FRM Part I Exam

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Questions with Answers - Foundations of Risk Management

Last Updated: Aug 27, 2022

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Reading 1: The Building Blocks of Risk Management

Q.1 Which of the following liquidity definitions is most likely associated with market liquidity?

> A. The risk that a bank will not be able to roll over a repo to finance their short-term cash flow needs.
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> B. The risk that depositors will flock into banks and withdraw their funds or that shareholders will redeem their shares en masse.
>
> C. The risk that the collateral value of an asset will decline after a derivative position is established, resulting in an increase in the margin requirement.
>
> D. The risk that an investor who lends out an asset will be forced to sell at a lower price once the asset is returned.

The correct answer is **D.**

Market liquidity risk (trading liquidity risk) is the risk of a loss in asset value when markets temporarily seize up. In these circumstances, a market participant cannot execute a trade or liquidate a position immediately while hitting the best price. The seller may be forced to accept an abnormally low price, and in some cases, the ability to convert the asset into cash may be taken away from them entirely. If an investor lends out an asset (to facilitate a short sale), they may be forced to sell it at a much lower price after getting it back if the trading volume declines due to changes in one or more market factors (e.g., interest rates and inflation).

Options A, B and C are incorrect since they all describe funding liquidity risk.

Things to Remember

Funding liquidity risk is all about liabilities, including short term debt sought in form of repos. It's all to do with the ability of a firm to fund its liabilities. In fact, the International Monetary Fund (IMF) defines funding liquidity as "the ability of a solvent institution to make agreed-upon payments in a timely fashion." For exampl;e, assuming a firm has a bond maturing in exactly one year, will it be able to gather enough funds from its reserves or arrange a reliable line of credit to pay off the issuer?

On the other hand, market or asset liquidity risk is all about asset illiquidity. Can you sell an asset when you want to, and in so doing, does the sale fetch the asset's fair price? For example, a property you own may, due to poor market conditions, need to be sold at a fire sale price. Certainly there's value in the asset, but as buyers have temporarily disappeared, not all of that value can be realized.

Q.2 Which of the following is NOT a type of market risk?

A. Interest rate risk

B. Foreign exchange risk

C. Equity price risk

D. Liquidity risk

The correct answer is **D.**

Market risk is the possibility of loss resulting from market movements, whereas liquidity risk is the risk that a financial instrument cannot be traded quickly enough to avoid a loss (or take advantage of a price increase and make a profit). Market risks include equity risk, currency risk, interest rate risk, and commodity price risk.

Q.3 After the United Kingdom voted to leave the European Union in 2016, the British pound weakened against other currencies like the U.S dollar and the Chinese Yuan. Which one of the following risks best explains this observation?

A. Interest rate risk

B. Foreign exchange risk

C. Reputation risk

D. Equity risk

The correct answer is **B.**

Foreign exchange risk is the risk that the foreign exchange rate will change, which in turn affects the value of a financial instrument or asset held in that currency. In the aftermath of ''Brexit,'' investors were generally pessimistic about the economic stability of the U.K, for instance, because of the anticipated shattering of decades-old trade deals between the U.K and other European countries, coupled with the uncertainty associated with renegotiating new bilateral links with individual countries. This loss of confidence led to the weakening of the pound.

Option A is incorrect: Interest rate risk is the risk that arises from fluctuations in the market interest rates, which may cause a decline in the value of interest rate-sensitive portfolios

Option C is incorrect: Reputation risk is the risk that a business will suffer a sudden fall in its brand which may lead to loss of customers.

Option D is incorrect: Equity risk is the risk associated with the volatility in the stock prices. The market risk component is the sensitivity of the equity or a portfolio to a change in the level of a market index.

Q.4 Which of the following is not an example of operational risk?

A. Inadequate/malfunctioning computer systems

B. Circumvention of issued regulations and guidelines

C. Occurrence of a natural disaster, such as a tornado

D. An increase in the price of gas

The correct answer is **D.**

An increase in the price of gas is an example of market risk. Market risk is the risk that results due to continuous movements in market prices and rates.

Operational risk refers to the possibility of incurring losses resulting from operational breakdowns caused by either internal or external factors. Operational risks include legal risk, anti-money laundering risk, cyber risk, and rogue trading. Moreover, operational include corporate disasters such as operational mishaps and corporate governance scandals.

Q.5 Which of the following best describes enterprise-wide risk management?

A. Applying risk management within individual departments on a piecemeal basis.

B. Risk management that includes all major departments in a company.

C. A structured and consistent set of principles or risk management that are applied across the whole of a company.

D. Risk management that encompasses all business units.

The correct answer is **C.**

Enterprise-wide risk management involves the development of structured and consistent business principles that govern the way different business units of a company do business, in regard to risk by applying consistent risk management principles across the whole of a company, all risks, including inter-departmental risks, are taken into account.

Option A is incorrect: Applying risk management within individual departments on a piecemeal basis is a form of silo-approach, in which different departments/business units are left to manage risks on their own.

Option B is incorrect: Enterprise risk management includes not only major departments in a company but also other minor departments.

Option D is incorrect: Enterprise risk management involves applying risk management to all business units.

Q.6 Which of the following is the correct definition of risk management in the context of financial markets?

A. The practice of creating economic value by identifying and investing in risky projects that could earn a profit.

B. The practice of avoiding an extremely risky financial undertaking to prevent a loss.

C. The practice of creating economic value by identifying and measuring risks, and formulating robust plans to address and manage these risks.

D. Setting risk limits beyond which an entity should not operate.

The correct answer is **C.**

Risk management entails creating economic value by qualitatively and quantitatively identifying and measuring all major risks associated with a business. It goes further to suggest ways of addressing these risks. It differs from risk-taking, which only entails investing in risky but profitable financial ventures.

Q.7 Tohonday, a motor vehicle production company, has historically channeled most of its earnings and spare cash into short-term government bonds maturing in less than a year. The board wishes to change its investment policy substantially and intends to tap the riskier but more profitable long-term bond market. Assuming you're the risk manager for the company, which of the following risks would be of utmost (immediate) concern from an operational point of view?

A. Trading liquidity risk

B. Funding liquidity risk

C. Interest rate risk

D. Market risk

The correct answer is **B.**

Financial institutions do not always fail because of the inability to generate a profit. Rather, it's the inability to meet short-term financial obligations that often leads to bankruptcy. This is known as funding liquidity risk. Suppose Tohonday decides to invest in long-term assets, in that case, it must take into account its day-to-day funding requirements, especially because funds invested in long-term assets cannot be realized quickly enough to meet short-term debts and other unforeseen obligations, such as lawsuits. This is particularly true when we consider that over the last couple of years, several motor-vehicle production companies like Toyota have had to recall some models due to mechanical glitches, sometimes compensating customers in the process.

Option C is incorrect: Interest rate risk is the risk that arises from fluctuations in the market interest rates, which may cause a decline in the value of interest-rate-sensitive portfolios

Option D is incorrect: Market risk is the risk that results due to movements in market prices and rates

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Q.8 Distinguish between expected loss and unexpected loss.

A. Expected loss is the average credit loss we expect from an exposure while unexpected loss is the loss that occurs over and above the expected loss.

B. Unexpected loss is the average credit loss we expect from an exposure while expected loss is the loss that occurs over and above the unexpected loss.

C. Expected loss is the average credit loss that we would expect from an exposure while unexpected loss is the loss that would occur without a quantitative expression.

D. Expected loss is the average credit loss that we would expect from an exposure while unexpected loss is the sum of expected losses from several time periods.

The correct answer is **A.**

In statistical terminology, expected loss is simply the average loss that we would expect from a given exposure over a period of time. Unexpected loss is the amount of loss that actually exceeds the expected amount.

Q.9 Which of the following statements best explains the relationship between investment risk and reward?

A. As the investment risk increases, the reward decreases.

B. As the investment risk decreases, the reward increases.

C. As the investment risk increases, the potential for reward increases.

D. The relation between investment risk and reward depends on the financial product.

The correct answer is **C.**

Investment risk and reward often move together.

The amount of risk and the potential for return are positively correlated. In other words, an increase in the amount of risk increases the amount of potential reward. However, there is no guarantee that an increase in the amount of risk increases the amount of reward. Greater risks may result in losing large amounts of capital.

It is worth noting that, there is a high trade-off between risk and return.

Q.10 Which of the following risks does not fall under the larger category of credit risk?

A. Settlement risk

B. Downgrade risk

C. Upward risk

D. Default risk

The correct answer is **C.**

Credit risk results from the failure of a counterparty to meet contractual obligations. It is subdivided into default risk, bankruptcy risk, downgrade risk, and settlement risk.

Q.11 Which of the following combinations correctly matches a quantifiable risk with a non-quantifiable (qualitative) risk?

A. Quantifiable: Interest rate risk; Non-quantifiable: Default risk

B. Quantifiable: Civil war; Non-quantifiable: Liquidity risk

C. Quantifiable: Equity price risk; Non-quantifiable: Risk of terrorist attack

D. Quantifiable: Civil war; Non-quantifiable: Settlement risk

The correct answer is **C.**

Quantifiable risks are those that can be measured in some way. For instance, we can specify the likelihood of borrower default and even specify the distribution function. On the other hand, non-quantifiable risks are those risks that cannot be measured.

Option A is incorrect: both interest rate risk and default risk are quantifiable risks.

Option B is incorrect: civil war is a non-quantifiable risk while liquidity risk is a quantifiable risk.

Option D is incorrect: civil war is a non-quantifiable risk while settlement risk is a quantifiable risk

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Q.12 The following scenarios describe conflicts of interest in risk management. Which one does not?

A. The risk manager whose remuneration package includes stock options may overlook some risks inherent in a project with an eye on higher earnings when the stock price rises.

B. Lenders wish to see the company invest in less risky projects while shareholders support more risky ones.

C. The risk manager deliberately avoids riskier investments in favor of less risky ones to reduce chances of business failure and, therefore, safeguard their job security.

D. The risk manager sidelines environmentally harmful projects in order to safeguard the company's reputation and brand value.

The correct answer is **D.**

A conflict of interest occurs when the interests of one party are in direct collision with those of another party within the business environment. Such conflicts usually manifest in the form of objectives that are at variance with the desires of some other stakeholder in the organization. While choices A, B, and C clearly outline possible conflicts of interest, an attempt to avoid environmentally harmful projects does not constitute a conflict of interest. In fact, it bodes well with the interests of the government and the community in general.

Q.14 Distinguish between systemic and specific risks.

A. Systemic risk refers to the risks that affect the entire economy as a whole, while specific risks are risks that affect only a particular company or line of business.

B. Systemic risks are risks borne by a single entity while specific risks are borne by the economy as a whole.

C. Systemic risks are quantifiable while specific risks are non-quantifiable.

D. Systemic risk can be minimized with diversification.

The correct answer is **A.**

Systemic risks are associated with the failure of a major company e.g the failure of a major financial institution which may cause other inter-linked banks to fail hence causing harm to the entire economy. Another example could also be the oil and gas industry. Specific risks, on the other hand, refer to risks that affect only a single business sector or company. Such risks may include employee strikes and the scarcity of individual inputs.

Q.15 At the center of every financial institution's focus lies the need to instill confidence in all stakeholders, including customers, lenders, shareholders, and others. Each party should feel that its interests are safeguarded. Which type of risk do companies face in this regard?

A. Legal and regulatory risk

B. Reputation risk

C. Specific risk

D. Operational risk

The correct answer is **B.**

Reputation risk concerns itself with the need to fulfill promises made to counterparties and creditors and adherence to fair and ethical business practices. Departure from these things can damage the reputation of the company and reduce its brand value.

Option A is incorrect: Legal and regulatory risk entails going against stipulated laws, rules, and regulations. The government, through designated regulatory bodies, enforces these rules to safeguard the safety of consumers and ensure fair competition among businesses in the same industry.

Option C is incorrect: Specific risk is a risk that occurs to a particular business, firm, industry, or sector only.

Option D is incorrect: Operational risk refers to the risk that arises due to operational weaknesses like management failure, faulty controls, inadequate systems etc. Human factor risk is one of the essential operational risks, and it results from human errors like entering wrong parameter values, using wrong controls etc.

Q.31 During a job interview for the position of risk analyst, Lee Yung was asked to define the risk management process in two points. Having an intermediate knowledge of risk management, Lee Yung mentioned the following points:
I. The risk management process starts with the very first step of identifying the correct risk.
II. The last step of the risk management process is to analyze the risk .

Identify which of the above-mentioned point(s) is/are correct?

A. Point I

B. Point II

C. Both I and II

D. None of the above

The correct answer is **A.**

Traditionally, the risk management process starts with identifying the risk and the process ends with the final step of assessing the performance and amending the risk mitigation strategy as needed.

Point II, analyzing the risk is not the final step of the risk management process.

Q.33 The purpose of economic capital is to absorb:

A. economic losses

B. expected loss

C. unexpected loss

D. tail loss

The correct answer is **C.**

Economic capital is the amount of capital a bank needs to maintain to absorb the impact of **unexpected losses** during a time horizon at a certain level of confidence.

It should be noted that economic capital is the amount of capital required by a firm based on its understanding of its economic risk. Economic capital enables the firm to balance between risk and reward.

Q.34 Which of the following is NOT the definition of risk measurement tools and procedures used by a firm to measure and manage risk?

A. VAR is the maximum loss over a target horizon such that there is a low, prespecified probability that the actual loss will be larger.

B. Scenario Testing is a quantitative risk measurement that takes into consideration potential risk factors such as interest rate, payroll data, etc. that are often quantifiable and focussed on frequency.

C. Stress Testing is both a qualitative and quantitative risk measurement tool that analyses the financial outcome of a firm based on a given stress

D. Enterprise Risk Management (ERM) is an integrative risk measure approach that considers entity-wide risk factors and integrates all the risk factors in entity-wide decisions

The correct answer is **B.**

The definition of Scenario Testing is incorrect: It is a risk measure that considers the potential risk factors that are often quantifiable, but the numbers are all focused on assessing severity rather than frequency". All other definitions of risk measurement tools are correct.

Further information:

Scenario testing is a software testing activity that uses scenarios: hypothetical stories to help the tester work through a complex problem or test system. The ideal scenario test is a credible, complex, compelling, or motivating story, the outcome of which is easy to evaluate.

Q.35 The relationship between risk and return is simple for some assets and complex for others. The public perception of risk and return trade-off is that higher risk will lead to higher returns. However, in some asset classes like fixed-income securities, a large number of factors such as market risk, inflation, interest rate risk, and risk tolerance are considered. Which of the following options is most appropriate for a market with investors having a high risk tolerance?

A. As the risk tolerance of investors is high, more investors will choose corporate bonds over government bonds

B. As the risk tolerance of investors is high, more investors will choose government bonds over corporate bonds

C. As the risk tolerance of investors is high, all investors will choose a good mix of corporate and government bonds

D. As the risk tolerance of investors is high, all investors will choose not to buy corporate bonds

The correct answer is **A.**

When the risk tolerance of the investors is high (or their willingness to take the risk is high), investors will choose to buy more corporate bonds, which have higher risk and higher reward as compared to government bonds. In practice, government bonds of financially stable countries are treated as risk-free bonds, as governments can raise taxes or indeed print money to repay their domestic currency debt. For instance, United States Treasury notes and United States Treasury bonds are often assumed to be risk-free bonds.

Q.36 Equity price risk is the type of market risk that refers to the variability in the prices of equity or stocks. Equity price risk is further subdivided into specific risk and systematic risk. Which of the following is most likely a type of specific risk?

A. The risk of changes in the consumer price index (CPI).

B. The risk of change in the aggregate demand of a specific sector.

C. The risk of strategic weaknesses in a business.

D. The risk of changes in tax rates.

The correct answer is **C.**

The risk of strategic weaknesses in a business is a specific risk to the firm. Therefore, it is the most likely form of specific risk from the given choices.

Option A is incorrect because changes in CPI or inflation will affect the overall market prices.

Option B is incorrect because the change in the aggregate demand of a sector will change the general market risk of that sector.

Option D is incorrect as the changes in tax regulations will change the general market risk.

Q.37 BT Motors and New Atlas bank are two parties of a derivative contract to hedge exchange rate risk. At the end of the contract, BT Motors has a net loss position of $6.9 million but refused to pay the entire amount. Which of the following sub-types of credit risk best describes this situation?

A. Bankruptcy risk.

B. General market Risk.

C. Settlement risk.

D. Default risk.

The correct answer is **C.**

Settlement risk arises when a counterparty refuses or is unable to pay its commitments at the settlement date.

Option A is incorrect: Bankruptcy risk refers to the case when the liquidation value of assets is less than liabilities.

Option B is incorrect: General market risk is the risk associated with the potential reduction in the value of a portfolio or security due to changes in financial market prices and rates

Option D is incorrect: Default risk refers to non-payment of interest or loan by a borrower.

Reading 2: How Do Firms Manage Financial Risk?

Q.16 In the modern world, it's common to find companies using derivatives for risk management. The following are theoretical arguments against the use of derivatives to manage risks. Which one is not a direct objection to their use?

A. Hedging using derivatives requires specialized skills, knowledge and infrastructure, besides involving massive data acquisition and processing.

B. Aggressive hedging may distract a company's management from its core business leading to low productivity.

C. Risk managers may prioritize personal interests at the expense of the shareholders.

D. Trading in derivatives comes with compliance costs, strict accounting regulations and compulsory financial disclosures that can reveal key business strategies to competitors.

The correct answer is **C.**

The use of derivatives for risk management has practical objections. However, the interests of managers and shareholders do not prominently feature in such a strategy. Furthermore, the shareholders may put in place the so-called 'motivators' to streamline their interests with those of the managers.

Q.18 Which of the following statements best describes the concept of hedging in risk management?

A. Buying an asset to offset a decline in value of another asset.

B. Holding an asset that appreciates in value to offset the decrease in the value of another asset.

C. Selling a loss-making asset and replacing it with a profitable one.

D. Holding an offsetting position in an asset or portfolio whose value we expect to move in line with market changes.

The correct answer is **D.**

Hedging entails any action taken to safeguard the value of an asset in the face of changing market prices. It's actually an attempt to "lock-in" the value of an asset. The investor protects their investment by holding assets that have a predetermined future price.

Option A is incorrect: Buying an asset to offset a decline in the value of another asset refers to diversification.

Option B is incorrect: Holding an asset that appreciates in value to offset the decrease in the value of another asset is also a diversification method.

Option C is incorrect: Selling a loss-making asset and replacing it with a profitable one is a form of Profit/Loss strategy.

Q.19 An international construction company places a bid for a major construction project. Top management is convinced the company will secure the contract but are also wary of currency fluctuations during the bids evaluation process, which would make the project more costly and reduce the profit margin. Which of the following actions do you think can reduce this risk?

A. Negotiating the price of construction materials with sellers in advance

B. Purchasing construction materials in advance with the option to sell them if the bid turns out unsuccessful

C. Getting into a currency futures contract

D. Adding a risk premium to the bid amount

The correct answer is **C.**

Using a currency futures contract, the company can price the bid quoting current market rates and then use the futures contract to hedge its exposure to currency fluctuation. This way, the company would ensure that even if the market rates change, the bid would be sufficient to undertake the project and earn a profit.

Option A is incorrect: prices may be negotiated in advance; however, without a contract, then you will still buy the materials at the prevailing market prices in case the prices rise, since stocks may also rise in price.

Option B is incorrect: A lot may happen with time. The price of the materials may rise, and therefore purchasing construction materials in advance with the option to sell them if the bid turns out unsuccessful will not help reduce the risk.

Option D is incorrect: the owner of the project pays the risk premium in advance and if the risk does not materialize, then this will only benefit the contractor of the project

Q.20 Pick the piece of information likely to be omitted from a firm's risk appetite description.

A. The types of risks the firm is willing to tolerate, specifying the risks to hedge and the ones to assume

B. The preferred risk management tools e.g, insurance, derivatives, etc.

C. The maximum loss the firm is willing to incur at a given confidence limit and time

D. The timings of cash flows from the firm's projects

The correct answer is **D.**

A firm's risk appetite statement details its risk management framework, specifying the tolerated risks, hedging tools, and even the desirable rates of return. It might also specify the loss limit of projects. The timings of cash flows may not be quoted in advance as each project is likely to have its unique capital outlay and duration.

Q.22 Swiss Inc. is an international company that sells goods to international customers, sometimes under suitable credit agreements. As a result, the company usually hedges the resulting currency and interest rate risks using various instruments like futures. Which of the following actions is **least likely** to form part of the company's risk mapping exercise at the start of the financial year?

A. Developing the risk appetite statement

B. Developing a list of assets and liabilities, specifying the relevant currencies

C. Developing appropriate financial instruments to hedge the risks

D. None of the above

The correct answer is **A.**

Developing a risk appetite statement does not form part of the risk mapping process. Instead, it comes way before. In general, the risk management process takes several steps:

1. **Developing a risk appetite statement**, where the firm sets out the risks it is willing to tolerate, that is, which risks should be hedged and which risks the company should assume as part of its business strategy.

2. **Risk mapping**, where the firm identifies all its existing exposures and maps out the risks in every undertaking, as guided by the risk appetite statement. In other words, at this stage, the firm looks at its engagements and asks: "In each of these engagements, what risks do we face that are within the dictates of our risk appetite statement?"

   For example, let us assume that the risk appetite statement developed by the board has decided to hedge currency risks arising from current positions and expected transactions in the next year. At the risk mapping stage, the office of the chief financial officer of the firm will have to map the specific risks likely to arise from exchange rate fluctuations. It should **make a record of all assets and liabilities** with values that are sensitive to exchange rate changes and should classify all these positions in terms of the relevant currency.

   After this, it can **find the appropriate financial instrument to hedge these risks**.

Q.23 Distinguish between exchange-traded and over-the-counter risk management instruments.

A. Exchange-traded instruments are standardized and exchange-tradable while over-the-counter instruments are non-standardized, privately negotiated financial contracts that cannot be traded on an exchange.

B. Over-the-counter instruments are standardized and exchange-tradable while exchange-traded instruments non-standardized, privately negotiated financial contracts that cannot be traded on an exchange.

C. Exchange-traded instruments are those instruments that only deal with intangible financial assets while over-the-counter instruments only deal with commodities such as coffee.

D. Exchange-traded instruments have time to maturity of less than one year while over-the-counter instruments have longer maturity periods.

The correct answer is **A.**

As the name suggests, exchange-traded instruments can be traded on an official exchange (such as the New York Stock Exchange) because they are standardized and only comprise a limited number of assets. The strike price and maturity values are set in advance to ''commoditize'' the assets and promote a liquid market. A good example might be options. Over-the-counter instruments are negotiated privately between two parties who agree to trade an asset at a specified price in the future. Negotiations help the parties to come up with a tailor-made contract that suits the interests of both parties. A good example might be forwards.

Q.24 A reputable bank is approached by a newly-formed private company wishing to enter into an option contract on the British pound. The bank's risk managers prefer an exchange-traded option to an over-the-counter one. Which of the following statements best explains the managers' preference?

A. The exchange-traded option would be more efficient

B. Over-the-counter instruments often involve time-consuming, grueling negotiations between parties

C. The exchange-traded option is more likely to be honored compared to the OTC contract

D. The exchange-traded option would involve less transactional costs compared to the OTC option

The correct answer is **C.**

Although OTC contracts can be tailor-made to suit the strategies of both counterparties, they have more credit risk than exchange-tradable contracts. The fact that the private company is in its early operational stages means it has a very little credit history and might not honor its contractual obligations. In addition, an OTC option would lack the price transparency and liquidity associated with exchange-traded options. In fact, while most OTC contracts collapsed during the 2007/2008 financial crisis, all exchange-based contracts were honored.

Q.25 A firm borrows funds at a variable interest rate. Buying which of the following instruments would help the firm protect itself against increases in the market rate of interest?

A. Currency forward contracts

B. Options on interest rate futures

C. Currency swaps

D. None of the above

The correct answer is **B.**

What is the risk the firm is facing when borrowing money? That the interest rates increase so that it has to pay more interest on its loan.

The price of an interest rate future moves inversely to the change in interest rates. If interest rates go down, the price of the interest rate future goes up and vice-versa.

A put option on one of these interest rate futures (the right to sell an interest rate future at a later date) would effectively hedge the position. If the rate of interest falls, the firm will not exercise its right to sell and just enjoy paying the lower interest rate.

Option A is incorrect: Currency forward contracts helps to mitigate foreign exchange risk.

Option C is incorrect: Currency swap is also used to hedge against foreign currency risk.

Q.26 Which of the following is not a common characteristic of interest rate swaps?

A. Payments made by both parties are in different currencies

B. The contract is usually based on a ''notional'' principal amount

C. They trade over the counter

D. Interest rate swaps are used to hedge against or speculate on changes in interest rates.

The correct answer is **A.**

Payments made by counterparties in an interest rate swap must be in the same currency. This is one of the main differences between currency swaps and interest rate swaps.

The following are some of the characteristics of interest rate swaps:

i. The contract is usually based on a ''notional'' principal amount which remains the same over the entire lifetime of the swap.
ii. They are over-the-counter financial instruments.
iii. Interest rate swaps are used to hedge against or speculate on changes in interest rates
iv. Counterparties negotiate and agree on the fixed-rate and day-count conventions at the conclusion of the swap contract
v. The swap duration can go from one week to 30 years.

Q.29 A construction firm wishes to enter into cleared derivative positions to manage risks such as price variation of raw materials and increase interest rates. However, the firm is aware of a few problems that could accompany the decision to invest in exchange-traded derivatives. Which of the following should NOT be worrisome for the management of the firm?

A. Liquidity risk

B. Counterparty risk

C. Market risk

D. Transaction costs

The correct answer is **B.**

Counterparty risk basically refers to the possibility that one of the parties involved may default on the contact. In exchange-traded instruments, however, the exchange itself acts as the counterparty for each transaction. It serves as the seller for every buyer, and buyer for every seller.

Option A is incorrect: Investors who plan to close out a derivative prior to maturity may be faced with liquidity risk. The firm may not be able to trade the derivative product for a reasonable price in the market. a possible reason could be a lack of sufficient orders in the market. There may not be too many traders willing to take the opposite position in the transaction. Another possibility is that the price spread at which other investors are prepared to trade the derivative is very large. In some cases, liquidity risk may boil down to a lack of liquidity of the underlying asset. Issuers of certain products may have appointed a liquidity provider/market maker or the issuer itself may have committed to “make” a market. The main role of liquidity providers/market makers is to provide two-way quotes to facilitate the trading of their products, but there can be no assurance that active trading will be maintained. If a liquidity provider/market maker defaults or ceases to fulfill their role, investors may not be able to trade the product until a new liquidity provider/market maker is appointed.

Option C is incorrect: The market price of a derivative product is subject to the same risks that affect all stock markets or the market of the underlying asset. These include interest rates, exchange rates, volatility, market sentiment, movements in domestic and international markets, and the present and anticipated economic environment. Principally if the underlying asset moves in a direction that defies your expectations, the product will not perform. You may suffer losses compared to holding the underlying asset.

Option D is incorrect: Derivative contracts involve transaction costs which should always be considered. A good example would be the dealer's/broker's fee.

Q.30 Besides credit risk, counterparties in a derivative position face another major type of risk. Which one is it?

A. Interest rate risk

B. Foreign exchange risk

C. commodity price risk

D. Market risk

The correct answer is **D.**

Besides credit risk and operational risk, market risk is the other major type of risk. It refers to losses arising from changes in market risk factors. It encompasses other risks such as interest rate risk, foreign exchange risk, and commodity price risk. The market maker enters into an offsetting agreement so as to hedge market risk. This usually occurs in the form of a second agreement that works in exactly the opposite direction, thus canceling out the potential loss that could be incurred in the first agreement.

Q.39 Celina John is a junior analyst at Franklin Investments. She is studying the advantages and disadvantages of hedging in order to propose hedging practices for her clients. Following are some of the points she has written down in her email. Which of the following disadvantages of hedging is not correct?

A. Hedging can divert management's focus from its core business activities.

B. Hedging can increase the variability of the firm's value instead of decreasing the variability.

C. Hedging and derivative is a zero-sum game of transferring risk.

D. Hedging can result in multiplied losses if flawed hedging strategies are used.

The correct answer is **C.**

Hedging and derivatives are not always zero-sum games of transferring risk from one period to another or from one participant to another. Derivatives pricing is extremely complex as compared to equity and bond pricing. Therefore, hedging with derivatives does not always cover all risk factors.

All other statements are correct.

Q.41 The board of directors of BRT Inc. is determining the risk appetite of the firm. It believes increasing the firm's risk appetite will introduce BRT to new potential business opportunities and increase the rewards to stakeholders. However, changing the risk appetite of a firm can be a cause of conflict between parties. Determining the risk appetite of a firm can cause the greatest conflict between:

A. Management and debtholders.

B. Management and shareholders.

C. Shareholders and the board of directors.

D. Shareholders and debtholders.

The correct answer is **D.**

Determining the risk appetite of a firm can be a cause of conflict between shareholders and debtholders. Debtholders will prefer minimizing the risk appetite as their upside potential of reward is limited to the interest rate while shareholders will prefer maximizing the risk appetite as their upside potential is unlimited.

Q.42 Anadolu Tire Company is the market leader in the tires manufacturing sector in Turkey. It acquires its raw material from its neighbor, Iran, on fixed trade terms and pays the supplier in the local Turkish currency. Anadolu also sells its tires to some eastern European countries and accepts payments in Euro. Based on the business perspective of Anadolu, determine which of the following risk it should hedge.

A. Pricing risk.

B. Foreign currency risk.

C. Interest rate risk.

D. Market risk.

The correct answer is **B.**

Anadolu must hedge against foreign currency risk as it makes sales in Euros in European markets. If the value of the Euro devalues against the Turkish currency, the firm will face losses. Therefore, the firm must hedge the foreign currency risk.

Option A is incorrect as the firm pays the supplier in local currency and it has fixed trade terms with the suppliers.

Option C is incorrect because interest rate risk is related to the risk of changes in the rate of interest and cost of capital.

Option D is incorrect because market risk arises when there is a change in the general demand or price in the market

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Q.43 Which of the following statements are correct regarding static hedging and dynamic hedging strategies?
I. In static hedging, the risk is recognized at the beginning, and the appropriate hedging position is opened
II. A dynamic hedging strategy is more complex as the underlying risky position may change with time
III. Static hedging requires more time and monitoring effort
IV. Dynamic hedging requires additional transaction costs to maintain the risky position hedged

A. I & IV

B. I, II & III

C. I, II & IV

D. I, II, III & IV

The correct answer is **C.**

Statement III is incorrect because dynamic hedging requires more time and monitoring effort. In static hedging, the risk is recognized and hedged at the beginning, whereas a dynamic hedging strategy is more complex as the risky position may change over time and hedging strategies may also change accordingly which requires additional transaction costs.

Q.44 Which of the following is not an attribute of exchange-traded and over-the-counter (OTC) financial instruments?

A. Exchange-traded instruments are more simple and standardized.

B. Over-the-counter financial instruments are more liquid than exchange-traded instruments.

C. Exchange-traded instruments are easier to price than OTC instruments.

D. Over-the-counter financial instruments contain default risk.

The correct answer is **B.**

OTC instruments are less liquid and more customized, which is why they are more difficult to price compared to exchange-traded instruments. Since OTC instruments are privately traded between two counterparties, they have a higher probability of default.

It worth noting that, In the over-the-counter market, trading occurs between participants who contact each other either directly or through a broker. Participants may be able to privately without the other party being aware of the terms, including the price. Stocks traded in an OTC market could belong to a small company that’s yet to satisfy the conditions for listing on the exchange. The OTC market is also popular for large trades. Since the 2007-2009 financial crisis, OTC markets are, however, increasingly being regulated

In the exchange-traded markets, Investors trade in contracts that have been identified in the exchange. Traditionally, trading was done using the outcry system (Investors met at the exchange floor and used signals to indicate their proposed trades.) Currently, trading is done electronically through a computer.

