smooth functioning of the organization, their responsibilities are typically defined by the senior management team, which includes executives and managers. These managers are responsible for translating the board's strategic decisions into actionable plans and overseeing their implementation across various departments and teams within the organization.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS b: Describe a company’s stakeholder groups and compare their interests.

Q.4650 Which stakeholders are expected to gain the most from a substantial rise in the company's market value?

A. Debtholders

B. Management

C. Shareholders

The correct answer is **C.**

Shareholders are expected to gain the most from a substantial rise in the company's market value because they are the owners of the company and hold equity stakes in it. When the company's market value increases, the value of shareholders' equity also rises, resulting in capital gains for them. Shareholders benefit directly from the appreciation of the company's value through increased stock prices and may also receive dividends if the company decides to distribute profits to its shareholders.

A is incorrect. Debtholders typically have fixed claims on a company's assets and cash flows, meaning their returns are predetermined by the terms of the debt contracts, such as interest payments and principal repayment schedules. Unlike shareholders, debtholders do not directly participate in the company's equity ownership, so they do not stand to benefit directly from an increase in the company's market value.

B is incorrect. Management often receives compensation in the form of salaries, bonuses, and stock options, but their compensation is usually not directly tied to the company's market value in the same way as shareholder returns. While an increase in the company's market value may indirectly benefit management in terms of job security, career advancement opportunities, and potentially higher bonuses or stock option values, the primary beneficiaries of a rise in market value are the shareholders.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS b: Describe a company’s stakeholder groups and compare their interests.

Q.4651 Which of the following ESG considerations most likely falls under the social factors?

A. Lobbying

B. Human rights

C. Climate change

The correct answer is **B.**

Social factors in ESG considerations typically include aspects related to human rights, labor practices, employee relations, diversity and inclusion, and community engagement. Human rights, which encompass fundamental rights and freedoms inherent to all human beings, are a key component of social factors within the ESG framework.

A is incorrect. While lobbying can have social implications, it is typically categorized under governance factors rather than social factors in the ESG framework Lobbying activities are often associated with influencing government policies, regulations, and legislation, which can have broader societal impacts.

C is incorrect. Climate change is primarily categorized under environmental factors within the environmental, social, and governance (ESG) framework, rather than social factors. Environmental factors encompass various issues related to a company's impact on the natural environment, including its carbon footprint, energy efficiency, pollution levels, resource usage, and management of environmental risks.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 2: Investors and other Stakeholders. LOS c: Describe environmental, social, and governance factors of corporate issuers considered by investors.

Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits

Q.157 Corporate governance is a system that provides a framework that defines the rights, roles, and responsibilities of various groups. Which of the following groups *most likely* benefits from shareholder theory?

A. Directors.

B. Employees.

C. Shareholders.

The correct answer is **C.**

Shareholder theory posits that the primary responsibility of a company's management is to maximize the returns to its shareholders. This theory is grounded in the belief that shareholders, as the owners of the company, should be the primary beneficiaries of the company's success.

The theory argues that by focusing on shareholder value, a company will make decisions that are in the best interest of the company and, by extension, all of its stakeholders. This includes making investments that drive growth, improving operational efficiencies, and engaging in activities that enhance the company's profitability and market value.

A is incorrect. While directors may benefit indirectly from the implementation of shareholder theory through mechanisms such as stock options and bonuses tied to stock performance, the theory itself primarily benefits shareholders directly. Directors are tasked with governance and oversight roles that include making decisions in the best interest of the shareholders. However, the primary aim of shareholder theory is not to benefit the directors but to ensure that the company is managed in a way that maximizes shareholder wealth.

B is incorrect. Employees, like directors, may benefit indirectly from the successful implementation of shareholder theory through job security, bonuses, and other performance-related incentives. However, shareholder theory explicitly prioritizes the interests of shareholders over other stakeholders, including employees. However, the primary objective of shareholder theory is not to maximize employee benefits but to increase the value returned to shareholders. Stakeholder theory, in contrast, advocates for a more balanced approach that considers the interests of all stakeholders, including employees, in the decision-making process.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (c): Describe potential risks of poor corporate governance and stakeholder management and the benefits of effective corporate governance and stakeholder management.

Q.158 Which of the following statements are *least accurate* regarding good corporate governance?

A. A board should have the authority to hire third-party consultants.

B. Elections should be staggered to let the board members execute long-term plans.

C. A board should have a committee of independent members who set executive compensation.

The correct answer is **B.**

Staggering the election of board members, while it may provide stability and allow for the execution of long-term plans, is considered a less accurate representation of good corporate governance. This practice can serve as an anti-takeover measure, making it more difficult for shareholders to effect change in the board's composition in response to dissatisfaction with the board's performance or direction.

Staggering dilutes the value of shareholder voting rights since shareholders cannot replace the entire board at any given election. This can lead to a lack of accountability and responsiveness among board members, as they may feel secure in their positions for longer periods, potentially at the expense of shareholder interests and corporate performance.

A is incorrect. The ability of a board to hire third-party consultants is a hallmark of good corporate governance. This authority allows the board to seek external advice and services, such as legal, financial, or strategic consulting, which can be crucial for informed decision-making and oversight. Third-party consultants can provide independent perspectives and specialized expertise that the board or management may lack, contributing to more effective governance and risk management.

C is incorrect. The establishment of a committee of independent members to set executive compensation is another key aspect of good corporate governance. Such a committee, often referred to as a remuneration or compensation committee, is tasked with developing and proposing remuneration policies for directors and key executives. This includes setting performance criteria, evaluating performance, and determining appropriate compensation levels. The independence of the committee members is crucial to ensure that executive compensation is fair, transparent, and aligned with the long-term interests of the company and its shareholders.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.159 Which of the following board of directors committees is *most likely* responsible for identifying candidates for senior roles and setting the procedures and policies for board directorships and the election process?

A. Risk committee.

B. Nomination committee.

C. Compensation committee.

The correct answer is **B.**

The nomination committee is responsible for setting the procedures and policies related to board directorships, including the nomination and election processes. This committee ensures that the process is conducted in a transparent and fair manner, adhering to the highest standards of corporate governance.

Therefore the nomination committee helps in maintaining a balanced and competent board, capable of guiding the company towards achieving its strategic objectives while upholding the interests of the shareholders.

A is incorrect. The risk committee is tasked with overseeing the company's risk management framework. Its responsibilities include identifying, evaluating, and managing the various risks that the company faces, such as financial, operational, strategic, and compliance risks. The committee ensures that the company has appropriate systems and controls in place to effectively manage these risks and safeguard the company's assets and reputation.

C is incorrect. The compensation committee focuses on developing and overseeing the company's compensation policies, particularly for its directors, senior executives, and key personnel. This includes setting performance targets, determining salary levels, bonuses, and other forms of remuneration, as well as overseeing the implementation of incentive schemes.

The committee aims to ensure that compensation practices are aligned with the company's strategic goals and governance principles, motivating key personnel to achieve high performance.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.160 Which of the following statements regarding an audit committee is *least likely* accurate?

A. All members of the committee should be independent.

B. All members of the audit committee should be financial experts.

C. The audit committee is responsible for recommending and compensating external auditors.

The correct answer is **B.**

An audit committee oversees and ensures the effectiveness of audit and control systems in a company by monitoring the financial reporting process. It is comprised of independent non-executive (external) directors. Audit committee members are independent to prevent insider influence.

The audit committee:

1. Ensures that financial statements are ethically prepared and reflect the company's true financial position.
2. Ensures that a company's internal audit function is independent and competent.
3. Recommends the appointment of external auditors and their remuneration.
4. Analyzes the reported audit reports and advises a company on the way forward.

Not all members of the audit committee should be financial experts.

A is incorrect. Independence is a critical attribute for audit committee members, as it helps to ensure that the committee can perform its duties without undue influence from the company's management. Independent members are better positioned to provide objective oversight of the company's financial reporting processes, internal controls, and the external audit function. This independence is crucial for maintaining investor confidence in the integrity of the company's financial statements.

C is incorrect. The committee plays a vital role in the selection and oversight of the company's external auditors. By recommending the appointment of, and determining the compensation for, external auditors, the audit committee helps ensure that the external audit is conducted by a suitably qualified and independent firm. This responsibility is fundamental to the audit committee's role in safeguarding the integrity of the financial reporting process and ensuring that the external audit is conducted in a manner that is free from conflicts of interest.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.161 Which one of these statements is *most accurate* regarding corporate governance?

A. Each board member should take action in the best interest of shareholders.

B. The compensation committee is responsible for recruiting management.

C. If all members of management are CFA charterholders, a company's code of ethics is not required.

The correct answer is **A.**

The primary responsibility of each board member is to act in the best interest of the shareholders. This principle is foundational to effective corporate governance. Board members are elected by the company's shareholders to protect their interests, provide strategic direction, monitor company and management performance, and ensure broad oversight.

They are bound by two critical duties: the duty of care and the duty of loyalty. The duty of care mandates board members to act with due diligence, in good faith, and to be fully informed before making decisions. The duty of loyalty requires them to prioritize the collective interest of the company and its shareholders above their own interests or the interests of any individual or group.

B is incorrect. The nomination committee is tasked with identifying and recruiting board members, such as senior directors. The responsibility of recruiting senior management lies with the board members themselves. The nomination committee plays a crucial role in ensuring that the board is composed of individuals with the necessary skills, experience, and integrity to effectively oversee the company's operations and strategy.

C is incorrect. This option erroneously implies that the presence of CFA charterholders in management negates the need for a company's code of ethics. Regardless of the professional qualifications or designations held by members of management, a code of ethics is essential for guiding the behavior and decision-making of all employees within the organization. A code of ethics serves as a formal statement of the company's values and principles, outlining expected standards of conduct and providing a framework for ethical decision-making and is a critical component of a company's governance and risk management practices.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1583 You have been hired to help streamline the corporate governance structure at Exim Bank. In the process, you have established several facts about executive remuneration at the bank. The remuneration plan you would be *most likely* concerned about is:

A. one that varies from year to year.

B. one that's consistent with the bank's competitors.

C. one that's wholly cash-based with no offer for equity or stock options.

The correct answer is **C.**

Option C, which involves a remuneration plan that is wholly cash-based with no offer for equity or stock options, is most concerning from a corporate governance perspective. A cash-only compensation structure for executives can lead to a misalignment of incentives between the management and the shareholders of the bank.

Equity-based compensation, such as stock options, aligns the interests of the executives with those of the shareholders, as the value of their compensation becomes directly linked to the performance of the company's stock.

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A is incorrect. A remuneration plan that varies from year to year can be beneficial as it allows for adjustments based on the company's performance, economic conditions, and other relevant factors. This flexibility can help ensure that executive compensation remains aligned with the company's success and strategic objectives.

Variable compensation plans often include performance-based bonuses, equity awards, and other incentives that can motivate executives to achieve specific goals that are in the best interest of the company and its shareholders.

B is incorrect. Having a remuneration plan that is consistent with the bank's competitors is generally not a cause for concern. Benchmarking executive compensation against industry peers can help ensure that a company's pay structure is competitive, which is important for attracting and retaining top talent.

Analysts and shareholders may become concerned if executive compensation significantly deviates from industry norms. This supports good corporate governance practices by ensuring that executive compensation is fair, competitive, and performance-based.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1586 Which of the following is *most likely* a board of a shareholder mechanism used to promote good corporate governance?

A. Bond indenture.

B. Employment contracts.

C. Shareholder derivative lawsuit.

The correct answer is **C.**

A shareholder derivative lawsuit is a mechanism that allows shareholders to take legal action on behalf of the corporation against insiders such as directors, management, or controlling shareholders for breaches of fiduciary duty. This legal tool is designed to address situations where those in control of the company may have acted against the interests of the company and its shareholders, potentially harming the company's value and governance structure.

By enabling shareholders to sue errant managers or directors, shareholder derivative lawsuits serve as a check on management and board actions, promoting accountability and good corporate governance practices.

A is incorrect. Bond indentures are agreements between bond issuers and bondholders that specify the terms of the bond, including the interest rate, maturity date, and other conditions. Bond indentures are primarily concerned with the relationship between the company and its creditors, not with promoting good corporate governance among the company's management or board of directors.

B is incorrect. Employment contracts are agreements between a company and its employees, including its executives. These contracts can include clauses related to performance, remuneration, and termination. While they can be used to align the interests of executives with those of the company, they are not specifically a mechanism for shareholders or the board to directly influence corporate governance. Employment contracts are generally more focused on individual employment terms rather than broader governance issues.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1588 Which of the following statements is *least likely* accurate regarding the audit committee?

A. All committee members must be financial experts.

B. The external auditor is free from the influence of the management.

C. Proper accounting and auditing procedures should always be followed.

The correct answer is **A.**

An audit committee oversees and ensures the effectiveness of audit and control systems in a company by monitoring the financial reporting process. It is comprised of independent non-executive (external) directors. Audit committee members are independent to prevent insider influence.

Functions of the Audit Committee.

The audit committee;

1. Ensures that financial statements are ethically prepared and reflect the company's true financial position.
2. Ensures that a company's internal audit function is independent and competent.
3. Recommends the appointment of external auditors and their remuneration.
4. Analyzes the reported audit reports and advises a company on the way forward.

At least one member of the audit committee should be a financial or an accounting expert.

B is incorrect. The statement that the external auditor is free from the influence of the management is a fundamental principle underlying the audit committee's function. The audit committee acts as a bridge between the company's management and its external auditors, ensuring that the auditors can perform their duties independently and without undue influence from the company's management.

This independence is critical for the credibility of the audit process, as it helps to ensure that the external auditor's opinions on the company's financial statements are objective and unbiased.

C is incorrect. The statement that proper accounting and auditing procedures should always be followed is a core responsibility of the audit committee. The committee is charged with monitoring the company's compliance with legal and regulatory requirements related to financial reporting and auditing.

This includes ensuring that the company follows generally accepted accounting principles (GAAP) or international financial reporting standards (IFRS), depending on the jurisdiction. By ensuring adherence to proper accounting and auditing procedures, the audit committee helps to prevent financial misstatements and fraud, thereby protecting the interests of shareholders and other stakeholders.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1589 Simon Segal is an investor of Insert.net Ltd who is currently evaluating board members and the remuneration committee. Which of the following is *least likely* an important element to analyze?

A. If the firm has provided loans to members.

B. If the terms of options granted are reasonable.

C. If the members are Chartered Professional Accountants.

The correct answer is **C.**

The remuneration committee:

1. Comes up with remuneration plans for the directors and key executives of a company to be reviewed by the board or shareholders.
2. Sets performance criteria for managers and evaluates the performances of the managers.
3. May establish remuneration policies.
4. Comes up with and implements employee benefit plans (retirement plans, insurance, pension, and severance benefits).

It is not a requirement for the members of the remuneration committee to be Chartered Professional Accountants.

A is incorrect. The provision of loans to members of the company is a significant element to analyze when evaluating the remuneration committee. This practice can raise questions about potential conflicts of interest and the financial integrity of the company.

It is crucial to ensure that any loans to members are made transparently, under fair terms, and in the company's best interest. Such transactions can have implications for the company's governance and financial health, making it an important area of scrutiny.

B is incorrect. Option grants are a common component of executive compensation packages and can significantly influence executive behavior and company performance. Evaluating whether the terms of these options are reasonable involves assessing their alignment with shareholder interests, their potential impact on risk-taking behavior, and their contribution to long-term company value.

Unreasonable terms can lead to misaligned incentives, excessive risk-taking, or undue rewards for executives, which are all concerns for investors and stakeholders.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1594 Which of the following is *most likely* focused on the clauses within lending agreements that detail the actions issuers are obligated to perform or prohibited from performing?

A. Covenants.

B. Collaterals.

C. Bond indenture.

The correct answer is **A.**

Covenants are specifically designed clauses within lending agreements that detail the obligations and restrictions imposed on issuers. These clauses are critical in defining the relationship between the lender and the borrower, as they outline the actions that the borrower is obligated to perform and those they are prohibited from performing.

The inclusion of covenants in lending agreements serves several purposes, including protecting the interests of the lender by ensuring that the borrower maintains a certain level of financial stability and operational integrity throughout the term of the loan.

B is incorrect. Collaterals refer to assets or financial guarantees that a borrower offers to a lender as security for a loan. The primary function of collateral is to provide the lender with a form of protection in case the borrower defaults on the loan. If the borrower fails to meet their obligations under the loan agreement, the lender has the right to seize the collateral and sell it to recover the outstanding loan amount.

C is incorrect. A bond indenture is a comprehensive legal document that outlines the terms and conditions under which a bond is issued. It includes a wide range of information, such as the interest rate, maturity date, repayment schedule, and, importantly, any covenants that apply to the bond issue.

While covenants are a critical component of a bond indenture, they are only one part of the broader set of terms and conditions contained within the document. The bond indenture serves as the contract between the bond issuer and the bondholders, establishing the legal framework for the bond issue.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (c): Describe potential risks of poor corporate governance and stakeholder management and the benefits of effective corporate governance and stakeholder management.

Q.1597 Which of the following documents can *least likely* provide information regarding the shareholders' sponsored board nomination?

A. Corporate bylaws.

B. Articles of organization.

C. Quarterly financial reports.

The correct answer is **C.**

Quarterly financial reports are the least likely source of information regarding shareholders' sponsored board nominations. These reports primarily focus on the financial performance of a company over a specific quarter, including its revenue, expenses, profit margins, and other financial metrics. They are designed to provide investors and other stakeholders with an up-to-date picture of the company's financial health and operational results.

A is incorrect. Corporate bylaws are a critical document in understanding the governance structure of a company, including the rights and responsibilities of shareholders, directors, and officers. They often contain specific provisions related to the nomination and election of board members, including any rights shareholders might have to nominate directors. This makes corporate bylaws a likely source of information regarding shareholders' sponsored board nominations.

B is incorrect. Articles of organization, also known as articles of incorporation in some jurisdictions, establish a company's existence and outline its governance structure, purpose, and initial directors, among other foundational details. While they might not detail the process of shareholders' sponsored board nominations as specifically as corporate bylaws might, they can still provide a legal framework that supports or mentions shareholder rights in this context. Therefore, they are also a more likely source of information on this topic than quarterly financial reports.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1600 Which of the following should you *most likely* analyze to evaluate if the legal rights of shareholders are protected under the corporate governance code and legal statutes of the jurisdiction in which the firm is headquartered?

A. Analyze if shareholders are allowed to sponsor the audit committee.

B. Analyze if members of the board possess the necessary experience.

C. Analyze if the legal statute allows shareholders to take legal actions to enforce ownership rights.

The correct answer is **C.**

To effectively evaluate if the legal rights of shareholders are protected under the corporate governance code and legal statutes of the jurisdiction in which the firm is headquartered, it is crucial to analyze if the legal statute allows shareholders to take legal actions to enforce ownership rights.

This aspect is fundamental because it directly impacts shareholders' ability to protect their interests and investments. The capacity to initiate legal action is a powerful tool for shareholders, ensuring that their rights are not infringed upon and that they have a recourse in case of disputes or violations of their rights.

A is incorrect. Analyzing if shareholders are allowed to sponsor the audit committee, while important for understanding aspects of corporate governance and shareholder influence, does not directly address the protection of legal rights of shareholders. The ability to sponsor an audit committee may contribute to transparency and accountability but does not provide a direct mechanism for shareholders to enforce their legal rights or take action against violations.

B is incorrect. Analyzing if members of the board possess the necessary experience is crucial for assessing the board's effectiveness and its ability to make informed decisions that benefit the company and its shareholders. However, the experience of board members, while important for overall corporate governance, does not directly relate to the legal mechanisms available to shareholders for protecting their rights.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1601 Takeover defenses are provisions that are used to make a firm less attractive. Which party is *most likely* deterred by such a move?

A. Regulators.

B. Shareholders.

C. Hostile bidders.

The correct answer is **C.**

Hostile bidders are individuals or entities that attempt to take over a company without the approval of its management and board of directors. Takeover defenses are specifically designed to deter these hostile bidders by making a takeover attempt more challenging, costly, or unattractive. Examples of takeover defenses include poison pills, staggered boards, and golden parachutes.

A is incorrect. Regulators are entities that oversee and enforce laws and regulations within various industries to ensure fairness, compliance, and protection of public interests. Takeover defenses are not aimed at deterring regulators. Instead, these measures are internal strategies employed by companies to ward off unsolicited takeover attempts. Regulators may review the legality and compliance of these defenses within the context of securities and corporate law, but they are not the target of such strategies.

B is incorrect. Shareholders are the owners of a company through their stock holdings. Takeover defenses are not designed to deter shareholders. While some shareholders may view takeover defenses as a way to protect their investment from undervalued acquisition offers, others may criticize these measures for potentially entrenching management and preventing shareholders from receiving a premium on their shares in a takeover scenario.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.1602 Which of the following is *least likely* a provision of takeover defense?

A. Poison pills.

B. Proxy contests.

C. staggered board members.

The correct answer is **B.**

Proxy contests are not a form of takeover defense but rather a strategy employed during takeover attempts. In a proxy contest, a group of shareholders attempts to gain control of the company's board of directors by convincing other shareholders to vote for their slate of nominees. This strategy is typically used by an entity or group of investors seeking to make significant changes within a company, including taking over its management.

Proxy contests are initiated by outsiders aiming to gain control. Therefore, understanding the nature of proxy contests is crucial in distinguishing them from defensive strategies designed to protect a company from unsolicited takeover attempts.

A is incorrect. Poison pills are a common takeover defense mechanism. They are designed to make a company less attractive to potential acquirers by allowing existing shareholders (except the acquirer) to purchase additional shares at a discount, effectively diluting the shares of the acquirer and making the takeover more expensive and less appealing. This strategy is employed to protect the company and its shareholders from hostile takeovers that may not be in their best interest, ensuring that any change in control occurs on terms favorable to the existing shareholders.

C is incorrect. Staggered board members serve as another effective takeover defense. In a staggered board setup, board members are divided into different classes with different terms of office. Only a fraction of the board members are up for election in any given year, making it more difficult for a hostile bidder to gain control of the board quickly. This arrangement provides stability and continuity in the company's leadership and governance, protecting it from abrupt changes that could result from a hostile takeover attempt. By making it harder for an acquirer to replace the board and implement changes, a staggered board acts as a deterrent against unsolicited takeover bids.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (b): Describe corporate governance and mechanisms to manage stakeholder relationships and mitigate associated risks.

Q.3517 KKQ Chemicals Limited, a manufacturer of sodium bicarbonate, has operations in Western Europe. The company has been on an acquisition spree and has acquired ten small chemical companies in the last two years. While analyzing the company's filings, an equity analyst observes that the company has supervisory and management boards. Furthermore, he observes that the number of members serving on both boards is not restricted. The analyst is concerned about the acquisition carried out by the company. However, the management board

always discussed the proposal to acquire the companies and was subject to a shareholder vote at general meetings.
Which of the following statements is *most appropriate*?

A. The company's board composition is per corporate governance best practices.

B. The company's board composition is not per corporate governance best practices.

C. The presence of supervisory and management ensures discussion on proposals without undue influence from the company's shareholders.

The correct answer is **B.**

The company's board composition, which does not restrict the number of members serving on both the supervisory and management boards, is not in accordance with corporate governance best practices. Corporate governance frameworks typically advocate for a clear separation of roles and responsibilities between the supervisory and management boards to ensure an effective oversight mechanism.

This separation is crucial to prevent conflicts of interest and to promote transparency and accountability within the organization. By allowing members to serve on both boards, KKQ Chemicals Limited risks undermining the supervisory board's ability to provide unbiased oversight of the management board's decisions and actions. This arrangement could potentially lead to a lack of critical evaluation of management's proposals, including those related to acquisitions, and may compromise the board's effectiveness in safeguarding shareholders' interests.

A is incorrect. Best practices in corporate governance emphasize the importance of maintaining a clear distinction between the supervisory and management functions to ensure that the supervisory board can effectively monitor and evaluate the performance and decisions of the management board.

The presence of members serving on both boards blurs this distinction, potentially compromising the objectivity and effectiveness of the supervisory board's oversight role. Therefore, the company's board composition, as described, does not adhere to these principles.

C is incorrect. While it is true that having separate supervisory and management boards can facilitate focused discussions on company proposals, the primary concern here is not the influence of shareholders but the potential for conflicts of interest and lack of independent oversight due to overlapping membership between the two boards.

Shareholder influence, when exercised appropriately, is a vital aspect of corporate governance, providing a mechanism for accountability. The issue at hand is the structural setup that might hinder the supervisory board's ability to act as an effective counterbalance to the management board.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (c): Describe potential risks of poor corporate governance and stakeholder management and the benefits of effective corporate governance and stakeholder management.

Q.3945 Which of the following stakeholders' interests is *most likely* considered important compared to others under the shareholder theory?

A. Shareholders.

B. Debtholders.

C. Customers.

The correct answer is **A.**

Under the shareholder theory, the primary focus is on maximizing shareholder value. This theory posits that the ultimate goal of any corporation is to increase its stock price, which directly benefits its shareholders. The rationale behind this theory is that shareholders, being the owners of the company, have a vested interest in its financial success.

B is incorrect. Debtholders, such as bondholders or banks that have lent money to the company, have a different set of interests compared to shareholders. Their primary concern is the company's ability to meet its debt obligations, including interest payments and the repayment of principal.

C is incorrect. Customers are crucial to the success of any business, as they generate the revenue that the company needs to operate and grow. However, under the shareholder theory, the interests of customers are considered important only to the extent that they contribute to the company's profitability and, by extension, shareholder value. This theory does not advocate for sacrificing shareholder value to benefit customers.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (c): Describe potential risks of poor corporate governance and stakeholder management and the benefits of effective corporate governance and stakeholder management.

Q.4046 Which of the following statements regarding company-specific risks is *least likely* true?

A. Network effects can be a source of competitive advantage.

B. Execution risk can be accentuated by other business risks.

C. Competitive risk is lowered by the potential for disruption, such as using new technology.

The correct answer is **C.**

In reality, the introduction of new technologies or business models by competitors can significantly increase competitive risk for a company. Disruptive technologies can alter the competitive landscape by providing new or existing competitors with a means to offer superior products or services, potentially eroding the market share of companies that fail to innovate.

This form of risk is particularly pronounced in industries that are rapidly evolving or are highly susceptible to technological advancements. Companies must continuously innovate and adapt to new technologies to maintain their competitive edge and mitigate the risk of being outperformed by competitors leveraging disruptive technologies.

A is incorrect. Network effects refer to the phenomenon where the value of a product or service increases as more people use it. This can create a significant competitive advantage for companies that successfully leverage network effects, as it can lead to increased customer loyalty and barriers to entry for competitors.

Examples of companies benefiting from network effects include social media platforms, where the service becomes more valuable as the number of users grows, making it difficult for new entrants to compete. Therefore, stating that network effects can be a source of competitive advantage is accurate and does not represent the least likely true statement regarding company-specific risks.

B is incorrect. Execution risk involves the danger that a company's management will fail to implement business plans or strategies effectively, which can be exacerbated by other business risks such as market, credit, or operational risks. For example, a company aiming to expand into a new market may encounter unforeseen regulatory challenges or stronger than anticipated competition, which can compound the execution risk.

This interconnectedness of risks means that a failure in one area can have cascading effects on the company's overall risk exposure and performance. Thus, the statement that execution risk can be accentuated by other business risks is true and reflects a nuanced understanding of the complexities involved in managing company-specific risks.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 3: Corporate Governance: Conflicts, Mechanisms, Risks, and Benefits. LOS (c): Describe potential risks of poor corporate governance and stakeholder management and the benefits of effective corporate governance and stakeholder management.

