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Credit and Counterparty Manager (CCRM) Certificate Exam

PRMIA 8011

Version Demo

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Topic Break Down

Topic	No. of Questions
Topic 1, Credit Risk	93
Topic 2, Counterparty Credit Risk	37
Topic 3, Mix Questions	109
Total	239

QUESTION NO: 1

A bank extends a loan of $1m to a home buyer to buy a house currently worth $1.5m, with the house serving as the collateral. The volatility of returns (assumed normally distributed) on house prices in that neighborhood is assessed at 10% annually. The expected probability of default of the home buyer is 5%.

What is the probability that the bank will recover less than the principal advanced on this loan; assuming the probability of the home buyer's default is independent of the value of the house?

A. More than 1%

B. Less than 1%

C. More than 5%

D. 0

ANSWER: B

Explanation:

Less than 1% is correct. Recovery is below the $1 million principal only when two events occur: the borrower defaults and the collateral value is below $1 million at the relevant horizon. Starting from a house value of $1.5 million, this requires a decline of more than $500,000, or a return below −33.33%. With annual price-return volatility of 10%, the required decline is approximately −3.33 standard deviations (−33.33% ÷ 10%). Under the stated normal-distribution assumption, the standard-normal left-tail probability below −3.33 is about 0.00043, or 0.043%.

Because default is explicitly assumed independent of house-price performance, the joint probability is the product of the borrower default probability and the collateral shortfall probability: 5% × 0.043% ≈ 0.00215%. This is far below 1%. This calculation illustrates the credit-risk distinction between probability of default and loss severity: a default alone does not imply principal loss when collateral is sufficient, while a collateral-value shortfall matters only if default occurs. The result follows the question's simplifying assumptions, including no foreclosure costs, timing differences, or collateral liquidation discounts. See PRMIA's Credit and Counterparty Risk Manager certification overview and the NIST standard normal distribution reference.

QUESTION NO: 2

Which of the following are likely to be useful to a risk manager analyzing liquidity risk for an international bank?

I. Information on liquidity mismatches

II. Funding concentration

III. Lending concentration

IV. A report on illiquid assets

A. I and II

B. III and IV

C. I, II, III and IV

D. I, II and IV

ANSWER: C

Explanation:

I, II, III and IV is correct because sound liquidity-risk analysis requires a bank to assess both the timing of cash flows and the resilience of its funding and asset-liquidity profile. Information on liquidity mismatches identifies gaps between expected cash inflows and outflows across time horizons, helping the risk manager determine whether the bank can meet obligations as they fall due. Funding-concentration data is essential for evaluating dependence on a small number of providers, markets,

currencies, or funding instruments, since a disruption affecting a concentrated source can rapidly impair liquidity. Lending concentration is also relevant: large or correlated loan exposures can reduce the predictability and marketability of asset cash flows, particularly during stress. Finally, reports on illiquid assets identify assets that may be difficult to sell, finance, or pledge as collateral without substantial discounts, limiting the bank's capacity to generate cash in a stressed environment. These inputs support liquidity stress testing, contingency funding planning, and monitoring of the bank's liquidity buffer. The Basel Committee's liquidity framework emphasizes cash-flow measurement, funding diversification, and the availability of high-quality liquid assets as core components of liquidity risk management. See the Basel Committee Principles for Sound Liquidity Risk Management and Supervision and the BCBS liquidity-risk management guidance.

QUESTION NO: 3

Which of the following statements is correct in relation to liquidity risk management?

I. Pricing for products that do not impact the balance sheet need not reflect the cost of maintaining liquidity

II. Time horizons for liquidity risk management are impacted by both regulatory requirements and the speed at which new sources of liquidity can be tapped

III. Collateral management is an important aspect of liquidity risk management

IV. The maturity period of various instruments in the capital structure has a significant impact on liquidity needs

A. III and IV

B. II, III and IV

C. I and II

D. II and III

ANSWER: B

Explanation:

II, III and IV is correct. Liquidity risk management must account for the period over which a firm may need to withstand cash-flow stress and the time needed to obtain reliable funding or convert assets into cash. Supervisory standards establish minimum liquidity horizons and stress scenarios, while a firm's practical ability to access contingent funding, secured funding markets, central-bank facilities where applicable, or asset-sale capacity also shapes the appropriate horizon. Collateral management is integral because margin calls, variation-margin movements, initial-margin requirements, and collateral substitutions can create substantial, time-sensitive liquidity outflows. Effective liquidity planning therefore incorporates collateral positions, encumbrance, concentration, and stressed collateral calls. The maturity profile of funding instruments also directly affects liquidity needs: liabilities that mature sooner require refinancing sooner, whereas longer-term and more stable funding reduces rollover pressure. This is consistent with the Basel Committee's liquidity framework, which focuses on surviving a prescribed short-term stress period and promoting stable funding over a longer horizon. Product pricing should incorporate liquidity costs where a product creates liquidity risk, including through contingent or off-balance-sheet exposures. See the Basel Committee Principles for Sound Liquidity Risk Management and Supervision and the Basel III liquidity standards.

QUESTION NO: 4

Which of the following statements is NOT true in relation to the recent financial crisis of 2007-08?