Q.5036 A firm has a total risk capacity of $600 million. Senior managers have set a risk appetite at $300 million. Which of the following would most likely be within the acceptable risk profile for the firm?

A. $400 million

B. $250 million

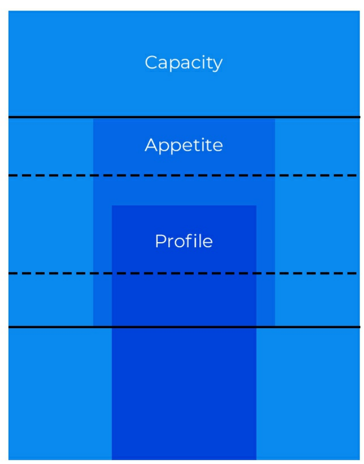
C. $900 million

D. $450 million

The correct answer is **B.**

Risk appetite is the amount and type of risk that an organization is prepared to pursue, retain or take. It should not be confused with risk capacity (the maximum amount of risk that an organization is able to take on) and risk profile (a firm's current risk exposure). The risk profile of a firm should be less than its risk appetite, which in turn should be less than the total risk capacity. This leaves 'B' as the only correct answer.

Risk Profile



Reading 3: The Governance of Risk Management

Q.21 Which of the following statements best describes the role of the board in risk management?

A. Issuing guidelines on how to manage risks

B. Developing the risk appetite statement and objectives the managers should strive to meet within the risk management framework

C. Regularly reviewing decisions made by managers regarding risk exposures

D. Choosing the risk exposures to hedge, the risks to mitigate, and those to avoid altogether

The correct answer is **B.**

The board sits above the managers in the hierarchy of management in most for-profit organizations. The board assembles and develops a comprehensive risk appetite statement, specifying the risks the company should assume and those to avoid, including the preferred methods of risk mitigation. The managers consult the risk appetite statement when choosing the projects to undertake.

The board also delegates the responsibility for approving and reviewing the risk levels to the board risk management committee.

Option A is incorrect: Issuing guidelines on managing risks is the role of risk advisory managers.

Option C is incorrect: Regularly reviewing decisions made by managers regarding risk exposures is the role of the board risk management committee.

Option D is incorrect: Choosing the risk exposures to hedge, the risks to mitigate, and those to avoid altogether is the role of the risk advisory directors.

Q.45 Which of the following statements best describes corporate governance in today's business world?

A. The process by which the board of directors delegates duties to hired professionals who oversee the day-to-day running of the company.

B. The system of rules, practices, processes, and regulations guiding risk managers when determining a company's risk appetite.

C. The system of rules, regulations, practices, and processes by which a company's board of directors looks after the needs of various stakeholders within the broader agenda of meeting business objectives.

D. The tools used by the board of directors to drive business strategy, corporate responsibility, and streamline the interests of the company's shareholders.

The correct answer is **C.**

Corporate governance is the system of rules and regulations that help the board of directors balance the interests of the company's many stakeholders and ensure objectives are met. In practice, corporate governance entails every aspect of management - internal controls, business plans, performance appraisal, and business disclosure. Managing diverging interests of the many parties involved is normally an uphill task, but one that's absolutely necessary for any organization which wishes to make progress in business.

Q.46 In the aftermath of the 2007/2009 financial crisis, most companies created the position of Chief Risk Officer (CRO). Which of the following statements about the CRO is INCORRECT?

A. The CRO reports directly to the shareholders.

B. The CRO acts as the chief advisor to the board on all matters of risk.

C. The CRO gives guidance to lower level (line) managers about risk identification and management, making suggestions for risk mitigation.

D. The CRO plays a starring role when determining the company's risk appetite.

The correct answer is **A.**

In most companies, the chief risk officer reports directly to the board, and not to shareholders. Therefore, Option A is incorrect.

In fact, it is the risk sub-committee of the board that delegates authority to the CRO, who is tasked with overseeing the risk management function in its entirety.

The following are the roles of a CRO

- Designing of the risk management program of a firm
- CRO is responsible for risk policies, analysis dimensions, and methodologies.
- CRO is responsible for risk management infrastructure and governance in a firm.
- monitoring of the firm’s risk limits set by the senior risk management
- In many financial institutions such as banks, CRO is an intermediary between the board and the management. The CRO keeps the board informed on the firm’s risk tolerance and condition of the risk management infrastructure and informs the management on the state of the risk management.

Q.48 Which of the following is the main reason why the board is required to ensure that staff compensation/reward schemes are risk-adjusted?

A. Compensation that's not commensurate with tasks given may demotivate staff or keep away potential recruits most qualified for the positions.

B. Higher risks should lead to higher earnings.

C. Remuneration that's too high may negatively affect a company's solvency by increasing recurrent expenditure to unsustainable amounts.

D. Risk-adjusted remuneration packages can help to reduce conflict of interests.

The correct answer is **D.**

Executives may deliberately engage in projects that will push up the share value in the short term without considering long-term implications and sustainability. This may happen when stock options are part of the remuneration package. For example, the executives might manipulate the financial results to create a false impression. Such conflicts of interest between management and shareholders can be avoided by carefully structuring remuneration packages to consider agency risks.

Q.49 The following are some of the roles of a bank's audit committee of the board. Which one is not?

A. Developing the bank's risk appetite statement.

B. Scrutinizing financial statements to ensure the accuracy of the reported figures.

C. Ensuring that the bank complies with the minimum/best-practice standards in all key activities.

D. Continuously reviewing the independence of the statutory auditor/audit firm.

The correct answer is **A.**

The audit committee of the board is charged with oversight of the bank's audit and control functions. As such, the committee's role does not entail the actual development of the risk appetite statement. Rather, it monitors the bank's various risk management processes to ensure compliance with stipulated rules, regulations, and the risk appetite statement itself.

The following are the roles of the audit committee of the board :

- To look into the accuracy of financial and regulatory reporting of the firm and the quality of processes that underlie such activities.
- It also ensures that a bank complies with regulatory, risk management, legal, and compliance activities.
- The audit committee verifies the activities of the firm to see if the reports outline the same.

The members should ideally be nonexecutives to keep the audit committee clear from executive influence. The audit committee should interact with the management productively and should keep all channels of communication open.

Q.50 Most organizations have both executive and non-executive directors. Which one of the following is *not* a valid difference between the two categories?

A. While executive directors work full-time, non-executive directors work on a part-time basis.

B. While executive directors get involved in the day-to-day management of the company, non-executive directors do not participate in management responsibilities.

C. Executive directors are usually not independent, whereas non-executives should be independent.

D. While executive directors are appointed to the board by shareholders, non-executive directors are appointed by the nomination committee.

The correct answer is **D.**

Statement D: Executive directors are appointed to the board by the nomination committee or shareholders. On the other hand, non-executive directors are appointed to the board by shareholders only.

It is worth noting that, Executive directors are members of the board and who are **full-time** employees of the firm and who take part actively in the management of the business. Executive directors ensure that the rest of the board is well represented in the management and in the overall operations of the company. Executive directors are not **independent** and their remunerations are **salaries**.

Non-executive directors, on the other hand, are not employees of the company, however, they are selected to monitor the executive directors and act in the interest of the company's stakeholders and employees. Non-executive members are **independent** and their remunerations are **service fees**.

Q.52 In which way can suppliers and customers reward good corporate governance?

A. Accepting a lower rate of return on their investment.

B. Demanding a higher rate of return on their investment.

C. Actively doing business with the company in favorable terms.

D. Giving extra benefits to company executives.

The correct answer is **C.**

Good corporate governance increases the level of confidence among suppliers and customers. It effectively serves as an incentive that encourages them to do business with the company in the long term and in favorable terms.

Q.53 Which of the following committees is charged with approving and authorizing compensation of top company executives?

A. Audit committee.

B. Risk Management committee.

C. Compensation committee.

D. None of the above.

The correct answer is **C.**

After the 2007/2009 financial crisis, most institutions saw the need to constitute a board's compensation committee. This was prompted by realizing that prior compensation schemes encouraged disproportionate risk-taking with undue regard to long-term risks. Executives would reward themselves with short-term profits and would front-load fees but back-load the risks. Ideally, the compensation committee is charged with exercising an oversight role on all matters of remuneration. The committee ensures that compensation schemes take into account risks faced by the company, hence safeguarding long-term financial health.

Option A is incorrect: The audit committee’s responsibility is: i) to look into the accuracy of financial and regulatory reporting of the firm and the quality of processes that underlie such activities. ii) to ensure that a bank complies with regulatory, risk management, legal, and compliance activities. iii) to verify the activities of the firm to see if the reports outline the same.

Option B is incorrect: The risk management committee in a bank is responsible for: i) independently reviewing different forms of risks like liquidity risk, market risk, etc., and the policies related to them. ii) approving individual credits. iii) monitoring securities portfolios and significant trends in the market as well as breakdowns in the industry, liquidity crunch, etc. iv) it is responsible for reporting to the board about matters related to risk levels, credits and it also provides opportunities for direct interaction with the external auditor, management committees, Q.54 The effective oversight role of the audit committee contributes to:

A. Reliable financial reporting.

B. More effective corporate governance.

C. Credible audit functions.

D. All of the above.

The correct answer is **D.**

The responsibility of the audit committee is: i) to look into the accuracy of financial and regulatory reporting of the firm and the quality of processes that underlie such activities. ii) to ensures that a bank complies with standards in regulatory, risk management, legal, and compliance activities. iii) to verifies the activities of the firm to see if the reports outline the same.

The audit committee of the board, therefore, contributes to the accuracy of financial reporting and ensuring compliance with the minimum standards in other key activities and it also contributes to more effective corporate governance.

Q.55 Explain the meaning of a 'fiduciary duty' within the bounds of corporate governance.

A. A duty that arises out of a contractual agreement.

B. A duty that is not stipulated in a company's constitution, but nonetheless expected to be performed by management.

C. A duty imposed on a person because of the position of trust and confidence in which they stand in relation to another.

D. None of the above.

The correct answer is **C.**

A fiduciary duty is basically a legal obligation to act in the best interest of another. The duty is imposed on a person entrusted with cutting-edge decision-making or valuable assets. Such persons must disclose all the information they hold, account for any proceeds/profits received, and avoid conflict of interest.

Option A is incorrect: A duty that arises out of a contractual agreement refers to a contractual duty.

Option B is incorrect: A fiduciary duty is stipulated in the constitution of the company and as such you are expected to act in good faith and in the interest of the firm.

Q.56 The large-scale corporate collapses witnessed in the early 2000s, including the Global Financial crisis of 2007, all had important themes (causal factors) that risk professionals must understand if we are to avoid a recurrence of such financially crumbling events. Which of the following statements about these past crises is inaccurate?

A. Most collapses occurred as a result of executives abusing their trust and a lack of oversight.

B. Incentive payments and greed did not play any role in the collapses.

C. There was a tendency of management to take on risks that were not fully understood.

D. The collapses had a negative impact on the accounting profession.

The correct answer is **B.**

Prior to the Global Financial Crisis, corporate executives were taking huge risks that they did not understand with an eye for inflated bonuses and other forms of remuneration linked to short-term performance, which demonstrated fraud and greed in all of its ugly forms. This was particularly apparent in the case of Enron. The accounting profession's credibility was also called into question.

Q.57 Most companies now have several subsets of the board called 'board committees.' Why are such committees formed?

A. To directly report to shareholders on specific issues.

B. To enable the directors to reduce their individual liability and therefore serve more confidently.

C. To enhance the overall effectiveness of the board.

D. To introduce independence, thereby enabling verification of decisions/materials brought to the attention of the entire board.

The correct answer is **C.**

The establishment of appropriate board committees - compensation committee, nomination committee, management committee, and others - is likely to enhance the effectiveness of the board in its entity, particularly the effectiveness of non-executive directors. Committees help the board distribute the workload, hence enabling more detailed consideration of specific issues that need special attention. Such issues may include risk tolerance, external financing, and director remuneration.

Option A is incorrect: The board committees report directly to the board.

Option B is incorrect: the board of directors is usually monitored by non-executive directors to reduce their individual liability.

Option D is incorrect: The board committees report to the board, and therefore the committees do not introduce independence.

Q.58 The following are examples of agency costs, except:

A. Dividends

B. Monitoring fees

C. Audit fees

D. Delegated authorities

The correct answer is **A.**

Dividends do not form part of the costs of the principal-agent relationship. They represent the return to shareholders for investing in the company. However, dividends may be affected by agency costs – the profit available for distribution to shareholders may be reduced by audit fees, monitoring costs, and even management laziness.

Q.59 Which of the following is correct?
I. Directors may award themselves such salary payments as they think fit, without taking into account the remuneration guidelines detailed in the company's Articles of Association
II. Directors must receive a salary, just like other junior employees of the company
III. Directors only receive a salary if the constitution of the company explicitly allows it

A. I only

B. II only

C. III only

D. I and III only

The correct answer is **C.**

A director receives a salary payment only if they have a contractual right to remuneration. The board has the power to award contracts to directors and other personnel, subject to the company's articles. There are companies that do not have written agreements that can allow directors to receive any form of salary payment. In essence, the constitution is the sole determinant on matters remuneration.

Q.60 Muhammad Ismail, a research analyst, has recently learned in a seminar on the quality of research report writing that the firm's corporate governance is as important as the valuation of the firm's assets. He has noted the following points regarding the implication of good corporate governance. Which of them are not considered best practices of corporate governance?

A. The board of director should be comprised of a majority of independent members.

B. A director from outside of the industry should be provided training before joining the board.

C. The board will consider the interests of stakeholders, including debtholders, while taking decisions.

D. The CEO of the firm must also be the chairman of the board of directors in order to bring consistency in the board decisions.

The correct answer is **D.**

The Chief Executive Officer must not be the chairman of the board of directors. There will be no objectivity and independence if the CEO and the chairman of the board is the same person.

Option A is incorrect, as a board with a majority of independent members can oppose the decisions of the management.

Option B is incorrect: A member of the board who is outside of the firm's industry must be trained.

Option C is also incorrect: The board must consider the interest of all stakeholders including shareholders and debtholders.

Q.61 Which of the following combinations is likely to affect the independence of the board?

A. Chief Executive Officer as a member of the board of directors.

B. Chairman of the board as a member of the remuneration committee.

C. Chief Executive Officer as the Chairman of the remuneration committee.

D. Chairman of the board as the Chairman of the ethics committee.

The correct answer is **C.**

A board that is comprised of a Chief Executive Officer (CEO) who is also the chairman of the remuneration committee can potentially affect the independence and objectivity of the board and also the quality of corporate governance. The other 3 combinations will have no effect on the board's independence and objectivity.

Q.62 Woody Daren is an independent journalist who publishes his analysis on one blue-chip firm every week on his blog. Recently, Woody published an article on the best practices of Arrow Corp's risk management and its risk committee. Which of the following features that he published is an incorrect practice?

A. The business practices and risk management activities of Arrow Corp. strive for economic performance instead of accounting performance.

B. The compensation of the risk staff is based on risk-adjusted performance.

C. The members of the risk committee have deep knowledge of risk issues and accounting practices.

D. Most individuals that sit on the risk committee should also sit on the audit committee to align incentives between the two entities.

The correct answer is **D.**

The board risk and audit committees should be two separate entities, given that each requires different skills to meet its respective responsibilities. The risk committee should have members with enough analytic sophistication and business experience to properly analyze key risks. The audit committee should comprise members that are both independent and financially literate.

Option A is correct practice, as the business and risk management should focus on economic performance rather than accounting performance.

Option B is also a correct practice as it bases the compensation of the risk staff on risk-adjusted-performance.

Option C is also a correct practice of risk management because the board members of the risk committee should have basic training and knowledge of risk issues.

Q.63 George Hitman is a Risk Advisory Director on the board of Temple Tools Inc. George has passed FRM part 1 and is currently preparing for the FRM part 2 exam. Which of the following is NOT a duty of the Risk Advisory Director?

A. To attend audit committee meetings and advise the committee to increase the firm's effectiveness.

B. To Design the risk management program of a firm.

C. To review and analyze the firm's risk management policies and reports.

D. To review related parties and related-party transactions.

The correct answer is **B.**

Designing the risk management program of a firm is the role of the CRO

The following are the duties of the risk advisory director:

- The risk advisory director oversees risk management policies, reports, risks related to the overall business.
- Mitigation of risks like credit risk, market risk, etc. Risk advisory directors should be familiar with financial statements and accounting principles.
- The risk advisory director should oversee financial reporting and the dealings between the firm and its associates, including issues like intercompany pricing, transactions, etc.
- The risk advisory director should look into the requirements from regulatory agencies and should lay appropriate directives for the firm to comply with the requirements.
- Participation in audit committee meetings, outlining risk profiles of strategic business segments, sharing insights into corporate governance and risk management policies, and overseeing the conduct of business.

Q.64 Due to the presence of agency risk in the majority of organizations, it is necessary for the board to form a compensation committee to ensure appropriate risk is taken in relation to the long-term risk objectives. Its principal role is to design and approve the remuneration plans of management. Which of the following remuneration structures can be a potential cause of agency risk?

A. Compensation with bonuses based on long-term revenues and objectives.

B. Compensation with no guaranteed bonuses.

C. Compensation with the clawback clause on previous bonuses if the long-term goals are unachieved.

D. Compensation with the bonuses based on share prices.

The correct answer is **D.**

A compensation plan with bonuses based on share prices can be a potential cause of agency risk because there is an incentive for management to take excessive risk in order to increase the stock prices.

Option A is an appropriate compensation plan as the remuneration is based on long-term revenues and management does not have the incentive to take additional risk to increase short-term profits.

Options B and C are also appropriate compensation plans as the bonuses are tied with a clawback clause that motivates management to achieve and maintain long-term performance.

Q.65 David Lennon, a corporate trainer, has finalized some of the roles and responsibilities of the audit committee of the organizations which he is going to add in his presentation on the subject of the audit committee of the board. Which of the following is NOT the role of the audit committee?
I. The audit committee is responsible for the reasonable accuracy of the organization's financial statements
II. The audit committee is responsible for ensuring that the organization has taken measures to avoid misstated errors and fraud
III. The audit committee is responsible for ensuring that the remuneration of key management must be aligned with the goals of other stakeholders
IV. Members of the audit committee must have the knowledge of basic accounting principles of US GAAP and IFRS
V. The audit committee is responsible for ensuring that the management strategies are focused on economic profits

A. I & II

B. III & V

C. III, IV & V

D. II, III & V

The correct answer is **B.**

Statements III and V are not roles of the audit committee of the board because it is the responsibility of the compensation committee to ensure that the remuneration of key management must be aligned with the goals of other stakeholders. The risk committee is responsible for ensuring that the management strategies are focused on economic profits rather than accounting profits. Statements I, II, and IV are the core responsibilities of the audit committee.

Q.66 The various functional units of an organization work interdependently to ensure the accurate and timely development of an organization's profit and loss statement. For instance, several functional units provide their input to develop the P&L statement in an investment bank. Which of the following functional units is likely to approve the final P&L statement?

A. Operations unit

B. Finance unit

C. Senior management

D. Risk management unit

The correct answer is **C.**

The operations unit is responsible for recording and reconciling all the trades of an investment bank while the finance unit develops the valuations and finance policies that are applied by the finance unit in the preparation of the P&L statement. The senior management is responsible for providing final approval of the P&L statement.

Reading 4: Credit Risk Transfer Mechanisms

Q.3718 What are the contractual specifications for the protection seller of a credit default swap?

A. The protection buyer pays a premium to the protection seller at regular time intervals until a credit event occurs, in which case the protection seller pays the protection buyer compensation for the credit event.

B. If a credit event occurs, the protection seller is obliged to exchange contractually specified assets for government bonds.

C. The protection seller pays a premium to the protection buyer at regular time intervals until a credit event occurs, in which case the protection buyer pays the protection seller compensation for the credit event.

D. If the underlying of the credit default swap is a bond issued by a specific corporation, only this corporation can act as a protection seller.

The correct answer is **A.**

In a CDS, one party makes payments to the other and receives in return the promise of compensation if a third party defaults.
Example:
Suppose Bank A buys a bond issued by ABC Company. In order to hedge the default of ABC Company, Bank A could buy a credit default swap (CDS) from insurance company X. The bank keeps paying fixed periodic payments (premiums) to the insurance company, in exchange for the default protection. In the event of default, the bank would receive compensation from the insurance company, usually equal to the face value of the bond.

D is incorrect. The issuer of a bond cannot double up as the protection seller of the security issued.

Q.3719 The practice of approving mortgages in order to sell them as mortgage-backed securities is known as:

A. Originate-to-distribute

B. Originate-to-keep

C. Principal-agent engineering

D. A credit default swap

The correct answer is **A.**

The originate-to-distribute (OTD) business model describes the practice where originators (owners) of mortgages or other types of loans repackage these assets and sell them to third parties. It is the opposite of the traditional originate-to-keep (OTK) model where owners of mortgages and other loans keep these assets in their balance sheets until maturity. From the perspective of the originator (usually banks), the OTD model has several benefits:

- It introduces specialization in the lending process. Functions initially designated for a single firm are now split among several firms.
- It reduces banks' reliance on the traditional sources of capital, such as deposits and rights issues.
- It introduces flexibility into banks' financial statements and helps them diversify some risks.

Q.3720 Which of the following best explains why the 2001-2002 economic slowdown did NOT result in heavy losses for the banking sector?

A. Rapid foreclosure of insolvent/loss-making corporate borrowers.

B. A substantial increase in investment in government bonds.

C. Cash injections by the Federal Reserve.

D. Hedging through credit derivatives and securitization of assets.

The correct answer is **D.**

Credit risk derivatives and securitization were the main reasons why the banking sector emerged from the 2001-2002 economic slowdown largely unscathed. Most banks that had lent out cash to various corporations had purchased protection against default in the form of credit default swaps and total return swaps. Others had hived off a significant part of their balance sheets by issuing securitized assets such as collateralized debt obligations and collateralized loan obligations.
When borrowers defaulted, those banks that had bought protection in the form of credit derivatives were compensated. On the other hand, those that had securitized their assets had already received payments from third-party investors, which helped offset the total loss.

Q.3721 Global Tech has declared its intention to bring to the market a 10-year senior bond issue at par with a coupon rate of 23%, offering a spread of 1200 basis points over the corresponding 10-year Treasury issue. An investor is keen to enter into a total return swap that matures in one year with the senior bonds that are about to be issued as the reference obligation. Under the terms of the contract, payments will be exchanged semiannually, where the total return receiver will pay the six-month Treasury rate plus 328 basis points. What is the 10-year Treasury rate at the time the bonds are issued?

A. 10%

B. 12%

C. 11%

D. 13%

The correct answer is **C.**

We know that Global Tech will be coming to market with a 10-year senior bond issue at par with a coupon rate of 23%, offering a spread of 1200 basis points over the 10-year Treasury issue. Because 1200 basis points is 12%, this means the 10-year Treasury issue will have a rate of 23% - 12% = 11%. At the time of issuance, therefore, the 10-year Treasury yield is 11%.
Note that the question has a bit of nugatory information.

Q.3722 Which of the following is most likely correct?
Credit default swaps contributed to the financial crisis of 2007-2009 by:

A. Allowing protection buyers to specify who bears the credit risk on a given security.

B. Requiring no collateral from both protection buyers and sellers.

C. Making it easier for sellers of insurance to assume and conceal risk.

D. Identifying those who took concentrated positions on one side of a trade.

The correct answer is **C.**

A major reason why credit default swaps share some blame for the 2007/2009 financial crisis has much to do with a largely untethered market where rules and regulations were virtually absent, and where present, such regulations were not strictly enforced. In particular, protection sellers had a lot of ease while doing business.

Option A is incorrect: For starters, they were not required to maintain reserves to cover the protection sold. This left them vulnerable to serious funding problems following a claim of compensation by the protection buyer. In fact, this was a principal cause of AIG's financial distress in 2008; it had insufficient reserves to meet the "run" of expected payouts caused by the housing bubble collapse.

Option B is incorrect: We had collateralized debt obligations (CDOs), however, these were abused.

Option D is incorrect: The seller didn’t have to belong in the category of highly regulated institutions such as banks. This made it even more difficult for the authorities to monitor transactions.

Q.3723 Which of the following statements are correct? Credit default swaps:

I. Present high levels of risk and are only be used by the wealthy
II. Allow lenders to insure themselves against the risk that a borrower will default.
III. It should only be used by people seeking high returns from low risk.
IV. Do not require collateral to be posted by either the buyer or the seller of the insurance.

A. II and IV

B. I and III

C. II only

D. IV only

The correct answer is **C.**

In a CDS, the protection buyer (lender) makes payments to the protection seller and receives in return the promise of compensation if a third party (borrower) defaults.
I is incorrect. Although CDSs can be risky, such risks can be mitigated by putting in place adequate regulation. They are certainly not a preserve for the wealthy.

III is incorrect. CDS are either used for hedging by buyers who hold a position in the reference asset, or speculators whose intent is to gamble on the creditworthiness of the reference entity in the hope of making a profit.

IV is also incorrect. CDS contracts do require collateral to be posted by either the buyer or the seller of the insurance.

Q.3724 The purpose of credit derivatives is to:

A. Transfer the risk from one party to another.

B. Increase the risk, so that the return is larger.

C. Postpone the risk for both parties in the transaction.

D. Eliminate risk for both parties in the transaction.

The correct answer is **A.**

Credit derivatives are financial instruments that **transfer** the credit risk of an underlying portfolio of securities from one party to another party without transferring the underlying portfolio. They are usually privately held, negotiable contracts between two parties. A credit derivative allows the creditor to transfer the risk of the debtor's default to a third party.

Option B is incorrect: Although derivatives are associated with some level of risk, their purpose can not be aimed at increasing risk.

Similarly, **Options C and D are incorrect**: Derivatives can not be used to postpone or eliminate risks.

Q.3725 Which of the following is NOT one of the methods of settling credit default swaps?

A. Auction

B. Physical

C. Cash

D. None of the above

The correct answer is **A.**

There are two ways that can be used to settle a CDS contract:
Cash settlement: The protection seller makes a payment equal to a pre-determined value to the protection buyer. The parties establish the value of the contract and the protection seller pays the protection buyer the full face value of the reference obligation less its current value.

Physical settlement: the protection seller pays the face value of the asset to the buyer, and the buyer surrenders the reference asset to the seller. The contract may also specify the alternative assets that can be delivered.

Q.3726 A credit default swap:

A. Has to be settled at maturity.

B. Will not be settled if no credit event has occurred.

C. Need not be settled until maturity.

D. Settlement is not contingent on any credit events.

The correct answer is **B.**

The settlement of a CDS contract occurs at any point between inception and maturity – provided a credit event occurs. There's no settlement if no credit event occurs. The events that constitute a credit event are always specified in the contract.

Q.3727 In a credit default swap transaction:

A. The protection buyer is long on risk.

B. The protection seller is short on risk.

C. The protection seller makes periodic payments.

D. The protection buyer makes periodic payments.

The correct answer is **D.**

In a CDS, the protection buyer makes payments to the protection seller and receives in return the promise of compensation if a third party defaults. The buyer is short on risk, i.e., they sell risk, while the protection seller is long on risk, i.e., they buy risk.

Q.3729 An investor wishes to purchase a 5-year BBB-rated bond issued by BAC Corporation but does not want to bear the out-of-pocket costs and the inconvenience associated with long-term financing arrangements, actually going long the bond, and taking delivery. Suppose also that a bank owns the same bond and would like to extend a loan to BAC Corporation but its loans to BAC and investments in BAC debt instruments have fully exhausted its capacity to lend to BAC. Which of the following instruments would best suit the two parties in these circumstances?

A. Credit spread swap option

B. Total return swap

C. Credit default swap

D. Collateralized loan obligation

The correct answer is **B.**

A total return swap will allow the investor to receive the total economic return on this bond without actually buying it. It will allow the bank to reduce its risk of exposure to BAC Corporation as if it had sold the bond without actually selling it.

If the two entities enter into a total return swap structured around this bond's total return stream, the investor will be synthetically "long" the 5-year bond, and the bank will be synthetically "short" the same bond.

Option A is incorrect: In a credit spread swap option, a strategy that involves the purchase of one option and the sale of another option.

Option C is incorrect: A credit default swap is a derivative contract that enables investors to swap credit risk from one party to another.

Option D is incorrect: Collateralised loan obligations refer to a structured product backed by a pool of commercial bank loans created using the securitization process.

Q.3730 Two parties decide to engage in a 2-year credit default swap. Assume that the reference entity is BAC Corporation. The notional amount of the contract is $10 million, and the contract is cash-settled.
After one year, a default event occurs, and the bonds are valued at $8.5 million at the time of default. Which of the following is most likely correct?

A. The protection buyer receives $1.5 million in compensation.

B. The protection buyer continues to pay premiums for one more year.

C. The protection buyer delivers the bond to the protection seller .

D. There is no compensation paid to the protection buyer.

The correct answer is **A.**

Under cash settlement, the protection seller makes payments equal to a pre-determined value to the protection buyer. The buyer is not required to deliver the reference obligation to the seller. The parties establish the value of the contract and the protection seller pays the protection buyer a termination amount equal to the full face value of the reference obligation less its current value. In this case, the amount paid is $1.5 million (= $10m - $8.5m).
Option B is incorrect. If a credit event occurs, two things happen. First, there are no further payments of the swap premium by the protection buyer to the protection seller. Second, a termination value is determined for the swap.

Q.3731 An investor approaches a swap dealer wishing to engage in a total return swap. The underlying asset is $10 million principal amount of a 9% BB-rated 5-year corporate bond that has semiannual interest payments. The swap dealer agrees to pay the total return on this bond for the coming 6 months in return for payments based on (1) an interest rate of 6-month LIBOR plus a spread of 30 basis points and (2) a notional principal amount equal to the face value of the underlying asset, $10 million.
At the swap date, the bond is worth par, and the 6-month LIBOR is 6%. Suppose that at the termination date, the value of the bond has still not changed. Determine the net payment and the party that is owed. (Use discrete compounding.)

A. Net payment = $315,000 ; owed party is the investor

B. Net payment = $450,000; owed party is the swap dealer

C. Net payment = $0; no owed party

D. Net payment = $135,000; owed party is the investor

The correct answer is **D.**

The easiest way to see this swap is that one party is swapping the 9% coupons + capital gains against LIBOR + 0.3%.

Assumptions:

- Asset: $10 million principal amount of a 9% BB-rated 5-year corporate bond
- Floating rate: 6-month LIBOR plus a spread of 0.3% (the 6-month LIBOR on the swap date is 6%)
- Term of the swap: 6 months (just one interest period)
- Value of the bond: Swap date: 100% of the face value
- Termination date: 100% of the face value

Here's how we calculate the cash payment:

$$\text{Interest on the bond:} \$10,000,000 \times \frac{0.09}{2} = \$450,000$$
$$\text{Interest at LIBOR:} \$10,000,000 \frac{(0.06 + 0.003)}{2} = \$315,000$$

Thus, the interest payment obligations are $315,000 for the investor and $450,000 for the swap dealer. The swap dealer must, therefore, make a net payment to the investor of $135,000 (= $315,000 - $450,000).

Had there been a capital gain or loss on the reference obligation, this would have impacted the payments made by the two parties.

Note that, in a total return swap, the payer(protection buyer) agrees to pay the total return swap receiver, the total return derived from the underlying asset. In return, the receiver(protection seller) pays the asset owner a Libor-based interest rate during the life of the total return swap.