Q.1722 Which of the following conditions will *most likely* improve the liquidity position of a company;

A. Delaying accounts payable.

B. An increase in obsolete inventories.

C. An increase in uncollected receivables.

The correct answer is **A.**

Delaying accounts payable can improve a company's liquidity position by managing its cash outflows more effectively. Liquidity refers to a company's ability to meet its short-term obligations using its most liquid assets.

By delaying the payment of accounts payable, a company can retain cash for a longer period, thereby enhancing its ability to cover immediate financial needs without resorting to additional financing or liquidating assets. This strategy can be particularly useful in managing cash flow cycles and ensuring that the company has sufficient funds available to meet unexpected expenses or take advantage of investment opportunities.

B is incorrect. Obsolete inventories represent stock that is no longer sellable or has lost significant value, which can tie up capital that could otherwise be used more effectively. Holding onto obsolete inventories can lead to increased storage costs and reduce the company's ability to invest in more profitable inventory. Therefore, an increase in obsolete inventories is likely to harm, rather than improve, a company's liquidity position.

C is incorrect. The increase in uncollected receivables is also detrimental to a company's liquidity. Receivables represent money owed to the company by its customers. While they are considered assets, their value to the company's liquidity is contingent upon their collectability.

An increase in uncollected receivables indicates that the company is facing difficulties in converting sales into cash, which is a critical component of liquidity. This situation can lead to cash flow problems, as the company may not have enough liquid assets to cover its short-term obligations.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers’ liquidity levels.

Q.1725 Ahmed Ali is an associate at a stock brokerage firm analyzing the liquidity position of one of its portfolio companies. He has gathered the following relevant information:

Total Sales	$600 million
Percentage of Cash Sales	40%
Average Receivables	180 million

Using the data given in the table, the accounts receivable turnover ratio of the portfolio company for liquidity purposes is *closest to:*

A. 1.33

B. 2.0

C. 3.33

The correct answer is ***B.***

$$\begin{aligned}\text{Receivable turnover} &= \frac{\text{Credit sales}}{\text{Average accounts receivable}}\\ &= \frac{\$600\text{ million} \times (1 - 40\%)}{\$180\text{ million}}\\ &= 2\end{aligned}$$

A is incorrect. *It assumes the following calculation in determining the receivable turnover ratio;*

$$\begin{aligned}\text{Receivable turnover} &= \frac{\$600\text{ million} \times 40\%}{\$180\text{ million}}\\ &= 1.33\end{aligned}$$

C is incorrect. *It assumes the following calculations;*

$$\text{Receivable turnover} = \frac{\$600\text{ million}}{\$180\text{ million}} = 3.33$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.1727 Assuming that the average industry norm for the number of days of receivables is 110 days, and a specific company operating in this industry has 182.5 days as its number of days of receivables, then which of the following choices is *most likely* correct?

A. The data given is insufficient to make an assumption.

B. The company is slower than the industry at collecting receivables.

C. The company is quicker than the industry at collecting receivables.

The correct answer is **B.**

The number of days of receivables is a critical financial metric that measures the average number of days a company takes to collect payment after a sale has been made. It is a direct indicator of the efficiency of a company's credit and collection policies.

In this scenario, the specific company has 182.5 days of receivables, which is significantly higher than the industry norm of 110 days. This discrepancy suggests that the company is slower than its industry peers in converting its receivables into cash.

A is incorrect. The data provided is sufficient to make a comparative analysis between the company's performance and the industry norm. The significant difference between the company's days of receivables and the industry norm provides a clear basis for the conclusion that the company is slower in collecting receivables compared to the industry average.

C is incorrect. The assertion that the company is quicker than the industry at collecting receivables is directly contradicted by the data provided. With the company having 182.5 days of receivables compared to the industry norm of 110 days, it is evident that the company takes a longer time to collect payments from its customers.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.1728 Which of the following would *most likely* make the number of days of inventory too high?

A. Obsolete inventory

B. Inadequate stock on hand.

C. Very little capital was invested in the inventory.

The correct answer is **A.**

Obsolete inventory is the primary reason that would most likely cause the number of days of inventory to be too high. The days of inventory metric measures the average time it takes for a company to turn its inventory into sales. A high number of days indicates that inventory is not being sold quickly, which can be a sign of several issues, including the presence of obsolete inventory. This situation is detrimental as it ties up capital in non-moving items, reduces cash flow, and may require additional costs for storage and maintenance.

B is incorrect. Inadequate stock indicates a lower level of inventory available for sale, which could lead to a higher inventory turnover rate if demand remains constant. Inadequate stock on hand would likely result in a lower number of days of inventory, not higher, as it suggests that the company is efficiently managing its inventory levels to meet customer demand without overstocking.

C is incorrect. When a company invests a small amount of capital in its inventory, it implies that the company is maintaining lower levels of stock. This strategy can be part of efficient inventory management practices, such as just-in-time (JIT) inventory systems, where materials and products are ordered and produced as needed to meet demand without holding excessive stock. In such cases, the number of days of inventory would likely be lower because the company is able to quickly sell through its available inventory, minimizing the time that products spend in storage.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.1729 Which of the following *most appropriately* measures the length of time it takes to convert a firm's cash into inventory and back into cash in the form of collections from the inventory sales?

A. Sales cycle.

B. Operating cycle.

C. Net operating cycle.

The correct answer is **C.**

The cash conversion cycle or net operating cycle measures the length of time it takes to convert a firm's cash into inventory and back into cash in the form of collections from inventory sales.

$$\text{Cash Conversion cycle} = \text{Number of receivables days} + \text{Number of inventory days} - \text{Number of pa}$$

A is incorrect. The sales cycle is the set of events from the moment a salesperson first engages with a prospective buyer to when the sale is made.

B is incorrect. The operating cycle does not include the number of days of payables. It measures the time between the purchase of raw materials and the sale of the finished product.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (a): Explain the cash conversion cycle and compare issuer's cash conversion cycles.

Q.1731 Which of the following is *least likely* a short-term type of security in which a company can invest to manage its cash?

A. U.S. Treasury bonds.

B. Bank certificate of deposits.

C. Money market mutual funds.

The correct answer is **A.**

U.S. Treasury bonds are generally not considered a short-term investment option for companies looking to manage their cash. This is because U.S. Treasury bonds are long-term investments with maturities typically exceeding ten years. When companies seek to manage their short-term cash needs, they usually look for investments that can be easily liquidated or that mature in a short period, typically within a year. Instead, U.S. Treasury bills, which are short-term government securities with maturities ranging from a few days to 52 weeks, are more suitable for such purposes.

B is incorrect. Bank certificates of deposit (CDs) are indeed a viable short-term investment option for companies. CDs are time deposits offered by banks with fixed terms and interest rates. They can range in maturity from a few months to several years, but shorter-term CDs (e.g., 3-month, 6-month, or 1-year CDs) can be particularly attractive for companies looking to manage their cash while earning a higher interest rate than a regular savings account.

C is incorrect. Money market mutual funds are another appropriate short-term investment vehicle for companies managing their cash reserves. These funds invest in short-term, high-quality debt securities, including Treasury bills, commercial paper, and certificates of deposit. Money market funds aim to maintain a stable net asset value (NAV) while offering returns slightly higher than those of a regular savings account.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.1735 Which of the following statements is *most accurate* for a firm with a very large inventory?

A. No effect on inventory turnover ratio.

B. A decreased number of days of inventory.

C. An increased number of days of inventory.

The correct answer is **C.**

A firm with a very large inventory is likely to experience an increased number of days of inventory. This is because the days of inventory metric, also known as inventory days or days inventory outstanding (DIO), measures the average time it takes for a company's inventory to turn into sales. A larger inventory implies that the company has more stock to sell through, which, without a proportional increase in sales volume, will take longer to deplete.

A is incorrect. Suggesting that a very large inventory has no effect on the inventory turnover ratio overlooks the fundamental relationship between inventory levels and turnover. The inventory turnover ratio, calculated as the cost of goods sold divided by the average inventory, is a key metric in assessing how efficiently a company manages its stock. A very large inventory, unless matched by a significant increase in sales, typically leads to a lower turnover ratio.

B is incorrect. The assertion that a very large inventory leads to a decreased number of days of inventory contradicts the basic principles of inventory management. A very large inventory, without a corresponding increase in the cost of goods sold, results in an increased, not decreased, number of days of inventory. A decrease in the number of days of inventory typically indicates more efficient inventory management and faster sales, which is not the case when inventory levels are significantly high without an increase in sales volume.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.2625 Atletico Inc. is a Spanish logistics company considering taking measures to manage its working capital more effectively. However, due to a recent increase in interest rates, the banks are reluctant to lend money to Atletico's institutional clients, which is why Atletico's inventory is taking longer to sell. To speed up the sale of inventory, Atletico has decided to offer longer collection terms to its debtors.
Considering Atletico's measures, is the firm's liquidity position *most likely* weakened by 'drags' or 'pulls' on liquidity?

A. These measures signal 'drags' on liquidity.

B. These measures signal 'pulls' on liquidity.

C. These measures signal both 'drags' and 'pulls' on liquidity.

The correct answer is **A.**

A company's liquidity position is significantly affected by the timing of cash flows and cash disbursements.
Atletico's liquidity position is weakened by liquidity drags. Decreased cash receipts, especially after payments are made, lead to decreased availability of funds which causes a "drag on liquidity."
"Drags on liquidity" include;

- Delayed collection of accounts receivable.
- Bad debts.
- Tight credit terms.
- Obsolete inventory.

B is incorrect. A "pull on liquidity" occurs when disbursements are paid early; companies are forced to spend money before receiving it from sales which could cover their obligations.
"Pulls on liquidity" include;

- Making early payments.
- Reduced credit limits.
- Limits on short-time lines of credit.
- Low liquidity positions.

C is incorrect. The measure only signals a drag on liquidity and not a pull on liquidity.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital &

Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.3582 If a company has an inventory turnover ratio of 10, then the number of days of inventory for the company is *closest to*:

A. 36.50

B. 38.50

C. 40

The correct answer is **A.**

The number of days of inventory is a crucial metric for businesses as it indicates the average time it takes for a company to turn its inventory into sales. The formula to calculate the number of days of inventory is given by:

$$\begin{aligned}\text{Number of days of inventory} &= \frac{365}{\text{Turnover ratio}}\\ &= \frac{365}{10}\\ &= 36.50\end{aligned}$$

This calculation shows that it takes approximately 36.5 days for the company to sell through its inventory. This metric is essential for understanding the efficiency of a company's inventory management and its ability to convert inventory into sales within a given period.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.3583 AWAII Corp. follows the principle of Just-in-Time (JIT) inventory management to manage its inventory. As compared to comparable firms in the same industry that don't use Just-in-Time (JIT) inventory management systems, AWAII is *more likely* to have a:

A. Higher current ratio.

B. Lower current ratio.

C. The same current ratio.

The correct answer is **B.**

AWAII Corp.'s adoption of the Just-in-Time (JIT) inventory management system is designed to minimize inventory levels and reduce holding costs. The JIT system's efficiency lies in its ability to synchronize inventory procurement with production schedules and sales forecasts, thereby reducing unnecessary inventory accumulation.

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Given this, AWAII Corp. is more likely to have a lower current ratio compared to comparable firms that do not use JIT inventory management systems. The current ratio, calculated as Current assets divided by Current liabilities, is a liquidity ratio that measures a company's ability to pay short-term obligations.

A is incorrect. A higher current ratio would imply greater liquidity, typically associated with higher levels of current assets relative to current liabilities. However, JIT inventory management aims to reduce inventory levels, which in turn decreases current assets. Therefore, firms employing JIT are less likely to have a higher current ratio compared to their counterparts that maintain larger inventories.

C is incorrect. While it might seem intuitive to some that maintaining the same inventory management strategy as industry counterparts would result in similar financial ratios, the adoption of JIT fundamentally changes how a company manages its resources. JIT's focus on minimizing inventory contradicts traditional inventory management practices, leading to significant differences in current assets and, consequently, the current ratio.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.3586 PPL Bearing Limited is a company that manufactures ball bearings. A snapshot of the company's balance sheet accounts is given in exhibit 1.

Exhibit 1: Balance Sheet of PPL Bearing Limited
as of December 31, 2016

Account	Amount
Fixed Assets	\$1.70 million
Inventories	\$0.80 million
Long-term Investments	\$1.2 million
Short-term Investments	\$0.40 million
Accounts Receivable	\$0.40 million
Short-term Borrowings	\$1.00 million
Long-term Borrowings	\$2.00 million
Accounts Payable	\$0.50 million

Due to potential expansions, the company requires working capital funding. However, due to elevated debt levels, commercial banks are unwilling to provide additional funding to the firm. The most likely cheapest way to fund the company's liquidity requirement is:

A. By issuing fresh equity.

B. By issuing unsecured loans.

C. Through the assignment of accounts receivable.

The correct answer is C.

For PPL Bearing Limited, the most feasible and cost-effective method to fund its liquidity requirements, given its high debt levels and the reluctance of commercial banks to provide additional funding, is through the assignment of accounts receivable. This financial strategy involves the company using its accounts receivable as collateral to secure a loan.

The accounts receivable, which represent money owed by customers for goods or services delivered but not yet paid for, serve as a guarantee for the lender. This method is advantageous because it typically involves lower interest rates compared to unsecured loans, given the reduced risk for the lender due to the collateral.

A is incorrect. Issuing fresh equity as a means to fund working capital requirements is generally not the most cost-effective option, especially for a company already facing high debt levels. Issuing new equity involves diluting the ownership stakes of existing shareholders and can be a more expensive source of capital due to underwriting fees, legal costs, and other associated expenses of equity issuance.

B is incorrect. Opting for unsecured loans as a method to fund liquidity needs is typically more expensive than secured financing options like the assignment of accounts receivable. Unsecured loans do not require collateral, which presents a higher risk to lenders. To compensate for this increased risk, lenders charge higher interest rates on unsecured loans compared to secured loans. Given PPL Bearing Limited's

already elevated debt levels, it might find it challenging to obtain unsecured loans at favorable rates, making this option less attractive compared to using accounts receivable as collateral for funding.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c) describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.3956 If a company has an inventory turnover ratio of 8, and 90% of sales are on credit, then the number of days of inventory for the company is closest to:

A. 9 days.

B. 41 days.

C. 46 days.

The correct answer is **C.**

The formula to calculate the number of days of inventory is given by:

$$\text{Number of days of inventory} = \frac{365}{\text{Inventory Turnover Ratio}}$$

$$= \frac{365}{8} = 45.63 \approx 46\text{days}$$

The fact that 90% of sales are on credit does not affect the calculation. Sales on credit affect the number of days of receivables and not the number of days of inventory.

CFA Level I, Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS b: explain liquidity and compare issuers' liquidity levels.

Q.3957 Exhibit 1 shows some parameters of inventory management for three companies.

Exhibit 1: Inventory Management

	ASD Pvt. Limited	QWE Pvt. Limited	YYH Pvt. Limited
Number of Days in Inventory	60	50	40
Number of Days of Receivables	45	48	30

The firm *most likely* to have the highest current ratio is:

A. ASD Pvt. Limited.

B. QWE Pvt. Limited.

C. YYH Pvt. Limited.

The correct answer is **C.**

The table below furnishes the operating cycle of each company:

Company	Operating Cycle
ASD Pvt. Limited	$60 + 45 = 105$
QWE Pvt. Limited	$50 + 48 = 98$
YYH Pvt. Limited	$40 + 30 = 70$

A shorter operating cycle indicates that a company can convert its inventory into cash more quickly, implying a more efficient use of working capital and possibly a higher current ratio. On the other hand, a longer operating cycle suggests a greater need for liquidity to finance the cycle, potentially leading to a lower current ratio if the company needs to maintain higher levels of current liabilities to support its operations.

Given this understanding, YYH Pvt. Limited, with the shortest operating cycle (70 days), is more likely to have a higher current ratio. This implies efficient management of its inventory and receivables, which could result in a stronger liquidity position with lower relative levels of current liabilities.

Therefore, based on the provided data, YYH Pvt. Limited is *most likely* to have the highest current ratio among the three companies.

A is incorrect. ASD Pvt. Limited has the longest operating cycle of 105 days, indicating less efficient management of inventory and receivables compared to the other companies. This inefficiency suggests that ASD Pvt. Limited may need to maintain higher levels of current liabilities to finance its longer operating cycle, potentially leading to a lower current ratio.

B is incorrect. QWE Pvt. Limited has an operating cycle of 98 days, which is shorter than ASD Pvt. Limited but longer than YYH Pvt. Limited. While QWE Pvt. Limited may manage its inventory and receivables more efficiently than ASD Pvt. Limited, it still does not convert its assets into cash as quickly as YYH Pvt. Limited. This intermediate efficiency level suggests that QWE Pvt. Limited's liquidity position, while potentially stronger than ASD Pvt. Limited's, is not as strong as YYH Pvt. Limited's.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): explain liquidity and compare issuers' liquidity levels.

Q.3958 Thrift Store is a wholesaler that sells commodities like olive oil and wine to local shopping marts. Thrift Store maintains a receivable aging schedule to manage its accounts receivables. Using the information provided in the following aging schedule, determine what percentage of receivables were outstanding for 61 to 90 days in April.

Receivables Schedule

Days Outstanding	Apr-17	Average Collection Days
< 30 days	\$180,000	18
31 - 60 days	\$230,000	33
61 - 90 days	\$155,000	76
> 91 days	\$65,000	145

A. 89.68 %

B. 24.60%

C. 75.40%

The correct answer is **B.**

To determine the percentage of receivables that were outstanding for 61 to 90 days in April for Thrift Store, we need to analyze the given receivables aging schedule. The schedule provides the amounts of receivables that fall into various aging categories, including those that are less than 30 days old, those between 31 to 60 days, those between 61 to 90 days, and those that are more than 91 days old.

The amount of receivables outstanding for 61 to 90 days in April is \$155,000. To find the percentage of the total receivables this amount represents, we sum all the categories of receivables and then calculate the proportion that \$155,000 represents of this total.

The total receivables are calculated as follows:

$$\text{Total Receivables} = \$180,000 + \$230,000 + \$155,000 + \$65,000 = \$630,000$$

Therefore, the percentage of receivables outstanding for 61 to 90 days is calculated by dividing the amount for this category by the total receivables and then multiplying by 100 to get a percentage:

$$\frac{155,000}{630,000} \times 100 = 24.60\%$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.3959 A private company is facing issues to meet its short-term financing needs. As inflation has constantly been increasing and the central bank is expected to raise interest rates, the company's management is hesitant to take any decision. They have proposed three financing options to the board of the company to vote on. Which of the following will be the *least* costly financing option?

A. The company should issue an Initial Public Offering (IPO).

B. The company should borrow a short-term loan from a bank regardless of the expected rise in interest rates.

C. The company should sell some of its equipment to finance its short-term needs and buy back the equipment when required.

The correct answer is **B.**

Choosing to borrow a short-term loan from a bank, despite the expected rise in interest rates, is considered the least costly option for the company facing short-term financing needs. This decision is influenced by several factors, including the immediacy of obtaining funds, the flexibility of repayment, and the comparative costs associated with other financing options.

In a scenario where inflation is increasing, and there is an expectation of rising interest rates, securing a short-term loan locks in the current rates, which could be advantageous if rates continue to rise.

A is incorrect. Issuing an Initial Public Offering (IPO) is a significant and costly process that involves regulatory compliance, underwriting fees, and other associated costs. Furthermore, the process of going public is time-consuming, which may not align with the company's immediate financing needs. The decision to issue an IPO also exposes the company to market volatility and requires a commitment to transparency and ongoing disclosure that the company may not be prepared for.

C is incorrect. Selling some of the company's equipment to finance its short-term needs and planning to buy back the equipment later is fraught with risks and additional costs.

Firstly, selling assets can disrupt the company's operations and reduce its capacity to generate revenue.

Secondly, the assumption that the company can buy back the equipment when required may not hold true if the equipment becomes more expensive due to inflation or if it becomes unavailable in the market.

Therefore, selling assets as a means to finance short-term needs is more costly and less efficient compared to securing a short-term loan.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.3961 White Steel Co. is the market leader in the steel industry in Malaysia. White Steel has introduced many innovative products which have successfully penetrated the market time and time again. Compared to the industry, White Steel Co. has a shorter cash conversion cycle as shown in the following table:

	Steel Industry	White Steel Co.
Days of Inventory	55	39
Days of Receivables	93	111
Days of Payables	60	70
Operating Cycle	148	150
Cash Conversion Cycle	88	80

Which of the following is the most appropriate justification for White's shorter cash conversion cycle?

A. White Steel's inventory is obsolete.

B. White Steel has tighter terms with its debtors.

C. Whiter Steel's payment terms are unfavorable for its creditors.

The correct answer is **C.**

White Steel Co.'s shorter cash conversion cycle compared to the industry average can be attributed to its strategic management of payables. The formula for calculating the CCC is as follows:

$$\text{Cash Conversion Cycle} = \text{Days of Inventory} + \text{Days of Receivables} - \text{Days of Payables}$$

In the case of White Steel Co., the company has a higher number of days of payables (70 days) compared to the industry average (60 days). This indicates that White Steel takes longer to pay its suppliers than the industry average, effectively extending its cash outflow period. This strategic management of payables contributes to a shorter CCC by reducing the net time the company's cash is tied up in the production and sales process.

A is incorrect. White Steel has a shorter number of days of inventory (39 days) compared to the industry average (55 days), indicating that its inventory turns over more quickly. This is a sign of efficient inventory management and strong demand for its products, not obsolescence. Fast-moving inventory contributes positively to the cash conversion cycle by reducing the time cash is tied up in stock.

B is incorrect. White Steel has a higher number of days of receivables (111 days) compared to the industry average (93 days), indicating that it allows its customers more time to pay their invoices. This could be a strategic decision to accommodate key customers or to support sales, but it actually lengthens the cash conversion cycle by delaying cash inflows. Therefore, this option does not explain White Steel's shorter cash conversion cycle.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.3963 Olper's is a condensed milk distribution firm whose number of days of receivables, number of days of inventory, and number of days of payables are 110 days, 85 days, and 92 days respectively. Olper's operating cycle is *closest to*:

A. 195 days

B. 103 days.

C. 287 days.

The correct answer is **A.**

Recall that,

$$\text{Operating cycle} = \text{ Number of days of receivables} + \text{Number of days of inventory}$$

Therefore,

$$\text{Olper's operating cycle} = 110 + 85 = 195 \text{ days}$$

Note: We only include the number of days of payables when calculating the net operating cycle.

Net Operating Cycle=Number of days of inventory+Number of days of receivables - Number of da

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.3964 In financial analysis, what is the working capital?

A. Current assets.

B. Current liabilities.

C. Current assets minus current liabilities.

The correct answer is **C.**

Working capital is the capital of a business used in its daily trading operations.

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

A is incorrect. Current assets are a company's assets that are expected to be converted into cash within one year. They include cash, marketable securities, accounts receivables, inventories, and prepaid expenses.

B is incorrect. Current liabilities represent the amounts due to be paid to creditors within a year. They include accounts payable, short-term debt, accrued expenses, and dividends payable.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.3965 Pixels Corp. is a chip manufacturer whose current ratio is 1.3. If current liabilities are \$270 million, Pixels' working capital is *closest to*:

A. \$110 million.

B. \$81 million.

C. \$351 million.

The correct answer is **B.**

The current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year. It is calculated by dividing current assets by current liabilities. Given that Pixels Corp. has a current ratio of 1.3 and current liabilities of \$270 million, we can calculate its current assets and subsequently its working capital.

$$\text{Working capital} = \text{Current assets - Current liabilities}$$

First, we need to calculate current assets. Also, recall that:

$$\begin{aligned}\text{Current ratio} &= 1.3 = \frac{\text{Current assets}}{\$270 \text{ million}}\\ \text{Current assets} &= 1.3 \times \$270 \text{ million}\\ &= \$351 \text{ million}\end{aligned}$$

Working capital is defined as the difference between a company's current assets and current liabilities. Therefore, Pixels Corp.'s working capital can be calculated as follows:

$$\text{Working capital} = \$351 \text{ million} - \$270 \text{ million} = \$81 \text{ million}$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.4040 Sydney Cavaliers' 7% semi-annual coupon 5-year note, with a face value of $100, is trading at $96.7. If its marginal tax rate is 40%, then the company's after-tax cost of debt capital is *closest to*:

A. 2.34%

B. 4.20%

C. 4.70%

The correct answer is **C.**

First, we must calculate the yield-to-maturity on outstanding notes using the financial calculator, as shown below.

$\text{FV} = 100,\ \text{PV} = -96.7\ \text{PMT} = \frac{7}{2} \times 100 = 3.5,\ \text{N} = 5 \times 2 = 10.$

Then press "CPT" "1/Y" to get 1/Y as 3.9%

Annualizing the 3.9%:

$$3.9\% \times 2 = 7.8\%$$

Therefore, the after-tax cost of debt is:

$$7.8 \times (1 - 0.4) = 4.7\%$$

7.8 × (1 − 0.4) = 4.7%

A is incorrect. 2.34% has been incorrectly obtained by failing to annualize the semi-annual yield. The 3.9% should be annualized before calculating the after-tax cost of debt.

B is incorrect. 4.20% has been incorrectly obtained by assuming that the semi-annual coupon is the before tax of debt. The coupon yield is used to calculate the coupon payments. We have to first calculate the bond's yield before calculating its after-tax cost of debt.

CFA Level I, Topic 7 - Fixed Income, Learning Module 1: Fixed-Income Instrument Features, LOS (a): Describe the features of a fixed-income security.

Q.4108 Which of the following ratios *most likely* measure how well key current assets and working capital are managed over time?

A. Cash ratios

B. Current ratios

C. Account receivable turnover

The correct answer is **C.**

The accounts receivables turnover is an activity ratio that measures how effective a company is in extending and collecting debts. A higher number indicates high efficiency. It is calculated as:

$$\text{Accounts Receivable Turnover} = \frac{\text{Credit Sales}}{\text{Average Receivables}}$$

A is incorrect. Cash ratio is a liquidity ratio. Liquidity ratio measures a company's ability to meet short-term obligations to creditors as they mature or come due. It is calculated as:

$$\text{Cash Ratio} = \frac{\text{Cash + Short-Term Marketable Instruments}}{\text{Current Liabilities}}$$

B is incorrect. The current ratio is also a liquidity ratio. Other liquidity ratios include quick ratios and cash ratios. The current ratio is calculated as:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.4109 Which of the following is *least likely* an internal financing method?

A. Factoring arrangements.

B. Converting liquid assets to cash.

C. Increasing work capital efficiency.

The correct answer is **A.**

Factoring arrangements are considered an external financing method because it involves a financial transaction with an entity outside the company. In factoring, a business sells its accounts receivable to a third party, known as a factor, at a discount. The factor then assumes the risk of collecting the receivables. This process provides the company with immediate cash, which can be crucial for managing cash flow or investing in new opportunities.

However, since this involves selling company assets (in this case, receivables) to an external party to generate funds, it is classified as external financing. Factoring is often used by companies that need immediate liquidity or those that do not qualify for traditional bank loans.

B is incorrect. Converting liquid assets to cash is indeed an internal financing method. This strategy involves utilizing the company's existing resources to generate funds. Liquid assets, such as marketable securities or inventory, can be quickly sold to meet financial needs without requiring external financing.