Reading 5: Modern Portfolio Theory (MPT) and the Capital Asset Pricing Model (CAPM)

Q.38 Henry Ellen, an FRM candidate, has recently studied William Sharpe's Capital Asset Pricing Model (CAPM) as part of the FRM books. As per his understanding of the model, he has come up with a list of broad assumptions. Which of the following assumptions of the CAPM model is INCORRECT?

A. CAPM assumes that all capital markets are perfectly competitive.

B. As per CAPM, investors should not be concerned with unsystematic risk.

C. CAPM does not consider transaction costs.

D. Beta can be decreased via diversification.

The correct answer is **D.**

Beta risk is the systematic risk and, under the perfect capital market, investors' only concern should be the systematic risk as it cannot be eliminated via diversification.

Option A is correct as CAPM assumes all capital markets are perfectly competitive.

Option B is also correct as unsystematic risk can be diversified so it should not concern investors.

Option C is correct as CAPM does not consider the transaction costs of diversification.

Q.179 A property development company faces the following problems:
I. Labor costs
II. Interest rate risk
III. Environmental challenges
IV. Poor project management
V. Inflation

Which of the above risks would be taken into account when estimating the company's beta?

A. I, II, & IV

B. II & IV

C. II & V

D. I, III, & IV

The correct answer is **C.**

Beta represents a company's systematic risk - the risks that cannot be eliminated by diversification. Such risks affect the market as a whole, including interest rate fluctuations and inflation. Company-specific risks such as labor costs, employee go-slows, and environmental challenges are considered to have very little effect on a well-diversified portfolio - one that cuts across multiple companies and industries.

Q.180 Which of the following is NOT an assumption of the standard Capital Assets Pricing Model (CAPM)?

A. Investors incur some transactional costs when trading assets.

B. There are no taxes, making investors indifferent between capital gains and dividends/income.

C. Assets can be divided infinitely, making it possible to hold fractional shares.

D. There's unlimited short selling/ a perfectly liquid market.

The correct answer is **A.**

The CAPM assumes that there are absolutely NO transactional costs. This significantly simplifies the computation of returns because if the transactional costs were present, the return would be a function of such costs, which would then have to be estimated.

Q.181 Consider a graph with expected return on the vertical axis and standard deviation on the horizontal axis. What's the name of the line that connects the risk-free rate and the optimal risky portfolio?

A. The efficient frontier

B. The characteristic line

C. The indifference curve

D. The capital market line

The correct answer is **D.**

The capital market line shows the relationship between risk (as measured by standard deviation) and return of efficient (market) portfolios. The line appears as a tangent from the intercept point on the efficient frontier to the point where the risk-free rate of return equals the expected return.

Option A is incorrect: An efficient frontier is a line that shows portfolios that offer the highest expected return for a given level of risk.

Option B is incorrect: A characteristic line is a straight line generated by regression analysis that shows the systematic risk of a particular security and the equivalent rate of return

Option C is incorrect: An indifference curve is a graph that shows the combination of two commodities that leaves the customer equally satisfied hence indifferent in choosing any of the combinations.

Q.182 The difference between the capital market line (CML) and the efficient frontier (EF) is that:

A. The CML represents possible combinations of portfolios consisting of all possible proportions between the market portfolio and a risk-free asset while the EF represents all possible combinations of efficient portfolios, taking into account only risky assets in varying proportions.

B. The EF represents possible combinations of portfolios consisting of all possible proportions between the market portfolio and a risk-free asset while the CML represents all possible combinations of efficient portfolios, taking into account only risky assets in varying proportions.

C. The CML represents a few possible combinations of portfolios consisting of various proportions between the market portfolio and a risk-free asset while the EF represents all possible combinations of efficient portfolios, taking into account only risk-free assets in varying proportions.

D. The EF represents possible combinations of portfolios consisting of all possible proportions between the market portfolio and a risk-free asset while the CML represents all possible combinations of efficient portfolios, taking into account only risky assets in fixed proportions.

The correct answer is **A.**

The most important point to note is that while the CML works with risk-free assets, the EF only includes risky assets.

The efficient frontier shows the optimal returns for each level of risk.

Q.183 An investor holds a portfolio comprised of a risk-free asset and a market portfolio. Given the following information, compute the expected return of the portfolio.
Risk-free rate = 5%
Expected market return = 25%
Standard deviation of market portfolio = 10%
Standard deviation of portfolio = 5%

A. 0.25

B. 0.0015

C. 0.1

D. 0.15

The correct answer is **D.**

The equation of the CML is $R_p = R_f + \{\frac{R_m - R_f}{\sigma_m}\}\sigma_p$

Where:
R_p is the expected portfolio return
R_f is the risk-free rate
R_m is the expected market return
And σ_m, σ_p are the standard deviations of the market and the portfolio, respectively

Therefore,

$$\begin{aligned} E(R_p) &= 5 + \frac{(25-5)}{10} \times 5 \\ &= 5 + 2 \times 5 \\ &= 15\% \end{aligned}$$

Note: Any risk-free asset has a known, certain return (5% in this case). This is the result of its standard deviation being 0. Thus, the covariance of the risk-free asset with any risky asset, including the market portfolio, is zero. With a zero covariance, the correlation between the risky asset and the market portfolio is also zero.

Q.184 According to the CAPM, the risk premium expected to be received by a stockholder increases:

A. Directly with beta.

B. Inversely with beta.

C. Inversely with systematic risk.

D. Directly with total risk.

The correct answer is **A.**

Return is the reward for taking on risk. Beta is a measure of the systematic risk of a stock. As such, as beta increases so do the risk, hence the reward in the form of a premium.

Q.185 Under the CAPM, if a stock has a beta of 2, then for every percentage point performance attained by the market over above the risk-free rate, we would expect the stock to achieve:

A. 1 percentage point return.

B. 2 percentage points extra return.

C. 1 percentage points lower return.

D. Impossible to determine.

The correct answer is **B.**

If a stock has a value of beta of more than 1, then historically, the stock amplifies the return of the whole market (both positive and negative). Thus, a 1% return above R_f would be amplified to 2% above R_f. Similarly, a 1% return below R_f would be amplified to 2% below R_f.

Q.186 A beta close to zero indicates:

A. A stock with a less stable return than the market as a whole.

B. A stock with a more stable return than the market as a whole.

C. An ETF replicating the corporate bond market.

D. A stock with historically higher returns compared to the market as a whole.

The correct answer is **B.**

A beta close to zero indicates more stability compared to the market. Such a stock would show very little price movements during periods of large market movements, either positive or negative.

Option A is incorrect: A stock with a more stable return than the market as a whole has a beta greater than 1.

Option D is incorrect: A stock with historically higher returns compared to the market as a whole has a beta greater than 1

Q.188 An asset has a standard deviation of 30% and 0.8 as its correlation coefficient of returns with the market index. Given that the standard deviation of the market return is 20%, calculate the asset's beta.

A. 0.24

B. 2.4

C. 1.4

D. 1.2

The correct answer is **D.**

The formula for calculating the beta for stock i is:

$$\beta_i = \rho_{i,m}\left(\frac{\sigma_i}{\sigma_m}\right)$$

Where i is the stock and m is the market.

Thus,

$$\beta_i = 0.8\left(\frac{0.3}{0.2}\right) = 1.2$$

Q.189 You have been given the following asset weights and betas for a 4-asset portfolio:

Asset	Beta	Portfolio Weight
1	1.3	30%
2	0.97	23%
3	1.7	37%
4	1.4	10%

If the market risk-free rate is 5%, what is the portfolio beta?

A. 1.3

B. 2.3

C. 1.4

D. 0.3

The correct answer is **C.**

The beta for a portfolio is the weighted average of the betas of individual assetsThus, the beta for the 4-asset portfolio above = 1.3 * 0.3 + 0.97 * 0.23 + 1.7 * 0.37 + 1.4 * 0.1 = 1.4Note: The market risk-free rate is useless in this question.

Q.190 An FRM exam candidate makes the following comments during an online discussion with fellow candidates:

I. On the capital market line, investors are only compensated for bearing systematic risks
II. The capital market line assumes that investors hold two portfolios:
    i. a risky portfolio of all assets each weighted according to its market value relative to the total market value and
    ii. the risk-free asset
III. The CML can be used to determine the required rate of return for individual securities.

Are the candidate's comments correct?

A. All the comments are correct.

B. Only II is correct.

C. Only I and II are correct.

D. None of the comments are correct.

The correct answer is **C.**

Statement I is correct. On the CML, investors are only compensated for bearing systematic risks because specific risks are eliminated via diversification.

Statement II is correct. The CML assumes an investor holds a portfolio of all assets weighted according to their individual market values as a proportion of the total market value as well as a risk-free asset.

Statement III is incorrect. The CML cannot be used to determine the required rate of return for inefficient portfolios or individual assets; only the CAPM can be used to do that.

Q.191 When a security is plotted on the security market line (SML) chart and found to appear above the SML, it's considered:

A. Undervalued and a profitable buy for investors.

B. Overvalued and a profitable buy for investors.

C. Undervalued and a profitable short sell for investors.

D. Overvalue and a profitable short sell for investors.

The correct answer is **A.**

The security market line is a graphical representation of the CAPM. It's used to assess whether to include an asset or security in a portfolio by matching the risk borne with the desired return. As such, if a security is found to lie above the security market line, this means it's been undervalued - it offers a return greater than its inherent risk. It is a great buy for investors.

Similarly, a security found to lie below the SML is considered overvalued as its inherent risk outweighs the return it offers. It is considered a great short sell for investors.

Q.192 You have been provided with the following information regarding the stock of Translink, an international air transport company:

- Risk-free rate = 3%
- Expected market risk premium = 5%
- Translink beta = 1.5

Use the capital asset pricing model to determine the expected return of Translink.

A. 7.5%

B. 10.5%

C. 6%

D. 8%

The correct answer is **B.**

According to CAPM, the expected return on an asset is given by:

$$E(R_i) = R_f + (E(R_m) - R_f))\beta_i$$

Where $(E(R_m) - R_f)$ is the difference between the expected market return and the risk-free rate (market risk premium) and β_i is the beta for the stock.

Thus,

$$E(R_i) = 3\% + 5\% \times 1.5 = 10.5\%$$

Note that, what we are given in the question is the expected market risk premium and it should not be confused with the expected market return.

Q.193 John Powel gathers the following information regarding the stock of Swisscom, an internet service provider:

- Beta for Swisscom = 0.8
- Risk-free rate = 5%
- Powel's expected rate of return for Swisscom = 7%

Use this information to determine the expected market return.

A. 8%

B. 12%

C. 7.5%

D. 5%

The correct answer is **C.**

According to CAPM,

$$\begin{aligned} E(R_i) &= R_f + (E(R_m) - R_f)\beta_i \\ 7\% &= 5\% + (E(R_m) - 5\%)0.8 \\ 2\% &= (E(R_m) - 5\%)0.8 \\ \frac{2\%}{0.8} &= E(R_m) - 5\% \\ E(R_m) &= 2.5\% + 5\% = 7.5\% \end{aligned}$$

Q.194 Which of the following is NOT included in the underlying assumptions of the Capital Asset Pricing Model (CAPM)?

A. There are no income taxes, which is why investors are indifferent between dividends and capital gains.

B. Short selling is not allowed.

C. There are no transactions costs.

D. Investors can borrow and lend unlimited amounts at the risk-free rate.

The correct answer is **B.**

CAPM assumes that unlimited short selling is allowed so the investors can short as many assets they want.

Option A is an appropriate assumption because CAPM does not assume income tax, which is why an individual investor is indifferent between dividend income and capital gain.

Assumption C is also true because CAPM assumes there are no transaction costs and investors can make unlimited transactions to balance their portfolios.

Option D is also an appropriate assumption. CAPM assumes that there is no limit on borrowing and lending.

Q.195 Julia and Frank are two traders that have recently joined the New York Stock Exchange (NYSE). During their daybreak, they discussed their understanding of the Capital Market Line (CML) and Market Portfolio Theory.
Julia, who is a senior trader, stated that the capital market line (CML) is the tangent line drawn from the point of the risk-free asset to the feasible region for risky assets, and all investors invest in some combination of risk-free assets and market securities, which lies on the CML.

Frank added that the market portfolio is a universally agreed upon optimal risky portfolio that lies on the CML.

Determine if the explanations of Julia and Frank are correct.

A. Julia is correct, and Frank is also correct.

B. Julia is incorrect, while Frank is correct.

C. Julia is correct, while Frank is incorrect.

D. Julia is incorrect, and Frank is also incorrect.

The correct answer is **A.**

The statements of Julia and Frank are correct. When investors have a homogeneous expectation (same estimates of risk, return, and correlations), all investors will have the same optimal risky portfolio, known as the market portfolio. The capital market line (CML) is the tangent line drawn from the point of the risk-free asset to the feasible region for risky assets. All the investors invest in some combination of risk-free assets and risky assets, which lies on the CML.

Q.196 Steven Thomson is the head of the portfolio risk management team. His team has recently forwarded him an intra-departmental valuation report that contains expected return and standard deviation calculations of one of the diversified portfolios he manages. Given that the team has used different measures to compute the expected return of the portfolio, determine which of the following is appropriate for measuring the expected return of individual securities.

A. Sharpe ratio

B. CML

C. CAPM

D. Beta

The correct answer is **C.**

The Capital Asset Pricing Model (CAPM) is used for computing expected returns of an individual security.
Option A is incorrect because the Sharpe ratio is used to calculate the risk-to-reward ratio.

Option B is incorrect because the CML could be used to measure the expected return of an undiversified portfolio, as proxied by the standard deviation.

Option D is incorrect because Beta is a risk measure that measures the sensitivity of an asset's return as compared to the market return.

Q.197 During an employment interview, a candidate is given the question to select the appropriate formulas for the computation of an asset's beta. Out of the four following formulas for the beta, one of them is INCORRECT. Which one?

A. Covariance of asset's return with the market return / Variance of the market returns.

B. (Correlation of asset's return and market return * Standard deviation of asset returns * Standard deviation of market returns)/Variance of the market returns.

C. Correlation of asset's return and market return * (Standard deviation of asset returns / Standard deviation of market returns).

D. Covariance of asset's return and market return * (Standard deviation of asset returns / Standard deviation of market returns).

The correct answer is **D.**

The formula provided in Option D is incorrect for the computation of beta.

Option A is correct because of the standard formula for calculating an asset's beta = Covariance of Asset's return with the market return / Variance of the market return.

Option B is also accurate since Covariance of asset's return with market return = Correlation of asset's return and market return * Standard deviation of asset returns * Standard deviation of market returns

Options C is also accurate because the alternative formula for the calculation of beta = Correlation of asset's return and market return * (Standard deviation of asset returns / Standard deviation of market returns)

Q.198 Huma Ahmed is a junior portfolio analyst who has recently switched from the fixed income portfolio management unit to his firm's equity portfolio management unit. On her first day, she was asked by her senior portfolio analyst to compute the portfolio's beta that contains 5 assets. Using the data provided in the table, determine the beta of the portfolio.

Asset	Return	Weight	Beta
1	1.3%	0.10	0.35
2	10%	0.25	0.20
3	6%	0.25	0.15
4	9%	0.30	0.60
5	16%	0.10	0.40

A. 1.7

B. 0.34

C. 0.09

D. -1.1

The correct answer is **B.**

The beta (β) of the portfolio is calculated as:

$$\beta_p = W_1\beta_1 + W_2\beta_2 + W_3\beta_3 + W_4\beta_4 + W_5\beta_5$$
$$\beta_p = 0.10 \times 0.35 + 0.25 \times 0.20 + 0.25 \times 0.15 + 0.30 \times 0.60 + 0.10 \times 0.40 = 0.3425$$

Q.199 According to CAPM, which of the following risks should an investor be compensated for?

A. Systematic risk only.

B. Unsystematic risk only.

C. Both systematic and unsystematic risk.

D. Both systematic risk and asset-specific-risk.

The correct answer is **A.**

The investor should only be compensated for systematic risk or beta. Since CAPM assumes that there are no transaction costs and an investor can diversify free of cost, the investor does not need to be compensated for diversifiable risks, i.e., unsystematic or asset-specific-risk.

Q.200 Assume you are a junior portfolio analyst for a Chinese asset management company based in Beijing and you are given the task to evaluate the stock of Sun Cruise Inc. using CAPM. If the expected return of the market is 17%, the stock beta is 0.89, the risk-free rate is 6%, and the market risk premium is 11%, then the computed required rate of return of Sun Cruise Inc. is:

A. 17%

B. 15.8%

C. 10.45%

D. 11%

The correct answer is **B.**

According to the Capital Asset Pricing Model (CAPM):

$$\text{Expected return of a stock} = \text{Risk-free rate} + \text{Beta}(\text{Expected market return} - \text{Risk-free rate})$$

$$\text{Expected return of Sun Cruise Inc.} = 6\% + 0.89(17\% - 6\%) = 15.79\%$$

Note that,

$$\text{Expected return} = \text{Beta} * \text{Market risk premium} + \text{Risk-free rate}$$

Q.201 Which of the following is a **major** difference between Treynor and Sharpe measures?

A. While the Treynor measure uses beta as the risk measure to assess the volatility of a portfolio relative to the market, the Sharpe measure takes into account the total risk exposure and hence uses the standard deviation.

B. While the Sharpe measure uses beta as the risk measure to assess the volatility of a portfolio relative to the market, the Treynor measure takes into account the total risk exposure, hence uses the standard deviation.

C. The Treynor measure is more straightforward and easier to calculate as compared to the Sharpe measure.

D. All of the above.

The correct answer is **A.**

The question asks for the major difference between the two measures. As such, the main difference between the two is that Treynor measure only considers systematic risk (through the use of beta) while Sharpe considers both unsystematic risks and systematic risk(through the use of the standard deviation).

Q.202 The Jensen portfolio evaluation measure:

A. is a measure of return per unit of risk, as measured by standard deviation.

B. is an absolute measure of return over and above that predicted by the CAPM.

C. is a measure of return per unit of risk, as measured by beta.

D. B and C

The correct answer is **B.**

The Jensen's measure, or Jensen's alpha, is a risk-adjusted performance measure that represents the average return on a portfolio or investment, above or below that predicted by the capital asset pricing model (CAPM). The value of the excess return can be positive, negative, or zero. The CAPM model itself takes into account the risk of the security, as represented by beta. Thus, if the security is fairly priced, its actual returns will be the same as under the CAPM model.

Q.203 John Cook, a retired surgeon, has the following assets:
A house and land worth $150,000 in total
An undiversified securities portfolio worth $700,000
A fleet of automobiles worth $160,000

Between the Treynor and the Sharpe measures, which measure would be of more concern to Mr. Cook?

A. The Treynor measure

B. The Treynor measure for the portfolio and the Sharpe measure for the other assets

C. The Sharpe measure

D. None of the two measures

The correct answer is **C.**

A quick glance at the assets above reveals that the securities portfolio constitutes the major proportion of Mr. Cook's assets. He is most likely interested in the safety of both income and principal, regardless of the source of volatility. As a result, he would be more interested in the Sharpe measure, since it takes into account the total risk - both systematic and unsystematic risks. On the other hand, if the portfolio accounted for a relatively small proportion of the assets, the Treynor measure would be of more concern since it focuses only on systematic/market risk.

Q.204 A 10-year research on 3 distinct portfolios and the market reveals the following information:

Portfolio	Average Annual Return	Standard Deviation	Beta
1	14%	21	1.15
2	16%	24	1.00
3	20%	28	1.25
S&P500	12%	20	

If the risk-free rate is 6%, then use the Treynor measure to rank the portfolios from the lowest to the highest.

A. 1, 2, 3

B. 2, 3, 1

C. 3, 2, 1

D. 1, 3, 2

The correct answer is **A.**

The Treynor measure of a portfolio,

$$T_p = \frac{(E(R_p) - R_f)}{\beta_p}$$

Hence:

$$T_1 = \frac{(14\% - 6\%)}{1.15} = 0.07$$
$$T_2 = \frac{(16\% - 6\%)}{1.0} = 0.1$$
$$T_3 = \frac{(20\% - 6}{1.25} = 0.112$$

Q.205 A 10-year research on 3 distinct portfolios and the market reveals the following information:

Portfolio	Average Annual Return	Standard Deviation	Beta
1	14%	21	1.15
2	16%	24	1.00
3	20%	28	1.25
S&P500	12%	20	

If the risk-free rate is 6%, which portfolio carries the largest market risk?

A. 1

B. 2

C. 3

D. S&P 500

The correct answer is **C.**

The higher the beta, the larger the market risk. Portfolio 3 has the highest beta, which stands at 1.25.

Q.206 A 10-year research on 3 distinct portfolios and the market reveals the following information:

Portfolio	Average Annual Return	Standard Deviation	Beta
1	14%	21	1.15
2	16%	24	1.00
3	20%	28	1.25
S&P 500	12%	20	

Given that the risk-free rate of return is 6%, use the Sharpe measure to rank the portfolios from the lowest to the highest.

A. 1, 3, 2

B. 2, 3, 1

C. 2, 1, 3

D. 1, 2, 3

The correct answer is **D.**

The formula for calculating the Sharpe ratio for a portfolio, $S_p = \frac{E(R_p) - R_f}{\sigma p}$ Hence,

$$S_1 = \frac{(14\% - 6\%)}{21\%} = 0.38$$
$$S_2 = \frac{(16\% - 6\%)}{24\%} = 0.42$$
$$S_3 = \frac{(20\% - 6\%)}{28\%} = 0.50$$

Q.207 Under Jensen's differential return measure, which of the following indicates superior market timing on the part of the manager?

A. A zero alpha.

B. A positive alpha.

C. Statistically significant negative alpha.

D. Statistically significant positive alpha.

The correct answer is **D.**

Alpha measures the share of additional returns brought about by the manager's decisions and skill. To determine the statistical significance of alpha, we calculate the t-statistic - equal to the estimated value of the alpha divided by its standard deviation. A t-statistic greater than 2 (assuming a normal distribution) is associated with up to 95% probability of skill and less than 5% probability of mere luck.

Q.208 Suppose you have two portfolios with the same average return, the same standard deviation of returns, but portfolio Y has a lower beta than portfolio X. Which of the following statements is true according to the Sharpe measure?

A. Portfolio X performs better than portfolio Y.

B. Portfolios X and Y perform equally.

C. Portfolio Y outperforms portfolio X.

D. None of these are correct.

The correct answer is **B.**

The Sharpe index measures the average portfolio return in excess of Rf (the risk-free rate) per unit of total risk. The total risk is measured by the standard deviation, not beta.

Options A, C, and D are incorrect, considering the Sharpe ratio, then no portfolio outperforms the other since they have the same standard deviation of returns.

Q.209 You have been given the following data for a managed portfolio:

Beta = 1.2

Alpha = 1%

Average return = 14%

Risk-free rate = 4%

Calculate the return on the market portfolio basing your calculations on Jensen's measure of portfolio performance.

A. 15.45%

B. 13%

C. 11.5%

D. 1.3%

The correct answer is **C.**

According to Jensen's measure of performance:

$$
\begin{aligned}
\alpha_p &= E(R_p) - [R_f + [E(R_m) - R_f]\beta_p] \\
1\% &= 14\% - [4\% + 1.2(x - 4\%)] \\
1\% &= 14\% - [4\% + 1.2x - 4.8\%] \\
1\% &= 14\% - 4\% - 1.2x + 4.8\% \\
1.2x &= 13.8\% \\
x &= E(R_m) = 11.5\%
\end{aligned}
$$

Q.210 The Treynor, Sharpe, and Jensen measures of portfolio performance are derived from CAPM. Which of the following statements is correct regarding measures of portfolio performance?

A. All three measures are equally efficient at evaluating the performance of a manager.

B. All three measures have the same denominator.

C. Unlike the Treynor and Jensen measures, the Sharpe measure takes into account the total risk of a portfolio.

D. The Treynor and Sharpe measures use systematic risk, as represented by beta.

The correct answer is **C.**

Under the Sharpe measure, the risk measure used is the total risk, as represented by the standard deviation. Under the Treynor measure and Jensen's alpha, only the systematic risk is used, as represented by beta.

Option A is incorrect: The three measures have different levels of efficiency at evaluating performance as the inputs are different.

Option B is incorrect: The denominators of the three measures are different.

Option D is incorrect: Sharpe measure uses the standard deviation of market returns(unsystematic risk) while Treynor measure uses beta(systematic risk)

Q.211 What is the tracking error?

A. The standard deviation of the return of the benchmark portfolio.

B. The average of the differences between the returns of the risky portfolio and the benchmark return.

C. The standard deviation of the differences between portfolio return and the benchmark return.

D. The difference between the return based on the Treynor measure and Jensen's measure.

The correct answer is **C.**

Tracking error is the standard deviation of the difference between the returns of an investment and its benchmark.

Mathematically:

$$\text{Tracking error} = \sigma(R_{\text{portfolio}} - R_{\text{benchmark}})$$

Tracking error can be used as an indicator of active fund management.

Q.212 Typically, the manager is required to keep the tracking error ______ a stated threshold. In this regard, transaction costs should be _______.

A. Below, minimized

B. Above, minimized

C. Below, eliminated

D. Above, maximized

The correct answer is **A.**

The purpose of the tracking error is to ensure that the return earned by the manager does not wander off too far below the benchmark return, while still giving room for performance that actually outshines the benchmark portfolio. In this regard, the manager must minimize transaction costs.

Q.213 A certain fund manager typically generates an alpha of 1% and a tracking error of 2.25%. Determine the information ratio.

A. 0.3

B. 0.5

C. 2.25

D. 0.444

The correct answer is **D.**

$$\begin{aligned}\text{The information ratio} &= \frac{(\text{Expected return of the portfolio} - \text{Expected return of the benchmar}}{\text{Tracking error}}\\ &= \frac{\text{Alpha}}{\text{Tracking error}}\\ &= \frac{1}{2.25}\\ &= 0.444\end{aligned}$$

Q.214 Over a 15-year period, the manager of a certain fund used a covered call strategy in an attempt to increase the return of the fund. The mean of the 15 portfolio returns is 0.0519, and the minimum acceptable return is 4%. Given that the downside deviation, as measured by the the standard deviation of returns below the target is 0.0017569, compute the Sortino ratio.

A. 6.77

B. -2247.2

C. 0.0119

D. 0.04

The correct answer is **A.**

$$\text{Sortino ratio} = \frac{(\text{Average portfolio return} - \text{Minimum acceptable return})}{\text{Downside deviation}}$$
$$= \frac{(0.0519 - 0.04)}{0.0017569} = 6.77$$

Sortino ratio is a suitable statistical tool for retail investors more concerned about downside risks of an investment. It focuses on the **negative deviation** of an investment portfolio and its returns and thus offers a better idea about such a portfolio's performance after potential risks have been adjusted.

Q.215 Which of the following best explains how a manager can achieve superior portfolio performance?

A. The ability to time market returns.

B. The ability to identify risk.

C. Superior timing and ability to select undervalued securities.

D. Neither selection nor timing: it is impossible to do this in any type of market.

The correct answer is **C.**

A manager with an eye for undervalued securities and the ability to perfectly time market returns can achieve superior performance. If an asset is undervalued, it means it offers a return that's greater than its perceived risk level.

Q.216 Nisha J. is a junior portfolio analyst at ABZ Investments located in Pakistan. She has been directed by her head of department to use one of the four performance measure metrics, namely CAPM, Sharpe ratio, Treynor ratio, and Jensen's alpha. She is further advised to use a more forward-looking measure and more appropriate for comparing well-diversified portfolios. Which of the following performance measures should she select?

A. CAPM

B. Sharpe Ratio

C. Treynor Ratio

D. Jensen Alpha

The correct answer is **C.**

The Treynor ratio measures the performance (return) of the portfolio with respect to its risk. The Treynor ratio is equal to the risk premium divided by systematic risk or beta.

$$\text{Treynor measure} = \frac{\text{Expected return of portfolio } (E(R_p) - \text{Risk-free rate } (R_f))}{\text{Portfolio Beta}}$$

Since the Treynor ratio uses beta which must be estimated and the portfolio beta is the weighted average of the betas a portfolio's assets, the Treynor measure is more appropriate for a well-diversified portfolio and a more forward-looking measure. The higher the Treynor ratio, the better it is.

Option A is incorrect: CAPM is backward-looking.

Option B is incorrect: Sharpe ratio is used to measure historical performance.

Option D is incorrect: Jensen Alpha assumes that investors hold well-diversified portfolios, however, it measures past performance.

Q.217 Sean and Adam are two asset managers in a specific firm. During their discussion with regard to portfolio performance measures, Adam made the following statements:
Statement 1: If the Sharpe ratio of the portfolio is greater than the Sharpe ratio of the market portfolio, it indicates the portfolio performs better for every additional unit of risk.
Statement 2: Jensen's alpha measure for the market portfolio is always 0.

Which of these statements is/are correct?

A. Statement 1 is correct, while statement 2 is incorrect

B. Statement 1 is incorrect, while statement 2 is correct

C. Both statements are correct

D. Both statements are incorrect

The correct answer is **C.**

Both statements are correct.

$$\text{Sharpe ratio} = \frac{(E(R_p) - R_f)}{\sigma_p}$$

If the Sharpe ratio of a portfolio is greater than the Sharpe ratio of the market portfolio, it indicates the portfolio performs better for every additional unit of risk than the market portfolio. In other words, the portfolio has a higher risk-adjusted return than the market portfolio.

$$\text{Jensen measure} = \alpha_p = E(R_p) - [R_f + [E(R_m) - R_f]\beta_p)$$

Since the beta of the market portfolio is always 1 and the expected return of the portfolio is the same as the expected return of the market portfolio, the whole Jensen measure equation will cancel out to 0.

Q.218 As an analyst, you are analyzing the portfolio that focuses on the automotive industry. The portfolio contains 12 stocks in total with 6 stocks from the automotive industry, 3 stocks from car financing firms, and 3 stocks from car lubricant manufacturers. The expected return of the portfolio is 31% with a standard deviation of 19% while the expected return of the market is 22% with a standard deviation of 16%. Given that the risk-free rate is 5% and the portfolio's beta is 0.9, compute the Treynor ratio of the portfolio.

A. 0.1

B. 1.37

C. 0.19

D. 0.29

The correct answer is **D.**

$$\text{Treynor ratio of portfolio} = \frac{(E(R_p) - R_f)}{\beta_p} = \frac{(0.31 - 0.05)}{0.9} = 0.288$$

Q.219 The expected return of an investor's portfolio is 31% with a standard deviation of 19% while the expected return of the market is 22% with a standard deviation of 16%. Given that the risk-free rate is 5% and the portfolio's beta is 0.9, determine the difference between the Sharpe ratio of the portfolio and the Sharpe ratio of the market.

A. 0.31

B. 0.5

C. 1.06

D. 0.12

The correct answer is **A.**

$$\text{Sharpe ratio of the investor's portfolio} = \frac{(E(R_p) - R_f)}{\sigma_p} = \frac{(0.31 - 0.05)}{0.19} = 1.37$$

$$\text{Sharpe ratio of market portfolio} = \frac{(E(R_m) - R_f)}{\sigma_m} = \frac{(0.22 - 0.05)}{0.16} = 1.06$$

$$\text{Difference} = 1.37 - 1.06 = 0.31$$

Q.220 Ross Linn is analyzing the performance of different stocks of a portfolio using the alpha measure of performance. Linn has compiled the following data regarding UUA:
Covariance = 0.027
Variance of the stock = 12%
Risk-free rate of return = 6%
Expected market return = 13%
Actual stock's return = 14.5%
Beta = 1.1

Determine the correct alpha of UUA's stock and its appropriate interpretation.