C is incorrect. Increasing working capital efficiency is another form of internal financing. This method focuses on optimizing the company's current assets and liabilities to free up cash. Strategies may include speeding up the collection of receivables, extending payment terms with suppliers, or managing inventory more effectively..

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.4110 Which of the following is *least likely* an example of external financing from capital markets?

A. Trade credit

B. Common equity

C. Commercial paper

The correct answer is **A.**

It is a type of credit extended by one business to another for the purchase of goods and services, allowing the buying business to pay the supplier at a later date. This arrangement is typically based on mutual trust and the longstanding relationships between the businesses involved. Trade credit is considered an internal financing mechanism because it is an extension of credit from one business to another within the supply chain, rather than involving the acquisition of funds from external investors or financial institutions.

B is incorrect. Common equity is an example of external financing from capital markets. When a company issues common stock, it is inviting external investors to provide capital in exchange for ownership stakes in the company. This process involves raising funds from the public or private equity markets, making it a clear case of external financing.

C is incorrect. Commercial paper is a form of external financing that involves capital markets. It is a short-term, unsecured debt instrument issued by corporations to finance their immediate operational needs, such as inventory purchases or payroll. Commercial paper is sold to investors, typically institutional investors, in the capital markets. The funds raised through the issuance of commercial paper provide the issuing company with external capital that can be used for short-term financial needs.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.4111 Which of the following working capital management approaches *most likely* involves holding large positions in cash, receivables, and inventories relative to sales?

A. Moderate approach

B. Aggressive approach

C. Conservative approach

The correct answer is **C.**

The conservative working capital management approach involves holding large positions in cash, receivables, and inventories relative to sales. This strategy is characterized by a preference for safety and liquidity over higher returns that could be achieved through more aggressive investment strategies. Companies adopting a conservative approach prioritize having sufficient resources on hand to meet any unforeseen demands or emergencies, thereby reducing the risk of financial distress.

This approach is particularly suitable for businesses operating in volatile markets or those that experience significant fluctuations in demand. By maintaining a larger buffer of current assets, these companies can ensure they continue operations smoothly without the need for urgent financing, which might come at a higher cost or with unfavorable terms.

A is incorrect. The moderate approach to working capital management strikes a balance between the conservative and aggressive approaches. Firms adopting this strategy aim to maintain a level of current assets that is sufficient to meet their operational needs without holding excessive amounts that could otherwise be invested for higher returns.

This approach seeks to optimize the trade-off between liquidity and profitability, ensuring that the company has enough resources to cover short-term obligations while not missing out on investment opportunities that could enhance shareholder value. The moderate approach does not involve holding large positions in cash, receivables, and inventories relative to sales, as suggested by the conservative approach.

B is incorrect. The aggressive approach to working capital management involves minimizing the investment in current assets relative to sales. Companies adopting this strategy aim to maximize their returns on investment by keeping their cash, receivables, and inventories as low as possible.

This approach carries a higher risk as it leaves the company with less financial flexibility to respond to unexpected challenges or opportunities. Firms using an aggressive strategy may experience higher returns in the short term but are also more vulnerable to liquidity crises. It contrasts sharply with the conservative strategy, which emphasizes safety and liquidity by holding larger positions in current assets.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity, LOS (c): Describe issuers' objectives and compare methods for managing working capital and liquidity.

Q.4112 Which of the following is *most likely* a secondary source of liquidity?

A. Short term funds.

B. Liquidating assets.

C. Cash management.

The correct answer is **B.**

Liquidating assets is considered a secondary source of liquidity because it involves converting non-cash assets into cash outside of the normal operations of the business. This process can include selling off equipment, real estate, or inventory to meet liquidity needs. Secondary sources of liquidity are typically utilized when primary sources, such as operating cash flows or existing cash reserves, are insufficient to meet immediate financial obligations.

A is incorrect. Short-term funds, such as cash, marketable securities, and revolving credit facilities, are considered primary sources of liquidity. These are the first resources a company turns to in order to meet its immediate financial obligations. Primary sources of liquidity are part of the normal, day-to-day financial management of a company and are designed to be readily available to cover short-term needs without disrupting the ongoing operations of the business.

C is incorrect. Cash management refers to the strategies and practices a company employs to optimize its handling of cash inflows and outflows. Effective cash management ensures that a company maintains adequate liquidity to meet its short-term obligations, while also maximizing the return on any excess cash through investments in short-term securities. Cash management includes activities such as managing receivables and payables, optimizing cash conversion cycles, and maintaining appropriate levels of cash reserves.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.4113 Which of the following is *most likely* a pull-on liquidity?

A. Tight credit.

B. Low liquidity positions.

C. Uncollected receivables.

The correct answer is **B.**

Low liquidity positions are a significant factor that can lead to a pull-on liquidity situation. A pull-on liquidity occurs when a company experiences cash outflows that exceed the inflow of cash, often due to aggressive working capital management strategies.

This situation can arise when a company spends cash more quickly than it receives funds from sales, leading to a depletion of available cash reserves. Low liquidity positions indicate that a company has a limited amount of cash on hand, making it more susceptible to cash flow pressures and potentially compromising its ability to meet short-term obligations.

A is incorrect. Tight credit refers to a situation where borrowing becomes more difficult or expensive, often due to stricter lending criteria or higher interest rates imposed by lenders. While tight credit can indeed impact a company's liquidity by making it harder to obtain financing, it is more accurately described as a drag on liquidity rather than a pull-on liquidity.

A drag on liquidity occurs when there is a delay or reduction in cash inflows, which can strain a company's financial resources. Tight credit conditions can lead to such a drag by limiting a company's access to external funds, but it does not directly cause cash to be paid out more quickly than it is received.

C is incorrect. Uncollected receivables represent money owed to a company by its customers for goods or services that have been delivered but not yet paid for. While uncollected receivables can indeed affect a company's liquidity by delaying cash inflows, they are more accurately classified as a drag on liquidity. The delay in converting sales into cash can strain a company's financial resources, especially if the receivables are not collected within the expected timeframe.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 4: Working Capital & Liquidity. LOS (b): Explain liquidity and compare issuers' liquidity levels.

Q.142 China Gold Corp is planning to open a project. The cost to build the new mine is $1.3 million (paid at the end of the first year), and the mine should bring cash inflows of $400,000 over the next six years (years 2 to 7). The cost to close down the mine over the following year (year 8) will be $250,000.
The minimum price for this property, assuming that China Gold Corp wishes to sell it now, given a 15% required rate of return, is *closest to*:

A. $104,181.59

B. $119,808.82

C. $1,432,892.25

The correct answer is **A.**

To determine the minimum price for the property that China Gold Corp wishes to sell now, given a 15% required rate of return, we need to calculate the Net Present Value (NPV) of the cash flows associated with the project. The NPV is a method used in capital budgeting to analyze the profitability of an investment or project. It is calculated by summing the present values of incoming and outgoing cash flows over a period of time.

$$
\begin{aligned}
\text{Years 0 } &= \$0\\
\text{Year 1} &= -1,300,000 \times 1.15^{-1}\\
&= -1,130,434.78\\
\text{Year 2} &= 400,000 \times 1.15^{-2}\\
&= 302,457.47\\
\text{Year 3} &= 400,000 \times 1.15^{-3}\\
&= 263,006.49\\
\text{Year 4} &= 400,000 \times 1.15^{-4}\\
&= 228,701.30\\
\text{Year 5} &= 400,000 \times 1.15^{-5}\\
&= 198,870.69\\
\text{Year 6} &= 400,000 \times 1.15^{-6}\\
&= 172,931.04\\
\text{Year 7} &= 400,000 * 1.15^{-7}\\
&= 150,374.82\\
\text{Year 8} &= -250,000 \times 1.15^{-8}\\
&= -81,725.44\\
\text{Total} &= \$104,181.59
\end{aligned}
$$

We can obtain the above answer by using the "CF" function of the financial calculator as outlined below.

$$
\begin{aligned}
&CF0 = 0,\\
&C01 = -1,300,000,\\
&F01 = 1,\\
&C02 = 400,000,\\
&F02 = 1,\\
&C03 = 400,000,\\
&F03 = 1,\\
&C04 = 400,000,\\
&F04 = 1,\\
&C05 = 400,000,\\
&F05 = 1,\\
&C06 = 400,000,\\
&F06 = 1,\\
&C07 = 400,000,\\
&F01 = 1,\\
&C08 = -250,000,\\
&F01 = 1
\end{aligned}
$$

Then press "CPT" "NPV" and input I as 15, then press "CPT" to get the NPV as 104,181.59
(Press ENTER after every value and use the arrows to navigate between values)
A shorter way of doing this on the financial calculator is as shown below.

$$
\begin{aligned}
&CF0 = 0\\
&C01 = -1,300,000\\
&C02 = 400,000\\
&F01 = 6,\\
&C02 = -250,000,\\
&F02 = 1
\end{aligned}
$$

Then press "CPT" "NPV" and input "I" as 15, then press "CPT" to get the NPV as 104,181.59

Note: The above financial calculator shortcut is used when the yearly payments are similar. For instance, in this case, there were to be six cash flows of $400,000 each. The "F01=6" takes care of the six payments.

B is incorrect. B is obtained by assuming that the first cash flow will be paid at year 0, i.e., (CF0=-1,300,000, C01=400,000, F01=6, CO2=-250,000), which is incorrect as the question clearly states that the first cash flow will be paid at the end of the first year.

C is incorrect. C ignores the last cash flow and considers the cashflows only up to year 7.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.143 A project has the following cash flows:
Year 0: -$180,000
Year 1: $30,000
Year 2: $30,000
Year 3: $30,000
Year 4: $140,000

The project's IRR is *closest to:*

A. 8.04%

B. 12.02%

C. 24.76%

The correct answer is **A.**

The Internal Rate of Return (IRR) is a financial metric used to evaluate the profitability of potential investments. It is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero. The IRR can be considered as the break-even interest rate from the investment perspective, beyond which an investment starts generating profit.

Using the financial calculator:

CF0= -180,000, C01= 30,000; F01 = 3; C02= 140,000>>IRR>>CPT = 8.04%

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.205 A project with an initial outlay of GBP 10,000 has the following annual cash flows over three years: GBP 6,000, GBP 5,000, and GBP 3,000. If the discount rate is 5%, the NPV of the project is *closest to*:

A. GBP 2,841

B. GBP 4,850

C. GBP 12,841

The correct answer is **A.**

To calculate the Net Present Value (NPV) of a project, we discount all future cash flows back to their present value and subtract the initial investment. The formula for NPV is given by:

$$NPV = -C_0 + \sum_{t=1}^{n} \frac{C_t}{(1+r)^t}$$

Where:

- C0 is the initial investment,
- Ct is the cash flow at time t,
- r is the discount rate, and
- n is the number of periods.

Given the initial outlay of GBP 10,000, annual cash flows of GBP 6,000, GBP 5,000, and GBP 3,000 over three years, and a discount rate of 5%, we can calculate the NPV as follows:

$$NPV = -10,000 + \frac{6,000}{(1+0.05)^1} + \frac{5,000}{(1+0.05)^2} + \frac{3,000}{(1+0.05)^3}$$

Calculating each term:

$$\frac{6,000}{1.05} = 5,714.29$$

$$\frac{5,000}{1.05^2} = 4,535.15$$

$$\frac{3,000}{1.05^3} = 2,591.47$$

Summing these values and subtracting the initial investment:

$$NPV = -10,000 + 5,714.29 + 4,535.15 + 2,591.47 = 2,840.91$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.206 A company plans to invest USD 4.5 million in a project. The project is expected to produce incremental net cash flows of USD 750,000 per year in perpetuity. If the company's opportunity cost of capital is 11%, then the net present value (NPV) of the project is *closest to*:

A. USD 2,181,818.20.

B. USD 2,318,181.80.

C. USD 6,818,181.80.

The correct answer is **B.**

To calculate the Net Present Value (NPV) of a project, we use the formula:

$$NPV = \text{Initial Investment} + \frac{\text{Annual Cash Flow}}{\text{Discount Rate}}$$

Using the financial calculator:

CF=750,000; r=11%=0.11; CF0=-4,500,000

$$\begin{aligned} \text{NPV} &= \text{CF0} + \frac{\text{CF}}{\text{r}} \\ &= -4,500,000 + \frac{750,000}{0.11} \\ &= 2,318,181.80 \end{aligned}$$

Alternatively, we can use the financial calculator to arrive at the same answer

[CF0= -4.5, CF1= 0.75, F01= 1,000]

Then press “CPT” “NPV” and input I as 11. Then press “CPT” to get the NPV as 2.318181818 million (2,318,181.8)

Note: To determine the NPV of a cash flow in perpetuity, F01=1,000.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.209 An investment's initial outlay is USD 1.7 million. The investment will give cash flows of USD 230,000 per year in perpetuity. The project's IRR is *closest to*:

A. 7.4%.

B. 13.5%.

C. 35%.

The correct answer is **B.**

To determine the Internal Rate of Return (IRR) for an investment, we must understand the concept of IRR itself. The IRR is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero.

In simpler terms, it's the rate of return at which the investment breaks even considering the time value of money. For an investment with an initial outlay and perpetual cash flows, the formula to calculate IRR simplifies to:

$$\text{IRR} = \frac{\text{Annual Cash Flow}}{\text{Initial Investment}}$$

Given the initial investment (CF0) is USD 1.7 million and the annual cash flow (CF) is USD 230,000, the IRR can be calculated as follows:

$$\text{IRR} = \frac{230,000}{1,700,000} = 0.135 \text{ or } 13.5\%$$

Understanding the IRR is crucial for investors as it helps in comparing the profitability of different investments, taking into account the time value of money. In this case, the IRR of 13.5% provides a realistic measure of the investment's potential return, considering the initial outlay and the expected perpetual cash flows.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.211 A company plans to invest $7.7 million in a project, which will provide cash flows of $1.5 million per year in each of the next six years. The company's opportunity cost of capital is 9%. The project's NPV is most likely?

A. -$971,122.10

B. $971,122.10

C. $7,004,587.16

The correct answer is **A.**

To calculate the Net Present Value (NPV) of the project, we need to consider both the initial investment and the present value of the expected cash flows. The NPV is calculated using the formula:

$$NPV = -\text{Initial Investment} + \sum_{t=1}^{n} \frac{\text{Cash Flow}_t}{(1+r)^t}$$

Where:

- Initial Investment is the upfront cost of the project, which is $7.7 million in this case.
- Cash Flowt is the cash inflow at time t, which is $1.5 million per year for 6 years.
- r is the discount rate or the opportunity cost of capital, which is 9%.
- n is the number of periods, which is 6 years.

Given these values, the NPV can be calculated as follows:

$$NPV = -7,700,000 + \frac{1,500,000}{(1+0.09)^1} + \frac{1,500,000}{(1+0.09)^2} + \frac{1,500,000}{(1+0.09)^3} + \frac{1,500,000}{(1+0.09)^4} + \frac{1,500,000}{(1+0.09)^5} + \frac{1,500,000}{(1+0.09)^6}$$

After calculating the present value of each cash flow and summing them up, the NPV is found to be approximately -$971,122.10. This indicates that the project is expected to result in a net loss when considering the time value of money at a 9% discount rate.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.213 XYZ Company paid USD 6.7 million in an investment project. It is expected to generate cash flows of USD 2.6 million per year in each of the next 3 years. The project's IRR is *closest to*:

A. 6%

B. 8%

C. 12%

The correct answer is **B.**

To determine the Internal Rate of Return (IRR) for XYZ Company's investment project, we must find the discount rate that makes the net present value (NPV) of the cash flows equal to zero. The IRR is a critical measure in capital budgeting that helps in evaluating the profitability of a potential investment. The formula for NPV is given by:

$$NPV = -\text{Initial Investment} + \sum_{t=1}^{n} \frac{\text{Cash Flow}_t}{(1+\text{IRR})^t}$$

For XYZ Company, the initial investment is USD 6.7 million, and it expects to generate cash flows of USD 2.6 million per year for the next 3 years. Substituting these values into the NPV formula and setting NPV to zero gives us:

$$0 = -6,700,000 + \frac{2,600,000}{(1+\text{IRR})} + \frac{2,600,000}{(1+\text{IRR})^2} + \frac{2,600,000}{(1+\text{IRR})^3}$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.215 You are planning to invest $3.5 million in a certain project. Incremental net cash flows are expected to be $350,000 per year in perpetuity. The project's NPV, given a discount rate of 7%, is *most likely*:?

A. $1,500,000

B. $2,000,000

C. $5,000,000

The correct answer is **A.**

To calculate the Net Present Value (NPV) of an investment, we use the formula:

$$\text{NPV} = \text{CF}_0 + \frac{\text{CF}}{\text{r}}$$

where CF0 is the initial cash flow (negative for investments), CF is the annual incremental net cash flow, and r is the discount rate. In this case, the initial investment (CF0) is -$3,500,000, the annual incremental net cash flow (CF) is $350,000, and the discount rate (r) is 7% or 0.07.

Substituting these values into the formula gives:

$$\text{NPV} = -3,500,000 + \frac{350,000}{0.07} = 1,500,000$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.218 You invested USD 13.5 million, and you expect to get yearly cash flows of USD 1.8 million in perpetuity from the investment. The internal rate of return of the investment is *closest to*:

A. 7.5%.

B. 13.3%.

C. 34%.

The correct answer is **B.**

To determine the internal rate of return (IRR) for an investment, we use the formula for the present value of a perpetuity. The IRR is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero. In this case, the investment is USD 13.5 million, and the yearly cash flows are USD 1.8 million in perpetuity.

The formula for the present value of a perpetuity is given by:

$$\text{PV} = \frac{\text{CF}}{\text{IRR}}$$

Where PV is the present value of the investment, CF is the annual cash flow, and IRR is the internal rate of return. Rearranging the formula to solve for IRR gives:

$$\text{IRR} = \frac{\text{CF}}{\text{PV}}$$

Substituting the given values:

$$\text{IRR} = \frac{1,800,000}{13,500,000} = 0.133 \text{ or } 13.3\%$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.593 Which of the following is *least likely* a type of flexibility options?

A. Growth option.

B. Price-setting option.

C. Production-flexibility options.

The correct answer is **A.**

A growth option is a type of sizing option that allows a company to make additional investments when future financial results are strong. It is also known as an expansion option.

B is incorrect. The price setting option is a type of flexibility option that allows management to increase prices that could benefit from the excess demand, which it cannot do by increasing production.

C is incorrect. Production-flexibility options are a type of flexibility option that allows companies the operational flexibility to alter production when demand varies from what is forecast.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (d): Describe types of real options relevant to capital investments.

Q.594 Which of the following is *least likely* a step in the capital allocation process?

A. Investment analysis.

B. Cash-flow based decisions.

C. Monitoring and post-audit.

The correct answer is **B.**

Cash-flow-based decisions are not a distinct step in the capital allocation process. These steps include:

- identifying investment opportunities,
- investment analysis,
- decision-making, and
- monitoring and post-audit of investments.

A is incorrect. Investment analysis is indeed a core component of the capital allocation process. This step involves a detailed examination of potential investments, including the assessment of risks, expected returns, and alignment with strategic objectives.

C is incorrect. Monitoring and post-audit represent critical steps in the capital allocation process, focusing on the oversight and evaluation of investment performance after the allocation of resources. The monitoring and post-audit process is essential for ensuring that investments are delivering the anticipated benefits and for learning from the outcomes to improve future capital allocation decisions.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.595 Which of the following capital allocation steps *most likely* involves scheduling and prioritizing of capital investments and organizing proposals that best fit a company's strategy?

A. Investment analysis

B. Monitoring and post-audit

C. Capital allocation planning

The correct answer is **C.**

Capital allocation planning is a crucial step in the capital allocation process, primarily focusing on scheduling, prioritizing capital investments, and organizing proposals that align closely with a company's strategic goals. This step is essential for ensuring that the company's financial resources are allocated in a manner that maximizes returns while adhering to the strategic objectives.

A is incorrect. Investment analysis, while a critical component of the capital allocation process, serves a different purpose. It is primarily concerned with evaluating the financial viability and potential returns of investment opportunities. This step involves detailed financial modeling, risk assessment, and forecasting to estimate the expected cash flows and profitability of potential investments.

B is incorrect. Monitoring and post-audit processes occur after the investment decisions have been made and implemented. This step is crucial for assessing the performance of investments against the expected outcomes and identifying any deviations from the planned results. It involves a systematic review of the actual outcomes of investments, comparing them with the forecasted results, and analyzing the reasons for any discrepancies. This process helps in understanding the effectiveness of the investment decisions and the accuracy of the initial analysis and forecasts.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.599 BestMilk Company is considering a project that calls for an initial cash outlay of $40,000. If the expected net cash inflows from the project are $6,139 for each of the nine years, then the IRR of the project is *closest to*:

A. 7%.

B. 8%.

C. 9%.

The correct answer is **A.**

The Internal Rate of Return (IRR) is a financial metric used to evaluate the profitability of potential investments. It is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero.

The IRR for BestMilk Company's project can be calculated by setting the present value of the expected net cash inflows equal to the initial cash outlay and solving for the interest rate.

The equation for the present value of an annuity is given by:

$$PV = PMT \times \frac{1-(1+r)^{-n}}{r}$$

Where:

- PV is the present value (initial investment),
- PMT is the annual cash inflow,
- r is the interest rate (or IRR in this case), and
- n is the number of periods.

Given that the initial investment (PV) is $40,000, the annual cash inflow (PMT) is $6,139, and the number of periods (n) is 9 years, we can rearrange the formula to solve for r, the IRR. Using financial calculators or software, we find that the IRR that satisfies this equation is closest to 7%.

The IRR of approximately 7% means that the project's return is expected to average 7% annually, making it an attractive option if the company's required rate of return is below this threshold.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.601 A project has the following expected cash flows:
Year 0: -20,000
Year 1: 9,000
Year 2: 8,000
Year 3: 5,000
Year 4: 12,000

If the project's required rate of return is 12%, the NPV is *closest to*:

A. -11,543

B. 4,073

C. 5,598

The correct answer is **C.**

To determine the Net Present Value (NPV) of a project, we discount its expected cash flows back to their present value using the project's required rate of return. The formula for calculating NPV is:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

Where:

- CFt is the cash flow at time t.
- r is the required rate of return.
- n is the number of periods.

Given the project's cash flows and a required rate of return of 12%, we can calculate the NPV as follows:

$$NPV = -\frac{20{,}000}{(1+0.12)^0} + \frac{9,000}{(1+0.12)^1} + \frac{8,000}{(1+0.12)^2} + \frac{5,000}{(1+0.12)^3} + \frac{12,000}{(1+0.12)^4} = 5{,}598$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.607 Bike company purchased equipment that has a useful life of 7 years. The yearly net cash inflow is $20,000. Its salvage value is zero, and the rate of return is 20%. The cost of the equipment is *most likely*? Please note: The asset is acquired at the NPV of the equipment.

A. $28,000

B. $72,100

C. $140,000

The correct answer is **B.**

The asset is acquired at the equipment's NPV. Therefore, the PV of the cash outflow is equal to the NPV of the equipment.

PV of outgo = PV of income

$$\text{PV of outgo} = \frac{20,000}{1.2} + \frac{20,000}{1.2^2} + \ldots + \frac{20,000}{1.2^7}$$

Notice that the right-hand side (RHS) is a 7-year annuity with regular payments of 20,000.

Thus, we can use the formula for the PV of an annuity to get the solution to the RHS, instead of adding up the values manually:

$$\begin{aligned} \text{PV of outgo} &= 20,000 \times \frac{[1 - 1.2^{-7}]}{0.2} \\ &= 20,0000 \times 3.605 \\ &= 72,100 \end{aligned}$$

Alternatively, we could use the financial calculator to arrive at the above answer.

Key in "20,000" then "PMT" – 20,000 is the yearly payment made.

Then key in "20" then "1/Y."

Then key in "7" then "N."

Then click on "CPT" then "PV" to get the PV as 72,091.84 (72,100 when rounded off to the nearest hundreds)

A is incorrect. A has been incorrectly obtained by taking 20% of the cash inflows multiplied by the useful life of the equipment.

C is incorrect. C has been incorrectly obtained by directly multiplying the cash inflows (in place of discounting them at the required rate of return) by the useful life.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net

present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1679 Which of the following projects is *most likely* an example of a regulatory, safety, and environmental project?

A. Launching a new product line for remote villages of Spain.

B. Replacing delivery trucks for more oil-efficient new vehicles.

C. Installing trees along a plastic manufacturing facility to reduce pollution following the enactment of a new law.

The correct answer is **C.**

Capital investments/capital projects are investments with a life of one year or longer made by corporate issuers. These investments are made to generate value for their stakeholders by returning long-term benefits, and future cash flows greater than the funding costs.

Capital investments can be classified into four types of projects:

1. **Regulatory/compliance projects** – Undertaken due to a requirement by the government, regulatory agency, insurance company, or some other external party. These projects may generate no revenue for the
2. **Expansion projects** – Expansion projects increase the size of the activities of a business and, ultimately the size of the
3. **Going concern projects** – Occurs when companies replace old, worn-out, or broken equipment with newer, more efficient equipment so as to maintain existing size.
4. **Other projects** – Projects that fall under this category do not fall under either of the above Such projects are not subject to the usual capital budgeting analysis and are pet projects of someone in the company or are risky projects whose profitability is difficult to analyze using the usual methods.

Installing trees along a plastic manufacturing facility to reduce pollution following a new law is an example of a regulatory/compliance project. The project may not benefit the facility, but the facility must do so as required by a third party, in this case, the government, through the enactment of the new law.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.1681 Which of the following is *most likely* the name of the effect that affects other firms' cash flows with the acceptance of a project?

A. Sunk costs.

B. Externalities.

C. Cannibalization.

The correct answer is **B.**

Externalities refer to the costs or benefits that affect a party who did not choose to incur that cost or benefit. These can be both positive, such as when a company's project improves the local infrastructure benefiting other businesses, or negative, such as when a project leads to increased pollution that affects nearby businesses.

A is incorrect. They remain the same regardless of the outcome of any future events. In the context of project evaluation, focusing on sunk costs can lead to suboptimal decision-making, as it may distract from evaluating a project's future potential and external impacts. Therefore, while sunk costs are an important financial concept, they do not directly affect other firms' cash flows with the acceptance of a project.

C is incorrect. Cannibalization refers to the reduction in sales volume, revenue, or market share of one product as a result of the introduction of a new product by the same company. While cannibalization is a specific type of negative externality, it primarily affects the company introducing the new product rather than other firms.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.1684 Mehmet Khali is a project analyst at Excel Investments. He is analyzing two independent projects - Project A and Project Z. Both projects have positive net cash flows but the cash flows of Project A is greater than the cash flows of Project Z. Which project should Khali accept?

A. Project Z.

B. Project A.

C. Project A and Z.

The correct answer is **C.**

When analyzing independent projects, the decision to accept or reject a project is based on whether the project adds value to the firm, typically assessed through metrics like Net Present Value (NPV). In the case of Mehmet Khali analyzing Project A and Project Z, both projects have positive net cash flows, indicating that they are expected to add value to Excel Investments. Since these projects are independent, their evaluation and acceptance are not contingent upon each other. Therefore, Khali can accept both projects as they both contribute positively to the firm's value.

A is incorrect. Choosing Project Z alone overlooks the value that Project A can also bring to the firm. While Project Z may have positive net cash flows and thus be a viable project, the question does not suggest any constraints such as limited capital that would force Khali to choose between the two. In the absence of such constraints, rejecting a project with positive net cash flows (like Project A) without a compelling reason would not align with the goal of maximizing shareholder value.

B is incorrect. Project A has greater cash flows would not be a rational decision if both projects contribute positively to the firm's overall value.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.1686 Khalifa Fahami is a project analyst at New Dawn Ventures. She has been tasked to calculate the net present value (NPV) of a mini-mart project. The projected cash flows are given in the following table:

Year	Cash Flows
0	-550,000
1	40,000
2	70,000
3	110,000
4	230,000
5	310,000

If the required rate of return is 10%, the net present value (NPV) of the mini-mart project is *closest to*:

A. -23,562

B. 23,562

C. 526,438

The correct answer is **A.**

To calculate the Net Present Value (NPV) of the mini-mart project, we need to discount the projected cash flows back to their present value at the required rate of return of 10% and then subtract the initial investment. The formula for NPV is given by:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

Where:

- CFt is the cash flow at time t.
- r is the required rate of return.
- t is the time period.

Applying the given cash flows and the required rate of return, we calculate the NPV as follows:

$$NPV = -\frac{550,000}{(1+0.10)^0} + \frac{40,000}{(1+0.10)^1} + \frac{70,000}{(1+0.10)^2} + \frac{110,000}{(1+0.10)^3} + \frac{230,000}{(1+0.10)^4} + \frac{310,000}{(1+0.10)^5}$$

After performing the calculations, the NPV is found to be approximately -23,562.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1687 Project Red and Project Blue are two mutually exclusive projects whose projected cash flows are given in the following table:

Year	Project Red	Project Blue
0	$-800,000$	$-800,000$
1	$600,000$	$60,000$
2	$300,000$	$300,000$
3	$60,000$	$600,000$

Using a required rate of return of 8% on both projects, the project(s) that will *most likely* increase value is/are:

A. Project Red.

B. Project Blue.

C. Project Red and Project Blue.

The correct answer is **A.**

To determine which project between Project Red and Project Blue will most likely increase value, we calculate the Net Present Value (NPV) of each project using a required rate of return of 8%. A positive NPV indicates that the projected earnings generated by a project or investment exceeds the anticipated costs. Conversely, a negative NPV indicates that the project's costs outweigh its benefits. The NPV formula is given by:

$$NPV = \sum_{t=0}^{n} \frac{C_t}{(1+r)^t}$$

Where:

- Ct is the net cash inflow during the period t,
- r is the discount rate, and
- n is the number of periods.

For Project Red, the NPV calculation using a discount rate of 8% is as follows:

$$NPV_{Red} = -\frac{800,000}{(1+0.08)^0} + \frac{600,000}{(1+0.08)^1} + \frac{300,000}{(1+0.08)^2} + \frac{60,000}{(1+0.08)^3} = 60,387$$

For Project Blue, the NPV calculation using a discount rate of 8% is as follows:

$$NPV_{Blue} = -\frac{800,000}{(1+0.08)^0} + \frac{60,000}{(1+0.08)^1} + \frac{300,000}{(1+0.08)^2} + \frac{600,000}{(1+0.08)^3} = -10,943$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1689 Anna Smith is a project coordinator at Syrum Corps. She is analyzing two mutually exclusive projects: Project C and Project S. Both projects have positive net cash flows, but the net cash flows of Project S are greater than the cash flows of Project C. Smith should *most likely* accept which project?

A. Project S.

B. Project C.

C. Both projects S and C

The correct answer is **A.**

When analyzing mutually exclusive projects, the decision criterion often involves comparing key financial metrics such as Net Present Value (NPV), Internal Rate of Return (IRR), or net cash flows. In the case of Anna Smith analyzing Project C and Project S, the fact that both projects have positive net cash flows is an initial indicator of their potential viability. However, since Project S has greater net cash flows than Project C, it suggests that Project S is likely to contribute more significantly to the firm's value over the project's lifespan.

This is a crucial consideration in capital budgeting decisions where the objective is to maximize shareholder wealth. Therefore, given that the projects are mutually exclusive, meaning only one of the projects can be chosen, Project S should be selected as it presents a higher potential for profitability and value addition to the company.

B is incorrect. In the context of mutually exclusive projects, the primary goal is to select the project that maximizes the firm's value, which is typically represented by the project with higher net cash flows, NPV, or other profitability metrics. Choosing a project with lower net cash flows over one with higher net cash flows would not align with the objective of maximizing shareholder wealth, making this option an incorrect choice.

C is incorrect. By definition, mutually exclusive projects mean that the acceptance of one project precludes the acceptance of the other. This is a critical distinction from independent projects, where each project's acceptance decision is made without regard to the other projects. In this scenario, since only one project can be chosen, the option to accept both projects is not viable, making this choice incorrect.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.1690 Identify the *most appropriate* term for the discount rate that makes the present value of expected incremental after-tax cash inflows equivalent to the initial cash outlay.

A. Opportunity cost.

B. Internal rate of return.

C. Required rate of return.

The correct answer is **B.**

The most appropriate term for the discount rate that makes the present value of expected incremental after-tax cash inflows equivalent to the initial cash outlay is the Internal Rate of Return (IRR). The IRR is a critical financial metric used in capital budgeting to assess the profitability of potential investments. It is the rate at which the net present value (NPV) of all the cash flows (both positive and negative) from a project or investment equals zero. In simpler terms, the IRR is the break-even interest rate that equates the present value of an investment's expected gains with the initial cost of the investment.

A is incorrect. Opportunity cost refers to the benefit that is missed or given up when an investor, individual, or business chooses one alternative over another. While it is an important concept in economics and finance, particularly in the context of making investment decisions, it does not specifically relate to the discount rate that equates the present value of cash inflows to the initial investment.

C is incorrect. The Required Rate of Return (RRR) is the minimum return an investor expects to achieve by investing in a particular asset or project. It is determined by the investor's risk tolerance, the risk of the investment, and the returns available from other investments with similar risk profiles. The RRR is used as a benchmark to evaluate the attractiveness of an investment.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1692 Mango Corp. is a project started by the retired CEO of a small American bank. Mango has the following projected cash flows:

Year	Cash flows
0	−550,000
1	40,000
2	70,000
3	110,000
4	230,000
5	310,000

Using a required rate of return of 5%, the internal rate of return (IRR) of Mango Corp. is *closest to*:

A. 3.45%

B. 4.78 %

C. 8.74%

The correct answer is **C.**

To calculate the Internal Rate of Return (IRR) for Mango Corp., we must first understand what IRR represents. IRR is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero. Given the cash flows from Mango Corp., we can use the formula for NPV and set it to zero to solve for IRR.

The cash flows for Mango Corp. are as follows:

- an initial investment of −$550,000 (CF0),
- followed by inflows of $40,000 (CF1), $70,000 (CF2), $110,000 (CF3), $230,000 (CF4), and $310,000 (CF5).

Using these cash flows and setting the NPV to zero, we can calculate the IRR. The calculation reveals that the IRR for Mango Corp. is approximately 8.74%. This rate is significant because it represents the project's expected rate of return based on its projected cash flows.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1698 Inspiron is a private equity firm that is analyzing two mutually exclusive projects. Project Istanbul has an NPV of $405 million, and Project Berlin has an NPV of $450 million. Inspiron should *most likely* accept which project if the IRR of Project Istanbul is 32% and that of Project Berlin is 18%?

A. Project Berlin will be accepted because it has a greater NPV.

B. Project Istanbul will be accepted because it has a greater IRR.

C. Both projects (Berlin and Instabul) since they both have a positive NPV.

The correct answer is **A.**

When evaluating mutually exclusive projects, the primary decision criterion should be the Net Present Value (NPV) rather than the Internal Rate of Return (IRR). This is because NPV directly measures the increase in value that a project is expected to generate for the firm, taking into account the time value of money and the firm's cost of capital.

In this scenario, Project Berlin has a higher NPV of $450 million compared to Project Istanbul's NPV of $405 million. This indicates that, from a value maximization perspective, Project Berlin is expected to add more value to Inspiron than Project Istanbul, making it the preferable choice.

The NPV criterion is generally considered superior to the IRR criterion for making investment decisions because it provides a direct estimate of the value addition to the firm, whereas the IRR is a relative measure that does not always account for the scale of the investment or the firm's financing mix.

B is incorrect. It measures the expected increase in the firm's value in absolute terms. Choosing a project solely based on IRR can be misleading, especially when the projects differ significantly in scale, timing of cash flows, or when the cost of capital varies over the project's life.

C is incorrect. It suggests accepting both projects since they both have positive NPVs. While it is true that independent projects with positive NPVs should generally be accepted, the key detail here is that the projects are mutually exclusive, meaning only one of the two can be chosen.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1699 Texas & Sons is a circuit manufacturing firm. It is considering taking a new project that will generate an NPV of $425 million. Calculate the new stock price of Texas & Sons if its current stock price is $25 with 10 million shares outstanding.

A. $17.5

B. $42.5

C. $67.5

The correct answer is **C.**

To determine the new stock price of Texas & Sons after undertaking the new project, we must first calculate the total value of the company post-project. This involves adding the Net Present Value (NPV) of the project to the current market value of the company. The current market value is calculated by multiplying the current stock price by the number of shares outstanding. Therefore, the calculation is as follows:

$$\text{New Company Value} = (\text{Current Stock Price} \times \text{Number of Shares}) + \text{NPV}$$

Given that the current stock price is $25 and there are 10 million shares outstanding, the current market value of Texas & Sons is $250 million. The NPV of the new project is $425 million. Thus, the new company value after the project is:

$$\text{New Company Value} = (25 \times 10,000,000) + 425,000,000 = 675,000,000$$

To find the new stock price, we divide the new company value by the number of shares outstanding:

$$\text{New Stock Price} = \frac{675,000,000}{10,000,000} = 67.5$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2577 An analyst at Franz Gas Inc. is analyzing the two projects that his firm undertook in the Southern region of France. The details regarding the Cash Flow and NPV of both projects are provided in the following table. Which of the following *most likely* explains why the NPV of Project X is greater than the NPV of Project X-2?

Year	Project X	Project X-2
0	−$5,000,000.00	−$5,000,000.00
1	$1,300,000.00	$800,000.00
2	$1,300,000.00	$1,000,000.00
3	$1,300,000.00	$1,200,000.00
4	$1,300,000.00	$1,500,000.00
5	$1,300,000.00	$2,100,000.00
Required Rate of Return	7.5%	7.0%
NPV	$259,650.00	$242,273.00
IRR	9.43%	8.53%

A. Project X-2's total cash flow is greater than Project X's.

B. Project X's required rate of return is greater than Project X-2's.

C. Project X's timing of the cash flows is different than Project X-2's.

The correct answer is **C.**

The Net Present Value (NPV) represents the difference between the present value of cash inflows and the present value of cash outflows over a period. The NPV of Project X is greater than that of Project X-2 primarily due to the timing of the cash flows. In financial analysis, the timing of cash flows is a significant factor because cash flows received earlier are more valuable than those received later due to the time value of money. This principle states that a dollar today is worth more than a dollar in the future because of its potential earning capacity. Therefore, Project X, with its consistent early cash inflows, presents a more favorable NPV calculation when discounted back to the present value at the respective required rates of return.

A is incorrect. While it is true that Project X-2's total cash flow is greater than Project X's, this does not directly lead to a higher NPV. The total amount of cash flow is important, but the NPV calculation also heavily depends on the timing of these cash flows and the discount rate applied. In this case, despite Project X-2 having a higher total cash flow, the earlier and consistent cash inflows of Project X make it more valuable when discounted back to the present value, thus explaining the higher NPV for Project X.

B is incorrect. The assertion that Project X's required rate of return being greater than Project X-2's would lead to a higher NPV is fundamentally flawed. Generally, a higher discount rate (or required rate of return) decreases the present value of future cash flows, potentially lowering the NPV. However, the critical factor in this scenario is not the difference in required rates of return but the timing and consistency of cash inflows.

CFA Level I, Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2583 Assuming the initial cash outlay of a commercial real estate project is $7 million, and the project generates identical cash flows of $5 million for three years, then estimate the required rate of return if the NPV of the project is $5.816 millions is *closest to:*

A. 6.7%

B. 8.3%

C. 9.5%

The correct answer is **B.**

Since the project has identical cash inflows the required rate of return can be estimated using the TVM function of the financial calculator. As the NPV is equal to the PV of Cash inflows minus the PV of Cash outflows, then the PV of the project's cash inflows is:

$$\begin{aligned} \text{NPV} &= \text{PV of Cash inflow} - \text{PV of Cash outflow} \\ \Rightarrow 5.816 &= \text{PV of Cash inflow} - 7 \\ \therefore \text{PV of Cash inflow} &= 5.186 + 7 = 12.186 \end{aligned}$$

Using this value, we can use this value to calculate the required rate of return.

Using a financial calculator, we can calculate the required rate of return.

(N=3, PV=-12.816, PMT=5, FV=0, CPT=I).

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2585 An analyst is analyzing an equipment replacement project for a private company it undertook a few years ago. The project's required initial investment was $12,000,000 and generated cash flows of $2,500,000 each year for six years. Due to the flexible regulations regarding the disclosure of financial data of private companies, an analyst is unable to gather complete data. Using the available data, the IRR of the project is *most likely*:

A. 1.38%

B. 6.77%.

C. 13.82%

The correct answer is **B.**

The IRR is the rate that equals the PV of cash flows to the project's initial cash outflow. Since the discount rate required to calculate the PV of the cash flows is not given, the IRR will be estimated using the TVM function of the financial calculator.

The IRR can be calculated as:

N=6; PV=-12,000,000; PMT=2,500,000; FV=0; CPT => I = 6.77%

Alternatively, a candidate can choose to use the CF function of the calculator, as shown below.

CF0=-12,000,000; CF1=2,500,000, F1=6; then “IRR” then “CPT” to get the IRR as 6.77

(note that in place of using the F1=6 function, a candidate could choose to input all the CFs as CF1=2,500,000; CF2=2,500,000; CF3=2,500,000; CF4=2,500,000; CF5=2,500,000; CF6=2,500,000; then proceed as above)

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2586 Ankara Ceramics Company is interested in a project that will require two cash outlays of \$25 million each, at the initiation (year 0) and in the 4th year of the project (year 4). Assuming that the project is expected to generate annual cash flows of \$8.5 million for 6 years (year 1 to year 6), then calculate the NPV of the project using a discount rate of 9%.

A. -\$4.58 million.

B. \$13.13 million.

C. \$38.13 million.

The correct answer is **A.**

NPV of Ankara Ceramic's project can be estimated using the financial calculator. Since the project requires two cash outlay of \$25 million, at initiation and in the 4th year of the project, the net cash outflow of the project in the 4th year will be \$16.5 million (4th year outflow (-\$25) + 4th year cash inflow (\$8.5)).

The NPV of the project using the required rate of return of 9% is calculated as -\$4.58 million using the following table.

	(in million \$)
CF = 0	-\$25.00
CF = 1	\$8.50
CF = 2	\$8.50
CF = 3	\$8.50
CF = 4	-\$16.50
CF = 5	\$8.50
CF = 6	\$8.50
Required Rate	9%
NPV	-\$4.58

We can use the “CF” function of the financial calculator to arrive at the above answer, as shown below.

CF0=-25,000,000, C01=8,500,000, C02=8,500,000, C03=8,500,000, C04 = (8,500,000-25,000,000 = -16,500,000) C05=8,500,000, C06=8,500,000 then press “CPT” “NPV” and input “I” as 9, then press “CPT” to get the NPV as -4,580,322.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2588 Muhammad is a project manager at D.A. Corp. He has been asked to choose some of the many proposed projects that maximize the shareholders' value. Assuming the budget is $1,000,000, which of the following projects provided in the table below should he undertake?

	East Project	West Project	South Project	Central Project
Investment	$500,000	$300,000	$250,000	$1,000,000
Cash Flows	$230,000	$170,000	$200,000	$310,000
No. of Years	5	6	5	7
Required Rate of Return	8%	5%	9%	10%

A. Central Project.

B. East Project and West Project.

C. West Project and South Project.

The correct answer is **C.**

Muhammad will only choose Project West and South as it only costs $550,000 to undertake both projects, and they maximize the NPV. The following solution demonstrates capital rationing.

	East Project	West Project	South Project	Central Project
Investment	$500,000	$300,000	$250,000	$1,000,000
Cash Flows	$230,000	$170,000	$200,000	$310,000
No. of Years	5	6	5	7
Required Rate of Return	8%	5%	9%	10%
NPV	$418,323	$562,867	$527,930	$509,210

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2589 Harish Kumar, Chief Investment Officer at Hind Investment Fund, analyzes two mutually exclusive projects to undertake. Assuming that Project A has an IRR of 19% and an NPV of $1,117,878, and Project B has an IRR of 27.3% and an NPV of $1,009,870, determine which of the following is the *most appropriate* decision for Kumar.

A. Kumar should invest in Project B because it has a higher IRR.

B. Kumar should invest in Project A because it has a higher NPV.

C. Kumar should invest in both Project A and Project B because they both have positive NPVs.

The correct answer is **B.**

When evaluating mutually exclusive projects, the decision criterion should prioritize the project that adds the most value to the firm. In this context, Net Present Value (NPV) is the superior metric because it directly measures the dollar increase in shareholder wealth.

Project A, with an NPV of $1,117,878, promises to add more value to the firm than Project B, which has an NPV of $1,009,870. The Internal Rate of Return (IRR) is a useful metric for assessing the efficiency of an investment, but it does not always align with value maximization, especially in cases of mutually exclusive projects.

Therefore, despite Project B having a higher IRR of 27.3% compared to Project A's IRR of 19%, Project A is the more appropriate choice because of its higher NPV.

A is incorrect. It directly measures the increase in shareholder wealth. Therefore, despite Project B's higher IRR, it is not the optimal choice due to its lower NPV compared to Project A.

C is incorrect. While both projects have positive NPVs, indicating that they would add value to the firm if undertaken independently, the mutual exclusivity requires a choice between them. Thus, despite both projects being potentially profitable, the mutual exclusivity necessitates a choice, with preference given to the project with the higher NPV, which is Project A in this case.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2661 The rate at which a 9-year project with an initial investment of $540,000 and incremental cash inflows of $74,000 per year will result in a positive Net Present Value (NPV) is closest to:

> ***A. 3.74%***
>
> ***B. 4.41%***
>
> ***C. 7.10%.***

The correct answer is A.

To determine the rate that will result in a positive NPV among the three rates given, we will have to determine the project's IRR. We can do this using the cash flow function of the financial calculator:

CF0=-540,000; CF1=74,000; F01=9; CPT -> IRR

That gives an IRR value of 4.41%. What does that imply?

Any rate below 4.41% will result in a positive NPV, while a rate above 4.41% will result in a negative NPV.

From our choices, we only have one value that's less than 4.41%, i.e., 3.74%

We can solve the NPV at 3.74% with the cash flow function of the financial calculator as:

CF0=-540,000; CF1=74,000; F01=9; I=3.74; CPT -> NPV

NPV = $16,792

You can also use the other two rates in place of 3.74% to test the validity of the IRR argument.

B is incorrect. At 4.41%, the NPV will be zero. IRR is the discount rate that makes a project's NPV zero, and 4.41% is the project's IRR.

C is incorrect. 7.10% is greater than the project's IRR. A rate greater than the project's IRR will result in a negative NPV.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2662 Which of the following *most likely* defines the Internal Rate of Return (IRR)?

A. An opportunity cost is used to find the present value of cash flows.

B. The discount rate that makes the Net Present Value (NPV) of a project equal to zero.

C. A rate that is used to equate the investment costs of the project to the investment benefits of the project.

The correct answer is **B.**

The Internal Rate of Return (IRR) is a financial metric used to evaluate the profitability of potential investments. It is defined as the discount rate that makes the Net Present Value (NPV) of all cash flows from a particular project equal to zero. The IRR is a critical component in capital budgeting to assess the desirability of an investment or project. By calculating the IRR, investors and managers can identify the rate of return at which the present value of the project's cash inflows equals the present value of its outflows, thereby determining the project's break-even point in financial terms.

A is incorrect. This option describes the concept of opportunity cost rather than the IRR. Opportunity cost refers to the cost of choosing one investment over another. While it is a crucial concept in finance and economics, it does not specifically relate to the calculation or definition of the IRR. The IRR is focused on finding the specific discount rate that brings the NPV of a project to zero, not on comparing the present value of cash flows against other potential investments.

C is incorrect. The IRR provides a precise threshold for decision-making, helping investors and managers to determine whether a project's return exceeds its cost of capital. The description provided in option C is too broad and lacks the specificity required to accurately define the IRR.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2663 Red Construction Co. is planning to invest CAD 91,500,000 in an infrastructure project in Montreal. The project is expected to generate CAD 3,200,000 in perpetuity. Assuming a discount rate of 3.4%, the Internal Rate of Return (IRR) of the project is *closest to*:

A. 3.2%.

B. 3.49%.

C. 3.61%.

The correct answer is **B.**

The Internal Rate of Return (IRR) is a financial metric used to evaluate the profitability of potential investments. It is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero.

In the case of Red Construction Co.'s investment in an infrastructure project in Montreal, the IRR can be calculated using the formula for the IRR of a perpetuity, which is:

$$\frac{\text{Annual Cash Flow}}{\text{Initial Investment}}$$

Given that the project is expected to generate CAD 3,200,000 in perpetuity from an initial investment of CAD 91,500,000, the IRR is calculated as follows:

$$\text{IRR} = \frac{3,200,000}{91,500,000} = 0.0349 \text{ or } 3.49\%$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2664 As an analyst, you're evaluating two projects, Mi6 and Ci7, using the data provided in the following table. Assuming that both projects are independent and that the discount rate is 8.09%, which of the following projects is/are *most likely* to be selected according to the NPV rule?

	Project Mi6	Project Ci7
Year 0	-$40,300,000	-$109,400,000
Year 1	$9,700,000	$18,000,000
Year 2	$9,700,000	$11,500,000
Year 3	$9,700,000	$17,700,000
Year 4	$9,700,000	$21,300,000
Year 5	$9,700,000	$27,000,000
Year 6	$9,700,000	$35,000,000
Year 7	-	$38,500,000

A. Project Ci7.

B. Project Mi6.

C. Project Mi6 & Project Ci7.

The correct answer is **C.**

As calculated in the following table, both Project Mi6 and Ci7 have positive NPVs. Since both independent projects generate positive NPVs, both projects can be accepted as per the NPV Rule.

	Project Mi6	Project Ci7
CF 0	-$40,300,000	-$109,400,000
CF 1	$9,700,000	$18,000,000
CF 2	$9,700,000	$11,500,000
CF 3	$9,700,000	$17,700,000
CF 4	$9,700,000	$21,300,000
CF 5	$9,700,000	$27,000,000
CF 6	$9,700,000	$35,000,000
CF 7	-	$38,500,000
Discount Rate	8.09%	8.09%
NPV	$4,419,763.92	$9,294,716.90

Note: To calculate this using the financial calculator for Project Ci7:/p>

Go to the cash flow register by pressing (CF). Next clear prior data in that function by pressing (2nd) (FV) (2nd) (CE/C).

Press (CF) then -109,400,000 (make sure the sign is negative) "Enter" (down arrow)
18,000,000 "Enter" (down arrow) (down arrow)
11,500,000 "Enter" (down arrow) (down arrow)
...
38,500,000 "Enter"
Press "NPV" to display I = 0.0000. Enter the required rate of return in decimal format 'as-if' there is a percentage sign following: 8.09
Press "Enter". Press the down arrow key, then press "CPT" to display the dollar amount of the

NPV.

To calculate the NPV using the financial calculator for project Mi6:

Proceed as above but to shorten the procedure under cashflows enter: CFO=-40,300,000; CF1= 9,700,000, F1=6 (number of times the cash flow 9,700,000 is repeated) then press NPV, input I as 8.09% and press "CPT" to get the NPV as $4,419,763.92.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2665 As an analyst, you're evaluating two projects, Mi6 and Ci7. The data relating to both projects is given in the following table:

	Project Mi6	Project Ci7
Year 0	-$40,300,000	-$109,400,000
Year 1	$9,700,000	$18,000,000
Year 2	$9,700,000	$11,500,000
Year 3	$9,700,000	$17,700,000
Year 4	$9,700,000	$21,300,000
Year 5	$9,700,000	$27,000,000
Year 6	$9,700,000	$35,000,000
Year 7	-	$38,500,000

Assuming that both projects are independent and that the discount rate is 8.09%, which of the following projects is/are *most likely* to be selected according to the IRR rule?

A. Project Ci7.

B. Project Mi6.

C. Project Mi6 & Project Ci7.

The correct answer is **C.**

As calculated in the following table, the IRRs of Project Mi6 and Ci7 is greater than the discount rate (or opportunity cost). Since the IRRs of both independent projects are greater than the discount rate, both projects can be accepted as per the IRR rule.

The easiest way to do the calculations is by using the financial calculator with the following inputs and then compute the IRR:

	Project Mi6	Project Ci7
CF 0	-$40,300,000	-$109,400,000
CF 1	$9,700,000	$18,000,000
CF 2	$9,700,000	$11,500,000
CF 3	$9,700,000	$17,700,000
CF 4	$9,700,000	$21,300,000
CF 5	$9,700,000	$27,000,000
CF 6	$9,700,000	$35,000,000
CF 7	-	$38,500,000
Discount Rate	8.09%	8.09%
NPV	$4,419,763.92	$9,294,716.90
CPT -> IRR	11.63%	10.13%

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2666 As an analyst you're evaluating two projects, Mi6 and Ci7, using the data provided in the following table. Assuming for this question only that both projects are mutually exclusive and that the discount rate is 8.09%, which of the following projects is/are *most likely* to be selected considering both the IRR and the NPV rule?

	Project Mi6	Project Ci7
Year 0	-$40,300,000	-$109,400,000
Year 1	$9,700,000	$18,000,000
Year 2	$9,700,000	$11,500,000
Year 3	$9,700,000	$17,700,000
Year 4	$9,700,000	$21,300,000
Year 5	$9,700,000	$27,000,000
Year 6	$9,700,000	$35,000,000
Year 7	-	$38,500,000

A. Project Ci7.

B. Project Mi6.

C. Project Mi6 & Project Ci7.

The correct answer is **A.**

As calculated in the following table, Project Mi6 generates an NPV of $4,419,763.92 and an IRR of 11.63%. Project Ci7 generates an NPV of $9,294,716.9 and an IRR 0f 10.13%. Since it is assumed that both the projects are mutually exclusive, the project that generates the greater NPV will be accepted. In this case, it is Project Ci7.

	Project Mi6	Project Ci7
CF 0	-$40,300,000	-$109,400,000
CF 1	$9,700,000	$18,000,000
CF 2	$9,700,000	$11,500,000
CF 3	$9,700,000	$17,700,000
CF 4	$9,700,000	$21,300,000
CF 5	$9,700,000	$27,000,000
CF 6	$9,700,000	$35,000,000
CF 7	-	$38,500,000
Discount Rate	8.09%	8.09%
NPV	$4,419,763.92	$9,294,716.90
CPT -> IRR	11.63%	10.13%

B and C are incorrect. Since the projects are mutually exclusive, only Ci7, which has a greater NPV, will be selected. Whenever the NPV and IRR methods are conflicting, we choose the NPV method over the IRR method. A project can have multiple IRRs but only one NPV, making the NPV method the most suitable method to rank projects.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2667 Which of the following statements is *most likely* accurate?