A. The alpha of UUA is 0.8% and the stock has underperformed the market.

B. The alpha of UUA is 0.8% and the stock has outperformed the market.

C. The alpha of UUA is -4.625% and the stock has underperformed the market.

D. The alpha of UUA is -4.625% and the stock has outperformed the market.

The correct answer is **B.**

$$\begin{aligned}\text{Jensen alphas or alpha of the stock} &= \text{Actual return of stock} - \text{CAPM} \\ \text{Alpha} &= A(R) - [R_f + [E(R_m) - R_f]\beta_p] \\ &= 0.145 - [0.06 + [0.13 - 0.06]1.1] \\ &= 0.008 \text{ or } 0.8\%\end{aligned}$$

Since UUA has a positive alpha of 0.8%, it suggests that the stock has outperformed the market by 0.8%.

Q.221 Paul Thomson is the Chief Investment Officer (CIO) of Continental Investments Inc., an asset management company that supervises three portfolios managed by three different portfolio managers. All the portfolios have the same level of risk as the benchmark index. If Thomson is interested in knowing which of the three portfolio managers possess the best stock-picking skills, then which of the following statement is true?

A. The manager with the highest tracking error has the best stock-picking skills.

B. The manager with the lowest tracking error has the best stock-picking skills.

C. The manager with the lowest information ratio has the best stock-picking skills.

D. The manager with the lowest Sharpe ratio has the best stock-picking skills.

The correct answer is **B.**

The tracking error is used to assess managers' stock-picking skills. Tracking error is described as the standard deviation of the difference between the portfolio return and the benchmark return, given that the risk of the portfolio is the same as the risk of the benchmark index or benchmark portfolio. Typically, managers try to keep the tracking error below a stated threshold because a lower tracking error indicates better stock-picking skills. Managers must consider transaction costs and other portfolio management-related costs to keep the tracking error closer.

Option A is incorrect: It contradicts option B.

Option C is incorrect: The information ratio is used to state if the manager's deviation from the benchmark portfolio has earned appropriate returns. The information ratio is essentially the excess return of the portfolio relative to its benchmark, divided by the tracking error.

Option D is incorrect: Sharpe ratio helps investors understand the returns of an investment compared to its risk.

Q.222 Bella Sean is a senior portfolio manager in a UK-based firm. She has recently rejoined the office after her maternity leave. During her absence, her subordinate, Vikram Singh, was managing one of her portfolios. She now notices that Vikram has significantly deviated from the benchmark portfolio in order to earn higher gains than the portfolio. If Bella wants to assess if Singh's deviation from the benchmark has reaped appropriate returns, then which of the following measures must she use?

A. Tracking error

B. Information ratio

C. Sortino ratio

D. Jensen alpha

The correct answer is **B.**

The information ratio is used to state if the manager's deviation from the benchmark portfolio has earned appropriate returns. The information ratio is essentially the excess return of the portfolio relative to its benchmark, divided by the tracking error.

$$\text{Information ratio} = \frac{(E(R_p) - E(R_B))}{\sigma_A}$$

Option A is incorrect: Tracking error is used to assess the stock-picking skills of a portfolio or investment manager.

Option C is incorrect: because the Sortino ratio is similar to the Sharpe ratio. However, in the Sortino ratio, the risk-free rate is replaced by the minimum acceptable return (MAR), and the standard deviation of the returns is replaced by the standard deviation of the returns that are lower than the minimum acceptable return.

Option D is incorrect because Jensen's alpha is used to compare portfolios that have different beta.

Q.3468 A portfolio is constructed of two assets, including a risky asset with a standard deviation of 18% and a risk-free asset. Suppose the weight of the risk-free asset in the portfolio is 35%, then calculate the standard deviation of the portfolio.

A. 0.180

B. 0.063

C. 0.117

D. 0.0575

The correct answer is **C.**

A risk-free asset has a standard deviation of zero.

We know that,

$$\begin{aligned} V_P &= w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2\sigma_1\sigma_2\rho_{1,2} \\ &= 0.35^2 \times 0 + 0.65^2 \times 18^2 + 2 * 0.35 * 0.65 * 18 * 0 * \rho_{1,2} \\ &= 136.89 \end{aligned}$$

So that, the standard deviation of the portfolio is given by:

$$SD_P = \sqrt{V_P} = \sqrt{136.89} = 11.7\%$$

Q.3469 A portfolio manager is constructing a portfolio composed of two assets. Asset A is a risky asset with an expected return of 14% and a standard deviation of 22%, and asset B is a risk-free asset with an expected return of 9%. If the portfolio manager increases the weight of the risky asset to 130%, then the expected return of the portfolio is *closest to*:

A. 0.182

B. 0.155

C. 0.167

D. 0.1123

The correct answer is **B.**

Expected return of the portfolio = (Weight of Asset A * Return of Asset A) + (Weight of Asset B * Return of Asset B) = (1.3 * 14%) + (-0.3 * 9%) = 15.5%

Detailed explanation:

Recall that the capital market line represents the portfolios that optimally combine risk and return by combining the risk-free asset with the risky asset(market portfolio). An investor can move up or down this line by varying the weights that they invest in the risk-free asset and the risky asset. Rather than just split their money between the two assets, an investor who is willing to take more risk can borrow more money at the risk-free rate and invest it in the risky asset. Borrowing puts a negative weight on the risk-free asset. Let's see how this comes about: Let the return on the risk-free rate be X, and the return on the risky asset be Y. Let's say you have $100 in your pocket and here's your initial plan: To invest $50 in the risk-free asset To invest $50 in risky asset But then you decide to take more risk; you will borrow $80 at the risk-free rate X and invest it in the risky asset What’s your total investment? Risk-free asset: = $50 - $80 = -$30 (essentially a “give and take” scenario) Risky asset; $50 + $80 = $130 Thus, Expected Return = -$30/(-$30+$130)*X + $130/(-$30+$130)*Y = -0.3*X + 1.3*Y In our case, X = 9%, Y = 14% Expected return = -0.3 * 0.09 + 1.3 * 0.14 = 0.155

Q.3470 The expected return of the Karachi Stock exchange is 17%, and the rate on Pakistan's risk-free bonds is 7.5%. Suppose the beta of Bata Corporation shares is 0.75, what is the required rate of return on Bata Corporation's shares?

A. 0.1263

B. 0.2025

C. 0.1673

D. 0.1463

The correct answer is **D.**

The required rate of return on shares is calculated using the Capital Asset Pricing Model (CAPM).
Required rate of return = Risk-free rate + Beta (Market Return - Risk-free rate) = 7.5% + 0.75*(17%7.5%) = 14.63%

Q.3471 Which of the following portfolios is/are most appropriately priced?
I. A portfolio with an estimated return above the securities market line (SML).
II. A portfolio with an estimated return plotted on the SML.
III. A portfolio with an estimated return below the SML.

A. Portfolios I & II

B. Portfolio II

C. Portfolios II & III

D. All of the above

The correct answer is **B.**

The portfolio is underpriced if the portfolio's estimated return is above the SML. Conversely, a portfolio with an estimated return below the SML is overpriced.
The portfolio with an estimated return plotted on the SML is properly priced.

Q.3472 Which of the following measures of risk-adjust returns does NOT use beta?

A. Treynor measure

B. Jensen's alpha

C. Sharpe ratio

D. None of the above

The correct answer is **C.**

The Sharpe ratio measure of risk-adjust returns use standard deviation or total risk. Treynor and Jensen's alpha use beta or systematic risk.

Q.3473 Two portfolios have the following characteristics:

Portfolio	Return	Beta
A	8%	0.7
B	7%	1.1

Given a market return of 10% and a risk-free rate of 4%, calculate Jensen's Alpha for both portfolios and comment on which portfolio has performed better.

A. -0.2% and -3.6% respectively
Portfolio A has performed better than Portfolio B.

B. -0.2% and -3.6% respectively
Portfolio B has performed better than Portfolio A.

C. 0.2% and 3.6% respectively
Portfolio B has performed better than Portfolio A.

D. 3.6% and 0.2% respectively
Portfolio A has performed better than Portfolio B.

The correct answer is **A.**

Jensen's Alpha is calculated as follows:
Jensen's Alpha = Rp - [Rf + Bp (Rm - Rf)]
Jensen's $\text{Alpha}_{\text{Portfolio A}} = 0.08 - [0.04 + 0.7(0.1 - 0.04)] = -0.002$
Jensen's $\text{Alpha}_{\text{Portfolio B}} = 0.07 - [0.04 + 1.1(0.1 - 0.04)] = -0.036$
Jensen's Alpha is -0.2% and -3.6% for A and B, respectively. A higher Alpha indicates that a portfolio has performed better.

Q.3474 Which of the following portfolio performance evaluation measures is (are) only based on systematic risk?

A. Sharpe ratio

B. Treynor ratio

C. All of the above

D. None of the above

The correct answer is **B.**

The Treynor ratio uses beta (systematic risk).
On the other hand, the Sharpe ratio uses the portfolio's total risk as measured by the standard deviation.

Q.3476 The line that shows all portfolios that an investor can create once we allow for a risk-free asset is called the:

A. Efficient frontier

B. Capital allocation line

C. Capital market line

D. Beta

The correct answer is **C.**

When all investors in the market have homogenous expectations of risk and return, the optimal capital allocation line (CAL) for all investors is called the capital market line (CML).

Option A is incorrect: An efficient frontier is the set of optimal portfolios that offer the highest expected return for a given level of risk.

Option B is incorrect: Capital allocation line is a **line** drawn on a graph of all possible combinations of risk-free and risky assets to show the expected return for a given level of risk.

Option D is incorrect: Beta is just a measure of risk which describes the relationship between systematic risk and expected return of assets.

Q.3477 Which of the following is NOT an assumption of the capital asset pricing model?

A. Investors require higher returns with higher risks

B. Unlimited short-selling is permissible

C. All investors have the same one period time horizon

D. Investors are subject to taxes and transaction costs

The correct answer is **D.**

CAPM assumes there are no taxes and no transaction costs.
Assumptions of the model include:

- There are no transaction costs
- There are no taxes
- Assets are infinitely divisible
- Unlimited short-selling is permissible
- All assets are marketable/liquid
- Investors are price takers whose individual buy and sell transactions have no effect on the price
- Investors' utility functions are based solely on expected portfolio return and risk
- The only concern among investors are risk and return over a single period, and the single period is the same for all investors

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Q.3478 Which of the following uses systematic risk on the X-axis?

A. Security market line

B. Capital market line

C. Capital allocation line

D. All of the above

The correct answer is **A.**

The SML uses the Beta (or systematic risk) on the X-axis while the CML and the CAL use standard deviation on the X-axis.

Q.3479 The standard deviation of an asset's return is 10%, and the standard deviation of markets return is 14%. If the correlation of returns with the market index is 0.7, then what is the beta of the asset?

A. 1

B. 0.1

C. 1.8

D. 0.5

The correct answer is **D.**

Assets beta = Correlation of markets return * (Standard deviation of the asset / Standard deviation of market returns) = 0.7 * 10% / 14% = 0.5

Q.3480 The expected return of a portfolio is 17% and the return on risk-free assets in the portfolio is 8%. The beta of the portfolio is 1.2, and the standard deviation of the portfolio is 5.5%. Assuming that an investor invests 115% of his savings in this portfolio, what is his expected return?

A. 18.35%.

B. 19.55%.

C. 12.5%.

D. 0.1345

The correct answer is **A.**

Since the weight of the market portfolio is more than 100%, the investor is borrowing 15% of funds at the risk-free rate and investing 115% in the market portfolio.
E[r] = (-15%)(8%) + (115%)(17%) = 18.35%

Q.3481 Kate Williams is a portfolio risk analyst for Hampton Funds. She is assigned to calculate the beta of Lion Inc. shares. What is its beta if the standard deviation of market returns is 19% and the covariance of Lions returns with the market return is 0.163?

A. 0.85

B. 4.51

C. 0.0451

D. 2.55

The correct answer is **B.**

Beta = Covariance of Asset's return with market return / Variance of market returns
Beta = $0.163/0.19^2$ = 4.51

Q.3482 What is the expected return of a stock if the expected market return is 11%, the risk-free rate is 9%, and the stock's beta is 0.91?

A. 0.11

B. 0.1991

C. 0.1082

D. 0.1753

The correct answer is **C.**

According to CAPM:
Expected return of stock = Risk-free rate + beta (Market risk - Risk-free rate)

E[r] = 9% + 0.91(11%-9%) = 10.82%

Q.3483 What is the covariance of an asset's returns with the market if the beta of the asset is 1.7 and the variance of market returns is 20%?

A. 0.34

B. 0.85

C. 0.12

D. 8.5

The correct answer is **A.**

Covariance of asset returns with the market = Beta * Variance of market returns = 1.7 * 0.20 = 0.34

Q.3484 What is the market risk premium if the expected return on the market is 13%, the average stock's beta is 1, and the risk-free rate is 8%?

A. 9%

B. 13%

C. 5%

D. 0%

The correct answer is **C.**

Market risk premium = Expected return of market - Risk-free rate of return.
Risk premium = 13% - 8% = 5%

Q.3485 What is the market risk premium if the expected return on a stock is 12% while its beta is 1.5? Assume the risk-free rate is 6% and the return on the market, i.e. market risk is 10%.

A. 6%

B. 4%

C. 10%

D. 12%

The correct answer is **B.**

Expected return on stock = Risk-free rate + Beta*Risk premium
Note: Market risk - Risk-free rate = Risk premium

Expected return on stock = Risk-free rate + Beta*(Market return - Risk-free rate)
12% = 6% + 1.5(10% - 6%)
Market return = (12% - 6%)/1.5 + 6% = 10%

Risk premium = Market return - Risk-free rate = 10% - 6% = 4%

Q.3486 What is the beta of a certain stock with a risk-free rate of 2.1% and a return of 14.2%, given that the expected return of the market is 17%?

A. 1

B. 1.5

C. 1.2

D. 0.81

The correct answer is **D.**

The expected return on the stock is given by:

$$r_f + \beta(r_m - r_f)$$

$$\Rightarrow 14.2\% = 2.1\% + \beta(17\% - 2.1\%)$$

$$\Rightarrow \beta = 0.81$$

Q.3487 The standard deviation of a portfolio is 15%. If the portfolio's return is 22%, and the risk-free return is 6%, then what is the Sharpe ratio of the portfolio?

A. 0.91

B. 1.07

C. 1.46

D. 1.98

The correct answer is **B.**

Sharpe ratio = (Portfolio return - Risk-free return) / Standard deviation of portfolio = (22% - 6%) / 15% = 1.07

Q.3488 Which of the following measures excess return per unit of total risk?

A. Jensen's alpha

B. Treynor ratio

C. Sharpe ratio

D. All of the above

The correct answer is **C.**

The Sharpe ratio measures excess return per unit of total risk. Treynor and Jensen's alpha use beta or systematic risk.

Q.3489 The 10-year US Treasury rate is 5% and the return on the S&P 500 index is 10%. If the beta of Orange Inc. is 1.2, what is the expected return on shares of Orange Inc.?

A. 11%

B. 15%

C. 17%

D. 8%

The correct answer is **A.**

According to CAPM,
Expected return of stock = Risk-free rate + Beta(Market risk - Risk-free rate)
$E[r] = 5\% + 1.2(10\%-5\%) = 11\%$
Note that the 10-year US Treasury bonds are considered the risk-free rate and the S&P 500 return is considered the market return.

Q.3490 Which of the following statements is appropriate regarding the plot of undervalued stocks on the security market line?

A. Undervalued stocks plot above the SML

B. Undervalued stocks plot under the SML

C. Stocks always plot on the SML

D. None of the above

The correct answer is **A.**

An undervalued stock will plot above the security market line. In other words, if the plot is above the line, it indicates that the stock is underpriced. i.e, it is considered undervalued since the graph shows that the stock offers a greater return against its inherent risk.

Q.3491 Company ABC is expected to return 15% per year to its investors, the market expected return is 8%, and the risk-free rate is 3.5%. What is ABC's stock beta?

A. 1.4375

B. 1.875

C. 2.5556

D. 3.3333

The correct answer is **C.**

$$\begin{aligned} E(R_i) &= R_f + E(R_m - R_f)\beta_i \\ 15\% &= 3.5\% + (4.5\%)\beta_i \\ 11.5\% &= (4.5\%)\beta_i \\ &\Rightarrow \beta_i = 2.5556 \end{aligned}$$

Reading 6: The Arbitrage Pricing Theory and Multifactor Models of Risk and Return

Q.223 The following are inputs to a multifactor return model for any stock, EXCEPT:

A. Firm-specific return.

B. Deviation of macroeconomic factors from the expected values.

C. The xpected return for the stock.

D. Aggregate market risk.

The correct answer is **D.**

Unlike the CAPM, a multifactor model for a stock does not take into account aggregate market risk. Instead, the model uses factor loadings/factor sensitivities/factor betas to assess the effect of certain dominant factors on the return of the stock.

Note that a multifactor model is given by:

$$R_i = E(R_i) + \beta_{i1}F_1 + \beta_{i2}F_2 + \cdots + \beta_{ik}F_k + e_i$$

Where:

R_i = rate of return on stock i

$E(R_i)$ = expected return on stock i

β_{ik} = sensitivity of the stock's return to a one-unit change in factor k

F_k = Macroeconomic factor k

e_i = the firm-specific return/portion of the stock's return unexplained by macro factors

The expected value of the firm-specific return is always zero.

Q.224 Define arbitrage as used in the context of security trading.

A. The exploitation of undervalued assets so as to increase returns.

B. The exploitation of security mispricing aimed at making risk-free profits.

C. The skill of accurately timing returns so as to obtain optimal profit from a security.

D. The exploitation of illegal trading channels aimed at making tax-free profits.

The correct answer is **B.**

Arbitrage opportunities exist when there are pricing discrepancies in the prices of equivalent securities, enabling investors to pounce on the mispricing and earn risk-free profit. Arbitrage involves simultaneous buying of a security in market A and selling of the security in market B at a profit. A good example of an arbitrage opportunity would be the sale of a share for different prices on different exchanges. Markets ought to exhibit a no-arbitrage condition.

Q.225 A financial risk manager exam candidate makes the following comments:
I. Factor loadings indicate the responsiveness of the stock return to a change in the factor
II. Firm-specific returns cannot be explained by macro factors.

Which of these statements is/are correct?

A. I and II are both correct.

B. Only I is correct.

C. Both I and II are incorrect.

D. Only II is correct.

The correct answer is **A.**

Given a factor j and stock i, the factor-beta $\beta_{i,j}$ equals the sensitivity of the stock return to a 1-unit change in factor j. For example, suppose the factor is inflation and $\beta_{i,inf} = 2$: This means the stock return changes, on average, by 2 percentage points for every 1 percentage point change in inflation.
Firm-specific return, on the other hand, refers to the portion of return that is not attributed to macro factors. It comes from a security's own merits and not the merits common to other similar securities.

Q.226 The common stock of Swisscom Inc. is examined with a single factor model using unexpected percent changes in GDP as the single factor. You have been provided with the following data:
Expected return for Swisscom = 10%
GDP factor-beta = 2
Expected GDP growth = 2%

Revised macroeconomic information strongly suggests that the GDP will grow by a whopping 5% as opposed to the original prediction of 2%. Assuming there's no new information regarding firm-specific events, calculate the revised expected return using a single factor model.

A. 10.6%

B. 6%

C. 20%

D. 16%

The correct answer is **D.**

The equation for a single factor model for stock i is given by:

$$R_i = E(R_i) + \beta_{i,j}F_j + e_i$$

Where:

R_i = revised return for stock i

$E(R_i)$ = the expected return for stock i

$\beta_{i,j}$ = the jth factor beta for stock i

F_j = the deviation of the factor j from its expected value

e_i = the firm-specific return for stock i

In our case:

$$R_i = 0.10 + 2(0.05 - 0.02) = 0.10 + 0.06 = 0.16 \text{ or } 16\%$$

Q.227 ShipLink, a United States cargo company, considers the return earned on its stock as heavily sensitive to GDP and consumer sentiments. You have been given the following data:
Expected return for Shiplink stock = 10%
GDP factor beta = 2
Expected growth in GDP = 3%
Consumer sentiment factor beta = 2.5
Expected growth in consumer sentiment = 2%

Suppose revised macroeconomic data suggests the GDP will grow by 4% rather than 3% and that consumer sentiments will grow by 3% rather than 2%. Determine the revised return for Shiplink stock, assuming no new information is available regarding the firm-specific return.

A. 18%

B. 25%

C. 14.5%

D. 4.5%

The correct answer is **C.**

This is a multifactor model where the revised return, R_i will be given by:

$$\begin{aligned} R_i &= E(R_i) + \beta_{S,GDP} F_{GDP} + \beta_{S,CS} F_{CS} + e_i \\ &= 0.10 + 2(0.04 - 0.03) + 2.5(0.03 - 0.02) \\ &= 0.10 + 0.02 + 0.025 \\ &= 0.145 \text{ or } 14.5\% \end{aligned}$$

Q.228 A manager uses a two-factor model to examine the returns of two assets, X and Y. The two factors are unexpected percentage changes in inflation (IF) and consumer sentiment (CS). The following data has also been given:

$E(R_X) = 10\%$

$E(R_Y) = 12\%$

$\beta_{X,IF} = \beta_{Y,IF} = 2$

$\beta_{X,CS} = \beta_{Y,CS} = 2$

All other factors constant, which of the following statements is true?

A. Asset Y is more sensitive to inflation than asset X.

B. Inflation and consumer sentiment have different effects on the returns of X and Y.

C. An arbitrage opportunity exists.

D. None of the above are true.

The correct answer is **C.**

Based on the information given, an arbitrage opportunity exists because despite the two assets having equal systematic risks, they are priced based on different expected returns. To avoid the making of risk-free profits, expected returns should be equal as long as systematic risks are identical. In this case, an investor can make a risk-free profit by shorting asset X and using the proceeds to take a long position in asset Y.

Options A and B are incorrect: $\beta_{X,IF} = \beta_{Y,IF} = 2$, and $\beta_{X,CS} = \beta_{Y,CS} = 2$ which implies that Inflation and consumer sentiment have the same effects on the returns of X and Y.

Q.229 Thomas Hammer has held a well-diversified portfolio consisting of several assets for 3 years, a period during which he has made consistent profits year after year. He mulls adding one more security to his portfolio. If the new security has a positive covariance with the portfolio, Which of the following statements would be true if Hammer went ahead with his plan?

A. The new, bigger portfolio would definitely earn a higher profit for the following year.

B. The new, bigger portfolio would have more nonsystematic and less systematic risk than the current portfolio.

C. The new, bigger portfolio would have more systematic risk as well as more nonsystematic risk.

D. The new, bigger portfolio would have more systematic risk and insignificant nonsystematic risk.

The correct answer is **C.**

Any single security has both systematic and nonsystematic risks. Systematic risks of a security are those risks that arise because of a security's positive covariance between its returns and those of the overall market. Nonsystematic risks, on the other hand, are industry or firm-specific risks that are uncorrelated with the volatility of the overall market.
Now, since the new security has a positive covariance with the portfolio, then the total portfolio risk(both systematic and nonsystematic risk) will increase.

Q.230 Consider a single factor APT. Portfolio X has a beta of 1.2 and an expected return of 18%. Portfolio Y has a beta of 1.0 and an expected return of 14%. You are further provided with a risk-free rate of 6%. Assuming you wanted to exploit an arbitrage opportunity, you would take a short position in:

A. Y and use the proceeds to take a long position in X.

B. Y and use the proceeds to take a long position in the risk-free asset.

C. X and use the proceeds to take a long position in Y.

D. X and use the proceeds to take a long position in the risk-free asset.

The correct answer is **A.**

For portfolio X, $18\% = 1.2F + 6\%$; $F = 10\%$
For portfolio Y, $14\% = 1.0F + 6\%$; $F = 8\%$
Thus, short Y and take a long position in X.

Q.231 When the equilibrium price relationship is violated, an investor will try to take as large a position as possible. This is an example of:

A. Risk-free arbitrage.

B. The capital asset pricing model.

C. The mean-variance frontier.

D. The single factor security market line.

The correct answer is **A.**

Violation of the equilibrium price relationship will prompt an investor to buy the lower-priced asset and simultaneously place an order to sell the higher-priced asset. This is an example of risk-free arbitrage. In fact, the larger the long position taken, the greater the risk-free profits.

Option B is incorrect: CAPM explains that the market equilibrium is attained when all investors hold portfolios whose constituents are a combination of riskless asset and the market portfolio

Option C is incorrect: The mean-variance frontier is a combination of securities that offer the best possible returns at a minimum variance possible.

Option D is incorrect: a single-factor model assumes there’s just one macroeconomic factor.

Q.232 What is the major difference between CAPM and the APT?

A. APT places more emphasis on systematic risks.

B. APT downplays the importance of diversification.

C. APT recognizes multiple systematic factors.

D. APT recognizes multiple unsystematic factors.

The correct answer is **C.**

The CAPM assesses portfolio performance based on market risk as a measure of the aggregate systematic risk. APT uses multiple systematic factors like the GDP, inflation, and interest rates where each factor has an associated beta.

Option A is incorrect: APT does not place more emphasis on systematic risks; it puts emphasis on multiple systematic factors.

Option B is incorrect: One of the assumptions of APT is that investors can use diversification to eliminate specific risks from their portfolios.

Option D is incorrect: APT recognizes multiple systematic factors and not multiple unsystematic factors.

Q.233 Which of the following statements is true regarding the security market line derived from the arbitrage pricing theory?

A. It shows the expected return in relation to portfolio variance, represented by σ^2.

B. It has a downward slope.

C. The x-axis intercept is equal to the expected return on the market portfolio.

D. Any well-diversified portfolio may serve as the benchmark portfolio.

The correct answer is **D.**

The benchmark portfolio does not have to be the market portfolio, which may actually be unobservable. Instead, it can be any other portfolio provided it is well-diversified.

Option B is incorrect. It has an upward slope, just like the CAPM.

Q.234 The following are factors used by Fama and French in their multifactor model, EXCEPT:

A. The Return on the market index ($R_m - R_f$).

B. The Return earned by small stocks over and above the return on large stocks.

C. The Return earned by high book-to-market stocks over and above the low book-to-market stocks.

D. None: All the above factors are used.

The correct answer is **D.**

The Fama-French 3-factor model uses all the three factors. The two economists contend that the 3 factors adequately capture all systematic risks.

Q.235 A portfolio Z is subject to two risk factors, A and B, with factor betas of 0.3 and 0.5, respectively. A fund manager wishes to hedge away all of the exposure to both A and B, yet he's not ready to sell the portfolio at any cost. Choose the strategy best placed to achieve the manager's desired goal.

A. Short sell a hedge portfolio with 50% allocation to factor A portfolio, 30% allocation to factor B portfolio, and 20% allocation to the risk-free asset.

B. Short sell a hedge portfolio with 30% allocation to factor A portfolio, 50% allocation to factor B portfolio, and 20% allocation to the risk-free asset.

C. Buy a hedge portfolio with 50% allocation to factor A portfolio, 30% allocation to factor B portfolio, and 20% allocation to the risk-free asset.

D. Buy a hedge portfolio with 30% allocation to factor A portfolio, 50% allocation to factor B portfolio, and 20% allocation to the risk-free asset.

The correct answer is **B.**

A factor portfolio is a well-diversified portfolio designed to have a beta equal to 1 for one of the risk factors and betas equal to zero for all the remaining factors. To offset the factor risks inherent in the original portfolio, the investor will have to short the hedge portfolio. The 0.30 and the 0.50 exposures to risk factors A and B respectively will be offset by the hedge portfolio which also has similar exposures to the two factors.

Q.236 Which of the following best explains why the APT is considered more flexible than the CAPM?

A. It uses multiple systematic factors, not just a single aggregated factor, to represent the total market risk.

B. Just like the CAPM, the APT allows for the use of a single factor through the single factor model which can be extended to include more factors.

C. With the APT, the benchmark portfolio in the security market line does not have to be the true market portfolio.

D. None of the above.

The correct answer is **C.**

Unlike in the CAPM, the benchmark return used to establish the security market line does not have to be the usually unobservable market portfolio. Flexibility is achieved because any portfolio, provided it's well-diversified, can be used in the APT. This is especially helpful when questions are raised about the accuracy of the index portfolio as a proxy for the true market portfolio.

One of the disadvantages of APT, is that, it requires a lot of data and statistical analysis hence it is more difficult to apply it in practice.

Q.238 Suzy Ye is a junior equity research analyst at a research firm based in South Korea. For the first time, she is using the multifactor model to compute the stock return of the Wong Kong Corp (WK). She has compiled the following data for the computation of the return:
Wong Kong's expected stock return: 7%
Expected GDP growth: 4.5%
Expected Inflation: 2.5%
GDP factor beta: 1.5
Inflation factor beta: 2
Risk-free rate: 2%

Suppose the actual GDP growth and actual inflation of South Korea are 3% and 2.9%, respectively, then which of the following is an accurate estimate of the stock return?

A. 7.55%

B. 10.05%

C. 5.55%

D. 18.75%

The correct answer is **C.**

A multifactor model (2-factor model in the given question) only includes the expected return of the stock, macroeconomic factor and the factor-beta, and firm-specific risk, which in this case is zero.

$$\begin{aligned} R_{WK} &= E(R_{WK}) + \beta_{GDP} F_{GDP} + \beta_I F_I \\ &= 0.07 + 1.5(0.03 - 0.045) + 2(0.029 - 0.025) \\ &= 0.07 - 0.0225 + 0.008 \\ &= 5.55\% \end{aligned}$$

Q.239 The single-factor model indicates that the return is based on a firm-specific variable and a macroeconomic variable such as inflation, GDP growth, interest rates, consumer sentiments, etc. These factors combined with the expected return of the asset allow hedging the risk of those assets whose returns change with the changes in macroeconomic variables. In the single-factor model, the macroeconomic variables are used as inputs in the form of:

A. Deviation of the macroeconomic variable from its expected value.

B. Actual value of the macroeconomic variable multiplied by its sensitivity to the asset.

C. Expected value the macroeconomic variable multiplied by the beta factor.

D. Deviation of the macroeconomic variable from its expected value multiplied by the beta factor.

The correct answer is **D.**

The correct input of the macroeconomic variable/factor in the single-factor or multifactor model is to use the deviation of the macroeconomic variable from its expected value multiplied by beta factor or the asset's sensitivity to the macroeconomic factor.

$$R_{\text{Asset}} = E(R_{\text{Asset}}) + \beta_{\text{Economic variable}} F_{\text{Deviation of economic variable}} + e_{\text{Asset}}$$

Option A is partially incorrect because it does not multiply the deviation of the macroeconomic variable by the factor-specific beta.

Options B and C are incorrect because they indicate to use the actual value and expected value of the macroeconomic variable rather than the deviation of the variable from its expected value

Q.240 As an analyst, you are analyzing a number of stocks of German Tech companies trading on the TecDAX. You come across two stocks DESolars AG and GERTech Co., with expected returns of 4.9% and 5.1%, respectively. In order to assess if an arbitrage opportunity exists between two stocks, you compile the following data to be used in the two-factor model:
Actual GDP Growth: 2%
Expected GDP Growth: 2%
Actual CPI: 1.7%
Expected CPI: 1.5%
DESolars (GDP) beta: 1.1
DESolars (CPI) beta: 0.9
GERTech (GDP) beta: 1.1
GERTech (CPI) beta: 0.9

Considering the given data, identify which of the following statement is true?