A. If two projects are mutually exclusive, the project with the highest IRR will be accepted according to the IRR rule.

B. If two project are independent, only the project(s) with IRR greater than the opportunity cost will be accepted as per the IRR rule.

C. If two mutually exclusive projects generate negative NPVs, the project with the smaller negative NPV will be selected as per the NPV rule.

The correct answer is **B.**

When evaluating independent projects, the Internal Rate of Return (IRR) rule is a critical tool for decision-making. Independent projects are those whose cash flows do not affect or are not affected by the cash flows of other projects. This means that the acceptance of one project does not preclude the acceptance of another.

According to the IRR rule, a project should be accepted if its IRR exceeds the opportunity cost of capital, which represents the return that could be earned on an investment with a similar risk profile. Therefore, for independent projects, each project is evaluated on its own merits, and all projects with an IRR greater than the opportunity cost of capital should be accepted. This approach ensures that the investments made are expected to yield returns higher than what could be earned elsewhere, given the risk.

A is incorrect. Neither project is expected to generate a return higher than what could be achieved with an alternative investment of similar risk.

C is incorrect. The Net Present Value (NPV) rule states that an investment should be made if the NPV is positive, as it indicates that the project is expected to add value to the firm. When comparing mutually exclusive projects, the one with the higher (or less negative) NPV would indeed be preferable if both projects have negative NPVs.

The statement in option C misrepresents the NPV rule by suggesting that a project with a smaller negative NPV should be selected, which contradicts the fundamental principle that only projects with positive NPVs should be accepted to increase firm value.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2668 As an analyst, you're analyzing two mutually exclusive projects for A.V.M. Company as shown in the following table. Assuming a discount rate of 14.5%, which of the following options will *most likely* be accepted?

	Project Mi6	Project Ci7
Year 0	-$20,000,000	-$100,000,000
Year 1	$7,000,000	$22,000,000
Year 2	$7,000,000	$22,000,000
Year 3	-$10,000,000	$22,000,000
Year 4	$12,600,000	$22,000,000
Year 5	$12,600,000	$22,000,000

A. The 'Mi6' project will be selected because it has a higher IRR.

B. The 'Mi6' project will be selected because it has a higher NPV.

C. None of the projects will be selected as both projects have negative NPVs.

The correct answer is **C.**

In mutually exclusive projects, the investor can only invest in one project at the cost of another. For mutually exclusive projects with positive NPVs, the project with the highest NPV will be accepted. In the given question, both the 'Mi6' and the 'Ci7' projects have negative NPVs, and IRRs smaller than the discount rate. Therefore, both projects will be rejected.

	Project Mi6	Project Ci7
CF 0	-$20,000,000	-$100,000,000
CF 1	$7,000,000	$22,000,000
CF 2	$7,000,000	$22,000,000
CF 3	-$10,000,000	$22,000,000
CF 4	$12,600,000	$22,000,000
CF 5	$12,600,000	$22,000,000
Discount Rate	14.50%	14.50%
NPV	-$1,475,647.90	-$25,371,045.34
IRR	11.77%	3.26%

Note: The NPV and IRR of the two projects can be determined using the CF function of the financial calculator.

For project Mi6: (CF0=-20,000,000, C01=7,000,000, C02=7,000,000, C03=-10,000,000, C04=12,600,000, C05=12,600,000) After inputting all cashflows, press “CPT” “NPV” and input “I” as 14.5 then press “CPT” to get the NPV as -1,475,647.90.

For IRR, press “CPT” “IRR” then press “CPT” to get the IRR as 11.77%

For project Ci7: (CF0=-100,000,000, C01=22,000,000, C02=22,000,000, C03=22,000,000, C04=22,000,000, C05=22,000,000) (To shorten this process, after inputting CF0 as -100,000,000, we can input C01 as 22,000,000 then F01 as 5). F01=5 takes acre of the fact that there are five cashflows of $22,000,000 each. After inputting all cash flows, press “CPT” “NPV” and input “I” as 14.5 then press “CPT” to get the NPV as -25,371,045.34.projects.

For IRR, press “CPT” “IRR” then “CPT” to get the IRR as 3.26%

A and B are incorrect. None of the projects are profit-maximizing as they both have a negative NPV and an IRR lower than the required rate of return of both.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.2669 A 3-year construction project generates semi-annual cash inflows of \$79,200. Assuming that the project has a net present value (NPV) of \$18,578 at the cost of capital of 7.5%, then the initial cash outlay of the project is *closest to*:

A. \$205,962

B. \$400,000

C. \$418,577.67

The correct answer is **B.**

To determine the initial cash outlay of the project, we must understand the relationship between the net present value (NPV), the present value (PV) of future cash inflows, and the initial investment. The NPV is calculated as the difference between the PV of cash inflows and the initial investment.

Given that the NPV is \$18,578 and the cash inflows are semi-annual over a 3-year period, we can use the formula for NPV to find the initial investment. The cost of capital, or discount rate, is 7.5%, which must be adjusted for semi-annual compounding by dividing it by 2. The formula for NPV is as follows:

$$\text{NPV} = \text{PV of cash inflows} - \text{Initial investment}$$

Given the NPV and the PV of cash inflows, we can rearrange the formula to solve for the initial investment:

$$\text{Initial investment} = \text{PV of cash inflows} - \text{NPV}$$

Using a financial calculator or an equivalent financial function in software, with N=6 (for 3 years semi-annually), I=7.5/2 (to adjust for semi-annual compounding), PMT=79,200 (semi-annual cash inflow), and FV=0 (since we are not considering any terminal value), we find that the PV of cash inflows equals \$418,578. Subtracting the NPV of \$18,578 from this amount gives us the initial cash outlay:

$$\text{Initial cash outlay} = \$418,578 - \$18,578 = \$400,000$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3411 A project requires an initial investment of \$5 million and a second investment of \$2 million at the end of the 3rd year. The expected cash flows from the project for the next 5 years are given in the following exhibit.

Exhibit: 5-year Project - Cash Inflows

End of the 1st Year	$0.5 million
End of the 3rd Year	$8 million
End of the 4th Year	$4 million
End of the 5th Year	$1 million

If the discount rate for the project is 10%, then the net present value (NPV) of the project is *closest* to:

A. $3.31 million.

B. $4.82 million.

C. $8.31 million.

The correct answer is **A.**

The cash flows from the entire project are given in the following table:

Year	Outflow	Inflow	Net Flows
Beginning of 1st Year	5 million	0	-5 million
End of 1st Year	0	0.5 million	+0.5 million
End of 2nd Year	0	0	0
End of 3rd Year	2 million	8 million	+6 million
End of 4th Year	0	4 million	+4 million
End of 5th Year	0	1 million	+1 million

(All $ values in million)

$$\begin{aligned}
\text{NPV (project)} &= \text{PV}_0 + \text{PV}_1 + \text{PV}_2 + \text{PV}_3 + \text{PV}_4 + \text{PV}_5 \\
\text{PV}_0 &= -5 \text{ million} \\
\text{PV}_1 &= \frac{+0.5}{(1+10\%)^1} = 0.45 \\
\text{PV}_2 &= 0 \\
\text{PV}_3 &= \frac{6}{(1+10\%)^3} = 4.51 \\
\text{PV}_4 &= \frac{4}{(1+10\%)^4} = 2.73 \\
\text{PV}_5 &= \frac{1}{(1+10\%)^5} = 0.62 \\
\text{NPV} &= -5 + 0.45 + 4.51 + 2.73 + 0.62 = 3.31
\end{aligned}$$

We can use the “CF” function of the financial calculator to arrive at the above answer, as shown

below.
(CF0= - 5,000,000, C01= 500,000, C02 = 0, C03 = (8,000,000 – 2,000,000 = 6,000,000), C04 = 4,000,000, C05 = 1,000,000)

After inputting all cash flows, press "CPT" "NPV," then input "I" as 10, then press "CPT" to get the "NPV" as 3.31 million.

B is incorrect. The $2 million cash outflow in year three has been ignored.

C is incorrect. C represents the present value of the project's cash flows (including the cash outflow in year 3), not the project's NPV. The NPV is obtained by subtracting a project's initial cash outlay from the present value of its cash inflows.

CFA Level I, Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3412 Consider the following statements:

I. If the internal rate of return (IRR) is higher than the discount rate of the project, the net present value (NPV) is positive.
II. A project can have multiple internal rates of return.

Which of these statements is/are accurate?

A. I & II

B. I only

C. II only

The correct answer is **A.**

The IRR is defined as the discount rate that makes the NPV of all cash flows from a particular project equal to zero. Therefore, if the IRR is higher than the project's discount rate, it implies that the project would generate a positive NPV, indicating that the project is expected to yield a return higher than the cost of capital. This makes the investment worthwhile from a financial perspective.

When the IRR exceeds the discount rate, it means the project's returns surpass the hurdle rate (the minimum required rate of return), leading to a positive NPV. This is a fundamental principle in capital budgeting that helps in evaluating the viability of projects. A positive NPV signifies that the project is expected to add value to the firm, making it an attractive investment option.

Projects with non-conventional cash flows, characterized by multiple changes in cash flow direction (from inflows to outflows or vice versa), can indeed have multiple IRRs. When there are multiple sign changes in cash flows, the IRR equation can yield more than one solution. This complexity is one reason why some financial analysts prefer the NPV method for project evaluation, as it provides a single, unambiguous measure of a project's value.

B is incorrect. It suggests that only statement I is accurate. However, as explained, both statements I and II accurately describe important concepts in financial management related to project evaluation and the calculation of IRR and NPV.

C is incorrect. It suggests that only statement II is accurate.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3413 Consider the following statements:

1. The net present value (NPV) assumes that a project's reinvestment rate is equal to its discount rate.
2. The internal rate of return (IRR) assumes that the project's reinvestment rate is equal to its internal rate of return.

Which of these statements is/are accurate?

A. I & II.

B. I only.

C. II only.

The correct answer is **A.**

Statement I is accurate. The NPV method is a tool used to evaluate the profitability of an investment or project. It calculates the difference between the present value of cash inflows and the present value of cash outflows over a period of time. The NPV formula is expressed as:

$$\text{NPV} = \sum_{t=0}^{N} \frac{C_t}{(1+r)^t}$$

where Ct is the cash flow at time t, r is the discount rate, and N is the number of periods. The discount rate in the NPV formula represents the project's cost of capital or the minimum required rate of return.

By discounting future cash flows back to their present value using the discount rate, the NPV method implicitly assumes that all cash inflows are reinvested at the discount rate. This assumption is critical because it affects the project's perceived profitability and the decision to invest.

Statement II is accurate. The IRR is the discount rate that makes the NPV of all cash flows from a particular project equal to zero. It is a commonly used metric to evaluate the attractiveness of an investment or project. The formula for calculating IRR does not have a simple algebraic expression and is usually solved for using numerical methods.

The assumption underlying the IRR method is that all project cash flows are reinvested at the IRR itself. This assumption is significant because it sets a benchmark for the project's efficiency in generating returns on reinvested cash flows. If the actual reinvestment rate is lower than the IRR, the project may not achieve the expected level of profitability.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3492 The management of Reed Corporation recently announced it will invest $1 million worth of funds for the research and development of a new project. Assuming that the opportunity cost of capital is 12%, and incremental net cash flows are forecasted as $160,000 annually in perpetuity, the net present value (NPV)of the project is *closest* to:

A. $333,333.33.

B. $1,333,333.33.

C. $2,333,333.33.

The correct answer is **A.**

To determine the net present value (NPV) of Reed Corporation's investment in a new project, we must consider the perpetual nature of the incremental net cash flows and the opportunity cost of capital. The NPV formula for a perpetuity is given by:

$$\text{NPV} = -\text{Initial Investment} + \frac{\text{Annual Cash Flow}}{\text{Discount Rate}}$$

In this case, the initial investment is $1,000,000, the annual cash flow is $160,000, and the discount rate (opportunity cost of capital) is 12% or 0.12. Substituting these values into the formula gives:

$$\text{NPV} = -\$1,000,000 + \frac{\$160,000}{0.12} = -\$1,000,000 + \$1,333,333.33 = \$333,333.33$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3493 An analyst at YHC Management Inc. has made projections regarding three independent projects, as shown in the exhibit below.

Exhibit: Project Forecasts

Project	Initial Investment	Year 1 Cash Flow	IRR	NPV
X	$21,562	$25,956	60%	$4,800
Y	$37,132	$52,594	50%	$9,600
Z	$69,472	$35,756	55%	$5,660

Considering that YHC can only invest $40,000 at the moment and that the net present value

(NPV) is based on a 10% cost of capital, management will *most likely* select:

A. Project Y.

B. Project X.

C. Project Z.

The correct answer is **A.**

YHC Management Inc. should prioritize the project that offers the highest Net Present Value (NPV). NPV measures the profitability of a project by calculating the difference between the present value of cash inflows and the present value of cash outflows over a period of time. It is a direct indicator of how much value an investment or project will add to the firm. Given that YHC can only invest $40,000 at the moment and the NPV is calculated based on a 10% cost of capital, the management's decision should be guided by the project with the highest NPV to maximize shareholder wealth.

Project Y, with an initial investment of $37,132 and an NPV of $9,600, is the most suitable choice for YHC Management Inc. This project not only fits within the current investment budget but also promises the highest increase in wealth compared to the other options. The NPV of $9,600 indicates that, after accounting for the cost of capital, Project Y is expected to add $9,600 in value to the firm, making it the most attractive investment opportunity among the three projects.

B is incorrect. Despite Project X requiring a lower initial investment of $21,562, its NPV of $4,800 is significantly lower than that of Project Y. While Project X is within the investment budget, it does not offer the highest value addition compared to Project Y. Therefore, selecting Project X over Project Y would result in a suboptimal allocation of resources, as it would not maximize the potential increase in firm value.

C is incorrect. Project Z, despite having a higher IRR of 55% compared to Project Y's 50%, is not the optimal choice due to its NPV of $5,660, which is lower than Project Y's NPV. Additionally, Project Z requires an initial investment of $69,472, which exceeds YHC's current investment capacity of $40,000. This makes Project Z an unfeasible option regardless of its IRR or NPV. The decision to invest should be based on the NPV criterion when comparing projects with different scales of investment and cash flow profiles, as NPV directly measures the value addition to the firm. In this scenario,

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3495 Walrus Firm is planning to enter into a joint venture with a subsidiary company, which will require the firm to invest $12 million. The subsidiary will pay Walrus $2.5 million for three years. At the end of the fourth year, Walrus will buy back the subsidiary for $9 million. If the CFO of Walrus has in mind a discount rate of 10% for this proposal, the net present value (NPV) of this proposal is *closest to*:

A. -$11,929,991.12.

B. $70,008.88

C. $364,251.08.

The correct answer is **A.**

To calculate the Net Present Value (NPV) of Walrus Firm's investment proposal, we need to discount all future cash flows back to their present value using the given discount rate of 10%. The NPV calculation involves summing the present values of all cash inflows and outflows associated with the investment. The formula for NPV is given by:

$$NPV = \sum_{t=0}^{n} \frac{C_t}{(1+r)^t}$$

Where:

- Ct is the cash flow at time t,
- r is the discount rate, and
- n is the number of periods.

For Walrus Firm's investment:

- The initial investment at t=0 is −$12 million,
- The annual cash inflows for the first three years (t=1,2,3) are $2.5 million each, and
- The cash outflow at the end of the fourth year (t=4) due to buying back the subsidiary is −$9 million.

Substituting these values into the NPV formula, we get:

$$NPV = -\$12 \text{ million} + \frac{\$2.5 \text{ million}}{1.1} + \frac{\$2.5 \text{ million}}{1.1^2} + \frac{\$2.5 \text{ million}}{1.1^3} + \frac{-\$9 \text{ million}}{1.1^4} = -\$11,929,991.12$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3501 Harry Williams works in the corporate finance division of Big Electricals Limited. Williams is working on two investment opportunities, as shown in the following exhibit.

Exhibit: Big Electricals Limited - Potential Investments

Investment A		Investment B	
NPV	$10,000,000	NPV	$14,000,000
IRR	12.5%	IRR	10%

The top management has informed Williams that, due to resource constraints, the company would take only one of the two investment opportunities based on Williams' recommendation. If the cost of capital is 8%, then Williams must recommend to the company:

A. Investment A.

B. Investment B.

C. Investment A and B.

The correct answer is **B.**

When faced with a decision between two investment opportunities, Harry Williams should recommend Investment B to the top management of Big Electricals Limited. This recommendation is based on the comparison of the Net Present Value (NPV) of both investments. NPV is measures the profitability of an investment by calculating the difference between the present value of cash inflows and the present value of cash outflows over a period of time.

It is a direct indicator of how much value an investment or project adds to the firm. Given that Investment B has a higher NPV ($14,000,000) compared to Investment A ($10,000,000), it suggests that Investment B is expected to add more value to the company, making it the preferable choice.

A is incorrect. While Investment A has a higher Internal Rate of Return (IRR) of 12.5% compared to Investment B's IRR of 10%, the decision should not be solely based on IRR when the NPVs are conflicting. Since the cost of capital is 8%, both investments surpass the required rate of return, but the higher NPV of Investment B indicates it is the superior choice in terms of adding value to the company.

C is incorrect. Although both investments have positive NPVs and IRRs greater than the cost of capital, indicating that they are profitable, the company's resource constraints necessitate choosing only one of the two opportunities. Therefore, recommending both Investment A and B is not feasible under the given circumstances.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3519 Which of the following is *most* accurate?

A. A project can have multiple net present values and internal rates of return.

B. A project can have multiple net present values, but only a unique internal rate of return.

C. A project can have multiple internal rates of return, but only a unique net present value.

The correct answer is **C.**

The IRR is the discount rate that makes the NPV of all cash flows from a particular project equal to zero. In cases where a project has unconventional cash flows, meaning there are multiple sign changes in the cash flow sequence (e.g., an initial outflow followed by inflows, and then followed by significant outflows again), the project can have multiple IRRs. Therefore, it is possible for a project to have multiple internal rates of return due to the mathematical properties of the IRR calculation.

A is incorrect. While it is true that a project can have multiple IRRs under certain conditions, the NPV of a project for a given discount rate is unique. The NPV calculation involves discounting the expected cash flows by a specific rate and subtracting the initial investment, leading to a singular value that represents the project's net value to the firm.

B is incorrect. It is calculated based on a specific set of cash flows and a singular discount rate. Conversely, the IRR can have multiple values if the project has unconventional cash flows, leading to a polynomial equation with more than one real root.

CFA Level I, Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3521 The expected annual cash flows from a project are given in the following exhibit.

Exhibit: Expected Annual Cash Flows

Cash Flows	Amount
CF0	-$10,000
CF1	+$10,000
CF2	+$6,000
CF3	+$5,000

If the required rate of return is 10%, then the net present value (NPV) of the project is *closest to*:

A. $7,806.16.

B. $17,806.16.

C. $27,806.16.

The correct answer is **A.**

To calculate the Net Present Value (NPV) of a project, we need to discount each of the project's expected cash flows back to their present value using the required rate of return, and then sum these present values. The formula for NPV is given by:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

where CFt is the cash flow at time t, r is the required rate of return, and n is the number of periods. Applying this formula to the given cash flows and a required rate of return of 10%, we get:

$$NPV = -10,000 + \frac{10,000}{(1+10\%)^1} + \frac{6,000}{(1+10\%)^2} + \frac{5,000}{(1+10\%)^3} = 7,806.16$$

This calculation takes into account the time value of money, which is essential in evaluating the profitability of investment projects. By discounting future cash flows back to their present value, we can assess the net benefit of the project in today's dollars, providing a clear indicator of its financial viability.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3522 Consider the following mutually exclusive projects:

Project Stellar		Project Regard	
NPV	$2,800,010	NPV	$3,452,005
IRR	22%	IRR	18%

As the CFO of the company, you will *most likely* undertake:

A. Project Stellar.

B. Project Regards.

C. Projects Stellar and Regards.

The correct answer is **B.**

When faced with mutually exclusive projects, the primary decision criterion should be the Net Present Value (NPV) rather than the Internal Rate of Return (IRR). This is because NPV directly measures the increase in value to the firm, reflecting the additional wealth created by undertaking the project. In this scenario, Project Regard has a higher NPV (\$3,452,005) compared to Project Stellar (\$2,800,010), indicating that it is expected to add more value to the company. Therefore, based on the NPV criterion, Project Regard should be selected.

A is incorrect. Although Project Stellar has a higher IRR (22%) compared to Project Regard (18%), this does not necessarily mean it is the better choice. The IRR is a relative measure of return and does not account for the scale of the investment or the absolute amount of value created. Since the projects are mutually exclusive, the decision should be based on which project adds more value to the firm, which is indicated by the NPV. In this case, Project Regard, with its higher NPV, is the preferable option despite its lower IRR.

C is incorrect. The option to undertake both Projects Stellar and Regard is not viable since the projects are mutually exclusive, meaning the company must choose one or the other but cannot implement both. This exclusivity necessitates a choice based on which project contributes more to the firm's value, which, as explained, is determined by comparing their NPVs.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3523 Shares of ILL are currently trading at $70 per share. The company recently announced that it would undertake a project with an expected NPV of $8 million. If the company has 1 million outstanding shares, then the share price of the company after undertaking the project will *most likely* be:

A. $8.

B. $70.

C. $78.

The correct answer is **C.**

When a company undertakes a project with a positive Net Present Value (NPV), it indicates that the project is expected to add value to the company beyond its cost. In this scenario, the company is undertaking a project with an expected NPV of $8 million. The NPV is a direct measure of how much value this project will add to the company.

Given that the company has 1 million outstanding shares, the increase in the company's value can be evenly distributed across all shares. This distribution results in an increase in share price, calculated as follows:

$$\text{Increase in share price} = \frac{\text{NPV of the project}}{\text{Number of outstanding shares}} = \frac{\$8\text{ million}}{1\text{ million shares}} = \$8\text{ per share}$$

Therefore, the new share price after undertaking the project would be the sum of the current share price and the increase per share, which is:

$$\text{New share price} = \text{Current share price} + \text{Increase in share price} = \$70 + \$8 = \$78$$

This calculation shows that the share price of the company after undertaking the project will most likely be $78.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3525 A logistics company has a fleet of 10 vehicles, and the estimated useful life of each vehicle is approximately 10 years. Due to the shortage of funds, the company decides to sell one of its vehicles after six years. The vehicle was purchased at $17,500 by another freight company. The vehicle’s expected cash flows for its remaining useful life (at the end of each year) are given in the exhibit below.

Exhibit: Motor Vehicle

Useful Life Left	Expected Cash Flows
Year 1	$10,000
Year 2	$7,500
Year 3	$5,000
Year 4	$5,000

Assuming a discount rate of 10%, was it worth it for the freight company to buy the vehicle based on NPV criteria?

A. No.

B. Yes.

C. The NPV criterion cannot be used to determine the vehicle's worth.

The correct answer is **B.**

Recall that the NPV is given by:

$$\text{NPV} = \sum_{T=1}^{N} \frac{\text{CF}_t}{(1+r)^t} - \text{Outlay}$$

Where:

- CF_t = after-tax cash flow at time t
- r = required rate of return for the investment
- Outlay = investment cash flow at time zero

The PV of the expected cash flows from the truck is:

$$\text{NPV} = \frac{10{,}000}{(1+10\%)} + \frac{7{,}500}{(1+10\%)^2} + \frac{5{,}000}{(1+10\%)^3} + \frac{5{,}000}{(1+10\%)^3} - \$17{,}500 = \$4{,}960.90$$

Since, NPV > 0, the investing of the particular was worth it!

Alternatively, candidates can arrive at the NPV using the financial calculator as shown below.

[CFO=-17,500, CF1= 10,000, CF2=7,500, CF3=5,000, CF4=5,000]

(Press "ENTER" after every CF, then press the down arrow twice (once for CF1)

After inputting all CFs, press "CPT" "NPV" and input I as 10. Scroll down once using the down arrow, then press "CPT" to get the NPV as 4960.9.

A is incorrect. The NPV of the vehicle is positive, implying that investing in the vehicle added profits to the company. It was, therefore, a worthy investment.

C is incorrect. We can use the NPV criterion to determine if an investment was worth it or not. If the NPV is positive, the investment was worth it. The opposite is true.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3533 JILL Corp. is planning to launch a new hair product. The company expects an initial capital expenditure of $80,000 and an annual advertising expense of $20,000 for the next five years. The product is expected to generate annual sales of $40,000 for five years. Calculate the project's net present value given a required rate of return of 10%.

A. -$4,184.26

B. $4,184.26

C. $75,815.74

The correct answer is **A.**

The incremental cash flows if the project is launched are given below.

	Inflows	Outflows	Net Flows
Year 0	-	$80,000	-$80,000
Year 1	$40,000	$20,000	+$20,000
Year 2	$40,000	$20,000	+$20,000
Year 3	$40,000	$20,000	+$20,000
Year 4	$40,000	$20,000	+$20,000
Year 5	$40,000	$20,000	+$20,000

$$\text{NPV} = -\$80,000 + \frac{\$20,000}{1.1^1} + \frac{\$20,000}{1.1^2} + \frac{\$20,000}{1.1^3} + \frac{\$20,000}{1.1^4} + \frac{\$20,000}{1.1^5} = -\$4184.26$$

We can arrive at the same answer using the financial calculator as shown below. [CFo=-80,000, CF1= (-20,000+40,000) = 20,000, F01=5]

Then press "CPT" "NPV," input I as 10, then press "CPT" to get the NPV as -4,184.26

Note: F01=5 implies that the company will receive the preceding cash flow five times. Instead of using the "F" function, a candidate can still use the "CF" function and input all cashflows. The "F" function shortens the procedure.

B is incorrect. The NPV is negative, not positive, implying that the project is not a profit maximization project and should therefore not be undertaken.

C is incorrect. C represents the present value of the project's cash flows) including the outflows as from year 1), not the project's NPV. The NPV can be obtained by subtracting the initial cash outflow from the present value of the project's inflows.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3534 A firm has the option to buy either Machine A or Machine B. Both machines have the same useful lives, but Machine-A is $10,000 more expensive than Machine B.
For the first three years, Machine A is expected to produce $45,000 in sales. Then, its production is expected to slow down to only $36,000 in sales for the remaining two years of useful life. Machine B is expected to produce $42,000 in sales for all of its useful life.

Assuming a required rate of 10%, the company should *most likely*:

A. Purchase Machine A.

B. Purchase Machine B.

C. Purchase none of the machines.

The correct answer is **B.**

The incremental cash flows if Machine A is purchased instead of Machine B:

	Incremental Cash Flow if Machine A is Purchased (Machine A's Cash Flow - Machine B's Cash Flow)	Remark
Year 0	-$10,000	Machine A is $10,000 more costly than Machine B
Year 1	+$3,000	Machine A will generate $3,000 more sales than Machine B
Year 2	+$3,000	Machine A will generate $3,000 more sales than Machine B
Year 3	+$3,000	Machine A will generate $3,000 more sales than Machine B
Year 4	-$6,000	Machine A will generate $6,000 less sales than Machine B
Year 5	-$6,000	Machine A will generate $6,000 less sales than Machine B

The incremental cash flows if machine B is purchased instead of machine A.

	Incremental Cash Flow if Machine B is Purchased (Machine B's Cash Flow - Machine A's Cash Flow)	Remark
Year 0	$10,000	Machine B is $10,000 less costly than Machine A
Year 1	-$3,000	Machine B will generate $3,000 less sales than Machine A
Year 2	-$3,000	Machine B will generate $3,000 less sales than Machine A
Year 3	-$3,000	Machine B will generate $3,000 less sales than Machine A
Year 4	$6,000	Machine B will generate $6,000 more sales than Machine A
Year 5	$6,000	Machine B will generate $6,000 more sales than Machine A

$$\text{NPV of Machine A} - \text{NPV of Machine B} = -10,000 + \frac{3,000}{1.1^1} + \frac{3,000}{1.1^2} + \frac{3,000}{1.1^3} - \frac{6,000}{1.1^4} - \frac{6,000}{1.1^5} = -\$$$

Using a financial calculator: [CF)=-10,000, CF1= 3,000, CF2=3,000, CF3=3,000, CF4=-6,000, CF5=-6,000]

Press “CPT” “NPV” and input “I”as 10. Then scroll down once and press “CPT” to get the NPV as -10,363.0527

We can also use the financial calculator to determine the NPV if machine B is purchased in place of machine A.

[CF0= 10,000, CO1 = -3,000, CO2 = -3,000, CO3 = -3,000, CO4=6,000, CO5 =6,000] Press “CPT” “NPV” and input “I” as 10. Then scroll down once and press “CPT” to get the NPV as 10,363.0527
Therefore, machine B must be purchased since the NPV its incremental cash flows is positive, implying that machine B will generate profits for the company.

A is incorrect. The NPV of machine A’s incremental cash flows is negative, implying that machine A will not profit the company.

C is incorrect. The company should purchase machine B. The NPV of the incremental cash flows of machine B is positive, implying that machine B will generate profits for the company.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3535 The expected annual cash flows from a project are given in the following exhibit.

Exhibit: Expected Annual Cash Flows

Cash Flows	Amount
CF0	-$5,000
CF1	+$4,000
CF2	-$3,000
CF3	+$10,000

If the required rate of return is 8%, then the NPV of the project is *closest to*:

A. -$4,070.01.

B. $4,070.01.

C. $9,070.01.

The correct answer is **B.**

The Net Present Value (NPV) of a project is a crucial financial metric used to evaluate the profitability of an investment. It represents the difference between the present value of cash inflows and the present value of cash outflows over a period of time. The NPV can be calculated using the formula:

$$\text{NPV} = \sum_{t=0}^{n} \frac{\text{CF}_t}{(1+r)^t}$$

Given the expected annual cash flows from the project and a required rate of return of 8%, we can calculate the NPV as follows:

$$\text{NPV} = -5,000 + \frac{4,000}{1.08^1} - \frac{3,000}{1.08^2} + \frac{10,000}{1.08^3} = \$4,070.01$$

We can equally solve this using the financial calculator.

[CF0=-5,000, CF1=4,000, CF2=-3,000, CF3=10,000]

Press “CPT” “NPV” and input “I” as 8.

Then scroll down once and press “CPT” “NPV” to get the NPV as 4,070.009653 rounded off to 4,070.01.

A is incorrect. The NPV of the project is positive, not negative, implying that the project is profit-maximizing.

C is incorrect. C represents the present value of the project’s cash flows (including the cash outflow in the second year) NPV is obtained by subtracting the initial cash outflow from the project’s cash flows.

CFA Level I, Topic 4- Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3966 Which of the following is *least likely* a step in the capital allocation process?

A. Idea generation.

B. Investment analysis.

C. Going concern projects.

The correct answer is **C.**

Going concern projects are a type of capital project. They are required to maintain the business. Other types of capital projects include regulatory/compliance projects, expansion projects, and other projects.

A and B are incorrect. The steps in the capital allocation process are:

i. **Idea generation:** This is the generation of investment ideas.
ii. **Investment analysis:** This involves the evaluation of investments' profitability.
iii. **Capital allocation planning:** This is funding investments that best fit a company's strategy.
iv. **Monitoring and post-audit:** This is the comparison of expected and actual results and taking any corrective measures.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.3968 An investment has the following cash flows:

Period	Cash Flow at the End of Period
1	$500,000
2	$750,000
3	$900,000

If the investments initial cash outflow is $1,200,000 with a discount rate of 9%, the net present value is *closest to*:

A. $283,970.

B. $584,940.

C. $1,783,970.

The correct answer is **B.**

To calculate the Net Present Value (NPV) of an investment, we discount all expected future cash flows back to their present value and subtract the initial investment. The formula for NPV is given by:

$$\text{NPV} = -\text{Initial Investment} + \sum_{t=1}^{n} \frac{\text{CF}_t}{(1+r)^t}$$

where CFt is the cash flow at time t, r is the discount rate, and n is the number of periods. For this investment, the initial cash outflow is $1,200,000, the discount rate is 9%, and there are cash inflows at the end of years 1, 2, and 3. Applying the given values to the NPV formula:

$$\text{NPV} = -1,200,000 + \frac{500,000}{(1.09)^1} + \frac{750,000}{(1.09)^2} + \frac{900,000}{(1.09)^3} = 584,940$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3969 The *least* appropriate statement concerning capital rationing is that the technique:

A. has the potential to violate market efficiency.

B. may prohibit managers from overspending their budgets.

C. cannot be used when a company’s capital budget is limited.

The correct answer is **C.**

Capital rationing is a financial technique used by companies to select the most profitable projects when the capital budget is limited. It involves prioritizing projects to ensure that the available capital is allocated in a manner that maximizes the company's value.

The least appropriate statement concerning capital rationing is that it cannot be used when a company’s capital budget is limited. It helps in making strategic decisions on how to allocate limited resources among competing projects to achieve the best possible returns.

A is incorrect. While it's true that capital rationing can lead to the allocation of resources to projects that may not have the highest possible returns in an unconstrained environment, this does not necessarily violate market efficiency. Market efficiency pertains to the idea that asset prices fully reflect all available information.

Capital rationing is a budgeting and internal decision-making process that does not directly impact market prices or efficiency. However, it can lead to suboptimal investment decisions from a broader market perspective if it prevents investment in projects that would offer higher returns but require more capital than is available.

B is incorrect. By setting a cap on the amount that can be spent on projects, capital rationing imposes discipline on investment decisions and ensures that only the most valuable projects are funded. This can prevent overinvestment and inefficient allocation of resources. There are two types of capital rationing: soft and hard.

Soft capital rationing allows for some flexibility, permitting managers to exceed their budgets if the additional investments are deemed profitable. Hard capital rationing, on the other hand, imposes a strict limit on the amount that can be spent, regardless of the potential profitability of additional projects. Both forms aim to control spending and ensure that investments are made judiciously.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.3970 Consider a company considering a project with the following characteristics:

- The initial outlay is $155,000.

- The project life is three years.
- The annual after-tax operating cash flows have a 50% probability of being $25,000 per year and a 50% probability of being $75,000 per year.
- At the end of the first year, all parties will find out whether project X is a success (cash flow 75,000) or failure (cash flow (25,000).
- The salvage value at termination is zero, and the required rate of return is 11%.

The company has the option of abandoning the project after one year, at which point it would have a salvage value of $120,000. What's the expected NPV for project X considering the abandonment strategy?

A. -24,369.37

B. $1,954.67

C. $28,278.70

The correct answer is **B.**

To evaluate the expected Net Present Value (NPV) of project X considering the abandonment strategy, we must first calculate the NPV under both success and failure scenarios and then find the expected NPV by considering the probabilities of each scenario.

In the success scenario, where the annual after-tax operating cash flows are $75,000 for each of the three years, the NPV can be calculated using the formula for NPV, which is the sum of the present values of all cash flows associated with the project, including the initial outlay. The formula for NPV is given by:

$$\text{NPV} = -\text{Initial Outlay} + \sum_{t=1}^{n} \frac{CF_t}{(1+r)^t}$$

Where:

- CFt is the cash flow at time t
- r is the required rate of return
- n is the number of periods

If the project is a success,

$$\text{NPV} = -155,000 + \frac{75,000}{1.11^1} + \frac{75,000}{1.11^2} + \frac{75,000}{1.11^3} = \$28,278.70$$

If the project is a failure,

$$\text{NPV} = -155,000 + \frac{25,000}{1.11^1} + \frac{120,000}{1.11^1} = -\$24,369.37$$

The expected NPV is then,

$$0.5 \times 28,278.70 + 0.5 \times -24,369.37 = 1,954.67$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.3971 Which of the following is most likely the process used by a company to make capital investment decisions.

A. Capital allocation process.

B. Monitoring and post-audit.

C. Capital allocation planning.

The correct answer is A.

The capital allocation process is the method a company uses to distribute its financial resources among different potential investments, projects, or divisions. This process is crucial for a company's long-term success and growth, as it determines how the company's capital will be invested to generate the highest possible returns.

The capital allocation process involves several steps, including the identification of potential investment opportunities, the analysis and evaluation of these opportunities based on their expected returns and risks, and the decision-making process regarding which investments to pursue. This process ensures that the company's resources are used efficiently and effectively, supporting strategic objectives and maximizing shareholder value.

B is incorrect. Monitoring and post-audit refer to the steps taken after an investment has been made. These activities are crucial for evaluating the performance of the investment against expectations and for learning lessons that can be applied to future capital allocation decisions. However, they do not represent the entire process used by a company to make capital investment decisions but are rather components of the broader capital allocation process.

C is incorrect. Capital allocation planning is an important part of the capital allocation process, focusing on the strategic planning aspect of how resources are to be distributed among various projects or investments. While it is a critical component, it does not represent the full scope of the process. Planning involves setting priorities and determining the allocation of capital based on the company's strategic objectives and available resources.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.3972 Which of the following is *least likely* a step of the capital allocation process?

A. Generating an idea.

B. Creating a firm-wide capital budget.

C. Hiring a new team for project management.

The correct answer is **C.**

Capital allocation is the process of identifying and analyzing projects which will generate cash flows for a firm for over at least a year.

The four steps of the capital allocation process are:

i. **Idea generation**: Idea generation is the most important step of the capital allocation process. Ideas can be generated from within or from outside the company. Ideas can come from either the top or bottom management or any department from within the company.
ii. **Investment analysis**: Future cashflows are forecasted and analyzed to determine the project's profitability.
iii. **Capital allocation planning**: The profitable proposals are organized into a whole that fits the company's overall strategies. The projects' timings are also considered at this step.
iv. **Monitoring and post-audit**: Actual results are compared to the forecasted results, and any differences This last step helps monitor the forecasts and analysis that underlie the capital allocation process and improve business operations. It also helps analysts in the production of concrete ideas for future investments.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.3973 Which of the following project proposals is most likely categorized under the capital allocation process?

A. Replacing the current engines of the Istanbul airplanes fleet to reduce carbon dioxide emissions.

B. Replacing pencils by buying a new brand of pencils for the employees in the head office of a textile manufacturing firm

C. Increasing the internet data package of a company providing car cleaning services for a temporary period of 4 months.

The correct answer is **A.**

The capital allocation process involves strategic decision-making where companies decide how to invest their finite resources in various projects or assets that are expected to generate returns over time. This process is crucial for the growth and sustainability of a company. Among the given options, replacing the current engines of the Istanbul airplanes fleet to reduce carbon dioxide emissions is most likely categorized under the capital allocation process.

This project involves a significant investment in capital assets with the expectation of long-term benefits, including compliance with environmental regulations, potential savings on fuel due to increased efficiency, and a positive impact on the company's public image.

B is incorrect. Buying a new brand of pencils for employees does not constitute a capital allocation decision. This action represents a routine operational expense rather than an investment in long-term assets. Operational expenses such as office supplies do not generate direct returns over time in the same way that capital investments do.

C is incorrect. Increasing the internet data package for a temporary period of 4 months is an operational decision rather than a capital allocation decision. This action is aimed at addressing a short-term need and does not involve investing in long-term assets that generate returns over time. The temporary nature of this expense and its focus on operational efficiency rather than strategic growth or return on investment further distinguishes it from capital allocation decisions.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.3976 Which of the following is *most likely* a principle of the capital allocation process?

A. Cash flows are based on opportunity costs.

B. Cash flows are analyzed on a before-tax basis.

C. Financing costs of projects are deducted separately.

The correct answer is **A.**

Principles of capital allocation.

i. Decisions are based on incremental cash flows and not on accounting concepts such as net income.
ii. Cash flows are based on opportunity cost. What are the incremental cash flows that come with the project compared to what they would have been minus the project?
iii. The timing of cash flows is critical.
iv. Cash flows are analyzed on an after-tax basis.
v. Financing costs are ignored since they are already reflected in the required rate of return.
vi. The capital allocation cash flows are not the same as accounting net income.

As seen above, the most likely principle of the capital allocation process of the three given choices is that cash flows are based on opportunity costs.

B is incorrect. The cash flows of a capital allocation process are analyzed on an after-tax and not on a before-tax basis.

C is incorrect. Financing costs of a capital allocation process are ignored since they are already reflected in the required rate of return.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.4097 Which of the following is *least likely* a type of business maintenance capital project?

A. Expansion projects.

B. Regulatory projects.

C. Going concern projects.

The correct answer is **A.**

Expansion projects are primarily aimed at growing the size and scope of a business, rather than maintaining its current operational capacity. These projects can include launching new product lines, entering new markets, or acquiring other companies. The primary goal of expansion projects is to increase the company's market share and profitability, which inherently involves a higher level of risk and investment compared to maintenance projects.

Expansion projects are strategic decisions made by a company to enhance its competitive position and long-term financial performance. They often require significant capital investment and may lead to changes in the company's business model or operational processes.

B is incorrect. Regulatory projects are indeed a type of business maintenance capital project. These projects are undertaken to ensure that a company complies with laws, regulations, and standards set by governmental or regulatory bodies. Failure to comply with these regulations can result in legal penalties, fines, or other adverse consequences for the business.

Therefore, regulatory projects are essential for maintaining the legal and operational status of a company, ensuring that it can continue its current operations without interruption. Examples of regulatory projects include upgrading facilities to meet new environmental standards or implementing new safety protocols.

C is incorrect. Going concern projects are also a type of business maintenance capital project. These projects are essential for the continuous operation of the business and are aimed at maintaining or slightly improving the existing operational efficiency and capacity. They do not significantly alter the size or scope of the business but are crucial for ensuring that the company remains viable and competitive in its current market.

Examples of going concern projects include replacing outdated machinery, repairing critical infrastructure, or upgrading software systems to improve operational efficiency. These projects help a business maintain its competitive edge and operational effectiveness without expanding into new markets or significantly changing its business model.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.4098 Which of the following is *most likely* an option that allows a company to delay its investment decisions instead of investing now?

A. Timing options.

B. Flexibility options.

C. Fundamental options.

The correct answer is **A.**

Timing options are a strategic tool that companies can utilize to defer their investment decisions to a future date. This option is particularly valuable in environments of uncertainty, where waiting for more information can significantly influence the outcome of the investment. By choosing to delay an investment, a company can gather additional data, observe market trends, and make a more informed decision.

This approach can lead to better allocation of resources and potentially higher returns on investment. Timing options essentially provide companies with the flexibility to invest at an optimal time, rather than committing capital prematurely.

B is incorrect. Flexibility options, while valuable in their own right, do not specifically address the strategic decision to delay investment. These options are more related to operational flexibility, such as adjusting production levels or prices in response to market conditions.

While flexibility options can enhance a company's ability to respond to changes, they do not encapsulate the strategic decision-making process involved in choosing when to invest. Therefore, suggesting flexibility options as the answer misunderstands the specific nature of timing options in the context of investment decisions.

C is incorrect. Fundamental options refer to situations where the investment itself can be viewed as an option, often seen in research and development projects. These options are about the inherent value and potential of the investment, rather than the timing of the investment decision.

While fundamental options are crucial in strategic investment planning, they do not directly address the concept of delaying investment to gather more information or wait for more favorable conditions.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (d): Describe types of real options relevant to capital investments.

Q.4100 Which of the following is the *most appropriate* definition of inertia in relation to capital allocation pitfalls?

A. Failing to consider alternative investments.

B. Increasing capital investments every period with falling investment returns.

C. Management considers internally generated capital differently from externally generated capital.

The correct answer is **B.**

Inertia is one of the common pitfalls of the capital allocation process. This is when management increases its capital investments each period while the investment returns remain the same or decline. Management should be questioned on the justification of its capital investments and whether they should be considering alternative uses of capital.

A is incorrect. Failing to consider alternative investments is another common capital allocation pitfall. While considering good investment ideas, many alternatives may not be considered or even many different scenarios. Other common pitfalls include a source of capital bias, pushing pet projects, basing investment decisions on EPS, net income, or ROE, and internal forecasting errors.

C is incorrect. Management considering internally generated capital differently from externally generated capital falls under a source of capital bias. This is where management may treat internally generated capital as "free" compared to externally generated capital and allocate it similarly to previous periods. Management should treat all capital as having an opportunity cost.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.4101 An investment has the following cash flows:

Year	Cash Flows
0	$-300,000$
1	$120,000$
2	$160,000$
3	$-120,000$
4	$200,000$

Using a required rate of return of 11%, the investment's NPV is *closest to:*

A. -18,029

B. 60,000

C. 157,459

The correct answer is **A.**

To calculate the Net Present Value (NPV) of an investment, we discount all future cash flows back to their present value using the required rate of return and then sum these values, including the initial investment. The formula for NPV is given by:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

where CFt is the cash flow at time t, r is the required rate of return, and n is the number of periods.

Given the cash flows and a required rate of return of 11% (or 0.11), we can calculate the NPV as follows:

$$NPV = -\frac{300,000}{(1+0.11)^0} + \frac{120,000}{(1+0.11)^1} + \frac{160,000}{(1+0.11)^2} - \frac{120,000}{(1+0.11)^3} + \frac{200,000}{(1+0.11)^4}$$

Calculating each term:

$$NPV = -300,000 + \frac{120,000}{1.11} + \frac{160,000}{1.2321} - \frac{120,000}{1.367631} + \frac{200,000}{1.518748} = \$18,029$$

The investment would result in a net loss of $18,029 when considering the required rate of return of 11%.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.4102 Which of the two following projects should Theme Pharmaceuticals *most likely* undertake considering a required rate of return of 8%?

	Project A	Project B	Project C
Year 0	−150,000	−200,000	−40,000
Year 1	80,000	150,000	20,000
Year 2	30,000	−50,000	25,000
Year 3	100,000	160,000	30,000

A. Project A

B. Project B

C. Project C

The correct answer is **A.**

To determine which project Theme Pharmaceuticals should undertake, we calculate the Net Present Value (NPV) of each project using a required rate of return of 8%. NPV is a method used in capital budgeting to analyze the profitability of a projected investment or project. The formula for NPV is:

$$\text{NPV} = \sum_{t=0}^{n} \frac{\text{CF}_t}{(1+r)^t}$$

where CFt is the cash flow at time t, r is the discount rate (required rate of return), and n is the number of periods.

Project A has cash flows of -150,000 at Year 0, 80,000 at Year 1, 30,000 at Year 2, and 100,000 at Year 3. Using the required rate of return of 8%, the NPV calculation for Project A is:

$$\text{NPV}_A = -\frac{150,000}{(1+0.08)} + \frac{80,000}{(1+0.08)^1} + \frac{30,000}{(1+0.08)^2} + \frac{100,000}{(1+0.08)^3} = 29,177$$

Project B has cash flows of -200,000 at Year 0, 150,000 at Year 1, -50,000 at Year 2, and 160,000 at Year 3. The NPV calculation for Project B is:

$$\text{NPV}_B = -\frac{200,000}{(1+0.08)} + \frac{150,000}{(1+0.08)^1} - \frac{50,000}{(1+0.08)^2} + \frac{160,000}{(1+0.08)^3} = 23,035$$

Project C has cash flows of -40,000 at Year 0, 20,000 at Year 1, 25,000 at Year 2, and 30,000 at Year 3. The NPV calculation for Project C is:

$$\text{NPV}_C = -\frac{40,000}{(1+0.08)} + \frac{20,000}{(1+0.08)^1} + \frac{25,000}{(1+0.08)^2} + \frac{30,000}{(1+0.08)^3} = 23,767$$

Given the NPV calculations, Project A has the highest NPV of 29,177, making it the most profitable project for Theme Pharmaceuticals to undertake, considering the required rate of return of 8%.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.4103 Which of the following is the *most likely* an example of an externality?

A. Sunk costs.

B. Cannibalization.

C. Conventional cash flows.

The correct answer is **B.**

Cannibalization refers to a situation where a new product or service significantly reduces the sales and market share of an existing product within the same company. This phenomenon is considered a negative externality because it represents an unintended consequence that affects the company's overall performance negatively, without being directly related to the costs of producing or marketing the new product.

Externality, in economic terms, is an effect of a purchase or use decision by one set of parties on others who did not have a choice and whose interests were not taken into account. Cannibalization impacts the company's internal ecosystem by diminishing the value of existing products due to the introduction of a new product, thus fitting the definition of an externality.

A is incorrect. They remain constant regardless of the outcome of future decisions. The concept of sunk costs does not involve external effects on third parties or other products within the same company, which is a key characteristic of externalities. Therefore, sunk costs do not represent an example of an externality, as they are purely related to past financial decisions without directly impacting others outside of those decisions.

C is incorrect. Conventional cash flows describe a pattern of cash flow movements over time, typically characterized by an initial investment outlay followed by a series of positive cash inflows. This concept is fundamental in capital budgeting and investment analysis but does not inherently involve any external effects on third parties or unintended consequences outside the scope of the investment itself.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.4104 Which of the following is *most likely* a definition of return on invested capital (ROIC)?

A. This is the rate that a project's IRR must exceed for the project to be accepted by the company.

B. This is the rate used in discounting cash flows. It is the rate that the suppliers of capital require, given the riskiness of the project.

C. This is a measure of the profitability of a company or business segment relative to the amount of capital invested by equity and debtholders.

The correct answer is **C.**

Return on Invested Capital (ROIC) is a financial metric used to evaluate the efficiency of a company in allocating the capital under its control to profitable investments. It measures the company's ability to generate returns from its invested capital, which includes both equity and debt. The formula for calculating ROIC is given by:

$$\text{ROIC} = \frac{\text{Net Operating Profit After Taxes (NOPAT)}}{\text{Invested Capital}}$$

This formula highlights the importance of not just generating profits, but generating them from the effective use of capital. ROIC is a crucial metric for investors and analysts as it provides insight into how well a company is using its capital to generate profits. A higher ROIC value indicates a more efficient use of capital, which is a positive sign for investors looking for companies with sustainable competitive advantages.

A is incorrect. This option describes the hurdle rate, not ROIC. The hurdle rate is the minimum rate of return on a project or investment required by a manager or investor. It represents the lowest acceptable return on an investment, considering its risk. The hurdle rate is used to assess the feasibility of projects and is crucial in the capital budgeting process. It is not a measure of profitability relative to invested capital.

B is incorrect. This option refers to the cost of capital, which is different from ROIC. The cost of capital is the rate of return that a company must earn on its project investments to maintain its market value and attract funds. The cost of capital serves as a benchmark for evaluating investment projects, but it does not directly measure the profitability of a company relative to its invested capital.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.4105 The cash flows from a project are presented in Exhibit 1.

Exhibit 1: Projects Cash Flow

Year	Flows
0	-$22,000
1	+$5,000
2	+$10,000
3	+$3,000
4	+$6,000
5	+$1,000

The IRR of the project is *closest to*:

A. -10.35%

B. 3.70%

C. 5.28%

The correct answer is **C.**

The Internal Rate of Return (IRR) is a financial metric used to evaluate the profitability of potential investments. It is the discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero.

The IRR can be considered as the break-even interest rate at which an investment yields no profit and no loss. The IRR calculation involves finding the rate (r) that satisfies the following equation:

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t} = 0$$

To do this using the financial calculator, IRR can be calculated as:

CF_0 = -22,000,

C01 = 5,000,

C02 =10,000,

C03 = 3,000,

C04 = 6,000,

C05 = 1000

Then press "IRR" and then "CPT" to get the IRR as 5.28%

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital

(ROIC), and contrast their use in capital allocation.

Q.4107 Which of the following is *least likely* a principle of capital allocation?

A. Decisions are based on net income.

B. Measure incremental cash flows.

C. Decisions are based on incremental cash flows.

The correct answer is **A.**

The capital allocation process is a process that companies use to make decisions on capital projects, i.e., projects with a lifespan of at least one year. It is a cost-benefit process aimed at producing results greater than the cost of capital allocation efforts.

Principles of capital allocation.

i. Decisions are based on incremental cash flows and not on accounting concepts such as net income.
ii. Measure incremental cash flows. What are the incremental cash flows that come with the project compared to what they would have been minus the project?
iii. The timing of cash flows is critical.
iv. Cash flows are analyzed on an after-tax basis.
v. Financing costs are ignored.
vi. The capital allocation cash flows are not the same as accounting net income.

As seen above, capital allocation decisions are not based on net income but on incremental cash flows.

B and C are incorrect.They are principles of capital allocation.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (c): Describe principles of capital allocation and common capital allocation pitfalls.

Q.4670 Assume KKP Corporation is considering a capital investment of $25 million today. This investment is expected to return after tax cash flows of $3 million annually for the first four years and $5 million in the fifth year. If the required rate of return is 9%, what is the NPV of this investment?

A. -8.00

B. -12.03

C. -13.33

The correct answer is **B.**

NPV is a financial metric used to evaluate the profitability of an investment or project. NPV measures the difference between the present value of cash inflows and the present value of cash outflows over a specified time period.

$$NPV = CF_0 + \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \ldots + \frac{CF_T}{(1+r)^T}$$

$$NPV = -25 + \frac{3}{(1+0.09)^1} + \frac{3}{(1+0.09)^2} + \frac{3}{(1+0.09)^3} + \frac{3}{(1+0.09)^4} + \frac{5}{(1+0.09)^5}$$

$$NPV = -25 + 9.719 + 3.249 = -12.032$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.4671 Under which of the following steps of capital allocation process is the validation of assumptions and production of ideas for future investments most likely occur?

A. Idea generation

B. Planning and prioritization

C. Monitoring and post-investment review

The correct answer is **C.**

In the monitoring and post-investment review stage, projections are compared to the investment's performance, and adjustments are made. There are various reasons why this step is crucial. Initially, it assists in verifying the assumptions involved in the capital allocation procedure, exposing systematic mistakes such too optimistic projections. Additionally, it might also generate concepts for upcoming investments.

A is incorrect. The idea generation stage of the capital allocation process is a crucial step where potential investment opportunities are identified and evaluated. This stage involves generating ideas for potential projects or investments that could generate returns for the organization.

B is incorrect. The planning and prioritization stage is a crucial part of the capital allocation process where organizations strategically plan and prioritize their investment opportunities. This stage involves assessing the potential projects or initiatives identified during the idea generation stage and determining which ones align best with the organization's goals and objectives.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.4672 Assume KKP Corporation intends to make a capital investment of $120 million today and this investment is expected to have an after-tax cash flow $28 million per year for the next five years. What is the IRR of this investment?