A. An arbitrage opportunity does not exist because both stocks have different expected returns.

B. An arbitrage opportunity exists because both firms have the same beta factor.

C. An arbitrage opportunity does not exist because both firms have the same beta.

D. An arbitrage opportunity exists because both firms have different returns for the same systematic risk.

The correct answer is **D.**

An arbitrage opportunity exists when a single stock is traded on different markets or when different stocks are traded in the same market, which gives the different rates of return for the identical systematic risk or beta. In this example, DESolar and GERTech have the same beta factor or identical systematic risk. However, the return on DESolar is 4.9% and 5.1% on GERTech. An investor can short sell DESolar and use the proceeds to purchase GERTech and earn an arbitrage profit (or risk-free profit) of 0.2%.

Option A is incorrect: The stocks don't have to have the same return for there to be an arbitrage opportunity.

Options B and C are incorrect: Arbitrage opportunities occur when both firms have the same beta but with different returns.

Q.241 Creative Investments Co. holds a brainstorming and strategy-building session before the trading hours in order to prepare the analysts and traders for the day. While conducting the session Craig Lee, head of the equity department, made the following statements regarding the impact of diversification on the residual risk of a portfolio:
Statement 1: "The part of the asset's risk that is uncorrelated with the volatility of the market portfolio is called nonsystematic risk."
Statement 2: "The part of the asset's risk that is due to the positive covariance of that asset's returns with market returns is called the systematic risk or diversifiable risk."
Statement 3: "As the number of assets in a portfolio increases, the systematic risk of the portfolio decreases."

Which of the following statement is/are correct?

A. Statement 1 only

B. Statement 3 only

C. Statements 1 and 2

D. Statements 2 and 3

The correct answer is **A.**

Both statements 2 and 3 are incorrect. Statement 2 is incorrect because the part of the asset or security's risk that arises due to the positive covariance of the asset's returns with market returns is called systematic risk or un-diversifiable risk. Diversifiable or nonsystematic risk is the security's risk that is uncorrelated with the volatility of the market portfolio.
Statement 3 is incorrect because, with an increase in the number of assets in the portfolio, nonsystematic risk (not systematic risk) of the portfolio decreases.

Q.242 During a Securities Analysis seminar at one of the top business schools in Mumbai, a student asked the moderator to define the assumptions that constitute the single-factor security market line. The moderator stated that the following assumptions are made while drawing the single-factor security market line:
I. Returns follow a k-factor process
II. A mean-variance efficient market portfolio exists
III. Well-diversified portfolios can be created
IV. No arbitrage opportunities exist

Which of the above assumptions do(es) NOT hold true in the creation of the single-factor security market line?

A. Assumption I only

B. Assumption IV only

C. Assumptions I and II

D. Assumptions II and III

The correct answer is **C.**

Assumptions I and II are not made while drawing the single-factor security market line. The three assumptions of the single-factor security market line are:
1. Security returns can be explained by the single-factor model
2. Well-diversified portfolios can be created
3. No arbitrage opportunities exist

Assumption I, returns follow a K-factor process, is related to the Arbitrage Pricing Theory (APT).

Assumption II, the mean-variance efficient market portfolio exists, is an assumption of the Capital Asset Pricing Model (CAPM).

Q.243 Kevin Brett is an American portfolio manager who manages an emerging factor market portfolio that focuses on the blue-chip firms from Brazil. He fears that the stocks of these blue-chip firms are highly dependent on factors like the GDP of Brazil and the value of the Brazilian Real. He believes his portfolio can decline in value due to changes in these two main factors. The portfolio's Brazilian GDP beta is 0.40 and the Brazilian Real beta is 0.3. Which of the following strategies should Brett accept in order to hedge both factors?

A. Short sell a hedge portfolio that allocates 40% exposure to the Brazilian GDP factor portfolio, 30% to the Brazilian Real factor portfolio, and 30% to the risk-free asset.

B. Buy a hedge portfolio that allocates 40% exposure to the Brazilian GDP factor portfolio, 30% to the Brazilian Real factor portfolio, and 30% to the risk-free asset.

C. Buy a hedge portfolio that allocates 30% exposure to the first Brazilian GDP factor portfolio, 40% to the Brazilian Real factor portfolio, and 30% to the market portfolio.

D. Short sell a hedge portfolio that allocates 70% exposure to the risk-free asset and 30% to the market portfolio.

The correct answer is **A.**

A factor portfolio can be hedged by opening opposite positions with the same factor exposure. A factor portfolio has a factor-beta equal to one for a single risk factor, and factor betas equal to zero on the remaining factors. By shorting the hedge portfolio, the investor will offset the factor risks of the original portfolio. Since Kevin has a 0.4 exposure to the Brazilian GDP factor and a 0.3 exposure to the Brazilian Real factor, he can hedge the risk by shorting a factor portfolio that allocates 40% exposure to the Brazilian GDP factor portfolio, 30% to the Brazilian Real factor portfolio, and the rest to the risk-free assets.

Q.4452 All the following are factors of the Fama-French Model, EXCEPT:

A. Market factor.

B. The difference in expected returns of high-beta stocks minus small-beta stocks.

C. The difference in expected returns of a portfolio of high book-to-market stocks minus a portfolio of low book-to-market stocks.

D. The difference in expected returns of small stocks minus big stocks.

The correct answer is **B.**

The Fama-French model consists of three factors:

1. Market factor
2. The difference in expected returns of small stocks minus the big stocks
3. The difference in expected returns of a portfolio of high book-to-market stocks minus a portfolio of low book-to-market stocks

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Q.4454 In the Fama-French three-factor model, in addition to the market factor and the HML factor, what is the other factor and what does it refer to?

A. The momentum factor, WML, which captures the outperformance of past winners in relation to past losers.

B. The SMB factor, which captures the outperformance of high book-to-market stocks in relation to low book-to-market stocks.

C. The SMB factor, which captures the outperformance of small firms in relation to the larger firms.

D. The momentum factor, WML, which captures the outperformance of high-growth stocks in relation to low-growth stocks.

The correct answer is **C.**

In the Fama-French three-factor model, one of the factors is the SMB, which refers to small stock returns minus big stock returns (Small Minus Big). The market capitalization of the stocks gives rise to small and big stocks.
The last factor is the outperformance of small firms in relation to the large firms. This is captured by the SMB factor (Small Minus Big).

Reading 7: Risk Data Aggregation and Reporting Principles

Q.245 The following are some of the benefits of having an effective risk data aggregation and reporting system, EXCEPT:

A. An increased ability to avoid losses.

B. An increased ability to identify the routes to return to financial health after a tumultuous period.

C. An increased ability to make strategic decisions, reduce the chances of loss, and increases efficiency.

D. An increased ability to identify projects with optimal returns for investment purposes.

The correct answer is **D.**

The four most important benefits of an elaborate and effective risk data aggregation system relate to an increased ability to:
Anticipate business problems
Identify route back to good financial health
Make strategic decisions that positively impact the organization
Attain smooth resolvability in the event of duress or failure

Q.247 Prime Bank, a global systematically important bank (G-SIB) has incurred big losses resulting from a range of issues, including too many bad debts due to improper lending decisions and investment in futures without prior due diligence. The bank is now in deep capital problems and struggling to meet day-to-day funding needs. The bank's management turns to an expert of the Basel committee recommendations for advice. Which of the following potential benefits would result from risk data aggregation, particularly taking into account the bank's current situation?

A. Increased bank efficiency.

B. A clearer definition of the bank's risk appetite.

C. Improved resolvability of the bank's problems.

D. Improved data confidentiality, integrity and availability.

The correct answer is **C.**

Having aggregated risk data would help the regulators to resolve the current undercapitalization and liquidity issues.

Option A is incorrect: Improved capability of the risk function to make judgments that can bring about increased efficiency and profitability-However this does not fit the current situation

Similarly, Options B and D are incorrect since they don’t address the capital problems that the bank is facing.

Q.248 After making losses in two consecutive financial years, the board of a G-SIB bank directs the bank's chief supervisor to submit a report containing position and risk exposure information for all relevant risks. The supervisor proceeds to summarize a report that includes detailed information about specific risks such as credit risk, operational risk, and market risk. However, the report falls short of adequate stress tests and forecasts. Which of the following effective risk data aggregation principle set forth by the Basel Committee on Banking Supervision did the supervisor most likely violate?

A. Principle 3 - Accuracy and integrity

B. Principle 8 - Comprehensiveness

C. Principle 9 - Clarity and usefulness

D. Principle 4 - Completeness

The correct answer is **B.**

According to the principle of comprehensiveness, risk management reports should cover all material risk areas within the organization. The depth and scope of these reports should be consistent with the size and complexity of the bank’s operations and risk profile, as well as the requirements of the recipients.”

Option A is incorrect: According to the principle of accuracy and integrity, a bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimize the probability of errors

Option C is incorrect: According to the principle of clarity and usefulness, risk management reports should communicate information clearly and concisely. Reports should be easy to understand yet comprehensive enough to facilitate informed decision-making. In addition, reports should include meaningful information tailored to the needs of the recipients.

Option D is incorrect: According to the principle of completeness, a bank should be able to capture and aggregate all material risk data across the banking group. Data should be available by business line, legal entity, asset type, industry, region and other groupings, as relevant for the risk in question, that permit identifying and reporting risk exposures, concentrations and emerging risks.

Q.249 Mike Harvey is the risk management supervisor at an Indian bank. He wishes to establish principles for effective risk data aggregation in line with Basel committee recommendations. The bank has historically been lenient regarding risk data gathering and processing and Harvey intends to remedy the situation. Which of the following statements is incorrect concerning the accuracy principle?

A. Risk reports should exclude mathematical descriptions and logistical relationships so as to make them less sophisticated and enhance comprehension.

B. Error reports should be created to highlight and explain errors in the data.

C. The bank should clearly define the process used to create risk reports.

D. The risk reports should include reasonable checks of the data.

The correct answer is **A.**

According to the accuracy principle, mathematical or logistical relationships should be included in a report whenever such inclusion has a significant impact on the understanding of the report's contents. The relationships ensure the accuracy of the facts and figures presented.

Options B, C, and D are accurate: according to the principle of data architecture and infrastructure, a bank should design, build and maintain data architecture and IT infrastructure which fully supports its risk data aggregation capabilities and risk reporting practices not only in normal times but also during times of stress or crisis, while still meeting the other Principles.

According to the principle, banks should also:

- Make risk data aggregation and reporting practices a key part of the bank’s planning processes.
- Establish integrated data classifications and architecture across the banking group.
- Appoint individuals tasked with various data management responsibilities. For example, risk managers, business managers, and/or IT specialists should be tasked with ensuring the data is relevant, entered correctly, and aligned with data taxonomies

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Q.250 According to the committee, “A bank's risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with the other principles and guidance established by the Basel Committee.” Which of the following statements is in divergence with the governance principle?

A. Risk data aggregation should form an integral part of the risk management framework.

B. It is ideal to have multiple sources of risk data for each type of risk facing the organization so as to enhance reliability.

C. Timely integration of risk data should be carried out immediately a new firm is acquired.

D. Human and financial resources should be directed towards risk data aggregation and therefore the board should approve the framework.

The correct answer is **B.**

There should be only one source of risk data, NOT multiple sources.

According to the principle of governance, a bank’s risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the Basel Committee.

This principle suggests that risk data aggregation should be a central part of risk management, and senior management should make sure the risk management framework incorporates data aggregation before approving it for implementation.

A bank’s risk data aggregation capabilities and risk reporting practices should be:

- Fully documented
- Validated and independently reviewed by individuals well versed in IT and data and risk reporting functions.
- Unaffected by the bank’s group structure.
- A priority of senior management who should go to great lengths to make sure risk data aggregation is part and parcel of the risk management function.

Considered as part of any new initiatives, including acquisitions and/or divestitures, IT change initiatives and new product development

Q.251 Olive Park is the head of risk management at a Korean Bank. She has been tasked with preparing a report for the bank's board of directors scheduled to meet in the near future. The report will inform several important decisions to be made by the board regarding relevant bank risks.
In an email sent to the directors prior to the meeting, Park assures them of the accuracy, reasonableness, and completeness of her submission. She points out that a large amount of quantitative data in the report will make it hard for the report to be fully understood by non-risk management professionals. She also plans to distribute the report to all the relevant parties in a timely manner while still maintaining confidentiality. Which of the following effective risk data aggregation principle set forth by the Basel Committee on Banking Supervision did Park most likely violate?

A. Principle 11 - Distribution

B. Principle 9 - Clarity and usefulness

C. Principle 8 - Comprehensiveness

D. Principle 1 - Governance

The correct answer is **B.**

According to principle 9, it is paramount to tailor reports to fit the needs of the final user. In her email, Park suggested that the report would not be tailored to fit the board because of the large amount of quantitative data that would be hard to be interpreted by non-risk management specialists. The board usually comprises many financial experts, but not all of them all well- versed in risk management. It's important to understand that the different final users – managers, the board, junior employees, interns, and others – have different needs in terms of reporting. In particular, there is a greater need for qualitative interpretation and explanation as the report moves up the hierarchy of leadership in an organization.

Option A is incorrect: According To the principle of Distribution, risk management reports should be distributed to the relevant parties while ensuring confidentiality is maintained. Banks should strike a balance between the need to ensure confidentiality and the timely dissemination of reports to all appropriate recipients

Option C is incorrect: According to the principle of comprehensiveness, risk management reports should cover all material risk areas within the organization. The depth and scope of these reports should be consistent with the size and complexity of the bank's operations and risk profile, as well as the requirements of the recipients

Option D is incorrect: According to the principle of governance, a bank's risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the Basel Committee.

This principle suggests that risk data aggregation should be a central part of risk management, and senior management should make sure the risk management framework incorporates data aggregation before approving it for implementation.

Q.252 Which of the following goes against the principle of accuracy and integrity as set forth by the Basel Committee?

A. It's most desirable to have a single authoritative source of risk data for each type of risk facing an organization.

B. Data should be aggregated manually at all times so as to minimize the probability of errors.

C. Risk personnel should have direct access to risk data so as to effectively refine, validate, reconcile, and process the data for use in reports.

D. Controls put in place to monitor risk data should be as robust as those used in financial accounting.

The correct answer is **B.**

Data should be aggregated on a largely automated basis to reduce the risk of errors brought about by human input. However, human intervention is necessary when professional judgment is to be made.

Q.253 According to the Basel committee, who bears the responsibility of setting the frequency of risk management report and distribution?

A. The chief risk officer only

B. The bank supervisor only

C. The board of directors and senior management

D. The risk management department

The correct answer is **C.**

It's the work of the board/senior management to specify how often the risk report should be produced as well as set out guidelines on how to proceed in times of financial stress/crisis.

Option A is incorrect: The CRO is responsible for designing the firm's risk management program and monitoring the firm's risk limit set by the senior risk management.

Option B is incorrect: Supervisors provide guidance for cooperate governance at banks through comprehensive evaluations and working closely with the board.

Option D is incorrect: The risk management department identifies, monitors, and controls risk.

Q.254 In an attempt to promote and institute strong and effective data aggregation capabilities, the Basel committee has put forth several principles. Which of the following principles is correctly matched with a recommendation to be followed in accordance with the given principle?

A. The timeliness principle recommends that an organization should continually update its system to accommodate changes in best practices.

B. The accuracy principle recommends that the risk data be reconciled with the supervisor's estimates before aggregation.

C. The integrity principle recommends that only automated processes should be used when aggregating risk data.

D. The completeness principle recommends that an organization should ensure it captures all material risk exposures before risk data aggregation can be done.

The correct answer is **D.**

The completeness principle recommends the inclusion of all material risks into the risk data aggregation process.

A is incorrect. The timeliness principle proposes that banks generate aggregate and up-to-date risk data in a timely manner while also meeting the principles relating to accuracy and integrity, completeness, and adaptability.

B and C are incorrect. In accordance with the Accuracy and Integrity principle, “a bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimize the probability of errors.”

Q.255 Which of the following principles states that "data should be available by business line, legal entity, asset type, industry, region and other groupings, as relevant for the risk in question, that permit identifying and reporting risk exposures, concentrations and emerging risks?"

A. Data architecture and infrastructure

B. Clarity and usefulness

C. Completeness

D. Inclusivity

The correct answer is **C.**

The completeness principle states that "a bank should be able to capture and aggregate all material risk data across the banking group. Data should be available by business line, legal entity, asset type, industry, region and other groupings, as relevant for the risk in question, that permit identifying and reporting risk exposures, concentrations and emerging risks."

Options A is incorrect: according to the principle of data architecture and infrastructure, a bank should design, build and maintain data architecture and IT infrastructure which fully supports its risk data aggregation capabilities and risk reporting practices not only in normal times but also during times of stress or crisis, while still meeting the other Principles

Option B is incorrect: according to the principle of clarity and usefulness, risk management reports should communicate information in a clear and concise manner. Reports should be easy to understand yet comprehensive enough to facilitate informed decision-making. Reports should include meaningful information tailored to the needs of the recipients."

Option D is incorrect: According to the principle of comprehensiveness, risk management reports should cover all material risk areas within the organization. The depth and scope of these reports should be consistent with the size and complexity of the bank's operations and risk profile, as well as the requirements of the recipients

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Q.256 While working on a risk report, two senior risk professionals made the decision to forego automation and fill data entries by hand. The two made that decision after a brainstorming exercise alongside other junior employees. In their report, the pair gave details as to why it was necessary to forego automation and why they had full confidence in the accuracy and integrity of the data. This scenario describes a:

A. The justified exception to the principle of accuracy and integrity

B. Breach of regulations

C. Manual workaround

D. Breach of confidentiality

The correct answer is **C.**

While automation is always preferred to manual input so as to minimize human error, it is up to the bank to strike the right balance between the two. As such, any manual workarounds should be well documented and satisfactorily explained.

Q.257 Which of the following is NOT a valid reason as to why senior management and the board of directors should keep accurate and timely risk data aggregation reports?

A. The report helps the management to track the organization's risk exposure and ensure risk limits are observed.

B. The board members may be asked to provide the reports during an impromptu visit by the bank's supervisors.

C. The management uses the reports to make important decisions regarding risk and investment opportunities.

D. Senior management need reliable, relevant and up-to-date information when making decisions during periods of financial stress and/or crisis.

The correct answer is **B.**

The board does not provide information to regulators or supervisors. Therefore, such requests can only be made at the bank level.

Q.258 According to the principle of adaptability, "a bank should be able to generate aggregate risk data to meet a broad range of on-demand, ad-hoc risk management reporting requests, including requests during stress/crisis situations, requests due to changing internal needs and requests to meet supervisory queries." Which of the following is NOT included in the adaptability principle?

A. Data customization to fit the user's needs - takeaway, dashboards, anomalies, etc.

B. Flexible data aggregation processes that allow managers to swiftly assess risks for decision-making purposes.

C. Capabilities to incorporate regulatory changes.

D. Capabilities to withhold some pieces of information that could paint the company in a bad light.

The correct answer is **D.**

The risk data aggregation process should be transparent and not withhold crucial information as long as such information is accurate and based on facts. The process should instill confidence in regulators and other stakeholders alike.

According to the principle of adaptability, “A bank should be able to generate aggregate risk data to meet a broad range of on-demand, ad hoc risk management reporting requests, including requests during stress/crisis situations, requests due to changing internal needs and requests to meet supervisory queries.”

A bank's risk data aggregation capabilities should be flexible:

- To assess emerging risks;
- To incorporate changes in the regulatory framework;
- To produce quick summary reports, etc.

Q.259 Kevin Stanley, a senior risk consultant at Wansley Consultation Company, is currently providing risk consultation to the RUSSBANK's recently opened retailed operations in Ukraine. RUSSBANK is one the largest Russian banks that has recently started retail operations in the Ukrainian market. Ukraine has a history of a large number of bank failures due to very low recovery rates. Since RUSSBANK has entered the Ukrainian market for the first time and it is not familiar with the retail market yet, Kevin referred the bank management and board to the Basel Committee's recommendation to improve its aggregation and reporting of risk data. Given that the effective risk data aggregation has several potential benefits, which of the following benefits is essential to RUSSBANK's success?

A. Increased ability to anticipate problems.

B. Identify routes to return to financial health.

C. Improved resolvability.

D. Increased market share.

The correct answer is **A.**

Option A increased ability to anticipate a problem is the correct option because currently, the bank does not face a problem but the risk data aggregation will allow the risk managers to understand risks holistically and it will increase management's ability to see problems and view the risks as a whole rather than in isolation.

Option B is incorrect because the benefit of identifying routes to return to financial health is essential in times of financial stress when banks are looking for solutions to return to their past status.

Option C is incorrect because the benefit of resolvability is essential for those banks, which are in stress or failure. This benefit enables regulatory authorities to analyze aggregated data and resolve bank's problems, especially global systematically important banks (G-SIBs).

Option D is not a benefit of risk data aggregation.

Q.260 Which of the following is not a key governance principle related to risk data aggregation and risk reporting practices that were provided by the Basel Committee?

A. Data architecture and infrastructure

B. Conciseness

C. Distribution

D. Frequency

The correct answer is **B.**

Conciseness is not a key governance principle related to risk data aggregation and risk reporting practices provided by the Basel Committee. The key principles are:

1. Governance
2. Data Architecture and Infrastructure
3. Accuracy & Integrity
4. Completeness
5. Timeliness
6. Adaptability
7. Accuracy
8. Comprehensiveness
9. Clarity & Usefulness
10. Frequency
11. Distribution
12. Review
13. Remedial actions and supervisory measures
14. Home/host cooperation

Q.261 Muhammad Zubair, head of compliance at Miliyon Investment Bank, quoted a key governance principle related to risk data aggregation provided by the Basel Committee, which states that "a bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Furthermore, data should be aggregated on a largely automated basis so as to minimize the probability of errors." Which of the following principles is Zubair referring to?

A. Governance

B. Completeness

C. Accuracy & Integrity

D. Timeliness

The correct answer is **C.**

According to the Basel Committee's 3rd Principle, "Accuracy & Integrity," a bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimize the probability of errors.

Option A is incorrect: According to the principle of governance, a bank's risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the Basel Committee.

This principle suggests that risk data aggregation should be a central part of risk management, and senior management should make sure the risk management framework incorporates data aggregation before approving it for implementation.

Option B is incorrect: according to the principle of completeness, a bank should be able to capture and aggregate all material risk data across the banking group. Data should be available by business line, legal entity, asset type, industry, region and other groupings, as relevant for the risk in question, that permit identifying and reporting risk exposures, concentrations and emerging risks.

Option D is incorrect: The principle of timeliness states that a bank should be able to generate aggregate and up-to-date risk data in a timely manner while also meeting the principles relating to accuracy and integrity, completeness and adaptability. The precise timing will depend upon the nature and potential volatility of the risk being measured as well as its criticality to the overall risk profile of the bank. The precise timing will also depend on the bank-specific frequency requirements for risk management reporting, under both normal and stress/crisis situations, set based on the characteristics and overall risk profile of the bank.

Q.262 Vijay Kumar, Sonnet Bank's Chief Risk Officer, writes in the management discussion and analysis (MD&A) section of the bank's annual report that Sonnet Bank, at all times, devotes its human and financial resources to the improvement of risk data aggregation as it considers data aggregation and reporting a part of the bank's planning processes. He also writes that the bank has established multiple data models that are used as robust automated reconciliation measures. Kumar's comments are aligned with one of the key principles of risk data aggregation. Identify that principle.

A. Adaptability

B. Comprehensiveness

C. Distribution

D. Data Architecture and Infrastructure

The correct answer is **D.**

The 2nd principle of risk data aggregation (i.e. Data Architecture and Infrastructure) requires that a bank devotes its human and financial resources to risk data aggregation in times of stress. In addition, it requires that risk data aggregation and reporting should be a part of the bank's planning processes and subject to business impact analysis. Banks should establish integrated data classifications and architecture across the banking group.

Q.263 During a regular compliance meeting, a senior compliance manager made the following comments related to the key governance principles of risk data aggregation:

Comment 1: "The principle of completeness requires that the risk data should be aggregated in a timely manner and data should meet all requirements for risk management reporting. It also requires supervisors to review the timeliness and specific frequency requirements of bank risk data in normal and crisis periods."

Comment 2: "The principle related to adaptability requires banks to generate aggregate risk data that is easier for managers to use in stress tests and scenario analyses. The data should be flexible, customizable, and available for ad hoc data requests to assess emerging risks."

Determine which of the following comments are correct.

A. Comment 1 is correct whereas comment 2 is incorrect.

B. Comment 1 is incorrect whereas comment 2 is correct.

C. Comment 1 is correct, and comment 2 is also correct.

D. Comment 1 is incorrect, and comment 2 is also incorrect.

The correct answer is **B.**

Only comment 2 accurately defines a principle of risk data aggregation. Comment 1 is incorrect because the principle of completeness requires the bank to be able to capture and aggregate all (off and on the balance sheet) material risk data across the banking group. Moreover, the risk measures and methods of aggregation should be clear enough for the understanding of senior managers. The principle of timeliness requires that the risk data should be aggregated in a timely manner and data should meet all requirements for risk management reporting. Comment 2 correctly defines the principle of adaptability.

Q.264 Which of the following key principles of risk data aggregation requires banks to document both the automated and the manual workarounds, and also requires banks to define why and when human interventions are critical for data accuracy?

A. Timeliness

B. Adaptability

C. Accuracy and integrity

D. Clarity and usefulness

The correct answer is **C.**

Principle 3, accuracy and integrity, requires that the banks should document both the automated and the manual workarounds for the bank supervisor's understanding and also requires banks to define why and when human interventions are critical for data accuracy. Option A, the principle of timeliness, requires that the risk data should be aggregated in a timely manner and data should meet all requirements for risk management reporting. It also requires supervisors to review the timeliness and specific frequency requirements of bank risk data in normal and crisis periods. Option B, adaptability, requires banks to generate aggregate risk data that is easier for managers and the board to use in stress tests and scenario analyses. The clarity and usefulness principle requires banks to create risk data aggregation reports that are useful for supervisors and managers.

Q.265 The principle of comprehensive requires banks to create reports:
I. That contains position and risk exposure information for credit risk, liquidity risk, market risk, and operational risk
II. That should satisfy senior management in terms of coverage, analysis, and comparability with other banks
III. That should provide a historical review of the bank's risk appetite and past stress tests.

Which of the following statements is/are aligned with the principle of comprehensiveness?

A. Statement I

B. Statements II & III

C. Statements I & III

D. All statements are aligned with the principle of comprehensiveness

The correct answer is **A.**

Statements II and III are not aligned with the definition of the principle of comprehensiveness.
The principle of comprehensive requires banks to create reports:
1. That contains position and risk exposure information for credit risk, liquidity risk, market risk, and operational risk
2. That should satisfy **bank supervisors**, not the senior management in terms of coverage, analysis, and comparability with other banks
3. That should provide a **forward-looking**, not the historical, review of the bank's risk appetite and past stress tests

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Reading 8: Enterprise Risk Management and Future Trends

Q.67 Which of the following best explains the concept silo-based risk management?

A. The process of managing each type of risk individually.

B. Management risks by subdividing the total exposure into specific and systematic risks.

C. The process where each business unit within an organization manages only the risks directly affecting its own functions.

D. The process of subdividing the total risk exposure into major and minor risks of the business.

The correct answer is **C.**

The silo approach to risk management describes a mechanism where the risk management function in an organization is divided among departments or business units. Each department is charged with managing selected risks, especially those that fall within its jurisdiction. For example, the IT department can be charged with managing cybersecurity and privacy risks while the finance department handles credit, market, liquidity, and interest risks.

Option A is incorrect: In the silo approach, each risk is not managed individually, rather different departments are expected to manage selected risks.

Options B and D are also incorrect: In the silo approach, the risks are distributed among various departments but there is no subdivision of risk into various groups such as specific or systematic, major or minor risks.

Q.68 Which of the following arguments best explains why some companies prefer siloed risk management to ERM?

A. The silo approach simplifies the risk management process as each business unit works on a small 'slice' of the total risk exposure.

B. The silo approach promotes specialization, thus helps to develop a rich variety of risk management expertise within the organization.

C. The silo approach enables organizations to extensively analyze each risk without overlooking important aspects.

D. Managing risks in silos is more efficient and takes a shorter time compared to ERM.

The correct answer is **B.**

The key reason why companies may want to manage risks in silos is because such an approach enables the autonomous business units to specialize and develop top-notch expertise within their jurisdiction. Specialization may lead to a more thorough analysis of each risk and therefore help the organization to put in place the most efficient and reliable risk management tools.

Q.69 Define Enterprise Risk Management (ERM).

A. The process of managing all the different categories of risks facing the organization.

B. The process of dividing risks into different categories for analysis by the various autonomous units within an organization.

C. Application of risk management across an enterprise in a holistic, consistent, and structured way.

D. Application of risk management across an autonomous business unit/department in a structured, consistent way.

The correct answer is **C.**

ERM is an integrated approach to risk management that aims to analyze the risks facing an organization across all its departments/units. It differs from the silo approach which subdivides risks among departments for specialized analysis. ERM considers all the risks faced by the organization and delves into interactions and interrelationships the risks have with each other. The overall aim of ERM is to integrate risk measurement and management into business processes so that the resulting information can, in turn, be integrated into strategic business decisions.

Q.70 In an online discussion between a risk manager and an international businessman, the businessman makes the following comment: “I run several autonomous business units that manage risks independently. I see no point in shifting to enterprise risk management, despite the current fad about it. ERM is too complex and implementing it would just disrupt the smooth working of the different units and hamper their progress.” The risk manager feels that the businessman is wrong and decides to write back to the businessman refuting his comments. Which of the following would NOT form part of your response to the businessman?

A. ERM would bring out the interrelationships between the different units in terms of risk.

B. ERM would exclusively tackle downside risks, thus may help the company to offer consistent returns to shareholders.

C. An elaborate ERM framework can give the company a bird's eye view of the marketplace, thus enabling the company to identify and exploit favorable opportunities before competitors are able to do so.

D. ERM can help to identify cross-business risks and help the company to learn from past mistakes.

The correct answer is **B.**

It's incorrect to say that ERM focuses only on downward risks that deal with losses. ERM also delves into upward risks - the uncertain possibility of gain through the taking of profitable positions before other market players catch up.

Options A, C, and D are some of the benefits of ERM.

Q.81 In the recent past, a certain bank has had a poor relationship with its regulator. The CEO asks the CRO to suggest some of the actions the company could take in a bid to improve this relationship in the future. Which of the following presents a possible recommendation?

A. Sending a delegation to the regulator's office aimed at resetting relations between the two sides.

B. Developing a robust internal supervisory policy.

C. Setting up a special board committee charged with improving relations with the regulator.

D. Forgetting the past and focusing on the future.

The correct answer is **B.**

The company could work with the regulator to develop a sound supervisory policy. Within such a policy, the company could commit to submit responses to consultations in good a timely manner. Perhaps coordinating submissions with other banks can help to demonstrate the willingness to adhere to guidelines and timelines.

Options A, B, and C are not policy actions, and therefore poor relationships are likely to re-occur even after the current tiff is resolved.

Q.3840 Which of the following statements is correct as far as Enterprise Risk Management is concerned?

A. Independent operations of ERM dimensions motivate the success of the ERM framework in a firm

B. ERM advocates viewing of risk across business lines by looking at the diversification and the concentration of the risk

C. The ERM looks at the level of each risk type in the firm and assesses them independently

D. All of the above

The correct answer is **B.**

As compared to silo-based risk management techniques, in ERM risks are viewed across business lines by looking at the diversification and the concentration of the risk.

Option A is incorrect because the success of an ERM majorly depends on the interactions of the above five dimensions. For instance, if a firm improves its stress testing and other risk measurements, it does not guarantee the growth of effective risk management if the risk culture has not been cultivated in the firm.

Option C is incorrect because ERM leads to the organization and coordination of integrated risk management.

Reading 9: Learning From Financial Disasters

Q.112 In the lead-up to the 2007/2009 financial crisis, Lehman Brothers had positioned itself as the leading institution in the mortgage-backed securities market. Which of the following **best** explains why the firm failed so spectacularly despite boasting huge amounts of capital?