A. 5.37%

B. 8.57%

C. 9.33%

The correct answer is A.

$$0 = -120 + \frac{28}{(1+\mathrm{IRR})^1} + \frac{28}{(1+\mathrm{IRR})^2} + \frac{28}{(1+\mathrm{IRR})^3} + \frac{28}{(1+\mathrm{IRR})^4} + \frac{28}{(1+\mathrm{IRR})^5}$$

Using the financial calculator,

[CF0] = -120

[CF1] = 28

[CF2] = 28

[CF3] = 28

[CF4] = 28

[CF5] = 28

[IRR], [CPT] = 5.3686%

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.1357 Nisha Jatoi is an equity analyst and is assigned to discount the net present value (NPV) of Indo Inc. that has 30% debt in its capital structure. If the after-tax cost of debt is 8%, the risk premium is 6%, the risk-free rate is 4%, and the Beta of Indo is 0.9, the discount rate Jatoi should use is *closest to*:

A. 9.4%.

B. 8.9%.

C. 17.4%.

The correct answer is **B.**

$$\text{Cost of equity} = \text{Risk-free rate} + \text{Beta (Market risk - Risk-free rate)}$$
$$= 4\% + 0.9 \times (6\%) = 0.094$$

$$\text{Discount rate} = (\text{Weight of debt} \times \text{After-tax cost of debt}) + (\text{Weight of equity} \times \text{Cost of equity})$$
$$\text{Discount rate} = (0.3 \times 0.08) + (0.7 \times 0.094) = 0.089$$

A is incorrect. It suggests using a discount rate of 9.4%, which is actually the calculated cost of equity before considering the weighted average with the cost of debt. This option does not accurately reflect the combined effect of both equity and debt in the company's capital structure, which is essential for calculating the WACC.

C is incorrect. It suggests a discount rate of 17.4%, which is significantly higher than what is calculated using the given data. This option does not follow the standard formula for calculating the WACC and does not accurately represent the cost of financing for Indo Inc. considering its mix of debt and equity.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 5: Capital Investments and Capital Allocation. LOS (b): Describe the capital allocation process, calculate net present value (NPV), internal rate of return (IRR), and return on invested capital (ROIC), and contrast their use in capital allocation.

Q.2882 A manager is valuing a project that is to be financed with 60% equity. Suppose the market risk premium is 4%, the risk-free rate is 5%, the after tax cost of debt is 7%, and the beta is 0.9, then the rate used for calculating the net present value (NPV) of the project is *closest to*:

A. 7.96%.

B. 8.60%.

C. 9.68%.

The correct answer is **A.**

The NPV of a project is calculated using the discount rate or weighted average cost of capital (WACC).
First, we will calculate the cost of equity using the CAPM.

$$\text{Cost of equity} = \text{Risk-free rate} + \text{Beta (Market risk premium)} = 5\% + 0.9(4\%) = 8.6\%$$

$$\text{WACC} = \text{Weight of debt} \times \text{Cost of debt} + \text{Weight of equity} \times \text{Cost of equity}$$

$$\text{WACC} = ((1 - 0.6) \times 7\%) + (0.6 \times 8.6\%) = 7.96\%$$

B is incorrect. 8.60% represents only the cost of equity calculated using the CAPM model and does not account for the weighted average of both the cost of equity and the cost of debt, which is necessary to determine the WACC.

C is incorrect. 9.68% does not correspond to any calculation related to the given data. It neither represents the cost of equity nor the WACC as per the given proportions of debt and equity financing.

CFA Level I, Portfolio Management, Learning Module 2: Portfolio Risk & Return: Part II. LOS (f): Explain the capital asset pricing model (CAPM), including its assumptions, and the security market line (SML).

Q.3934 Which stage in a company’s lifecycle is *most likely* characterized by slowing revenue growth, positive cash flow, and low cost of debt?

A. Start-up.

B. Growth.

C. Mature.

The correct answer is **C.**

The mature stage in a company's lifecycle is most accurately characterized by a deceleration in revenue growth, the generation of positive and stable cash flows, and a relatively low cost of debt. This stage signifies that the company has successfully navigated through its initial growth phases and has established a solid presence within its industry. Companies in the mature stage typically have a well-established customer base, efficient production and operational processes, and are able to generate consistent earnings.

A is incorrect. The start-up stage of a company's lifecycle is characterized by rapid revenue growth from a low base, negative cash flows due to significant upfront investment in product development and market entry, high business risk due to unproven business models and market acceptance, very limited access to debt financing due to the high risk of failure, and consequently, a high cost of debt for the debt that can be accessed.

B is incorrect. The growth stage of a company's lifecycle is characterized by rapidly increasing revenue growth as the company begins to see the payoff from its initial investments in product development and market entry. Cash flows improve as revenues grow, but can still be variable as the company continues to invest in growth opportunities. The business risk is medium, as the company has proven its business model to some extent but still faces significant competition and market challenges.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3935 Which of the following is *least likely* a reason for a mature company’s de-leveraging?

A. Share buybacks.

B. Share price appreciation.

C. Increased cash flow generation.

The correct answer is **A.**

Share buybacks are not a reason for a mature company's de-leveraging but rather a method that can lead to an increase in leverage ratios. De-leveraging refers to the process of reducing the level of a company's debt relative to its equity or assets. When a company buys back its shares, it uses available cash to purchase outstanding equity.

This action reduces the number of shares outstanding, potentially increasing the earnings per share (EPS) and the share price. However, it also reduces the company's cash reserves, which could have been used to pay down debt. If no debt is paid down while cash reserves decrease, the company's leverage could actually increase, not decrease.

B is incorrect. Share price appreciation is not a direct method of de-leveraging, but it can indirectly support de-leveraging efforts. When a company's share price appreciates, it reflects an increase in the market's valuation of the company's equity.

This higher equity valuation can improve the company's debt-to-equity ratio, a common measure of leverage. Although share price appreciation does not directly reduce the amount of debt on the company's balance sheet, it makes the company's capital structure appear less leveraged relative to its equity value.

C is incorrect. Increased cash flow generation is actually a primary reason for a mature company's de-leveraging. As companies mature and their operations stabilize, they often generate more consistent and higher levels of cash flow.

This increased cash flow can be used directly to pay down existing debt, reducing the company's overall leverage. Paying down debt with cash reduces the total amount of liabilities on the balance sheet, directly impacting the company's leverage ratios in a positive way.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3936 Which of the following is *most likely* a reason why share buybacks are attractive to companies?

A. They are not an actual expense to the company.

B. They reduce the share prices and per-share metrics.

C. They offer greater flexibility compared to dividends.

The correct answer is **C.**

Share buybacks offer companies a significant advantage in terms of financial flexibility compared to dividends. This flexibility stems from the fact that, unlike dividends, which once initiated, create an expectation for regular, ongoing payments, share buybacks do not establish such an expectation. Companies can choose to buy back shares when they have excess cash or when they believe their stock is undervalued, without committing to future buybacks.

A is incorrect. Share buybacks represent a significant use of a company's cash reserves. When a company decides to repurchase its shares, it is essentially investing in itself, using its cash resources to buy back equity from shareholders. This transaction reduces the company's cash reserves and is recorded as a reduction in shareholders' equity on the balance sheet.

B is incorrect. Share buybacks can have the opposite effect on per-share metrics. By reducing the number of shares outstanding, share buybacks can increase per-share measures such as earnings per share (EPS) and book value per share, assuming the buyback is conducted at prices below the intrinsic value of the shares. This improves financial ratios and signals to the market that the company's management believes the stock is undervalued.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3937 Which of the following is *least likely* an assumption of Modigliani–Miller?

A. There are no agency costs.

B. Investors have homogenous expectations.

C. Financing and investment decisions are dependent on each other.

The correct answer is **C.**

The Modigliani-Miller theorem is a cornerstone of corporate finance theory, proposing conditions under which the valuation of a firm is unaffected by its capital structure. One of the critical assumptions of the Modigliani-Miller theorem is that financing and investment decisions are independent of each other. This assumption implies that the choice between debt and equity financing does not influence a firm's investment decisions or its value.

A is incorrect. The assumption that there are no agency costs is part of the Modigliani-Miller framework. Agency costs refer to the costs associated with resolving conflicts of interest between various stakeholders in a firm, such as managers and shareholders. The Modigliani-Miller theorem assumes these costs do not exist, which simplifies the analysis by focusing solely on financing decisions without considering the potential for conflicts between different parties within the firm.

B is incorrect. The assumption that investors have homogeneous expectations is another fundamental aspect of the Modigliani-Miller theorem. This assumption means that all investors have the same expectations regarding the future cash flows generated by firms, their risk, and the future market conditions. This homogeneity in expectations ensures that all investors value securities in the same way, contributing to the theorem's conclusion that a firm's value is not affected by its financing choices.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3938 Which of the following would *most likely* be an effect of higher financial leverage on equity, under the Modigliani–Miller proposition II without taxes?

A. Higher financial leverage raises the cost of equity.

B. Higher financial leverage reduces the cost of equity.

C. Costs of equity remain the same regardless of financial leverage.

The correct answer is **A.**

Under the Modigliani–Miller proposition II, without taxes, higher financial leverage indeed raises the cost of equity. This proposition posits that the cost of equity is a linear function of the company's debt-to-equity ratio. This means that as a company increases its leverage through debt, the risk associated with the equity of the company also increases.

Equity holders demand a higher return for bearing this increased risk, which in turn raises the cost of equity. The rationale behind this is that debt holders have a priority claim on the company's assets and earnings. In the event of financial distress or bankruptcy, debt holders are paid before equity holders.

Therefore, as the proportion of debt in the company's capital structure increases, the risk to equity holders increases because the likelihood of them receiving any residual assets or earnings decreases. This increased risk is compensated by a higher expected return, or cost of equity.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3939 Which of the following is *most likely* a direct cost of financial distress?

A. Reputational risk.

B. Foregone investment opportunities.

C. Expenses of the bankruptcy process.

The correct answer is **C.**

The direct costs of financial distress primarily encompass the tangible expenses associated with the bankruptcy process. These costs include legal fees, administrative fees, and any other costs directly incurred during the process of filing for bankruptcy.

The essence of these costs lies in their direct outflow of cash from the company to cover the expenses related to the legal proceedings and other administrative activities necessary for navigating through bankruptcy. These costs are immediate and quantifiable, making them a significant concern for companies facing financial distress.

A is incorrect. Reputational risk does not involve a direct outflow of cash or incur immediate financial expenses but rather results in long-term financial implications through reduced revenues and increased cost of capital.

B is incorrect. This represents lost potential income rather than an immediate financial outlay. The impact of foregone investment opportunities is felt over time as the company misses out on growth opportunities and fails to keep pace with competitors, further exacerbating its financial difficulties.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3940 Which of the following is *least likely* a reason why a company’s target capital structure may differ from its optimal capital structure?

A. Lack of floatation costs.

B. Market value fluctuations.

C. Management trying to exploit short-term opportunities.

The correct answer is **A.**

Lack of flotation costs is the least likely reason why a company's target capital structure may differ from its optimal capital structure. Flotation costs refer to the expenses incurred by a company when it issues new securities, such as underwriting fees, legal fees, and registration fees. These costs can be significant, especially for smaller companies or those issuing securities infrequently. The presence of flotation costs can deter a company from frequently adjusting its capital structure to align with its optimal capital structure.

B is incorrect. Market value fluctuations are a valid reason why a company's target capital structure may differ from its optimal capital structure. The market value of a company's equity and debt can fluctuate due to various factors, including changes in interest rates, investor sentiment, and the company's financial performance.

C is incorrect. Management's efforts to exploit short-term opportunities is another valid reason for a discrepancy between a company's target and optimal capital structures. Management may decide to take advantage of favorable conditions in the debt or equity markets to adjust the company's capital structure in a way that is not aligned with the long-term optimal structure.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3941 Which of the following is *least likely* a method analysts use to estimate a company's target capital structure?

A. Assume a company's target capital structure from its stage in its life cycle.

B. Assume a company's current capital structure is its target capital structure.

C. Use comparables of comparable companies to infer a company's target capital structure.

The correct answer is **A.**

Assuming a company's target capital structure based on its stage in its life cycle is the least likely method analysts use to estimate a company's target capital structure. This approach is generally considered too simplistic and does not accurately reflect the complexities and strategic financial planning involved in determining a company's optimal capital structure.

Companies at the same stage in their life cycle can have vastly different capital structures due to differences in their business models, industry dynamics, risk profiles, and access to capital markets.

B is incorrect. Assuming a company's current capital structure is its target capital structure is a common method used by analysts. This approach is based on the premise that the company has already optimized its capital structure in response to its financial strategy and market conditions.

Analysts may look at the company's historical capital structure as an indication of its management's preferences and strategic objectives regarding financing. However, this method also has its limitations, as it assumes that the current capital structure is optimal and does not account for potential changes in the company's strategy or market conditions that could affect its capital structure decisions.

C is incorrect. Using comparables of similar companies to infer a company's target capital structure is another method frequently employed by analysts. This approach involves analyzing the capital structures of companies within the same industry and with similar operational characteristics. The rationale is that companies operating in the same industry and facing similar economic and competitive conditions may adopt similar capital structures.

By examining a peer group, analysts can gain insights into industry norms and practices regarding capital structure, which can be useful in estimating a company's target capital structure. However, while this method provides valuable benchmarks, it also has limitations, as it may not fully account for a company's unique circumstances and strategic considerations.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3942 Consider the following information:

Company	Market Value of Debt	Market of Value of Equity
A	\$120	\$150
B	\$80	\$90
C	\$150	\$180

A fourth company, Company X, operates in the same industry. Using the competitor's capital structure, what would be Company's X proportions of debt and equity?

A. 45.65% debt; 54.34% equity

B. 54.34% debt; 45.65% equity

C. 44.65% debt; 55.35% equity

The correct answer is **A.**

To determine Company X's proportions of debt and equity based on its competitors' capital structures, we calculate the average proportions of debt (Wd) and equity (We) from the given data. The market value of debt and equity for each company provides the basis for these calculations.

The proportion of debt and equity for each company is calculated by dividing the market value of debt by the total market value (debt + equity) for debt proportion, and similarly, dividing the market value of equity by the total market value for equity proportion.

The average of these proportions across the three companies gives an estimate for Company X's capital structure.

Using the values in the values in the tables, we have:

$$W_d = \frac{\frac{\$120}{(\$120+\$150)} + \frac{\$80}{(\$80+\$90)} + \frac{\$150}{(\$150+\$180)}}{3} = \frac{1.3695}{3} = 0.4565$$

$$W_e = \frac{\frac{\$150}{(\$120+\$150)} + \frac{\$90}{(\$80+\$90)} + \frac{\$180}{(\$150+\$180)}}{3} = \frac{1.63005}{3} = 0.5434$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3943 Which of the following factors will *least likely* affect the capital structure and the use of leverage by management?

A. Capital investment financing.

B. Capital structure policies and targets.

C. Information symmetry in the company.

The correct answer is **C.**

Information symmetry refers to a situation where all parties involved have access to the same information. In the context of capital structure decisions, while information asymmetry (the opposite of symmetry) between management and external investors can influence the cost of capital and investment decisions, it is not a primary driver of capital structure decisions. Capital structure decisions are more directly influenced by factors that affect the cost and availability of financing, such as interest rates, the company's risk profile, and market conditions.

A is incorrect. Capital investment financing is a critical factor that directly affects a company's capital structure and leverage. When a company decides to finance new capital investments, it must choose between using debt, equity, or a combination of both. The decision on how to finance these investments will directly impact the company's leverage ratios and overall capital structure.

B is incorrect. Capital structure policies and targets set by management and the board are fundamental determinants of a company's use of leverage. These policies and targets outline the preferred mix of debt and equity financing that aligns with the company's strategic objectives, risk tolerance, and financial health. They serve as a guideline for making financing decisions, directly influencing how much debt or equity the company uses to fund its operations and growth.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.3944 Under the pecking order theory, which source of capital would managers *most likely* prefer to use?

A. Debt.

B. Equity.

C. Internally generated funds.

The correct answer is **C.**

Under the pecking order theory, managers prioritize financing options based on the principle of minimizing the adverse selection costs associated with issuing new securities. The theory suggests that companies prefer to finance new projects using internally generated funds first, before resorting to external financing options such as debt and equity.

This preference is driven by the desire to avoid the higher costs and potential signaling issues associated with external financing. This makes them the most preferred source of capital under the pecking order theory.

A is incorrect. While debt is considered more favorable than equity in the pecking order theory, it is not the most preferred source of capital. The use of debt over equity is preferred due to the lower signaling costs associated with debt issuance.

However, debt also introduces financial risk due to the obligation to make fixed payments. Managers will opt for debt financing only after the internally generated funds are exhausted and before considering equity financing, which is seen as a last resort due to its higher signaling costs and the dilution of existing ownership.

B is incorrect. Equity is considered the least preferred source of financing under the pecking order theory. This preference is rooted in the information asymmetry between managers and investors. Issuing new equity is often interpreted by the market as a signal that the firm's stock might be overvalued, leading to potential adverse selection problems.

Managers are concerned that new equity issuance could be perceived negatively by investors, who may believe that insiders are looking to sell their shares at inflated prices. Therefore, equity financing is used only when internal funds and debt are insufficient to meet the company's financing needs.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3946 Which of the following stakeholders will *most likely* benefit from a reduction in a company's leverage?

A. Debtholders.

B. Equity shareholders.

C. Management.

The correct answer is **A.**

Debtholders are most likely to benefit from a reduction in a company's leverage. Leverage, in financial terms, refers to the amount of debt used by a company to finance its assets. A high level of leverage indicates that a company has taken on a significant amount of debt. While this can amplify returns when times are good, it also increases the risk of financial distress or bankruptcy during tough economic periods. When a company reduces its leverage, it decreases its risk of defaulting on its debt obligations.

B is incorrect. While it's true that reducing leverage can lead to a more stable financial position for the company, which might be seen as beneficial in the long term, equity shareholders often benefit from the use of leverage due to the potential for higher returns. Leverage can magnify the returns on equity when a company performs well, as the cost of debt is typically lower than the return on equity.

C is incorrect. Management's benefit from a reduction in leverage is not as straightforward as it might seem. On one hand, reducing leverage can make a company more financially stable and potentially improve its long-term prospects, which could be in management's interest, especially if their compensation includes stock options or other incentives tied to the company's performance.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3947 Consider the following information for company XYZ Plc. that is being valued using the projected cash flows from its new projects:

	Current year	Next Period Forecast
Book value of debt	\$40	\$40
Market value of debt	\$60	\$62
Equity's book value	\$50	\$70
Equity market value	\$90	\$110

The weights that should apply when estimating XYZ’s cost of capital for debt and equity, respectively, are:

A. 0.3605 and 0.6395.

B. 0.3636 and 0.6364.

C. 0.4444 and 0.5556.

The correct answer is **A.**

When calculating the cost of capital for XYZ Plc., it is essential to use the market values of debt and equity rather than their book values. This approach is because market values more accurately reflect the current economic reality and the investors' perceptions of the company's value and risk.

The weights of debt (Wd) and equity (We) in the company's capital structure are calculated using the market values of debt and equity. For the next period forecast, the market value of debt is \$62, and the market value of equity is \$110. The weights are calculated as follows:

Using the table above we have:

$$W_d = \frac{\$62}{(\$62 + \$110)} = 0.36047$$

$$W_e = \frac{\$110}{(\$62 + \$110)} = 0.63953$$

These weights indicate the proportion of debt and equity in the company's capital structure, which are essential in calculating the weighted average cost of capital (WACC). The WACC is used as the discount rate in valuing the company's new projects based on projected cash flows.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (a): Calculate and interpret the weighted-average cost of capital for a company.

Q.3948 Which of the following sources of information do public market debtholders *least likely* rely on when making investment decisions?

A. Public information.

B. Credit rating agencies.

C. Access to company management.

The correct answer is **C.**

Public market debtholders are least likely to rely on access to company management when making investment decisions. This is primarily because public market debtholders, unlike banks or private lenders, typically do not have direct access to company management or non-public information about the company.

This limitation is a result of the structure of public markets, where investments are made based on publicly available information to ensure fairness and transparency. The reliance on public information and third-party assessments, such as those provided by credit rating agencies, helps to mitigate the information asymmetry between company insiders and public investors.

A is incorrect. Public information is a crucial source of information for public market debtholders. This category includes financial statements, news releases, industry analyses, and other publicly disclosed materials. These pieces of information are essential for investors to make informed decisions. Public market debtholders rely heavily on this information to assess the financial health and performance of a company, evaluate its creditworthiness, and make investment decisions.

B is incorrect. Credit rating agencies play a significant role in the decision-making process of public market debtholders. These agencies assess the creditworthiness of issuers of debt securities, including corporations and government entities, and assign ratings that reflect their analysis of the issuer's ability to meet its financial commitments. These ratings are an important tool for investors, including public market debtholders, as they provide an independent assessment of the risk associated with investing in a particular debt security.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3949 Which of the following is *least likely* a safeguard used by debtholders to protect their interests?

A. Debt covenants.

B. Financial distress costs.

C. Decisions that increase a company’s leverage.

The correct answer is **C.**

Decisions that increase a company's leverage are least likely to be a safeguard used by debtholders to protect their interests. This is because increasing leverage means increasing the amount of debt relative to equity in the company's capital structure, which inherently increases the risk to debtholders. Higher leverage can lead to higher interest payments, which may strain the company's cash flows and increase the risk of default.

A is incorrect. Debt covenants are a safeguard used by debtholders to protect their interests. These covenants are terms included in the debt agreement that limit or restrict certain actions by the borrower to protect the lender's interests. They covenants help ensure that the company remains in a financial position to meet its debt obligations, thereby protecting the debtholders' interests.

B is incorrect. Financial distress costs, while not a direct safeguard, are a consideration that indirectly protects debtholders' interests. Financial distress costs refer to the costs a company incurs when it is experiencing financial difficulties, such as the inability to meet its debt obligations.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3951 According to the Modigliani–Miller Proposition I with corporate taxes, which of the following is *most likely* true?

A. The cost of equity is a linear function of the company's debt-to-equity ratio.

B. The market value of a company is not affected by the capital structure of the company.

C. The market value of a levered firm is equal to the value of an unlevered firm plus the value of the debt shield.

The correct answer is **C.**

According to the Modigliani–Miller Proposition I with corporate taxes, the market value of a levered firm is indeed equal to the value of an unlevered firm plus the value of the tax shield provided by debt. This proposition highlights the benefit of debt financing due to the tax deductibility of interest payments. The value of the tax shield is essentially the present value of these tax savings. The Modigliani–Miller Proposition I with corporate taxes thus suggests that by incorporating debt into its capital structure, a firm can increase its total value.

A is incorrect. The statement that the cost of equity is a linear function of the company's debt-to-equity ratio pertains to the Modigliani–Miller Proposition II without corporate taxes. This proposition explains how the cost of equity increases as a company takes on more debt, to compensate equity holders for the increased risk associated with higher leverage. However, this does not directly relate to the market value of the firm in the context of corporate taxes, as outlined in Proposition I with taxes.

B is incorrect. The assertion that the market value of a company is not affected by the capital structure of the company is a principle of the Modigliani–Miller Proposition I without corporate taxes. It asserts that in a world without taxes, transaction costs, or other market imperfections, the market value of a firm is determined by its earning power and the risk of its underlying assets, and not by how the firm is financed. However, once corporate taxes are introduced, as in the modified Proposition I, the capital structure does indeed affect the firm's market value due to the tax advantages of debt financing.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3952 Which of the following companies would *least likely* be an exception to the general relationship between company maturity and capital structure?

A. Startups.

B. Cyclical industries.

C. Capital-intensive businesses with marketable securities.

The correct answer is **A.**

Startups are typically in the initial stage of the company lifecycle, characterized by high risk, limited revenues, and significant cash consumption for growth and development. This stage is crucial for understanding the general relationship between company maturity and capital structure. As companies mature, they tend to generate more stable cash flows, allowing them to take on more debt responsibly. However, startups, due to their inherent risk and lack of stable cash flows, are less likely to follow this pattern, making them the least likely exception to the general relationship between company maturity and capital structure.

B is incorrect. Cyclical industries, such as mining or manufacturing, experience significant fluctuations in their cash flows due to the cyclical nature of their markets. These fluctuations can make debt financing riskier, as their ability to meet fixed obligations may vary widely with the economic cycle. Therefore, companies in cyclical industries might not follow the typical pattern of increasing debt usage as they mature, making them a potential exception to the general relationship between company maturity and capital structure.

C is incorrect. Capital-intensive businesses with marketable securities, such as utilities or telecommunications companies, often have large amounts of fixed assets and may issue debt against these assets. The presence of marketable securities can provide additional liquidity, making it easier for these companies to manage debt. As such, these companies might follow a different pattern in their capital structure evolution compared to the general relationship between company maturity and capital structure.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.3953 Which of the following is *least likely* a Modigliani–Miller Assumption?

A. Investors borrow and lend at the market rate.

B. Investors agree on an investment's expected cash flows.

C. Financing and investment decisions are independent of each other.

The correct answer is **A.**

The Modigliani-Miller theorem is a cornerstone of corporate finance theory, proposing that under certain market conditions, the value of a firm is unaffected by how that firm is financed, whether through debt or equity. One of the critical assumptions underlying this theorem is that investors can borrow and lend at a risk-free rate, not the market rate.

This assumption is crucial because it implies that the financing decisions of a firm (whether to fund operations through debt or equity) do not affect its value in a perfect market. The risk-free rate is a theoretical rate of return of an investment with zero risk, meaning it is a safe bet for investors. This contrasts with the market rate, which is influenced by a variety of factors including market demand, investor behavior, and overall economic conditions, and carries a higher level of risk.

B is incorrect. It is indeed one of the Modigliani-Miller assumptions. Investors agreeing on an investment's expected cash flows is essential for the theorem's context, as it eliminates disagreements and uncertainties about the future performance of investments. This consensus ensures that the market operates efficiently, with prices reflecting all available information and expectations about future cash flows.

C is incorrect. It is another assumption of the Modigliani-Miller theorem. The independence of financing and investment decisions is a critical aspect of the theorem, suggesting that how a firm finances its operations (through debt or equity) does not influence its investment decisions or the overall market's perception of the firm's value. This assumption is vital for the theorem's conclusion that the capital structure of a firm does not affect its value in a perfect market.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.3954 Consider the following information:

Market value of debt	\$80 million
Market value of equity	\$120 million
Taxes	25%
Before-tax cost of debt	6%
Cost of equity	9%

The weighted average cost of capital (WACC) is *closest* to:

A. 7.2%.

B. 7.8%.

C. 8.6%.

The correct answer is **A.**

The Weighted Average Cost of Capital (WACC) is a crucial metric in finance that represents the average rate of return a company is expected to pay its security holders to finance its assets. The WACC is calculated by weighting the cost of each capital component (equity, debt, etc.) by its proportional weight in the total capital structure and adjusting for taxes. The formula for WACC is given by:

$$\text{WACC} = \left(\frac{E}{V}\right) \times \text{Re} + \left(\frac{D}{V}\right) \times \text{Rd} \times (1 - T_c)$$

where:

- E is the market value of the equity,
- D is the market value of the debt,
- V = E + D is the total market value of the company's financing (equity and debt),
- Re is the cost of equity,
- Rd is the cost of debt, and
- Tc is the corporate tax rate.

Given the information:

- Market value of debt (D) = $80 million,
- Market value of equity (E) = \$120 million,
- Taxes (Tc) = 25%
- Before-tax cost of debt (Rd) = 6%, and
- Cost of equity (Re) = 9%.

The total capital (V) is the sum of the market value of debt and equity, which is $200 million ($80 million + $120 million). Using the WACC formula:

$$\text{WACC} = \left(\frac{\$120\text{ million}}{\$200\text{ million}}\right) \times 9\% + \left(\frac{\$80\text{ million}}{\$200\text{ million}}\right) \times 6\% \times (1 - 25\%)$$

After performing the calculations:

$$\text{WACC} = 0.6 \times 9\% + 0.4 \times 6\% \times 0.75 = 5.4\% + 1.8\% = 7.2\%$$

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (a): Calculate and interpret the weighted-average cost of capital for a company.