A. The firm was highly leveraged, reducing its ability to absorb losses

B. A large number of the firm's mortgage-backed securities were built upon sub-prime mortgage assets

C. The firm was considered too big to fail

D. A lack of confidence among investors which in turn led to a lack of funding

The correct answer is **A.**

All of the above statements explain one aspect or the other about Lehman Brothers which eventually contributed to the firm's failure. However, the main reason why the firm failed can be traced down to the relationship between leverage and illiquidity. To fund its aggressive growth strategy, Lehman Brothers resorted to **extreme leverage** that far surpassed its capacity to repay. The firm took on huge amounts of short-term debt to fund long-term assets, exposing itself to serious liquidity problems. Too much debt meant that the firm could not absorb losses when the housing bubble burst.

Q.113 The Barings incident came up **mainly** due to:

A. The actions of a single trading official

B. The lack of adequate control systems and the failure of management to exercise even the basic oversight roles

C. Collusion between back-office staff and a junior level manager

D. The massive earthquake that hit Japan in 1995, triggering unprecedented losses in the stock market

The correct answer is **B.**

The Barings incident involved the loss of approximately $1.25B within a period of less than 3 years, resulting from the unmonitored speculative derivative trading by a junior officer. Although all the above factors contributed to the final outcome, it is the failure of the management to exercise its oversight role that stands out.
Nick Leeson, a British Barings junior trader based in Singapore, was originally tasked with running a low-risk, arbitrage business. However, Nick gradually took more risky positions in Japanese stocks and interest rate futures. The 1995 Japanese earthquake definitely plunged the stock market, although the warning bells had rung much earlier. Just how did the management ignorantly aid Nick in executing his hidden motives?

1. Allowing Nick to double up as the head of trading and back office at an isolated branch in an attempt to save money. This created the perfect environment for Nick to influence the back-office staff into hiding trading losses.
2. Allowing Nick to settle his own trades, thereby giving Nick a free hand in the settlement of losses. Even after the auditors raised the issue with the senior management, their advice was largely ignored.
3. Turning a blind eye to apparently astronomical profits gained from what was supposed to be a low-risk business.

Q.114 The trouble among Savings and Loans Associations (S&Ls) in the United States can be traced down to an increase in interest rates and inflation, which collectively served to reduce the profit margin initially enjoyed by the heavily regulated S&Ls. The regulator responded by relaxing some of the stringent rules. For example, the limit on deposit insurance coverage was raised from $40,000 to $100,000 to make it easier for troubled or insolvent institutions to attract deposits to lend with. Which of the following problems did this particular change create?

A. S&Ls engaged in even riskier lending activities

B. Taxpayers were forced to pay for the increase

C. There was a huge bailout after a large number of S&Ls failed

D. All of the above

The correct answer is **D.**

These regulatory changes put in place to rescue S&Ls did not quite generate the intended effect. For instance, the availability of a more generous amount of deposit insurance led to a moral hazard where S&Ls engaged in even riskier lending activities, which in turn increased the probability of loss.

As the number of S&L fell to fewer than 2,200, it was necessary that one of the most expensive banking system bailouts of USD 160 billion. The taxpayers had to fund this bailout.

Q.115 Which of the following served as the main source of funding for Lehman Brothers in the lead-up to the 2007/2009 financial crisis?

A. Bond market

B. Repo market

C. Stock sale

D. Reserves

The correct answer is **B.**

Lehman was funding long-term assets with short-term debt, mainly in the form of repo agreements and commercial paper. Lehman borrowed billions of dollars each day in the overnight wholesale funding markets in order to operate.

Q.117 The following statements are true regarding Long-Term Capital Management (LTCM), except:

A. LTCM is categorized as a financial disaster caused by large market moves but not misleading reporting.

B. The incident highlighted the importance of stress testing to look at the effects of a competitor holding similar assets unexpectedly exiting the market.

C. LTCM was founded with the aim of tapping short-term positions instead of focusing on the long term.

D. LTCM models assumed that historical relationships were useful predictors of future relationships, albeit in the absence of external economic shocks.

The correct answer is **C.**

The hedge fund was focused on long-term investment strategies and investors were locked into investments for long periods of time in order to avoid illiquidity. In fact, after recording impressive results over the first few years, the partners at LTCM believed so strongly in the success of their venture to the extent of committing to the fund a large portion of their net worth.

In summary, LTCM's crisis could be attributed to the following:

- Overreliance on historical models that did not simulate the occurrence of large economic shocks.
- LTCM's models further assumed that low-frequency/high-severity events were uncorrelated over time. As it turned out, one economic shock triggered another so that extremely low probability events were occurring several times per week.
- All of LTCM's trading strategies were hinged on the assumption that risk premiums and market volatility would ultimately decline. As a result, the firm had failed to diversify its investments wide enough.

The following are suggestions that have been put forth to avoid a recurrence of a similar crisis:

- There's need for large-scale stress testing using not just historical data but also simulated stress scenarios, even if such scenarios haven't yet played out on the market.
- The initial margin in derivative contracts should always be enforced. In many cases, LTCM

had to mark its positions to market, but the initial margin was waived.

Q.119 Consider the following statements:
I. LTCM models assumed that low frequency/high severity events were correlated over a period of time
II. LTCM models accounted for the spikes in correlations among asset class prices during economic shocks
Select the true statement(s):

A. I

B. II

C. Both I and II

D. None

The correct answer is **D.**

To begin with, the LTCM models basically relied on historical correlations to measure risk. In so doing, the firm inadvertently failed to account for the spike in correlations caused by economic shocks. A good example of such a shock was the defaulting of Russia on its debt that initiated a worldwide economic tumble. In addition, the models ignored the possibility of infrequent shocks clustering together, one causing another. The result was an underestimation of risk in the tails of the distribution.

Q.120 Which of the following risks was realized in the Metallgesellschaft case study?

A. Market risk.

B. Interest rate risk.

C. Funding liquidity risk.

D. Operational risk.

The correct answer is **C.**

Metallgesellschaft Refining and Marketing designed a marketing strategy with the aim of protecting its customers from price fluctuations of heating oil and gasoline. The company offered customers the chance to buy oil and gasoline at a premium of $3 to $5 above the average price of futures contracts expiring over the next 12 months. Two years after rolling out the offer, the price of oil sharply dropped from about $21 to $14 per barrel, resulting in losses of approximately $900m for the company. These losses were realized immediately as the futures contracts were marked to market. The gains from customers which could have offset the losses (immediately) could not be realized until several years later. The situation led to a shortage of short-term cash outflows, thereby creating funding liquidity risk.

Q.121 Metallgesellschaft Refining and Marketing (MGRM), a U.S. subsidiary of the German oil company Metallgesellschaft, lost over $1.5 billion as a result of a poor dynamic hedging strategy. What triggered the loss? The company:

A. Adopted an outdated and largely ineffective hedging strategy called a “stack-and-roll hedge”.

B. Bought too many long terms futures contracts.

C. Failed to predict the significant rise in oil prices in 1993.

D. Suffered a significant decline in oil prices resulting in huge unrealized losses and subsequent margin calls.

The correct answer is **D.**

MGRM used short-term futures to hedge because of a lack of alternatives. Besides, the long-term futures contracts available were highly illiquid. As it turned out, MGRM’s open interest in unleaded gasoline contracts was 55 million barrels in the fall of 1993, compared to an average trading volume of 15-30 million barrels per day.
MGRM encountered problems in the timing of cash flows required to maintain the hedge. Over the entire life of the hedge, these cash flows would have canceled out. MG's problem was a lack of necessary funds needed to maintain its position. The fundamental problem manifested in the form of inadequate funds to mark positions to market and meet margin requirements.

Q.122 In the modern business world, it's not uncommon to find organizations recording phone conversations between clients and staff. Which of the following best explains why firms must exercise caution when engaging in such an exercise as highlighted by the Bankers Trust incident?

A. Taping conversations can have a negative impact on the ability of staff to freely and candidly engage with clients.

B. The recorded conversations can be used against the organizations as evidence during lawsuits.

C. The exercise may not yield significant results and may actually deal a heavy blow to staff/management trust.

D. Taping conversations could consume considerable time and energy, which could otherwise be channeled into more productive business.

The correct answer is **B.**

Procter and Gamble and Gibson sued Bankers Trust over the latter's failure to tailor negotiated derivative trades to meet their individual needs. P&G and Gibson actually used phone records of BT staff as evidence in lawsuits. In particular, some of the employees were on record bragging about how badly they'd fooled clients with complex, unfathomable structures. The case study highlighted the need to exercise caution when "wire-tapping" staff.

Option A is incorrect: Apart from the negative effects associated, audio recording can impact a business positively as the audio may be used for future reference.

Option C is incorrect: Audio recording may be useful if used correctly only within the organization among the staff.

Option D is incorrect: Audio tapping is automatic and requires no time as it takes place at the same time during a phone conversation, for example.

Q.124 Which of the following was most influential in the Metallgesellschaft case study?

A. German accounting rules of the time.

B. Outright fraud.

C. Flawed computer-based software.

D. Timing differences in the cash flows of its long and short positions.

The correct answer is **D.**

The major problem at Metallgesellschaft was a timing mismatch between futures contract losses and forward contract cash flows that the company was trying to hedge. The mismatch was compounded by the sheer size of Metallgesellschaft's positions which made it difficult to close the positions without incurring substantial costs.

Q.126 Which of the following led to Enron failure

A. Governance risk

B. Liquidity risk

C. Foreign currency risk

D. Credit risk

The correct answer is **A.**

Enron was a poster child of corporate governance failure and poor risk management.

Greed caused the downfall of both the corporation by developing a system where no one was actually looking out for the good of the company. The hunger fueled executives to make decisions in their own personal interest, at the sacrifice of the company, which led to the Enron collapse.

Q.127 Which of the following characterizes the early stages of a financial disaster?

A. Excessive optimism about future asset prices.

B. Excessive pessimism about future asset prices.

C. The collapse of the housing mortgage market.

D. Stagnating share price.

The correct answer is **A.**

In the early stages of a financial disaster, the future looks particularly bright with the prices of assets such as shares, mortgages, and other products rising. An expectation takes root that prices will continue to rise, and buyers rush into the market. Sellers get convinced that their expectations are valid and that their market strategies are a good fit and will come to pass.

In the case of Lehman, for example, the firm's entry into the mortgage-backed securities market coincided with astronomical growth in the industry, where home prices were projected to increase indefinitely. For the first few years, Lehman Brothers recorded fast growth fueled by the house price bubble. In early 2007, the firm surpassed Bear Sterns and became the largest underwriter for mortgage-backed securities.

In the case of Continental Illinois, the management engaged in an aggressive growth strategy that prioritized large-scale (but risky) lending to institutional borrowers. In the 5 years prior to 1981, the bank's commercial and industrial lending jumped from USD 5 billion to over USD 14 billion. During that time, the bank's total assets grew from USD 21.5 billion to USD 45 billion.

Q.128 Nick Leeson, a junior trader at the Singapore office of British Barings, took speculative derivative positions in an effort to recover past losses that he was able to hide fraudulently. The speculative positions further increased the size of losses that lead to Barings bankruptcy in 1995. Which of the following is the cause of the losses?
I. Little management oversight of the settlement process
II. The speculative long-long futures positions

A. I only

B. II only

C. I & II

D. None of the above

The correct answer is **C.**

The speculative long-long futures positions exposed the bank to huge market risks when the market prices of the Nikkei 225 fell after the 1995 earthquake in Japan. All the long-long positions were in huge losses. Also, little management oversight of the settlement process allowed Nick to fraudulently hide the trades in the error accounts.

Q.129 Between 1986 and 1995, nearly a third of the 3,234 savings and loan associations in the United States failed. It is widely accepted that overregulation played a role in the crisis. How exactly did this happen?

A. S&Ls were required to pay depositors a rate of interest that was significantly lower than that offered elsewhere.

B. S&Ls were not allowed to offer commercial loans so as to avoid risky lending.

C. Only a very limited amount of deposit insurance was allowed .

D. All of the above.

The correct answer is **D.**

S&Ls were governed by the so-called “Regulation Q,” which set their minimum capital requirements and capital adequacy standards. Regulation Q prohibited thrifts from engaging in a variety of banking activities. For example, they were required to pay depositors a rate of interest that was significantly lower than that offered elsewhere. Furthermore, S&Ls were not allowed to offer commercial loans so as to avoid risky lending. Deposited insurance had been limited, again, to discourage risky lending behavior.

Q.130 In the 1980s, the savings and loans industry in the United States suffered through a period of distress. The distress can be traced down to:

I. A decline in the effectiveness of Regulation Q in preserving the spread between the cost of money and the rate of return on assets
II. An inability to vary the return on assets with increases in the rate of interest required to be paid for deposits
III. Increased competition on the deposit gathering and mortgage origination sides of the business
IV. Elimination of regulations initially designed to prevent lending excesses and minimize failures

A. I, II, and IV

B. II and III

C. I and IV

D. All of the above

The correct answer is **D.**

The loan crisis of thrifts in the 80s can be traced down to limitations under Regulation Q under which the thrifts operated.

First, since the 1930s, thrifts were required to maintain a predetermined spread between the cost of money and the rate of return on assets by paying depositors a rate of interest that was significantly lower than that offered elsewhere. In the 1970s, however, there was a dramatic increase in both interest rates and inflation, which reduced the profit margin on which thrifts depended to remain in business. To make the matter worse, the mortgages these thrifts were selling came with fixed interest rates that could not be varied during the term of the mortgage.

What's more, the level of competition sharply increased between thrifts and mainstream banks as well as among the thrifts themselves. As inflation hit, the number of individuals applying for mortgages was growing smaller by the day.

When some of these regulations were eventually lifted in the early 80s, they did not help the thrifts "grow" out of their problems as intended but actually accelerated the downfall. Risk-taking increased in an unprecedented manner, resulting in huge losses across the industry.

Q.131 Which of the following dynamic hedging strategies was used by Metallgesellschaft Refining and Marketing (MGRM)?

A. Stack-and-roll

B. Delta hedging

C. Stop-loss strategy

D. Dynamic delta-hedging

The correct answer is **A.**

The type of dynamic hedging strategy implemented by MGRM is known as a rolling hedge (also called a stack-and-roll hedge). A **stack-and-roll hedge** involves purchasing futures contracts for a nearby delivery date and on that date rolling the position forward by purchasing a fewer number of contracts. The process continues for future delivery dates until the exposure at each maturity date is hedged.

Q.132 Funding liquidity risk played a critical role in which of the following financial scandals?

A. Orange County

B. Savings and Loans Crisis

C. SWIFT

D. Metallgesellschaft Refining and Marketing

The correct answer is **D.**

The financial crisis at Metallgesellschaft is not a case of misleading information, but a case of large market movements that resulted in funding liquidity risk and trading liquidity risk. The losses incurred by MGRM were fundamentally from cash flow timing differences associated with the positions making up its hedge.

Options A, B are classic cases of financial disasters due to misleading reporting and lack of risk management oversight.

Option C presents a case of cyber risk.

Q.133 Long-Term Capital Management, a hedge fund started by ex-employees of Citigroup, posted returns of 43% and 41% in the first two years of its formation due to its positions in global equity, derivatives, and fixed income assets. After the 1998 financial crisis in Russia, the fund lost 44% of its capital. Which of the following factors lead to the financial disaster of LTCM?
I. Use of highly leveraged positions, which was possible due to waived initial margin requirements
II. Use of flawed trading models because it failed to account for the spike in correlations among asset class prices during times of economic crisis/shock.

A. I only

B. II only

C. Both I & II

D. None of the factors

The correct answer is **C.**

Both factors were involved in the financial disaster of Long-Term Capital Management (LTCM). The positions opened by LTCM were highly leveraged due to the waived initial margin requirements by financial institutions and allowing the leverage of 28 to 1 to LTCM. The model risk was also one of the factors of LTCM's disaster, and the flawed trading models failed to account for the spike in correlations among asset class prices during times of economic crisis.

Q.134 Which of the following involves the purchase of a hedging instrument that very closely matches the position to be hedged and is typically held for as long as the underlying position is kept?

A. Dynamic hedge strategy

B. Static hedge strategy

C. Stack-and-roll hedge strategy

D. Delta-hedge strategy

The correct answer is **B.**

A **static hedge** is one that does not need constant re-balancing as the price and other characteristics (such as volatility) of the securities it **hedges** change. A static hedge usually involves the purchase of a hedging instrument that very closely **matches** the position to be hedged. The hedging instrument is typically held for as long as the underlying position is kept.

Option A is incorrect: Dynamic hedging involves rebalancing hedge positions as market conditions change.

Option C is incorrect: A **stack-and-roll hedge** involves purchasing futures contracts for a nearby delivery date and, on that date, rolling the position forward by purchasing a fewer number of contracts. The process continues for future delivery dates until the exposure at each maturity date is hedged.

Option D is incorrect: A delta-hedge strategy involves the reduction of the directional risks associated with the movements in the price of the underlying assets.

Q.4318 The trader known as the London Whale lost at least $6.2 billion for JPMorgan Chase & Co. in 2012. In the first three months of that year, the number of days reporting losses exceeded the number of days reporting profits. In an attempt to conceal these losses, the CIO came up with a new valuation system. The CIO had hitherto (up to that point) valued credit derivatives by:

A. Marking them at or near the midpoint price in the daily range of prices.

B. Marking them above the midpoint price in the daily range of prices.

C. Marking them below the midpoint price in the daily range of prices.

D. Marking them at prices that were at significant variance to the midpoints of dealer quotes in the market.

The correct answer is **A.**

The CIO had hitherto valued credit derivatives by marking them at or near the midpoint price in the daily range of prices (bid-ask spread) offered in the market. By using midpoint values, the resulting prices were considered to be the "most representative of fair value."
The new valuation system set marks that were at significant variance to the midpoints of dealer quotes in the market. The end goal was to paint a rosier picture of the outstanding derivative positions and, therefore, a better than the actual marking-to-market picture on the books. In particular, the new system resulted in smaller losses being reported in the daily profit/loss reports.

Q.4319 After consistently breaching risk limits, CIO traders at JPMorgan Chase & Co. proposed a total overhaul of the VaR model in use at the time, claiming that the model was too conservative. A new VaR model was eventually developed. Which of the following statements is most likely correct?

A. The new model was developed and by CIO traders in collaboration with the office of the Comptroller of Currency.

B. The new model resulted in risk numbers that were 50% higher than prior numbers.

C. The new model successfully corrected the mathematical flaws present in the first model, which had produced highly overstated risk estimates.

D. The new model was eventually revoked and the prior one reinstated.

The correct answer is **D.**

Traders argued that the existing models were too conservative and therefore overstated risk, resulting in limit breaches. Senior management approved the migration to a new VaR model that had been researched and built by CIO traders themselves. Crucially, the bank did not obtain approval from the Office of the Comptroller of Currency. That means there had been little room for checks and balances in the development process.
The updated VaR model resulted in risk numbers that were 50% lower than prior numbers, paving the way for even more speculative trading and high-risk strategies. Months later, the bank's model Risk and Development Office determined that the model had mathematical and operational flaws. Some of the issues that came to light include:

- EXCEL spreadsheets used required manual updates
- There were coding errors in the calculation of hazard rates and correlation estimates
- Unrealistically low volatility was attached to illiquid securities, built upon the assumption that prices for days on which trades did not occur would be the same as the price when last traded.
- Instead of using the Gaussian Copula model in the built-in analytics suite as required under Basel 2.5, the model used a Uniform Rate option.

On May 10, the bank backtracked, revoking the new VaR model due to the above inaccuracies, and the prior model was immediately reinstated.

Q.4320 In 2012, J.P. Morgan Chase lost more than $6.2 billion dollars from an exposure to a massive credit derivatives portfolio in its London office. How did a lack of adequate management oversight manifest?

A. Senior managers at the bank would receive daily risk reports from traders but never read them.

B. The bank had no risk committee to monitor the activities of CIO traders.

C. Senior management ignored the breaching of risk limits.

D. Senior management did not hold even a single meeting to evaluate the goings-on at the CIO.

The correct answer is **C.**

The London whale case exposed a culture of poor regulatory oversight in which risk limits were repeatedly breached, risk metrics disregarded, and risk models manipulated without any concrete steps being taken by the management to correct these anomalies. Since the CIO wasn't a client-facing unit of the bank, it was not subject to the same regulatory scrutiny as other portfolios.
In addition, SCP traders did not have to prepare daily reports to senior management. What's more, risk committee meetings were rare, and in the few instances the committee happened to meet, there appeared to be no specific charter, and only CIO personnel would attend.

Q.4321 What was the main purpose of the Chief Investment Office, CIO, at J.P. Morgan Chase Bank in the run-up to the London Whale scandal?

A. To monitor the operations of traders .

B. To invest excess deposits.

C. To look into ways in which the bank could reduce its regulatory capital requirements.

D. To raise funds for investment by floating long-term high-yield bonds.

The correct answer is **B.**

JPM set up the Chief Investment Office (CIO) with the sole purpose of investing the excess cash (deposits) of the bank.

Q.4322 At the height of the 2007/2009 financial crisis, J.P. Morgan Chase Bank constructed a synthetic credit portfolio (SCP) motivated by the need to protect itself against adverse credit scenarios such as widening credit spreads. The bank's synthetic credit portfolio (SCP) was comprised of:

A. Call options on stocks featured in the S&P 500 index.

B. Credit default swaps featured in standardized credit default swap indices.

C. Short and long oil futures positions.

D. Mortgage-backed securities .

The correct answer is **B.**

The bank's synthetic credit portfolio (SCP) was essentially a basket of credit default swaps featured in standardized credit default swap indices. The bank took both buyer and seller positions in these swaps. As a protection buyer (short risk position holder), the bank would pay premiums and, in turn, receive the promise of compensation in the event of default. As a protection seller (long risk position holder), the bank would receive premiums and, in turn, promise to compensate the buyer in the event of default.

Q.4323 The infamous collapse of the oldest merchant bank in England, Barings Bank, in 1995 after 233 years of existence, can be traced down to one key reason:

A. A bank run

B. The Kobe earthquake in Japan, which rattled financial markets in Asia and hence, severely affected the bank's activities.

C. Largely unchecked speculative trades.

D. A total overhaul of the board of directors which resulted in the loss of investor confidence.

The correct answer is **C.**

The main reason behind the collapse of Barings Bank (1762-1995) was the large-scale speculative trading perpetrated by one employee, Nick Leeson, on future contracts.
Leeson landed the post of general manager and head trader at Barings after a stellar career elsewhere where he had nurtured a reputation for hard work and an unrivaled understanding of the market. After initially earning massive profits for Barings via several unauthorized trades in 1992, Leeson eventually lost over $1 billion in company capital while hiding the losses from his superiors.

Q.4324 Which of the following is the main reason that led to the scale of losses suffered by the Orange County portfolio in 1994?

A. Excessive use of leverage.

B. Overreliance on equity.

C. An unexpected increase in interest rates by the Federal Reserve.

D. Stringent collateral demands by providers of emergency capital.

The correct answer is **A.**

At the root cause of the downfall in Orange County was Robert Citron's decision to borrow heavily in the repo market. Repos allow investors to finance a significant portion of their investments with borrowed money (i.e., leverage). But the use of leverage has a multiplicative effect on the profit or loss on any position; even a small change in market prices can have a significant impact on the investor.

When the Federal Reserve announced an increase in interest rates, the fund could no longer borrow in the repo market at favorable terms and was eventually forced to declare bankruptcy.

Q.4325 The Orange County case illustrates how complex financial products characterized by large amounts of leverage can create significant losses. The fund heavily invested in:

A. Mortgage-backed securities.

B. Equities.

C. Inverse floating-rate notes.

D. Credit default swaps.

The correct answer is **C.**

Robert Citron, the fund's treasurer, used the borrowed funds to purchase complex inverse floating-rate notes. Coupons payments of inverse floating-rate notes decline when interest rates rise as opposed to conventional floaters, whose payments increase in such a situation.

Option A is incorrect: Mortgage-backed securities are associated with the Nothern Rock.

Option B is incorrect: The use of independent equity accounts is associated with the Enron scandal.

Option D is incorrect: Credit default swaps are associated with JP Morgan.

Q.4326 The Orange County case illustrates how complex financial products characterized by large amounts of leverage can create significant losses. Mr. Robert Citron, the fund's treasurer, heavily invested in inverse floating-rate notes expecting:

A. Interest rates to rise.

B. Interest rates to fall.

C. A recession in the near future.

D. The corporation tax rate to rise.

The correct answer is **B.**

Robert Citron, the fund's treasurer used the borrowed funds to purchase complex inverse floating-rate notes. Coupons payments of inverse floating-rate notes decline when interest rates rise as opposed to conventional floaters, whose payments increase in such a situation. In effect, therefore, Mr. Citron was betting in favor of interest rates falling or generally staying low.

Q.4327 The financial scandals at Bankers Trust and Orange County have one thing in common:

A. They involved the use of complex financial instruments with an eye on high returns.

B. Both collapsed as a result of a crippling run.

C. Both were eventually acquired and dismantled.

D. Both invested heavily in mortgage-backed securities.

The correct answer is **A.**

The Orange County case and the debacle at Bankers Trust illustrate how complex financial products can bring down a seemingly thriving, low-risk business.

Bankers Trust

Procter & Gamble (P&G) and Gibson Greetings sought the assistance of Bankers Trust (BT) in an attempt to reduce funding costs. BT used derivatives trades which promised P&G and GG a high probability, a small reduction in funding costs in exchange for a low-probability, large loss.

BT's derivatives were designed to be intentionally complex to stop P&G and GG from understanding their risks and overall implications. In fact, the trades were quite differentiated in form and structure, making them incomparable to derivative trades of other companies. BT duped P&G and GG into thinking that the trades were tailored to meet their individual needs. In the end, P&G and GG came to the painful realization that they had been misled after taking in huge losses.

The scandal dealt a huge blow to BT's reputation and forced senior managers to resign, including the CEO. Eventually, BT was acquired by Deutsche Bank and dismantled.

Orange County

Robert Citron, Orange county's treasurer, used complex structured products in an attempt to generate a higher than average return. Top on the list were complex inverse floating-rate notes whose coupon payments decline when interest rates rise (as opposed to conventional floaters, whose payments increase in such a situation). In effect, therefore, Mr. Citron was betting in favor of interest rates falling or generally staying low.

Over the course of 1994, the Federal Reserve announced a hike in interest rates by 250-basis points. As expected in this scenario, the increase in interest rates reduced the value of Citron's portfolio substantially, generating a loss of USD 1.5 billion by December 1994.

Ultimately, Orange County was forced to file for bankruptcy, effectively embarking on a slow path to financial redemption.

Q.4328 Which of the following lessons is *most relevant* to the Orange County case?

A. Every firm needs to have more than a basic understanding of the risks that are inherent in its business models.

B. Reporting and monitoring of positions and risks (i.e., back-office operations) must be separated from trading (i.e., front-office operations).

C. Risk managers have a responsibility to analyze reported business profits and determine if they seem logical in light of the positions held.

D. Outsized or strangely consistent profits should be independently investigated and rigorously monitored in order to verify that they are real, generated in accordance with the firm's policies and procedures.

The correct answer is **A.**

The main lesson learned from the Orange County case has much to do with the need for firms to have a deep/detailed basic understanding of the inherent risks in their business models. Robert Citron, Orange County's treasurer, used complex structured products in an attempt to generate a higher than average return. Citron later admitted he understood neither the position he took nor the risk exposure of the fund with respect to these products.
Choices B, C, and D are all lessons under the Barings case study that revolves around Nick Leeson, a trader.

Q.4329 The Volkswagen scandal of 2015 highlighted the need for companies to:

A. Invest in social media to ensure a fast spread of positive information.

B. Uphold ethical conduct and demonstrate their commitment to environmental, social, and governance-related best practices.

C. To hire qualified professionals capable of detecting anomalies before it's too late.

D. To nurture and protect their brand name by investing in research and development.

The correct answer is **B.**

The revelation that Volkswagen had commissioned a scheme to cheat its way through emissions tests resulted in untold damage to the Volkswagen brand. The share price of the company fell by over a third, and the firm faced billions of dollars in potential fines and penalties. The scandal demonstrated the need for firms to uphold ethical conduct and prove their commitment to environmental, social, and governance-related best practices.

Q.5038 In the early 1990s, Metallgesellschaft, a German oil company, suffered a loss of $1.33 billion in their hedging program. They rolled over short-dated futures to hedge long term exposure created through their long-term fixed-price contracts to sell heating oil and gasoline to their customers. After a time, they abandoned the hedge because of large negative cash flow. The cash-flow pressure was due to the fact that MG had to hedge its exposure by:

A. Short futures and there was a decline in oil price.

B. Long futures and there was a decline in oil price.

C. Short futures and there was an increase in oil price.

D. Long futures and there was an increase in oil price.

The correct answer is **B.**

Metallgesellschaft's loss has been attributed to a flawed long hedge strategy in near term futures contracts that was meant to protect against forward sales commitments. A fall in the spot prices of oil forced margin calls for the company and the contracts were closed out at a loss. In the months that followed, the spot price increased and the company suffered even greater losses covering its customer commitments.

Reading 10: Anatomy of the Great Financial Crisis of 2007-2009

Q.135 At the turn of the new millennium, mortgage lenders began offering customers adjustable mortgage rates with "teaser rates." What was the immediate effect of the move?

A. The number of mortgage applications sharply decreased.

B. The number of mortgage applications started to increase.

C. The price of houses started to rise.

D. The price of houses started to decline.

The correct answer is **B.**

Mortgage lenders in the United States started to relax lending standards in about 2000. Part of the new strategies involved restructuring repayment terms to allow borrowers to pay a small rate of interest for the first 2-3 years followed by substantially higher rates in the later years. The immediate effect was an upturn in demand for homes as families previously unqualified could now afford to repay borrowed funds. The lenders deemed the move as a low-risk strategy because home prices were continually increasing, meaning that potential borrower default was adequately mitigated by an increasing collateral value.

Q.136 The following are reasons why the demand for homes sharply increased between 2000 and 2006. Which one had the smallest impact?

A. Mounting pressure on lenders by the federal government to increase lending to low- and medium-income families.

B. A change from fixed-rate repayment terms to more flexible terms, capped by the so-called teaser rates.

C. A steadily increasing middle-class population.

D. A lack of adequate regulation of the real estate sector by the federal government.

The correct answer is **C.**

Although the middle-class population had been steadily rising even before 2000, this fact alone did not significantly impact mortgage applications. Instead, the demand for homes was pushed up in large part due to a combination of government pressure on lenders and relaxation of lending standards across the board. The fact that the US government had (for years) been trying to influence lenders into lending more, especially to low and medium-income families meant that the government was not incentivized to regulate lending - when its efforts were finally starting to bear fruit.

Q.137 A non-recourse mortgage is a mortgage whereby:

A. The borrower is given flexible repayment terms, including variable interest rates and a grace period.

B. If the borrower defaults, the lender can take possession of the assets used as collateral as well as other assets of the borrower.

C. If the borrower defaults, the lender can only take possession of the assets used as collateral and not any other assets of the borrower.

D. The borrower can only sell the assets used as collateral with express authority from the lender.

The correct answer is **C.**

A non-recourse mortgage limits the lender in terms of the assets they can possess in case the borrower defaults on the loan. As such, the lender is only allowed to repossess the assets used as collateral and should not touch any assets that belong to the borrower.

Option A is incorrect: A non-recourse mortgage limits the lender in terms of the assets they can possess in case the borrower defaults on the loan, the lender has few chances of reducing the risks associated with the loan, and therefore they tend to charge fixed-interest rates.

Option B is incorrect because it refers to a recourse mortgage.

Option D is incorrect: Both recourse and non-recourse loans allow lenders to seize collateralized assets if the borrower defaults.

Q.139 Distinguish between an Asset-Backed Security (ABS) and a Collateralized debt obligation (CDO)

A. An asset-backed security is a security created from the cash flows of a financial asset while a CDO is an ABS created from a financial asset whose income is variable.

B. An asset-backed security is a security created from the cash flows of a financial asset while a CDO is an ABS created from a financial asset whose income is fixed.

C. An asset-backed security is a security created from the cash flows of a mortgage while a CDO is an ABS created from a non-mortgage financial asset.

D. An asset-backed security is a security created from the cash flows of a secured financial asset while a CDO is an ABS created from a non-secured financial asset.

The correct answer is **B.**

An ABS is basically a secondary asset formed from the cash flows of a financial asset. CDOs are ABSs where the underlying asset is subject to fixed income. Assets with fixed income include mortgages and debentures.

Q.140 An asset-backed security is usually divided into three tranches: the senior tranche, mezzanine tranche, and equity tranche. Which of the following correctly categorizes the three tranches in terms of risk, from the riskiest to the least risky?

A. Senior tranche; Equity tranche; Mezzanine tranche

B. Mezzanine tranche; Equity tranche; Senior tranche

C. Mezzanine tranche; Senior tranche; Equity tranche

D. Equity tranche; Mezzanine tranche; Senior tranche

The correct answer is **D.**

From a risk perspective, the equity tranche has the highest risk followed by the mezzanine tranche. In case of any loss, the equity tranche absorbs the first 5% of the total loss. The mezzanine tranche absorbs the next 20% of total losses. Any loss above 25% is absorbed by the senior tranche.

Q.141 Which of the following best explains how credit rating agencies contributed to the financial crisis of 2007/2008?

A. Credit rating agencies colluded to give major financial institutions “undue” health.

B. Rating agencies did not sound the alarm bells early enough after detecting the deteriorating financial stability of the economy's major players.

C. Rating agencies underestimated the risks inherent in asset-backed securities and CDOs.

D. Rating agencies overestimated the risks borne by asset-backed securities and CDOs, leading to low demand for those financial instruments.

The correct answer is **C.**

Subprime mortgages were securitized into ABSs and CDOs which were then rated by credit rating agencies. However, the rating agencies had little/no experience in rating such complex instruments and ultimately underestimated their risks. What followed were heavy losses incurred by investors as a result of declining property prices.

Q.142 Experts attribute the 2007/2008 financial crisis to several causes that collectively aggravated the economic strain resulting in a large-scale disaster. Which of the following is not a cause of the crisis?

A. Relaxed lending requirements that increased the number of subprime mortgages that would later default.

B. Irrational exuberance/False confidence - the perception that home prices would continue to rise unabated and indefinitely.

C. Underestimation of risks inherent in ABSs and CDOs by major credit rating agencies.

D. The collusion of middle east governments to intentionally hike the price of oil.

The correct answer is **D.**

The crisis had little to do with oil and gas. Neither was it caused by foreign governments. It was caused in large part by internal (within the US) factors (A, B, and C above) that could have been mitigated so as to avert the crisis.

Q.143 Which of the following amounts to agency cost in regard to how the 2008 financial crisis unfolded?

A. Prospective homeowners lying about their income and mortgage security.

B. A lack of government regulation of the property market in the period leading to the crisis.

C. Rating agencies were paid for their ratings and would overlook potential financial pitfalls so as to impress their clients.

D. Failure by Congress and the Senate to crack down on relaxed lending even after a few leaders brought the matter to the floors of the two houses.

The correct answer is **C.**

Agency costs are incurred when incentives do not align, and one party chooses to pursue selfish interests at the expense of the other party.
In the 2007/2008 financial crisis, rating agencies were liable for underestimating risks inherent in ABSs and CDOs in a bid to "keep" their clients happy and hence continue to do business, thereby guaranteeing long-term income. By maximizing the number of AAA-rated tranches, the agencies duped investors into purchasing overvalued and overrated instruments.

Q.144 The following are some of the key lessons learned by risk managers from the 2007/2008 financial crisis. Which one is not?

A. Human psychology plays a key role in financial markets. In particular, the assumption that bullish markets will exist indefinitely is incorrect and borders on irrational exuberance.

B. Traditional correlations can be relied upon to give near-accurate predictions of markets.

C. There's a need to align the compensation packages of traders with the interests of their employers. In particular, bonuses should be spread out over several years, with a provision to pay back part of the bonus if a year of good performance is followed by a downturn in performance.

D. Instead of overreliance on data provided by rating agencies, investors should also do their own market analysis before committing their resources that appear very profitable.

The correct answer is **B.**

Traditional correlations can break down during periods of economic turmoil. Correlations between assets and between asset classes can increase during a crisis leading to unforeseen losses. As such, stress tests should be modeled to simulate additional correlations, not just the traditional ones.

Q.145 A bank recently pooled together subprime mortgages and created three tranches: the senior, mezzanine, and the equity tranches. The senior tranche has:

A. Lower return than the equity tranche but higher return than the mezzanine tranche.

B. Higher return than the equity tranche but lower return than the mezzanine tranche.

C. Lower risk than both the equity and mezzanine tranches.

D. Lower risk than the mezzanine tranche but higher risk than the equity tranche.

The correct answer is **C.**

The "waterfall" nature of returns in an asset-backed security means that the higher the risk, the higher the return. As such, the senior tranche bears the minimum risk among the three tranches. It's also the tranche with the lowest return.

Option A is incorrect: The senior trance offers a lower return than the mezzanine tranche.

Options B and D are incorrect: They contradict option C

Q.146 Ninja borrowers refer to:

A. Borrowers who have not been subjected to vetting or any other attempt aimed at ascertaining their credentials.

B. Borrowers who have a near-zero credit history.

C. Borrowers with assets insufficient to secure the mortgages awarded.

D. Borrowers with no income, no job, and no assets.

The correct answer is **D.**

Ninja borrowers refer to the category of borrowers without a regular source of income, livelihood, and no assets to serve as mortgage security. Ninja borrowers during 2007/2008 increased after lending standards were relaxed, making it possible for previously barred borrowers to afford loans at least for the first few months of the repayment schedule.

Q.147 Capital M bank originates and securitizes mortgages creating asset-backed securities. The bank then invests in these same securities. Which of the following best describes such a scenario?

A. Regulatory arbitrage

B. Securitization

C. Irrational exuberance

D. Agency costs

The correct answer is **A.**

Regulatory arbitrage refers to a scenario where a bank originates mortgages and creates asset-backed securities through securitization and then doubles as the investor in these securitized assets. The motivation behind such a strategy was, in large part, accounting-driven. The specific accounting advantage of such a move is beyond the scope of this topic's objectives.

Option B is incorrect: Securitization involves repackaging of loans and other assets into new securities can then be sold in the securities markets.

Option C is incorrect: Irrational exuberance refers to a state where investors have confidence that the prices of the stock will keep rising while they fail to pay attention to its underlying value.

Option D is incorrect: An agency cost refers to an internal expense that comes from an agent taking action on behalf of a shareholder.

Q.148 What is the relationship between the senior tranche of an ABS and its ABS CDO equivalent regarding risk?

A. The senior tranche of an ABS is riskier than the senior tranche of the ABS CDO.

B. The senior tranche of an ABS is less risky than the senior tranche of the ABS CDO.

C. The senior tranche of an ABS and the senior tranche of an ABS CDO have the same level of risk.

D. None of the above.

The correct answer is **B.**

The mezzanine tranche of an ABS can be further segmented into tranches in a process called resecuritization. However, the senior tranche of the ABS CDO is normally riskier than the corresponding tranche of an ABS.

An ABS CDO is usually created from the mezzanine tranche of an ABS due to the difficulty associated with marketing the mezzanine tranche of the ABS. It follows that When the AAA-rated tranche of an ABS experiences defaults, the mezzanine tranche of the ABS must have been wiped out. If all the mortgage portfolios used to create the mezzanine tranches underlying an ABS CDO have similar default rates, it must, therefore, be the case that the AAA-rated tranches of all underlying ABSs are safer than the AAA-rated tranche of the ABS CDO.

Q.149 In the aftermath of the 2007/2008 financial crisis, a lot of progress has been made so as to avert future crises. Which of the following would be termed as a regulatory response aimed at reducing the frequency and possibly the impact of future financial crises?

A. Improved transparency in financial markets.

B. Increased international cooperation.

C. Improved alignment of the objectives of traders and their employers.

D. All the above.

The correct answer is **D.**

Some of the proposals put forth to be better prepared to withstand future financial crises include alignment of incentives, macro-prudential regulation, enhanced transparency, and international cooperation.

Q.150 One of the factors associated with the Credit Crisis of 2007 is the relaxed lending standards of lenders. Lenders began to attract new entrants in the housing market by offering adjustable-rate mortgages (ARMs) and teaser rates. The teaser rates are defined as:

A. The mortgage rates that are mentioned on the mortgage's promotional material.

B. The very low rates that are offered for the first few years before the rates increased significantly in later years.

C. The fixed mortgage rate that is calculated as LIBOR plus specific basis points.

D. The fixed rates at which a defaulting borrower can restructure the mortgage.

The correct answer is **B.**

A teaser rate is referred to as a very low rate that is offered in the initial two to three years of the mortgage before significant increases in rates in the subsequent years. From 2001 to 2006, the teaser rate ranged from 1% to 2%. This relaxation in lending/mortgage terms is considered one of the main reasons for the credit crisis of 2007.

Q.152 During the training session of newly selected graduate trainees of a reputable Chinese investment bank, the moderator asked some trainees to explain their understanding of the term "Securitization." Below are some of the explanations provided by trainees. Which of them is closely related to securitization?

A. Trainee A: Securitization is the process of securing a mortgage with a security or collateral which the lender can use in the case of default.

B. Trainee B: Securitization is the financial asset created from the cash flows of financial assets including mortgages, loans, auto loans, and bonds.

C. Trainee C: Securitization is the process of pooling mortgage loans into a pool, dividing the pool into smaller units, and selling them as financial assets to investors in order to transfer risk.

D. Trainee D: Securitization is the process of setting a bankruptcy-remote entity with the sole purpose of acquiring Asset-Backed Securities (ABS).

The correct answer is **C.**

Securitization is the process used by large banks and financial institutions of pooling mortgage loans into a large pool, dividing the pool into smaller units, and selling these units as financial instruments to investors. Banks carry out this process to transfer the risk to the market. Option A is incorrect because the security used to back a mortgage loan is called collateral. Option B is incorrect because Asset-Backed Securities (ABS), not securitization, is the financial asset created from the cash flows of financial assets including mortgages, loans, auto loans, and bonds. Option D is incorrect because Special Purpose Vehicles (SPVs) are bankruptcy-remote entities that are set up with the sole purpose of acquiring assets like Asset-Backed Securities (ABS).

Q.153 Once the originator of the mortgage creates Asset-Backed Securities (ABSs) from the cash flow of its mortgages and loans, these ABSs are sold to Special Purpose Vehicles (SPVs) that allocate the cash flows of the ABS to different tranches. Typically, each security has three tranches, namely the senior tranche, the mezzanine tranche, and the equity tranche. Which tranches should have the highest expected returns and which tranche should receive the highest rating?

A. Senior tranches should receive the highest expected returns and highest ratings.

B. Equity tranches should receive the highest ratings, and senior tranches should have the highest expected returns.

C. Senior tranches should receive the highest ratings, and equity tranches should have the highest expected returns.

D. Equity tranches should receive the highest ratings, and mezzanine tranches should have the highest expected returns.

The correct answer is **C.**

Securities under SPVs are divided into different segments based on the cash flows of the securities. These segments are called tranches, and each security is divided into three tranches, namely the senior tranche, the mezzanine tranche, and the equity tranche. From the risk perspective, the equity tranche has the highest risk (usually the equity tranche is unrated), and the senior tranche has the lowest risk with the highest rating (usually AAA). From the cash flow perspective, the equity tranche receives the highest returns, followed by the mezzanine tranche, and the senior tranche receives the lowest returns due to its less risky nature.

Q.154 Ravi Kumar is a junior fixed-income analyst who is comparing a 7-year AA+ rated asset-backed security collateralized debt obligation (ABS CDO) with a comparable 7-year corporate bond which is also AA+ rated. Kumar made some analogies in his report. Which of these is incorrect?

A. The equity tranche of an ABS CDO has a lower risk than the equity tranche of an original ABS.

B. The probability of loss of the ABS CDO is lower than the probability of loss of the bond.

C. Turning an ABS into an ABS CDO helps high-risk subprime mortgages turn into high-rated investments.

D. The nature of the risk of the AA+ ABS CDO is different from the AA+ bond regardless of its similar rating.

The correct answer is **B.**

The probability of loss of the ABS CDO is higher than the probability of loss of the bond because ABS CDOs are made up of the mezzanine tranche of ABS and carry higher prepayment risk and subordination risk to the senior tranche of the original ABS.

Option A is accurate as the ABS CDO is created from the mezzanine tranche of the ABS. The equity tranche of the ABS CDO is less risky than the equity tranche of the original ABS.

Option C is accurate as turning an ABS into an ABS CDO helps high-risk subprime mortgages turn into high-rated investments when the ABS CDO is created from the mezzanine tranche of the ABS senior tranche.

Option D is accurate because the nature of an AA+ ABS CDO risk is different from an AA+ bond regardless of its similar ratings.

Q.155 Different players had different incentives/motivations for creating structured products like asset-backed securities (ABSs) and collateralized debt obligations (CDOs) that played an important role in the 2007 Credit Crisis. When these incentives and motivations do not align, it is known as agency cost, which is the basis of all financial crises.
Which of the following is incorrect?

A. The incentive for property valuators was to provide appropriate and honest home valuations.

B. The incentive for the creators of ABSs and ABS CDOs was profitability in the form of excess cash inflow from these investments.

C. Rating agencies were incentivized to issue favorable ratings/recommendations on ABSs and ABS CDOs.

D. Employees were highly incentivized for trading risky securitized products.

The correct answer is **A.**

Property evaluators were incentivized to provide the highest possible valuations for homes instead of honest valuations to get more business.

Options B, C, and D present accurate incentives for the mentioned players during the 2007 credit crisis.

Q.156 Which of the following is NOT an implication of the crisis scenario?
I. During crises, default rates increases and recovery rates declines
II. Resecuritization results in investments that have risks that tend to exceed their expected returns

A. Statement I only

B. Statement II only

C. Statements I and II

D. None of the above

The correct answer is **D.**

Statement I is appropriate because the default rates increase and the recovery rates decrease during crises.

Statement II is appropriate because resecuritization refers to using the investment from a previous round of securitization to create a new set of investments, resulting in investments that have risks that tend to exceed their expected returns.

Q.287 Which of the following statements best describes how relaxed lending standards contributed to the 2007/2008 financial crisis?

A. More people applied for mortgages resulting in liquidity problems within major American banks.

B. The demand for housing took a sharp increase causing the price to increase.

C. The number of “liar” loans increased, eventually leading to default and losses among banks.

D. Banks violated federal laws leading to a major fallout between the government and the private sector.

The correct answer is **C.**

In the period leading up to the year 2000, lending requirements had been especially strict and thoroughly enforced, therefore making many families unable to afford mortgages. In an attempt to increase demand, lenders significantly relaxed lending standards but inadvertently opened doors for fraud. Individuals without income, jobs, or worthy assets successfully applied for mortgages but ultimately failed to repay the loans a few months into the contract. As a result, banks recorded huge losses and mortgage prices began to fall.

Q.288 Which of the following best describes the consequence of offering housing mortgages on a low “teaser” interest rate in the short term followed by higher rates later during the agreed term?

A. High demand for housing in the short term and low demand in the long term.

B. Low demand for housing in the short term and high demand in the long term.

C. High borrower default rate in the short term and low default rate in the long term.

D. Low profit for the lender in the short term followed by supernormal profits in the long term.

The correct answer is **A.**

If loans are issued at variable rates with a low teaser rate applicable at the onset, a high number of borrowers - including those with income levels that cannot meet payments required at slightly higher interest rates - would express interest leading to high demand for housing. After the teaser rates have ended, a good number of borrowers would no longer afford their mortgages forcing lenders to foreclose on their loans. This, in turn, would put downward pressure on demand and lead to a decline in home prices. That, combined with an increasing supply of homes due to foreclosures, would ultimately lead to low demand for homes. This is exactly what happened between 2000 and 2006.

Q.289 In the years leading up to the 2007/2008 financial crisis, what was the main motivation behind securitization of mortgage facilities by lenders in the United States?

A. To make more money from the mortgages by selling them to third-party investors.

B. To transfer risk to third-party investors.

C. To create investments opportunities for investors under recommendations by the federal government.

D. To help borrowers pay their dues faster.

The correct answer is **A.**

Securitization entails the pooling of mortgages into a large portfolio, then dividing it into smaller units that can be sold as financial investments to investors. On most occasions, lenders do that so as to transfer the pertinent risks to third-party investors. However, prior to the 2007/2008 crisis, lenders were mainly driven by the possibility of making money from the pooled facilities. The question shifted from “Are we ready to take on these risks?” to “Can we make money from this mortgage by selling it to someone else?” Third-party buyers were only privy to the loan-to-value ratio and the borrower’s credit score, and not to further borrower details that would have shed more light on their ability to meet debt payments or provide adequate security for the loan. In fact, credit scores were subject to manipulation so as to make the borrower look financially stable.

Q.291 In the run-up to the 2007/2008 financial crisis, how did lenders ensure that their incentives aligned with those of the investors in asset-backed securities?

A. Maintaining exposure to the performance of the loan pool by owning the tranche that would absorb the first losses accrued – Equity tranche.

B. Agreeing to offer discounts on assets being sold.

C. Maintaining exposure to the performance of the loan pool by owning the tranche that would absorb the last losses accrued – the senior tranche.

D. Maintaining exposure to the performance of the loan pool by owning the tranche that would absorb 20% of total loss accrued.

The correct answer is **A.**

So as to motivate and make lenders act in the best interests of investors in asset-backed securities, the lenders would retain a certain proportion of the pooled loans. The maintained portion would usually be the one to absorb the first losses to accrue, subject to an upper limit. Such a policy ensured that lenders only brought in credit-worthy borrowers who had high chances of meeting their mortgage payments, hence helping investors in the pooled mortgages to make money. However, with time, lenders started to remove all exposure to the performance of a given pool by securitizing 100% of the pool. Without exposure to potential losses, the incentives for lenders were now in direct conflict with those of investors, creating material agency costs

Q.292 In the run-up to the 2007 financial crisis, banks offering mortgage facilities practiced the unusual move of investing in the tranches formed from the mortgages. By so doing, the banks:

A. Engaged in regulatory arbitrage.

B. Engaged in unethical professional behavior.

C. Were able to hide losses accrued due to “liar” borrowers.

D. All of the above.

The correct answer is **A.**

Regulatory arbitrage refers to the scenario where mortgage originators (banks) also doubled up as the investors in securitized assets. The aim was to exploit loopholes in accounting and financial reporting requirements regarding capital.

Option B is incorrect: investing in tranches formed is not unethical.

Option C is incorrect: investing in trances had nothing to do with “liar” borrowers.

Q.293 Which of the following best describes the concept of misaligned incentives in the outcome of the 2007/2008 financial crisis?

A. While mortgage originators were hell-bent on creating loans that could be securitized, those valuing homes were intent on providing the lowest possible valuation.

B. Mortgage originators were focused on offering loans to all credit-worthy clients, whereas rating agencies had their focus set only on high net-worth individuals who could pay more for rating services.

C. The incentive for investors in ABSs and CDOs was to find secure but highly profitable products but that of rating agencies of those products was to issue favorable recommendations so as to retain their clients (issuers of the products).

D. Mortgage originators wanted to maximize profit but those valuing homes wanted to inflate the value as much as possible so as to receive unduly high service fees.

The correct answer is **C.**

The crisis unfolded in part due to a lack of perfectly aligned interests/incentives among different stakeholders. In other words, the parties had diverging interests, and each of them pursued their interests while turning a blind eye to the effects of their actions on others. For instance, investors wanted to find secure yet highly profitable ABSs and CDOs in which to invest and relied solely on recommendations issued by rating agencies. But instead of issuing realistic and honest assessments, the agencies erred on keeping their clients happy and most of the time issued favorable ratings that would end up misguiding investors. The agencies did that so as to retain the client hence "lock-in" payments for a prolonged period.

Q.294 In 2005, Ann applied for a mortgage at a local bank. Though she had a larger-than-average risk of defaulting, the bank still went ahead and issued her the mortgage. This is an example of:

A. Illegal mortgage lending.

B. Agency costs.

C. Prime mortgage lending.

D. Subprime mortgage lending.

The correct answer is **D.**

Subprime mortgage lending occurs when a lender issues a mortgage to a borrower whose credit rating is low and, therefore, has higher-than-average chances of defaulting on the repayments. This financial vice was prevalent in the run-up to the 2007/2008 crisis in part because lenders were mainly focused on creating as large a pool of mortgages as possible, which could be securitized and earn higher profits.

Option A is incorrect: Illegal mortgage lending refers to fraudulent practices during the loan or mortgage servicing process.

Option B is incorrect: Agency costs refer to internal expenses incurred due to the interests of shareholders(principals) and the management team(agents)

Option C is incorrect: Prime lending refers to lending associated with the lowest risks. In prime lending, there is a low default risk and the borrowers have a high credit rating.

Q.295 Assume that the senior tranche of a 5-year, asset-backed security collateralized debt obligation (ABS CDO) is rated AAA. In addition, assume that we have a comparable 5-year gilt (government bond) that's also rated AAA. Which of the following is most likely *incorrect*?

A. There's a chance that some risks were left out while profiling the ABS CDO.

B. It's highly likely that there's irrational exuberance within financial markets.

C. The equity tranche of the same ABS CDO is riskier than the senior tranche.

D. The probability of loss under the ABS CDO is less than the probability of loss under the government bond.

The correct answer is **D.**

The probability of loss under the ABS CDO is **higher** than the probability of loss under the government bond since the former carries additional risks – such as the risk of borrower default as well as subordination risk to the senior tranche of the ABS from which the ABS CDO has been created. Considerable irrational exuberance within the housing market may lead market players into thinking that the status quo will hold for an extended period of time, and therefore attach a risk level that's equal to that of government bonds. In the years prior to the financial crisis, some of the ABS CDOs bearing the "AAA" rating did not consider all the risks, and any attempt to profile them alongside non-securitized products was therefore erroneous.

Q.411 Which of the following is NOT a key factor that led to the housing bubble of 2007-2008?

A. A low interest rate environment sponsored by the US federal government which was aimed at encouraging individuals to borrow more.

B. A shift from the traditional banking system of issuer-held loans to the “originate and distribute” model.

C. Major rating agencies issuing favorable ratings on asset-backed securities.

D. None of the above.

The correct answer is **D.**

In the run-up to the 2007/2008 financial crisis, the US economy was experiencing low interest rates in part due to long-held plans by the federal government to reduce rates, as well as a large flow of capital from abroad, especially the Asian continent.

Furthermore, an overhaul of the traditional banking model of “offer and keep” in favor of the more lucrative “originate and distribute” model paved the way for the issuance of mortgages without due diligence, effectively leading to a decline in lending standards.

Rating agencies also played a role in the creation of the crisis by issuing favorable ratings. Creators of structured products could pay rating agencies to give asset-backed securities higher ratings.

Q.412 A severe liquidity squeeze engulfed the banking system as a result of two major trends in the sector. First, instead of issuing and holding loans on their balance sheets until maturity, banks took up the "originate and distribute" model so as to transfer risk to other investors. What was the other trend?

A. Banks increasingly financed their asset holdings with longer maturity instruments.

B. Banks increasingly financed their asset holdings with shorter maturity instruments.

C. Banks increasingly disregarded borrower information while appraising loan applications.

D. Refusal by the Federal Reserve Bank to bail out financially-strained banks.

The correct answer is **C.**

The prime trend related to the OTD model of banks in 2008-2009 is that it reduced incentives to screen loan applications. We show that banks with high involvement in the OTD market during the pre-crisis did not take into consideration, borrowers' information while appraising loan applications. The reduced screening of incentives greatly contributed to the current subprime mortgage crisis.

Q.413 Which of the following statements best explains how banks created collateralized debt obligations in the build-up to the 2007-2008 financial meltdown?

A. Forming a diversified portfolio of cash-flow generating assets, pooling them together, and then repackaging the asset pool into discrete tranches that could be sold to investors.

B. Pooling together cash-generating assets, and then repackaging the asset pool into discrete slices that could be sold to investors.

C. Forming a diversified portfolio of mortgage products, pooling them together, and then repackaging the asset pool into discrete tranches that could be sold to investors.

D. Pooling together a well-diversified portfolio of mortgages, and then slicing the pool into three tranches that could be sold to investors.

The correct answer is **A.**

To create CDOs, banks first formed portfolios comprising various cash-generating assets such as mortgages, corporate bonds, and various types of loans. The next step was pooling the portfolios together to make a large pool of assets that would then be sliced up into discrete tranches that could be sold to investors willing to bear a certain level of risk.

Q.414 In 2005, a certain American investment firm decided to invest in an assortment of collateralized debt obligations (CDOs). To protect itself, the firm also purchased a credit default swap. This implied that:

A. The firm would pay a periodic fixed fee and in turn receive a contingent payment in the event of credit default.

B. The firm was 100% protected against credit default, and therefore cash inflows from the CDOs were guaranteed.

C. The firm would pay a fixed fee at the onset of the contract and in turn receive a contingent payment in the event of credit default.

D. The firm would pay a periodic fixed fee and, in turn, receive a contingent payment at the end of the CDO contract.

The correct answer is **A.**

The idea behind credit default swaps (CDSs) was to "insure" investors against potential losses that might be incurred with respect to CDOs. In other words, the CDSs protected investors in the securitized assets against default. The CDS arrangement required the investor to make a series of fixed payments to a gearing house in exchange for a contingent payment in the event of credit default. For example, anyone who bought the AAA-rated tranche of a CDO and combined it with a CDS had few reasons to feel worried, as far as the risk was concerned – the probability of the CDS counterparty defaulting was believed to be very small.

Q.415 In the period leading up to the 2007-2008 financial meltdown, what was the main problem that arose due to an increase in the maturity mismatch on the balance sheet of banks?

A. Exposure to massive cash withdrawals at short notice.

B. Exposure to credit default risk.

C. Exposure to funding liquidity risk.

D. Unprecedented legal confrontations with regulatory authorities.

The correct answer is **C.**

A maturity mismatch is basically a situation where the maturity of a bank's assets does not match that of its liabilities. The imbalance can be positive or negative. In the run-up to the crisis, maturity mismatches increased due to the use of off-balance-sheet vehicles – investing in long-term assets while borrowing with short-term paper – which exposed banks to funding liquidity risk.

Options A, B and D are not the mains problems that resulted due to maturity mismatch on the balance sheets of banks.

Q.416 Which of the following statements best explains why securitized products were especially popular among money market and pension funds?

A. They allowed such institutions to hold assets that they were previously prevented from holding by regulatory requirements.

B. They were more profitable compared to corporate bonds.

C. Securitization enabled the funds to hold assets without disclosing such information in the balance sheet.

D. Securitized products were considered less risky compared to traditional cash-generating assets such as corporate bonds.

The correct answer is **A.**

Securitization was (and is) particularly popular among the money market and pension funds because it enabled them to invest in financial vehicles that they would normally not hold due to regulatory constraints. For example, they might have been allowed to invest only in AAA-rated fixed-income securities. Through securitization, they could now invest in the AAA-rated senior tranche of a portfolio consisting of BBB-rated securities.

Option C is incorrect: One of the advantages of securitization is that it reduces asset-liability mismatch.

Options B and D are some of the advantages of securitization, however, they are not the reasons for the popularity of securitization.

Q.417 In the run-up to the 2007-2008 financial crisis, it was not uncommon to find credit rating agencies issuing overly optimistic and favorable ratings and forecasts about structured financial assets. Which agency problem was behind this habit?

A. Structured financial assets initially had very low demand, and credit rating agencies wanted to push that demand up.

B. Credit rating agencies were under considerable pressure from the federal government to issue favorable ratings that would stir the economy and lead to growth.

C. Most credit rating agencies also had an ulterior interest in the financial assets that they had been paid to assess.

D. Credit rating agencies would get paid by originators of structured financial assets for their work, and also made more money than they would otherwise have made from rating corporate bonds.

The correct answer is **D.**

Agency problem refers to a situation where the interests of a principal (such as an originator) do not align with those of the agent (credit-rating agency). While the agencies ought to have issued fair recommendations, they instead issued favorable ones so as to impress the originators and increase their chances of being rehired.

Q.418 While the financial meltdown of 2007-2008 started in the US, it spread fast to other countries leading to worldwide economic turmoil. Which of the following statements best describes why the crisis spread so fast?

> A. Banks in the US had been the main financiers of a multitude of smaller foreign banks, and therefore when the financiers suffered liquidity problems, the smaller banks just couldn't obtain funding.
>
> B. Securitized assets had been held by different countries around the globe, and therefore when borrowers defaulted, all the investors incurred massive losses.
>
> C. The US entered into a recession, and their demand for exports fell, and therefore many countries experienced a major decline in exports, triggering a worldwide recession.
>
> D. Foreign banks in Asia, Europe and other parts of the world had bought collateralized US debt and therefore when defaults rose, these banks lost a lot of money and consequently global lending, even among banks themselves, took a downward spiral.

The correct answer is **D.**

Foreign banks bought US CDOs and, therefore, had exposure to mortgage loans. When the defaults rose, these banks suffered huge losses. The banking system is internationally linked, so financial signals travel unbelievably fast. When some banks started to lose money, they became reluctant to lend not just to other banks but to consumers as well. It became very difficult for consumers and firms to obtain credit, leading to a decline in aggregate demand. In the end, even countries that didn't have any exposure to the US mortgage market were exposed to its effects, albeit in varying degrees.

Q.419 Distinguish between funding liquidity and market liquidity.

A. Funding liquidity describes the ease with which expert investors can obtain funding from financiers by using purchased assets as collateral, whereas market liquidity describes the ease with which investors can raise money by selling their assets.

B. Funding liquidity describes the ease with which investors can raise money by selling their assets, whereas market liquidity describes the ease with which expert investors can obtain funding from financiers by using purchased assets as collateral.

C. Funding liquidity refers to the ability of an investor to raise funds for in-house operations while market liquidity refers to the ability to raise funds for the specific investment projects themselves.

D. Funding liquidity describes the ability of an investor to raise short-term debt while market liquidity is the ability to raise long term capital.

The correct answer is **A.**

When a lender, dealer, or investment bank purchases an asset, they may borrow against it – use it as security for the borrowed funds, without the asset changing hands. The ease with which that can happen is termed funding liquidity. Alternatively, the investor may decide to sell the asset to obtain funding instead of borrowing against it. The ease with which that can happen is termed market liquidity. A sudden dry-up of these two types of liquidity has the potential to trigger a full-blown financial crisis.

Option B is incorrect: The definition for funding liquidity and market liquidity have been interchanged.

Option C is incorrect: funding liquidity and market liquidity do not refer to raising money for operations or for investment in a specific project.

Option D is incorrect: Funding liquidity and Market liquidity do not refer to raising money for use in the short term or long term, respectively.

Q.420 Which of the following statements best describes why interbank market interest rates rose sharply relative to the Treasury bill rate during and in the aftermath of the 2007-2008 financial crisis?

A. The Federal Reserve Bank increased the rate of interest at which it was willing to lend to banks.

B. Losses incurred by banks combined with uncertainty on the part of structured investment vehicles meant that there was less money available for lending to other parties.