Q.4047 Which of the following is *most likely* to increase the operating leverage of a company?

A. Decreasing the price of products.

B. Relying on debt financing instead of equity financing.

C. Substituting salaried workforce with temporary employees.

The correct answer is **A.**

Decreasing the price of products is most likely to increase the operating leverage of a company. Operating leverage is a measure of how revenue growth translates into growth in operating income. It is determined by the company's cost structure, specifically the proportion of fixed costs to variable costs.

A higher operating leverage indicates that a small change in sales can lead to a larger change in operating income, due to the high proportion of fixed costs. When a company decreases the price of its products, it may see an increase in sales volume. However, because the fixed costs remain constant, the company's operating leverage increases as the proportion of variable costs (in this case, the cost of goods sold) decreases in relation to fixed costs.

B is incorrect. Relying on debt financing instead of equity financing affects the company's financial leverage, not its operating leverage. Financial leverage is concerned with the impact of debt on the company's earnings per share and cost of capital.

C is incorrect. Substituting a salaried workforce with temporary employees can indeed reduce fixed costs, as salaries are typically fixed costs, while payments to temporary employees can be more variable and aligned with the company's production needs. This reduction in fixed costs would actually decrease operating leverage. Operating leverage is higher when a company has a greater proportion of fixed costs.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4114 Which of the following is *most likely* an external factor affecting a company’s capital structure?

A. Existing leverage.

B. Market conditions.

C. Capital structure policies .

The correct answer is **B.**

Market conditions significantly influence a company's capital structure decisions. These conditions encompass a wide range of economic and financial factors, including but not limited to interest rates, the overall state of the economy, investor sentiment, and the availability of financing.

Market conditions also affect the cost of equity, as investor demand for stocks can vary widely based on economic forecasts, market volatility, and other external factors. Therefore, understanding and adapting to market conditions is crucial for companies aiming to optimize their capital structure in a way that minimizes costs and maximizes financial flexibility and shareholder value.

A is incorrect. A company's decision to increase or decrease its leverage is influenced by its internal assessments of risk, cost of capital, and strategic objectives. While existing leverage can affect a company's future financing options and costs, it is fundamentally a result of internal policy decisions and historical financing choices rather than external market forces.

C is incorrect. Capital structure policies are the guidelines or strategies that a company adopts to manage its mix of debt and equity financing. These policies are internal to the company and are shaped by its financial goals, risk tolerance, and the strategic direction set by its management and board of directors.

While these policies must consider external market conditions, they are fundamentally a reflection of the company's internal decision-making processes and priorities. Therefore, capital structure policies are not an external factor but rather an internal mechanism through which a company navigates its financing decisions.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4115 Which of the following is *least likely* associated with a company in the start-up stage of a company's life cycle?

A. Low cost of debt.

B. High business risk.

C. Limited debt availability.

The correct answer is **A.**

Start-up companies are generally characterized by their high-risk profile, which stems from unproven business models, uncertain market acceptance, and often volatile cash flows. These factors contribute to a higher cost of debt for start-ups, as lenders perceive them as riskier investments compared to more established companies. Additionally, start-ups may be required to provide more substantial collateral or agree to more stringent loan covenants.

B is incorrect. High business risk is a hallmark of start-up companies. This risk arises from various factors, including untested business models, the challenge of establishing a customer base, and the potential for rapid changes in the market or technology. These uncertainties contribute to the perception of start-ups as high-risk ventures.

C is incorrect. Limited debt availability is a characteristic commonly associated with start-up companies. Due to their high-risk profile and lack of a proven track record, start-ups often find it challenging to access debt financing. Traditional lenders, such as banks, may be hesitant to extend credit to start-ups without substantial collateral or a clear path to profitability. This constraint on borrowing reflects the cautious approach of lenders towards start-up companies, further emphasizing the close association between limited debt availability and the start-up stage of a company's life cycle.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4117 Which of the following is *most likely* a direct cost of financial distress?

A. Impaired ability to conduct business

B. Foregone investment opportunities

C. Cash expenses of the bankruptcy process

The correct answer is **C.**

The direct costs of financial distress primarily encompass the tangible, cash expenses directly associated with the bankruptcy process. These costs include legal fees, court fees, and other related administrative expenses incurred during the process of filing for bankruptcy.

These expenses are unavoidable and quantifiable, making them direct costs. They reduce the value of the firm's assets available to creditors and shareholders by consuming a portion of the firm's resources. This reduction in asset value is a significant concern for firms facing financial distress, as it directly impacts the recoverable amount by stakeholders.

A is incorrect. The impaired ability to conduct business refers to the operational challenges and limitations a firm faces due to financial distress. This includes damage to reputation, loss of customers, and difficulties in maintaining supplier relationships.

While these factors significantly impact the firm's performance and value, they are considered indirect costs. Indirect costs are more challenging to quantify as they do not directly involve cash outflows but result in lost revenues and increased operational costs over time.

B is incorrect. It does not involve direct cash outflows or expenses. Instead, it represents a missed chance to generate additional income and improve the firm's financial position.

CFA Level I, Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4118 Which of the following reasons is *least likely* a reason why a company's capital structure targets use book value instead of market value?

A. Market values change dramatically.

B. Lenders and rating agencies use book values in their calculations.

C. The amounts and types of capital invested by the company is not of significance.

The correct answer is **C.**

This is the least likely reason because the amounts and types of capital invested by a company are indeed significant. The capital structure of a company refers to the mix of its long-term debt, specific short-term debt, common equity, and preferred equity. The decision on how much of each to use is crucial because it affects the company's risk and the value of the company.

Book values, which are derived from the company's financial statements, provide a historical cost of these capital components. They are used in various financial ratios and calculations that help in assessing the company's financial health and making strategic decisions.

A is incorrect. The statement that market values change dramatically is a valid reason for companies to prefer book values over market values in their capital structure targets. Market values of debt and equity can be highly volatile, fluctuating due to market conditions, investor sentiment, and other external factors. This volatility can make it challenging for companies to maintain a stable and predictable capital structure if they were to base their targets on market values.

B is incorrect. Lenders and rating agencies using book values in their calculations is another valid reason for companies to focus on book values rather than market values when setting capital structure targets. Lenders often assess a company's creditworthiness based on financial ratios that use book values, such as the debt-to-equity ratio.

By aligning their capital structure targets with the metrics used by lenders and rating agencies, companies can ensure they are viewed more favorably in terms of credit risk, potentially leading to better borrowing terms and lower costs of capital.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Q.4119 Which of the following reasons *least likely* describes the almost negligible debt amount in the capital structures of startup companies?

A. Low cost of debt financing.

B. Lack of assets to be used to secure debt.

C. Companies in the startup stage prefer equity to debt financing.

The correct answer is **A.**

Startup companies often have negligible amounts of debt in their capital structures primarily due to the lack of assets that can be used as collateral for securing debt financing. Lenders typically require tangible assets to serve as security against the loan to mitigate the risk of default. Startups, being in their nascent stages, usually possess limited tangible assets, making it challenging for them to meet the collateral requirements of traditional debt financing.

B is incorrect. Any debt financing available to startups typically comes with high interest rates to compensate for the increased risk, making it an unattractive option for many early-stage companies. This high cost of borrowing discourages startups from pursuing debt financing.

C is incorrect. Startups may indeed prefer equity financing over debt to avoid the burden of regular interest payments and the risk of default. However, the preference for equity is not merely a matter of choice but often a necessity driven by the lack of access to debt financing. Equity financing does not require collateral and is more accessible to startups, albeit at the cost of diluting ownership.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4120 Which of the companies listed below *most likely* has the highest proportion of debt in its capital structure?

A. A retail company in its growth phase.

B. A software company in its mature phase.

C. A real estate company in its growth phase.

The correct answer is **C.**

A real estate company in its growth phase is most likely to have the highest proportion of debt in its capital structure. Real estate is a capital-intensive industry, requiring significant investment in property, buildings, and other fixed assets. These assets can serve as collateral for loans, making it easier for real estate companies to secure debt financing. Debt financing is a common way to meet their high funding requirements due to the ability to leverage large amounts of capital at a relatively lower cost compared to equity financing.

A is incorrect. A retail company in its growth phase is less likely to have a high proportion of debt in its capital structure compared to a real estate company. Retail companies, especially in their growth phase, often prioritize flexibility and agility to adapt to market changes.

While debt can provide necessary capital for expansion, it also comes with fixed obligations that can reduce a company's financial flexibility. Retail companies may opt for a mix of equity and debt financing to balance growth with financial stability, but the proportion of debt is generally lower than in capital-intensive industries like real estate.

B is incorrect. A software company in its mature phase is unlikely to have a high proportion of debt in its capital structure. Software companies are typically characterized by low capital expenditure requirements, as their business primarily revolves around intellectual property rather than physical assets.

In the mature phase, a software company would have established cash flows and potentially less need for external financing. When external financing is sought, these companies might prefer equity financing or retained earnings to fund any expansion or development projects due to the lower risk of financial distress and the absence of fixed repayment obligations associated with debt financing.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4121 KCY Bank Holdings had 25% debt and 75% equity in its capital structure. After restructuring, it now has 50% debt and 50% equity. Assuming a perfect capital market, which of the following statements is *most likely* correct?

A. KCY is more valuable after restructuring.

B. KCY was more valuable before restricting.

C. KCY's value is the same before and after restructuring.

The correct answer is **C.**

According to the Modigliani and Miller (M&M) propositions, in a perfect capital market, the capital structure of a company does not affect its overall value. This theory asserts that the market value of a firm is determined by its earning power and the risk of its underlying assets, and is independent of the way it finances its investments or distributes dividends.

Therefore, the restructuring of KCY Bank Holdings from a 25% debt and 75% equity structure to a 50% debt and 50% equity structure would not change the overall value of the firm in a perfect capital market scenario. This conclusion is drawn from the M&M Proposition I without taxes, which states that the value of a leveraged firm is the same as the value of an unleveraged firm.

A is incorrect. It suggests that KCY Bank Holdings is more valuable after restructuring, which implies that increasing debt relative to equity inherently increases the firm's value. This contradicts the M&M propositions, which argue that in a perfect capital market, the firm's value is unaffected by its financing mix. The value of a firm is primarily determined by its operational performance and not by how it is financed.

B is incorrect. It implies that KCY was more valuable before the restructuring, suggesting that a lower level of debt relative to equity inherently increases a firm's value. This statement also contradicts the M&M propositions, which state that in a perfect capital market, the capital structure does not influence the firm's value. The value of a firm is independent of its debt-to-equity ratio and is instead determined by its business operations and the risk of its assets.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (c): Explain the Modigliani-Miller propositions regarding capital structures.

Q.4123 Assume that a company's debt-to-equity ratio of 0.6 reflects its target capital structure. The weight of debt that the company should use in its cost of capital calculations is *closest* to:

A. 0.38

B. 0.60

C. 0.63

The correct answer is **A.**

The debt-to-equity ratio, given as 0.6, indicates the proportion of debt financing relative to equity financing in the company's capital structure. To find the weight of debt, we use the formula:

$$\text{Weight of Debt} = \frac{DE}{1 + \frac{D}{E}}$$

Substituting the given debt-to-equity ratio of 0.6 into the formula, we get:

$$\text{Weight of Debt} = \frac{0.6}{1 + 0.6} = \frac{0.6}{1.6} = 0.375$$

This weight represents the proportion of the company's total capital that is financed through debt, and it is crucial for accurately calculating the company's overall cost of capital.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (b): Explain factors affecting capital structure and the weighted-average cost of capital.

Q.4124 After issuing debt, a hypothetical company's WACC increases from 8% to 10%. Which of the following statements is *most likely* correct regarding the company?

A. The company is operating at its optimal capital structure.

B. The company is operating beyond its optimal capital structure.

C. The company can obtain equity financing more cheaply than debt financing.

The correct answer is **B.**

When a company issues debt and its Weighted Average Cost of Capital (WACC) increases from 8% to 10%, it indicates that the company is likely operating beyond its optimal capital structure. The optimal capital structure is the mix of debt, equity, and other financing sources that minimizes the company's WACC and, in turn, maximizes the company's value. An increase in WACC after issuing debt suggests that the costs associated with additional debt, such as financial distress costs and the risk of default, have outweighed the benefits of the tax shield provided by debt financing.

A is incorrect. If the company were operating at its optimal capital structure, issuing additional debt would not increase the WACC. At the optimal point, any change in the capital structure, either through issuing more debt or equity, would lead to an increase in the company's WACC, indicating that the company has deviated from its optimal mix of financing sources. Therefore, an increase in WACC after issuing debt contradicts the notion that the company is at its optimal capital structure.

C is incorrect. The increase in WACC indicates that the marginal cost of debt has become higher, possibly due to the company taking on too much debt, which increases the financial risk and, consequently, the cost of both debt and equity. However, this does not directly imply that equity financing is cheaper than debt financing. The cost of equity could still be higher than the cost of debt, even after the increase in WACC, due to the inherent risk premium that equity investors require over debt holders.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 6: Capital Structure. LOS (d): Describe optimal and target capital structures.

Learning Module 7: Business Models

Q.4027 Which of the following is *least likely* an aspect of a business model?

A. Pricing model.

B. Method of service to customers.

C. Management structure of a firm.

The correct answer is **C.**

The management structure of a firm is least likely to be considered an aspect of a business model. A business model primarily focuses on how a company creates, delivers, and captures value. It encompasses the strategies and practices a company employs to attract and serve its customers, how it positions and prices its products or services, and how it generates revenue and profits.

The management structure, while crucial for the operational execution of a business model, is more related to the internal organization and governance of the company rather than the outward-facing elements that define its interactions with the market and its customers.

A is incorrect. The pricing model is a fundamental component of a business model. It outlines how a company sets prices for its products or services, which directly impacts its revenue streams and market competitiveness.

The pricing model is closely tied to the value proposition, as it reflects the perceived value of the offering to the target customers. It also influences customer acquisition and retention strategies, making it integral to the overall business model.

B is incorrect. The method of service to customers is another critical aspect of a business model. This includes how a company delivers its products or services to its customers, which can range from direct sales to online platforms, and how it ensures customer satisfaction and engagement.

The service delivery model affects the customer experience, operational efficiency, and scalability of the business. It is essential for aligning the company's offerings with customer needs and preferences, thereby supporting the value proposition and contributing to competitive advantage.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (a): Describe key features of business models.

Q.4029 Regarding target customers of a firm as outlined in the business model, which of the following is *least likely* considered?

A. Type of price discrimination.

B. Target demographic segments.

C. The target customer segments that will be served.

The correct answer is **A.**

Type of price discrimination is least likely considered when outlining target customers in a firm's business model. Price discrimination involves charging different prices to different customers for the same product or service, based on factors such as willingness to pay, purchase quantity, or market segment. This strategy is more closely related to the pricing model of a firm, which is a component of the overall business model but not directly related to the identification of target customers.

B is incorrect. Target demographic segments are a crucial aspect of defining a firm's target customers. Demographic segments can include age, gender, income level, education, and more. Understanding these aspects of potential customers helps a firm tailor its products, marketing strategies, and services to meet the specific needs and preferences of its target market.

C is incorrect. Identifying the target customer segments that will be served is fundamental to a firm's business model. This involves specifying the particular groups of customers the firm aims to reach, which could be based on various criteria such as behavior, needs, or other characteristics. Knowing the target customer segments enables a firm to design and implement effective marketing strategies, develop products or services that meet specific needs, and ultimately achieve a competitive advantage in the market.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS b: Describe various types of business models.

Q.4030 One of the key features of a business model is a description of what a company offers. Which of the following key issues is *most likely* discussed here?

A. What differentiates the products of a firm from those of its competitors.

B. Description of how a firm will deliver its products to its customers.

C. The types of assets that facilitate the delivery of products to the customers.

The correct answer is **A.**

Describing what a company offers within its business model primarily involves detailing the products or services provided and highlighting what sets these offerings apart from competitors. This differentiation is crucial as it directly impacts the company's value proposition to its target customers. A well-defined differentiation strategy can significantly influence customer preference and loyalty, thereby playing a pivotal role in the company's competitive advantage.

B is incorrect. The description of how a firm will deliver its products to its customers pertains to the logistics and distribution strategies of the company, which are indeed important components of a business model but are not the focus of this question. The delivery mechanisms are about the operational aspects of reaching the customers, which, while crucial, do not directly address the question of what the company offers and how those offerings are differentiated in the marketplace.

C is incorrect. The types of assets that facilitate the delivery of products to customers relate to the operational and infrastructural aspects of a business model. These assets, such as physical stores, warehouses, and online platforms, are essential for the execution of the company's channel strategy. However, this option does not directly address the question's focus on the description of the company's offerings and their differentiation from competitors.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (a): Describe key features of business models.

Q.4032 Which of the following *most likely* describes a channel strategy that involves both physical and digital methods of completing a sale?

A. Direct sales strategy.

B. Omnichannel strategy.

C. Traditional channel strategy.

The correct answer is **B.**

An omnichannel strategy effectively integrates multiple methods of shopping available to consumers, such as online, in a physical store, or through a phone, to provide a seamless customer experience. This approach allows customers to engage with a company in a physical store, on an online website or mobile app, through a catalog, or through social media. A key component of the omnichannel strategy is the ability of customers to complete transactions through both physical and digital channels.

A is incorrect. Direct sales strategy refers to a model where the product or service moves directly from the manufacturer to the consumer without involving intermediaries like retailers, wholesalers, or agents. This strategy focuses on personal selling and direct marketing to engage customers, often bypassing the traditional retail environment. While direct sales can incorporate digital methods, such as online ordering, it does not inherently involve a blend of both physical and digital sales channels in the way an omnichannel strategy does.

C is incorrect. Traditional channel strategy typically involves a linear sequence of product distribution from manufacturers to wholesalers and then to retailers before reaching the end consumer. This strategy focuses on distributing products through conventional physical channels and does not inherently incorporate digital methods.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (a): Describe key features of business models.

Q.4033 A student wishes to buy a laptop. He places an order on an online platform. While placing his order, he enters the preferred pick-up location, among other information. The channel strategy used in this business model is *most likely*:

A. Direct sales strategy.

B. Omnichannel strategy.

C. Traditional channel strategy.

The correct answer is **B.**

The omnichannel strategy involves integrating multiple methods of shopping available to consumers (e.g., online, in a physical store) to provide a seamless shopping experience. In the scenario described, the student uses an online platform to purchase a laptop and specifies a preferred pick-up location.

This approach combines the convenience of online shopping with the physical aspect of picking up the product at a designated location. The omnichannel strategy is characterized by its focus on providing a cohesive customer experience across different channels and touchpoints.

A is incorrect. Direct sales strategy refers to a method where companies sell their products directly to consumers without the involvement of intermediaries like retailers or wholesalers. In the scenario provided, the student orders a laptop online and chooses a pick-up location, which does not necessarily imply a direct sale from the manufacturer to the consumer.

The involvement of an online platform and a pick-up location suggests a more complex distribution model than a straightforward direct sales strategy. Without clear evidence that the sale is happening directly from the manufacturer to the consumer, it is not accurate to classify this as a direct sales strategy.

C is incorrect. Traditional channel strategy typically involves selling products through conventional distribution channels, such as through physical retail stores, without the integration of digital platforms. In the given scenario, the student's ability to order online and choose a pick-up location indicates the use of digital technology to facilitate the sale, which moves beyond the scope of traditional channel strategies.

Traditional strategies do not typically encompass the digital elements or the flexibility in customer interaction and fulfillment options that are evident in this scenario.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (a): Describe key features of business models.

Q.4038 Which of the following is *most likely* true regarding the value chain of a firm? Value chain:

A. describes how a business model creates value for the owners of a firm.

B. refers to a sequence of firm internal and external processes involved in creating the products.

C. only involves functions that customers value and are executed by a single firm. Such functions, however, do not involve the physical handling of the product.

The correct answer is **C.**

The value chain of a firm encompasses all the activities and processes that a company undertakes to deliver a valuable product or service to its customers. It is a concept that highlights how each step from the conception of a product or service to its delivery to the end customer adds value.

The value chain involves not just the functions that directly contribute to the final product or service but also the support functions that enable these activities to be carried out effectively.

A is incorrect. Option A incorrectly limits the scope of the value chain to only creating value for the owners of a firm. In reality, the value chain framework is designed to understand how value is created for customers through various activities and processes within the firm. It encompasses a broader perspective, including how these activities contribute to competitive advantage and customer satisfaction, not just owner value.

B is incorrect. This option confuses the value chain with the supply chain. While both concepts are related to the processes and activities involved in delivering a product or service, the supply chain specifically focuses on the sequence of processes involved in the production and distribution of a product.

It includes both internal and external processes, such as sourcing raw materials, manufacturing, and logistics. The value chain includes these aspects but also encompasses a wider range of activities such as design, marketing, and after-sales services that add value to the product or service from the customer's perspective.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (a): Describe key features of business models.

Q.4039 Which of the following is *least likely* involved in a firm’s value chain analysis?

A. Developing efficient customer service and support.

B. Identifying opportunities for competitive advantage.

C. Identifying the key activities a firm undertakes.

The correct answer is **A.**

Developing efficient customer service and support, while crucial for maintaining customer satisfaction and loyalty, is not directly involved in a firm's value chain analysis to the same extent as the other options. The value chain analysis primarily focuses on the internal activities a firm undertakes to create and deliver products or services to the market.

It examines how each step of the business process adds value to the product or service, with the aim of enhancing competitive advantage and customer value. The value chain analysis is more concerned with the activities related to the production, marketing, delivery, and support of a product or service before it reaches the customer.

B is incorrect. Identifying opportunities for competitive advantage is a central aspect of the value chain analysis. By analyzing each step of the value chain, a firm can identify areas where it can differentiate itself from competitors, reduce costs, or improve efficiency. The goal is to leverage these opportunities to create a competitive edge in the market, making this option an integral part of the value chain analysis.

C is incorrect. Identifying the key activities a firm undertakes is the foundation of the value chain analysis. The analysis of these activities helps in understanding how each contributes to the firm's overall value creation and cost structure. This understanding is crucial for optimizing and strategizing around these activities to enhance the firm's competitive position and profitability.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (b): Describe various types of business models.

Q.4042 Which of the following business models is *most likely* used by an online gaming platform?

A. Aggregators.

B. Crowdsourcing.

C. Hybrid business model.

The correct answer is **B.**

Online gaming platforms often leverage the power of their user base to enhance and expand their content, making the crowdsourcing business model a fitting choice. Crowdsourcing allows users to contribute directly to the game's development, whether through content creation, bug reporting, or other forms of feedback. This approach contrasts with traditional development models by leveraging the collective creativity and expertise of the user base, leading to innovative and user-driven content.

A is incorrect. Aggregators function by collecting and presenting information or products from various sources under one brand. While this model is prevalent in sectors like e-commerce or news websites, where a single platform offers products or content from different providers, it does not align with the core operations of an online gaming platform.

Gaming platforms typically focus on providing a cohesive and immersive experience rather than acting as a marketplace for third-party offerings. Therefore, the aggregator model does not capture the interactive and participatory nature of online gaming platforms.

C is incorrect. The hybrid business model combines elements of both linear and platform-based models, aiming to offer a versatile approach to value creation and delivery. Online gaming platforms thrive on user engagement and content creation, aspects that are more directly supported by a crowdsourcing model. Although a hybrid model could theoretically include elements of crowdsourcing, the question specifically highlights the importance of user contribution, making crowdsourcing the most accurate answer.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (b): Describe various types of business models.

Q.4043 Which of the following statements regarding platform business models is *most likely* true?

A. Platform business is created from network effects.

B. Platform businesses are solely based on technology.

C. It is easy to attract customers at the initial stages of the business.

The correct answer is **A.**

Network effects occur when the value of a product or service increases as more people use it. This phenomenon is central to the success of platform businesses, which often operate by facilitating interactions between different user groups, such as buyers and sellers, service providers, and consumers. The more participants on the platform, the more valuable the platform becomes to each user.

Examples include online marketplaces, social media networks, and ride-sharing services, where the utility and attractiveness of the platform increase with the number of active users, thereby creating a competitive advantage.

B is incorrect. While technology plays a significant role in enabling platform businesses, especially in terms of scalability, efficiency, and reach, it is not the sole basis of their existence. Platform businesses can exist in non-technological forms, such as marketplaces, where the primary value comes from connecting different groups of users. The essence of a platform business lies in its ability to facilitate interactions and transactions among users, which can be achieved with or without advanced technology.

C is incorrect. Attracting customers at the initial stages of a platform business is often challenging due to the chicken-and-egg problem, where the platform needs users to attract more users. The value of the platform is directly tied to its user base; hence, when starting, the lack of an established user network makes it difficult to demonstrate immediate value to potential new users.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (b): Describe various types of business models.

Q.4044 Which of the following is *least likely* an external factor influencing the financial need of a company?

A. Competitive position.

B. Sector demand.

C. Economic conditions

The correct answer is **A.**

The competitive position of a company is considered an internal factor rather than an external one. This is because a company's competitive position is largely determined by its own strategies, operational efficiencies, product or service quality, and market share relative to its competitors. A strong competitive position can provide a company with significant advantages, such as increased bargaining power, higher customer loyalty, and the ability to command premium pricing.

B is incorrect. Sector demand is indeed an external factor that significantly influences a company's financial needs. Changes in sector demand can affect sales volumes, pricing strategies, and revenue generation capabilities. For instance, a surge in demand within a sector can lead to increased sales and profitability, potentially reducing the immediate financial needs for external financing. Therefore, sector demand is a critical external factor that companies must monitor and adapt to in their financial planning.

C is incorrect. Economic conditions are a quintessential external factor affecting a company's financial needs. Economic downturns, inflation rates, interest rate changes, and overall economic growth can all have profound impacts on a company's financial performance and requirements. For example, during economic downturns, companies may face decreased consumer spending, leading to lower sales and increased financial strain.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (b): Describe various types of business models.

Q.4045 Which of the following statements *best* describes macro risk?

A. Originates from political, economic, legal, and other institutional factors in an economy, country, or region.

B. Arises when a company's operating results diverge from expectations, independently of the financing methodology of the firm.

C. Refers to a risk that a company may lose market share or pricing power to other competitors.

The correct answer is **A.**

Macro risk originates from wide-ranging political, economic, legal, and other institutional factors that affect an entire economy, country, or region. These factors can significantly impact investment returns and market dynamics. For example, political instability can lead to uncertainty and volatility in markets, deterring investment. Understanding macro risk is crucial for investors and financial analysts as it helps in making informed decisions by considering the broader economic and political environment.

B is incorrect. Business risk, in fact, pertains to the potential for a company's operations and performance to diverge from plans or expectations due to factors like changes in demand, production costs, or management decisions. While important, this type of risk is distinct from macro risk, which encompasses broader, external factors that can affect all companies within an economy or sector.

C is incorrect. Competitive risk involves the potential for a company to lose market share, revenue, or profitability due to the actions and performance of its competitors. Factors such as innovation, pricing strategies, and marketing efforts by competitors can influence a company's competitive position. Unlike macro risk, which is external and affects entire economies or regions, competitive risk is specific to individual companies and their industry context.

CFA Level I, Topic 4 - Corporate Issuers, Learning Module 7: Business Models. LOS (b): Describe various types of business models.