C. Interbank market interest rates were internationally linked while the Treasury bill rate was largely local.

D. As demand for mortgages worsened, profit streams for banks took a hit, meaning that there was less money for lending to other banks.

The correct answer is **B.**

As it became apparent that off-balance-sheet investment vehicles, conduits, and other structured investments would most likely require the injection of more capital than initially anticipated, each bank's uncertainty about its own funding needs took a sharp increase. Furthermore, the possibility of a bank turning to its "colleagues" for cash boosts after a minor shock became more uncertain, in part because the other banks most likely had similar financial issues. As a result, the interbank interest rate, LIBOR, took a sharper spike compared to the Treasury bill rate.

Q.421 Distinguish between triggers and vulnerabilities that lead to the 2007-2009 financial meltdown.

A. Triggers refer to the events that touched off the crisis while vulnerabilities refer to the fundamental/regulatory weaknesses in the financial system which amplified the initial shocks.

B. Triggers refer to the causal events of the crisis while vulnerabilities refer to the institutions that bore the brunt of the crisis.

C. Triggers were the asset-backed securities created in the run-up to the crisis while vulnerabilities refer to the institutions that bore the brunt of the crisis.

D. Triggers refer to the fundamental/regulatory weaknesses in the financial system which amplified the initial shocks, while vulnerabilities refer to the causal events of the crisis.

The correct answer is **A.**

The crisis triggers were the particular events that touched off the crisis and unleashed the "tide." It's widely accepted that the major trigger was the losses on subprime mortgages. On the other hand, vulnerabilities refer to a range of structural/fundamental and regulatory weaknesses in the financial system, which served to propagate the crisis and provided a platform on which the initial shocks could thrive. Good examples of such vulnerabilities are the so-called shadow banks – financial entities other than the regulated depository institutions which served as the intermediaries between investors and investments.

Q.422 The **main** vulnerability of the repo market in the time period leading up to the financial crisis had much to do with the fact that:

A. The market was largely illiquid.

B. The market was large and unregulated, and many repo agreements were backed by securitized mortgages as collateral.

C. The market was small and strictly regulated.

D. Most dealers in repo agreements were based only in the US.

The correct answer is **B.**

Repo agreements are transactions where a large-scale depositor or institutional investor puts money in a bank for a short term, usually overnight. The bank agrees to some "overnight interest" on the deposited amount. The deposit is secured by an asset of roughly the same value. Between 2000 and 2007, the repo market accounted for up to 30% of the U.S. GDP. Despite the large scale of such transactions, the market was largely unregulated, making liabilities among dealers and brokers grow sharply. A popular view is that the repo market collapsed when cash depositors became concerned about the quality of the collateral backing repos and consequently withdrew their funding.

Q.423 In September 2008, Lehman Brothers Holdings Inc. famously filed for Chapter 11 bankruptcy protection. What was the immediate effect of the move?

A. Other large institutional investors also followed suit.

B. The Federal Reserve moved with speed to inject capital into the firm.

C. It triggered a crisis of confidence in mortgage-backed securities.

D. It led to a run on the reserve primary money market funds after one large fund “broke the buck” .

The correct answer is **D.**

Lehman Brothers Holdings Inc. was the single largest investor in mortgage-backed securities (MBSs), accumulating an MBS portfolio of more than $85 billion by 2007. In the first half of 2008, the firm incurred massive losses resulting from a decline in the value of its commercial real estate assets, and on September 15, the management filed for bankruptcy after reporting a loss of $3.5 billion and its stock plunging by about 42%.

On September 16, following Lehman's filing for bankruptcy, a run on the reserve primary money market funds after one large fund “broke the buck” was experienced. Investors lost confidence in money market funds (MMF) when the MMF announced losses of $785 million in the commercial papers of Lehman Brothers Holdings Inc.

On September 17, the MMF continued to collapse further. This triggered investors to withdraw large amounts of money from the MMF accounts.

Q.424 In the run-up to the 2007-2009 financial meltdown, the interest rates in the United States had historically been low, largely due to:

A. Low savings rates in the U.S.

B. High savings rates in the U.S.

C. Low demand for credit in the country

D. Accommodative monetary policy

The correct answer is **D.**

In the years leading up to the financial crisis, the U.S. government had been striving to reduce interest rates so as to increase lending rates and grow the economy. A high savings rate in China and the rapidly growing economy also played a role in the installation of accommodative economic policies in the U.S. so as to at least keep pace.

Q.426 In the face of competition from money market funds and junk bonds towards the end of the 20th century, the traditional banking model became less profitable and partly contributed to the emergence of the shadow banking system. This system consisted of a set of institutions which:

A. Were not only illegal but also engaged in money laundering.

B. Were allowed to invest only in short-term financial assets such as T-bills.

C. Were non-depository, and not subject to banking regulations.

D. Were non-depository, and subject to more stringent regulations compared to banks.

The correct answer is **C.**

The shadow banking system is a network of non-depository financial institutions – investment banks, structured investment vehicles, conduits, hedge funds, and other non-bank financial entities that serve as intermediaries to channel savings into investments. Due to the fact that they do not take deposits, they escape a myriad of limits and laws imposed on traditional banks. Before the crisis, shadow institutions used to borrow via short-term, liquid markets and then used the funds to invest in longer-term illiquid assets. When the housing bubble burst, lenders and investors started to avoid taking on the credit risk, and short-term borrowing dried up almost overnight, making these institutions unable to raise money for their own operations. Compounding their woes was the inability to get funds from their collapsing investments in securitized assets, which were now considered “toxic” in investment terms.

Q.427 Post-2008-2009 crisis research and analysis have established that the financial crisis was “not special,” but was, in fact, reminiscent of prior crises. Among the key patterns noted in the build-up was:

A. A sharp increase in housing prices.

B. Increase in public debt.

C. Negative current account balance.

D. All the above.

The correct answer is **D.**

The 2008-2009 financial crisis followed a pattern of build-ups of fragility typical of other crises that happened before it in different parts of the world. In particular, there are important similarities between the 2007-2009 crisis and the “The Big Five Crisis” of Spain, Norway, Finland, Sweden, and Japan. In all those crises, there were house price run-ups, notable increases in public debt, and excessive borrowing from foreign institutions and governments, triggering negative current account balances.

Q.428 August 2007 is considered to be the first “panic” month when the effects of the crisis kicked in. The month was characterized by:

A. A high number of firms that were declared bankrupt.

B. Collapse of the market for asset-backed commercial papers.

C. A record number of federal bail-outs in aid of prominent U.S. institutions.

D. The lowest dollar amount of U.S. imports.

The correct answer is **B.**

In the lead-up to the crisis, big institutions increasingly funded long-term investments through commercial papers – short-term (sometimes unsecured) loans. Most investors in securitized assets obtain their funding this way and used mortgages and other receivables as collateral. Once a commercial paper matured, the borrowing institutions would refinance it with another one, usually by mobilizing repeat lenders. Conceptually, an asset-backed commercial paper program would suffer a “run” if lenders are unwilling to refinance it when it matures. Starting from August 7, 2008, the frequency of runs dramatically increased, and many programs could not refinance themselves.

Options A, C, and D are the events that followed next just after the collapse of the market for asset-backed commercial.

Q.429 Which of the following is **not** a monetary policy that was implemented by the U.S Federal Reserve as a response to the 2007-2009 financial crisis?

A. Lowering the interest rate.

B. Offering grants to major financial institutions.

C. Creation of long-term lending services in case of a high-quality collateral.

D. Large-scale purchase of bonds denominated in the Chinese Yuan.

The correct answer is **D.**

There was no large-scale purchase of bonds denominated in the Chinese Yuan.

Option A is true: To provide liquidity to the financial system, the Fed lowered the federal fund's rate from 5.25% to about 0.25%. The rates were kept low for some considerable time to mitigate the effects of the 2007-2009 financial crisis and its aftermath.

Option B is true: The Troubled Asset Relief Program (TARP) of October 2008. This program saw State Street, Bank of America, Citigroup, BNY Mellon, Morgan Stanley, Gold-man Sachs, J.P. Morgan Chase, and Wells Fargo received a total of USD 115 billion on October 28, 2008. The government also took over Freddie Mac and Fannie Mae. However, the government declined to bail out Lehman Brothers.

Option C is true: Creation of long-term lending services in case of high-quality collateral was one of the actions taken by the Fed in response to the crisis.

Other actions taken by the Fed include:

- Provisions of liquidity to money market funds
- Buying assets from Fannie Mae and Freddie Mac, which were the government-sponsored enterprises that affected the mortgage market in the U.S.
- Opening of a discount window to investment banks and securities firms. A discount window is a federal reserve lending facility that aids financial institutions in managing short-term liquidity requirements.
- Financing the purchase of unsecured C.P. and ABCP
- Provision of lending funds against high-quality asset-backed securities.

Q.430 Which of the following government-financial sector stabilization measures had the biggest short-term impact on markets during the second and the third crisis period?

A. Recapitalizations

B. Asset purchases

C. Liquidity guarantees

D. Asset guarantees

The correct answer is **A.**

Evidence suggests that recapitalizations (capital injections) had the biggest stabilization impact during the second and the third crisis period compared to other government-financial sector policies. In particular, recapitalizations brought about significant improvements in an IMF-sponsored index of bank Credit Default Swaps (CDS) spreads in many countries.

Asset purchases, on average, had a weaker impact.

The study shows that liquidity guarantees were most effective during the early stages of the crisis, i.e., before the fall of Lehman Brothers.

Q.431 Which one of the following statements is incorrect?

A. Bear Sterns financed its mortgage loans largely by tapping the repo market.

B. Northern Rock invested in too many mortgages with insufficient collateral, leading to the inability to finance existing liabilities.

C. The housing crisis was activated in part by low preliminary “teaser” rates which would be increased later on during the term of repayment.

D. The financial crisis of 2007-2009 was caused by the Chinese government buying too many U.S. government bonds.

The correct answer is **D.**

Although foreign governments had invested significantly in U.S. assets prior to the crisis, there is no established connection between China and the financial crisis.

Q.432 What is the main problem with bailing out institutions during economic crises?

A. A huge number of assets have to be written off.

B. It increases the problem of adverse selection.

C. It may trigger public discontent or even disastrous demonstrations.

D. It increases the problem of moral hazard.

The correct answer is **D.**

Bailing out a troubled financial institution may set a bad precedent - other institutions may come knocking, requesting for assistance, even when there are other options. It's certainly not possible to rescue everyone, as the U.S. government might have realized in the aftermath of the 2007-2009 financial crisis. Most notably, the government declined to bail out to Lehman Brothers, although it did rescue a few other institutions like AIG, Freddie Mac, and Fannie Mae.

Q.433 Which one of the following characteristics is common in financial crises witnessed since the Great Depression?

A. They have only occurred in developed economies.

B. They are characterized by an absence of liquidity in markets.

C. They always last for a maximum of 2 years.

D. All of the answers are correct.

The correct answer is **B.**

In a financial crisis, firms fail not necessarily because of losses but due to liquidity issues – the inability to finance or refinance themselves.

Option A is incorrect: Although the crisis occurred majorly in developed economies, other developing economies were also affected by the crisis.

Option C is incorrect: Not all financial crises lasted for two years.

Q.434 What is the most important role played by the Federal Reserve in the multi-agency efforts that helped mitigate the effects of the credit crises?

A. It helped to weed out rogue traders and fraudulent dealings.

B. It restored confidence and liquidity to the financial markets.

C. It helped to limit foreign investments, therefore stabilized the current account of the U.S.

D. None of the above.

The correct answer is **B.**

The Federal Reserve deserves credit for ensuring the financial system continued to function beyond the credit crises. Its actions such as lowering interest rates providing direct credit lines to financial institutions helped to restore investor confidence and liquidity to financial markets.

The following actions were also taken by the Central bank in response to the credit crisis.

- Creation of long-term lending services in case of a high-quality collateral
- Provisions of liquidity to money market funds
- Buying assets from Fannie Mae and Freddie Mac, which were the government-sponsored enterprises that affected the mortgage market in the US.
- Opening of a discount window to investment banks and securities firms. A discount window is a federal reserve lending facility that aids financial institutions in the management of short-term liquidity requirements.
- Financing the purchase of unsecured CP and ABCP
- Provision of lending funds against high-quality asset-backed securities

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Q.435 The second panic period of the 2007-2009 financial crisis was triggered by:

A. A total collapse of the commercial paper market.

B. A big number of bankruptcy filings among financial conglomerates.

C. The declaration of bankruptcy by Lehman Brothers.

D. The collapse of the shadow banking system.

The correct answer is **C.**

While the first panic period featured the collapse of the short-term funding market, particularly that of commercial papers, the second panic period, which happened in September 2008, was triggered by news that the Lehman Brothers had filed for Chapter 11 bankruptcy protection. Since the firm was the largest underwriter of securitized assets, investors quickly lost confidence in financial institutions. This triggered "runs" as many attempted to salvage their money.

Reading 11: GARP Code of Conduct

Q.266 Jack Oboyo, a manager at Somalia's largest investment bank, is managing a portfolio that focuses on stocks from Somalia's logistics and transportation sector. Oboyo has some close contacts at the securities exchange commission of Somalia, providing him with non-public sales and profit-related data of firms that file their reports with the commission before being distributed to the general public. Oboyo uses this information to advise his employer on potential investment-grade stocks. It is common and legal in Somalia to obtain material non-public information or insider information related to public limited companies. Jack Oboyo's practice:

A. Has not violated the GARP's Code of conduct.

B. Has violated the Code related to confidentiality.

C. Has violated the Code related to professional integrity and ethical conduct.

D. Has violated the Code related to conflict of interest.

The correct answer is **C.**

According to the code of professional integrity and ethical conduct, GARP members should endeavor to be mindful of cultural differences regarding ethical behavior and customs, and to avoid any actions that are, or may have the appearance of being unethical according to local customs. If there appears to be a conflict or overlap of standards, the GARP member should always seek to apply the higher standard.

Q.267 David Bremen, FRM, has recently joined one of Austria's largest jet engine manufacturers as a Chief Risk Officer. Previously, Bremen had worked for 35 years in risk hedging and risk management in the banking sector. Based on his vast experience, David recommends his team hedge all of its foreign currency-denominated sales. He believes that most foreign currencies are most volatile at the end of every financial year. David's recommendation:

A. Has not violated the Code.

B. Has violated the Code because he has not clearly disclosed his expertise and knowledge concerning risk assessment.

C. Has violated the Code because he failed to distinguish between fact and opinion in the presentation of his recommendation.

D. Has violated the Code because he cannot delegate his team to perform hedging transactions.

The correct answer is **C.**

David Bremen has violated the Code as the Code requires the member to clearly distinguish between the fact and opinion in the presentation of recommendations. Bremen made the hedging recommendation based on his experience while the Code requires the member to perform reasonable due diligence.

Q.268 Muhammad Aslam, FRM, is a risk analyst at Financial Angels, a venture capitalist firm that invests in tech and health science-related startups and small-medium enterprises (SMEs). After careful risk assessments, the manager has approved Aslam to initiate the first round of funding for seven startups. Aslam's wife co-founded one of the selected startups. Without disclosing this information, Aslam proceeded with the manager's recommendation. Determine if Muhammad Aslam's actions are in violation of a Code.

A. No, because the recommendation of investing in seven startups, including the startup cofounded by Muhammad Aslam's wife, came from senior manager.

B. No, because the startup is founded by Muhammad Aslam's wife, not him. Therefore he can invest without disclosing this information.

C. Yes, as the Code requires a member to disclose to their employer the matters that could impair his independence and objectivity.

D. Yes, because Muhammad Aslam acted on the manager's recommendation without performing self-analysis.

The correct answer is **C.**

Muhammad Aslam has violated the GARP's Code of conduct related to conflict of interest by failing to disclose his wife's relation with one of the recommended startups to its employer. The Code requires members to disclose all matters that could be expected to impair the independence and objectivity of the member.

Q.270 Which of the following GARP's Code of conduct requires a member to be diligent about not overstating the accuracy or certainty of results or conclusions and clearly disclosing the limits of their expertise and knowledge in areas of risk assessment?

A. Professional integrity and ethical conduct.

B. Fundamental responsibilities.

C. General accepted principles.

D. Conflict of interest.

The correct answer is **B.**

GARP's Code of conduct related to Fundamental responsibilities states that the member shall:
1. Comply with all applicable laws, rules, and regulations (including this Code) governing the GARP Members' professional activities
2. Not outsource or delegate those responsibilities to others
3. Be diligent about not overstating the accuracy or certainty of results or conclusions
4. Clearly disclose the limits of their expertise and knowledge in areas of risk assessment

Q.271 Jack Simpson, FRM, and John Philip, FRM, are two risk analysts and team members at Dark Well Insurance Company. Simpson recently found out that John Philip shares the company's confidential risk-related data with his friend, Louis Keynes, an investment manager at Verizon Investment Company that regularly trades Dark Well's stocks. Keynes also uses this information for personal gains. Which of the following action is in line with GARP's Code of conduct?

A. Simpson should bar John Philip from using the FRM designation as he shares the company's confidential information with outsiders.

B. Simpson should ignore John Philip's action, as Simpson is not personally involved in sharing the company's confidential information.

C. Simpson should not take any action against John Philip because the company's confidential information is being used by an outsider for personal gains only.

D. Simpson should immediately report John Philip's activities to their employer.

The correct answer is **D.**

GARP requires members not to commit any act that compromises the integrity of GARP or the FRM designation. In addition, GARP requires its members not to knowingly participate or assist in any violation of the Code or laws and not to make use of the employer or client's confidential information for inappropriate purposes and personal use.

Options A, B and C are a violation of the GARP code of conduct

Q.272 A formal investigation that confirms violation of the GARP Code of Conduct can bring about serious consequences. Which of the following is a potential consequence of such a violation?

A. Mandatory participation in ethical training.

B. A temporary suspension of the GARP member's right to work in the field of risk management.

C. Withdrawal of the GARP member's right to use the FRM designation for any purpose.

D. A formal request to the GARP member's employer to withdraw certain benefits such as bonuses and other fringe benefits.

The correct answer is **C.**

GARP clearly states that:
"Violation(s) of this Code may result in, among other things, the temporary suspension or permanent removal of the GARP Member from GARP's Membership roles, and may also include temporarily or permanently removing from the violator the right to use or refer to having earned the FRM designation or any other GARP granted designation, following a formal determination that such a violation has occurred."

Q.273 Kelvin White, FRM, works for a consultancy firm that specializes in pension fund management in a certain city. Recently, one of his close friends who work for the city's planning and development department approached him with an offer to work as an unpaid volunteer for the department's pension fund. In turn, the department would grant White a free parking space just outside his office. Which of the following is the most appropriate thing to do before accepting the offer?

A. Do nothing as this is a volunteer job.

B. Request the department not to grant him any fringe benefit, including the free parking space.

C. Seek advice regarding the offer from one of his colleagues at the consultancy firm.

D. Disclose the details of the volunteer position to his employer.

The correct answer is **D.**

According to the GARP Code of Conduct, members should "make full and fair disclosure of all matters that could reasonably be expected to impair independence and objectivity or interfere with respective duties to their employer, clients, and prospective clients." Although the department may not be a current client of the firm, that could change in the future while White is still an employee of the firm.

Q.274 A GARP member working in a certain country establishes that the GARP Code of Conduct, the country's laws, and the local law applicable within the region where she conducts business all specify different requirements. The member must abide by:

A. The GARP Code of Conduct.

B. The highest standard of local law, her country's laws, or the GARP Code of Conduct.

C. The GARP Code of Conduct or the local law, whichever is higher.

D. The country's law.

The correct answer is **B.**

If standards appear to be in conflict or overlap, the GARP member should ALWAYS seek to apply the highest standard.

Q.275 Jessica Pearson, FRM, works for an investment bank. At the end of a 2-year contractual relationship between the bank and one of its clients, the client offers Jessica a car worth USD 43,200 in part because of her outstanding expertise and professionalism throughout the period of the contract. How should Jessica proceed?

A. Accept the gift because the contract has lapsed.

B. Accept the gift but make sure that she informs her employer about it.

C. Reject the gift.

D. Reject the gift but request the client to redirect it to the bank itself.

The correct answer is **C.**

The Code clearly stipulates that members must not offer, solicit or accept any gift, compensation, or consideration that could be reasonably expected to bring about compromise or erode objectivity and independence. That the contract has lapsed does not mean the code can be ignored because the client could well come back seeking professional help in the future.

Options A, B and D are a violation of the GARP code of conduct

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Q.276 Green Belt Market Fund directs its two subsidiaries to buy and sell emerging market stocks simultaneously. In its monthly investment outlook literature, the company points to the overall emerging market volume as indicative of the market's liquidity. The move prompts more investors to participate in the emerging markets fund increasingly. Green Belt Market Fund most likely:

A. Did not violate the GARP Code of Conduct.

B. Violated the GARP Code of Conduct regarding conflict of interest.

C. Did not violate the GARP Code of Conduct but may have breached stock brokerage rules.

D. Violated the GARP Code of Conduct regarding professional integrity and ethical conduct.

The correct answer is **D.**

The Green Belt Market Fund appears to be attracting investments in its own funds by manipulating the market's liquidity. The increased participation in the emerging markets fund does not emanate from market forces (supply and demand), nor does it indicate a genuine trading strategy meant to benefit investors. It's actually a veiled attempt to increase the assets under the management of the company. The action violates the Code of Conduct with regard to professional integrity and ethical conduct.

Options A and C are incorrect: Clearly, Green Belt Market Fund has violated the GARP Code of Conduct.

Option B is incorrect: There is no conflict of interest between Green Belt Market Fund and the investors.

Q.277 Theresa Conway, FRM, is a trade manager of an investment fund specializing in currency trading. In a report sent to investors, Conway outlines her trading strategy which is hinged on the appreciation of the United States dollar against other world currencies. She quantifies expected returns if the dollar appreciates by less than 5%, 5% - 10%, and by more than 10%. She also outlines possible scenarios if the dollar depreciates by similar margins. Also explicitly stated therein is that these projections are her professional opinion. Has Conway violated the GARP Code of Conduct with respect to communication?

A. Yes.

B. No, because she disclosed the basic details of her investment strategy.

C. No, because she explicitly distinguishes fact from opinion, while still giving a range of scenarios if the dollar appreciates or depreciates - therefore capturing most (or all) possible scenarios.

D. No, because it's her legal duty to communicate the details of her strategy to investors.

The correct answer is **C.**

The Code of Conduct requires members to disclose factual data that is devoid of falsehoods. In addition, personal judgment or opinion must be clearly distinguished from facts.

Q.278 Richard Leakey, FRM, is an analyst with a large portfolio of stocks, including the stock of Brighter World Limited (BWL). Leakey's uncle owns about 20,000 shares of BWL. He informs Leakey that he has created a trust in his name and placed 5,000 BWL shares into the trust. The wording of the trust prevents Leakey from selling the shares until his uncle dies, but may nonetheless vote for the shares. Leakey is due to give an updated research analysis on BWL in a fortnight. Leakey should most appropriately:

A. Disregard the situation and proceed to update the report as usual because he is not a beneficiary of the shares as of now.

B. Notify his superiors that he's no longer in a position to issue recommendations on BWL.

C. Request his uncle to amend the terms of the trust to allow him to sell the shares at any time.

D. Disclose the situation to his employer and, if given the green light to prepare a report, also disclose his new status as a beneficiary of BWL stocks.

The correct answer is **D.**

GARP members are under the obligation to disclose any actual or potential conflict to all affected parties. Such a disclosure must be fair and made in full, particularly if there's reason to believe that it could affect the member's independence, objectivity, or interfere with the affairs of the employer or clients. Leakey has a pecuniary interest in BWL shares and also has voting rights. He's obligated to inform his employer of the potential conflict and only proceed to keep BWL under his docket after the employer has allowed it.

Option A is a violation of the GARP Code of Conduct regarding conflict of interest.

Options B and C are unprofessional acts; GARP members should act professionally, ethically and with integrity when dealing with their employers, clients, and the general public.

Q.279 Paul Lambert, FRM, serves as a financial analyst for Lakeside Investments. He has been tasked with preparing a purchase recommendation on Brighter World Limited. Which of the following statements about disclosure of conflicts of interest would Lambert have to disclose fully?

A. He co-owns 30,000 of Brighter World Limited with his brother.

B. He has a significant ownership in Brighter World Limited through a family trust.

C. Lakeside is an over-the-counter market maker for Brighter World Limited's stock.

D. All of the above.

The correct answer is **D.**

According to the GARP Code of Conduct, members shall make full and fair disclosure of all matters that could reasonably be expected to impair objectivity and independence or interfere with respective duties to their employer, clients, and prospective clients.

Q.280 Which of the following is NOT a fundamental responsibility of GARP members as stipulated in the Code of Conduct?

A. Members must purpose, and encourage others, to operate at the highest level of professional skills.

B. Members have a personal ethical responsibility and must maintain the highest ethical standards.

C. Members cannot delegate or outsource their ethical responsibility to others.

D. Members do not have to continue perfecting their expertise once they have passed exams and obtained all the necessary certifications.

The correct answer is **D.**

Members should ALWAYS continue to perfect their expertise even after certification. In addition, they must keep up with the current generally accepted risk management practices.

Q.281 Chris Jefferson, FRM, is the manager of a hedge fund. Over the last 3 days, he has been investing the hedge fund by purchasing significant quantities of ABC's stock while simultaneously selling the three-month futures contract (i.e. initiating a short position in it). Although his clients are aware of the fund's general investment strategy to generate earnings, Jefferson did not inform them of the trades. One of the following statements is most likely correct. Which one?

A. Jefferson violated the GARP Code of Conduct.

B. Jefferson did not violate the GARP Code of Conduct.

C. Manipulated the price of a publicly traded security hence violated the Code of Conduct.

D. Violated the GARP Code of Conduct by failing to keep his clients in the loop regarding the transactions before they occurred.

The correct answer is **B.**

Jefferson's actions do not amount to an attempt to manipulate the price of a security and mislead market participants. It's actually a legitimate strategy and an attempt to exploit an arbitrage opportunity that may exist between the ABC stock spot price and its futures price. The hedge fund's participants fully understand the investment strategy. Thus, Jefferson did not have to disclose his plans before execution.

Q.282 Carol Bauer, FRM, serves as a portfolio manager for several wealthy clients with well-diversified portfolios. Among her clients is Matthew Cook, for whom she manages a personal portfolio of stocks and government bonds. Cook recently disclosed to Bauer that he is under investigation for tax evasion related to his business, Cook Concrete. After a few days, Bauer shares that information with a friend who works at a local bank that has plans to underwrite Concrete's IPO. Carol Bauer has most likely:

A. Violated the GARP Code of Conduct with respect to confidentiality.

B. Not violated the GARP Code of Conduct with respect to confidentiality.

C. Not violated the GARP Code of Conduct because she revealed illegal activities on the part of her client.

D. Violated the GARP Code of Conduct by failing to detect the tax evasion despite being central to her client's business dealings.

The correct answer is **A.**

According to the GARP Code of Conduct, members shall take "all reasonable precautionary measures to prevent intentional and unintentional disclosure of confidential information." Carol Bauer did not have the right to inform the bank of her client's situation.

Q.283 Donald Lee, FRM, is an exam proctor for the FRM part I exam. A few days before the exam, Lee emails a copy of 5 questions to each of his two friends, Martin and Joseph, who are part 1 candidates in the FRM program. Lee and his two friends had planned the distribution of exam questions months in advance. Martin proceeds to prepare for the exam. However, Joseph develops cold feet and declines to load the questions and use them to his advantage. Which of the following statements is most likely correct?

A. Donald Lee violated the GARP Code of Conduct, but Martin and Joseph did not.

B. All the three violated the GARP Code of Conduct.

C. Donald Lee and Martin violated the code, but Joseph did not.

D. Martin and Joseph violated the code, but Donald Lee did not.

The correct answer is **B.**

As members and candidates in the FRM exam, Donald Lee, Martin, and Joseph all violated the GARP Code of conduct. The code prohibits any action that compromises the integrity of GARP, or the integrity/validity of the examinations leading to the award of the right to use the FRM designation. Donald Lee clearly breached the exam security while Martin and Joseph both compromised the integrity of the FRM exam by planning to use actual exam questions to prepare for the exam, thereby giving them an unfair advantage over other candidates. That Joseph did plan to use the questions at the beginning makes him an accomplice, even if he, later on, refused to use the material.

Q.284 Timothy Bradley, FRM, works as a full-time financial analyst at KenBright Actuarial Services Limited(KBG). Recently, one of the company's business contacts offered him a part-time analytical job at KPMG. The work would entail establishing the right balance between equity and debt finance for KPMG. Timothy should most appropriately:

A. Not accept the work as it violates the Code of Conduct by creating a conflict of interest.

B. Accept the work as long as he obtains written consent from KBG and does it in his free time.

C. Accept the work as long as his full-time employer, KenBright Limited, agrees to all the terms of the engagement.

D. Accept the role as long as, in her own assessment, it does not interfere with her duties to KenBright Limited.

The correct answer is **C.**

The Code of Conduct dictates members to make full and fair disclosure of all matters that could either impair independence and objectivity or interfere with respective duties to their employer, clients, or potential clients. Bradley should only accept the role if his current employer fully agrees to the terms.

GARP members shall also act fairly in all situations and must fully disclose any actual or potential conflict to all affected parties.

Q.285 Sally Spicer, FRM, acts as a liaison between Prime Financials (an investment management firm) and Neiman Inc. (an investment bank). Neiman Inc. intends to issue an IPO and turns to Prime Financials for underwriting services. As a way of increasing investor confidence, Sally Spicer has Prime Financials issue a trove of vague and unrealistic financial information that paints its clients in better health than it actually is. Which section of the GARP Code of conduct has most likely been violated by Spicer and her company?

A. Best practices.

B. Professional integrity and ethical conduct.

C. Fundamental responsibilities.

D. Confidentiality.

The correct answer is **B.**

Under professional integrity and ethical conduct, the code states that "Members must avoid disguised contrivances in assessments, measurements and processes that are intended to provide a business advantage at the expense of honesty and truthfulness."

Option A is incorrect: Under Best Practice, GARP Members should promote and adhere to applicable "best practice standards," and will ensure that risk management activities performed under his/her direct supervision or management satisfies these applicable standards.

Option C is incorrect: Under Fundamental responsibilities, GARP Members must endeavor, and encourage others, to operate at the highest level of professional skill, and that GARP Members should always continue to perfect their expertise. GARP Members have a personal ethical responsibility and cannot out-source or delegate that responsibility to others

Option D is incorrect: According to confidentiality, ARP Members will take all reasonable precautionary measures to prevent intentional and unintentional disclosure of confidential information

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Q.286 Romney Muriuki, FRM, works as an analyst for an African Insurance firm that has a presence in 8 central African countries. In a recent report, Muriuki makes the following statements:
"Based on the fact that the firm has recorded steady growth in customer numbers over the last decade, and that the insurance penetration currently stands at 3%, I expect the trend to continue for the next 10 years. I also expect that the company will be able to translate the continually increasing revenue into significant profits."

The report describes in detail the risks facing the firm, particularly geopolitical risks associated with African countries. Muriuki's report:

A. Violated the Code by failing to distinguish factual details from his opinion.

B. Did not violate the Code.

C. Violated the code by giving a shallow professional assessment of the insurance market in Africa.

D. Violated the Code by failing to properly identify all the risks related to operations in African countries.

The correct answer is **B.**

Historical growth can be presented as a fact since it actually happened. Muriuki states that the firm should expect further growth in revenue and profits, which is an opinion. He does not claim that these are facts. Therefore, he does not violate the standard regarding the separation of facts from opinions.