A. An intention to diversify from their core activities led all market participants to the same activities, which though appearing diversified at the bank's level, created a concentration risk at the systemic level

B. The existence of central counterparties could have limited the damage caused by the financial crisis

C. Central banks had data on the interconnections between institutions, but poor understanding and analysis meant this data was never analyzed

D. Counterparty risk was difficult to gauge as it was impossible to know who the counterparty's counterparties were

ANSWER: C

Explanation:

Central banks had data on the interconnections between institutions, but poor understanding and analysis meant this data was never analyzed is the statement that is not true. A central feature of the 2007–08 crisis was that supervisors and central banks did not possess sufficiently granular, timely, and consolidated information to map the web of bilateral exposures created through over-the-counter derivatives, securities financing, and other interconnected funding arrangements. The difficulty was not simply a failure to analyze a complete existing dataset; rather, the necessary institution-to-institution exposure data were fragmented, unavailable to authorities, or not collected in a form that could reveal contagion channels and concentrations across the financial system.

This information gap made it exceptionally difficult to assess the solvency and liquidity implications of a major institution's failure, particularly after the collapse of Lehman Brothers. Post-crisis reforms consequently emphasized trade reporting, improved supervisory data, and central clearing where appropriate, with the aim of increasing transparency and enabling authorities to identify interconnectedness and systemic risk. The Bank for International Settlements discusses how the crisis exposed weaknesses in information on interconnectedness and counterparty exposures, while the Financial Crisis Inquiry Commission describes the severe uncertainty surrounding firms' exposures during the crisis. See BIS: Central counterparty clearing and Financial Crisis Inquiry Commission Final Report.

QUESTION NO: 5

Which of the following credit risk models relies upon the analysis of credit rating migrations to assess credit risk?

A. KMV's EDF based approach

B. The CreditMetrics approach

C. The actuarial approach

D. The contingent claims approach

ANSWER: B

Explanation:

The CreditMetrics approach is correct because its central framework measures credit risk over a chosen horizon by modeling changes in an obligor's credit quality, including both default and migration between credit-rating categories. It uses a ratings transition matrix to assign probabilities to possible end-of-horizon ratings. Each potential rating outcome implies a different credit spread and therefore a different market value for the relevant loan, bond, or other credit exposure. Combining these rating-contingent values with their migration probabilities produces a distribution of portfolio value changes, from which risk measures such as value at risk can be estimated. This treatment is important because credit losses may arise before default when an obligor is downgraded and the market reprices its debt. The original CreditMetrics technical document describes the use of rating-transition probabilities and the valuation effects associated with changes in credit quality: J.P. Morgan, CreditMetrics Technical Document. A useful overview of rating-transition matrices and their role in credit-risk modeling is also provided by the Bank for International Settlements: BIS Quarterly Review. Thus, analysis of rating migrations is the defining modeling mechanism identified by The CreditMetrics approach.

QUESTION NO: 6

Which of the following represent the parameters that define a VaR estimate?

A. trading position and distribution assumption

B. confidence level and the underlying stochastic process

C. confidence level, the holding period and expected volatility

D. confidence level and the holding period

ANSWER: D

Explanation:

The correct answer is **confidence level and the holding period**. Value at Risk (VaR) expresses a loss threshold over a stated time horizon at a specified degree of statistical confidence. For example, a one-day VaR at 99% confidence estimates a loss amount that should not be exceeded over one trading day in 99% of modeled or observed outcomes, subject to the assumptions and limitations of the VaR methodology. The confidence level determines the tail probability being considered, while the holding period specifies the time interval over which the potential loss is measured. Both must be stated for a VaR number to be interpretable and comparable. A reported VaR without either its confidence level or holding period is incomplete because the numerical amount alone does not identify the relevant loss probability or risk horizon. The positions, market-data inputs, and modeling choices used to calculate VaR—including distributional or stochastic-process assumptions and volatility estimates—can affect the resulting amount, but they are not the two parameters conventionally used to specify a VaR estimate. This convention is reflected in market-risk regulatory standards, which describe VaR measures using both a confidence level and a holding-period horizon. See the Basel Committee's market-risk framework and the PRMIA professional-risk-management resources.

QUESTION NO: 7

A bank prices retail credit loans based on median default rates. Over the long run, it can expect:

A. Overestimation of risk and overpricing, leading to loss of market share

B. A reduction in the rate of defaults

C. Correct pricing of risk in the retail credit portfolio

D. Underestimation and therefore underpricing of risk in it retail portfolio

ANSWER: D

Explanation:

Underestimation and therefore underpricing of risk in it retail portfolio is correct because a loan price must, over time, recover the portfolio's expected credit losses, together with funding, operating, capital, and target-return costs. Expected loss is an average concept: in a simplified default-rate setting, the relevant central estimate is the mean default rate, not the median observation. Retail-credit default and loss outcomes commonly exhibit positive skewness. Most observations can be relatively low, while less frequent periods of substantially elevated defaults pull the arithmetic mean above the median. Pricing from the median consequently embeds a default assumption that is below the long-run average loss experience. The resulting contractual spread is insufficient to compensate for the expected losses actually incurred over many loans and periods, so risk is underestimated and the loans are underpriced. This reflects the expected-loss framework used in credit-risk management, where expected loss is generally modeled as probability of default multiplied by loss given default and exposure at default. PRMIA's credit-risk curriculum emphasizes the measurement and management of such expected credit losses; see PRMIA's Credit and Counterparty Risk Manager certification. The Basel framework also describes expected loss in terms of PD, LGD, and EAD: Basel Committee credit-risk guidance.

QUESTION NO: 8

A zero coupon corporate bond maturing in an year has a probability of default of 5% and yields 12%. The recovery rate is zero. What is the risk free rate?

A. 5.26%

B. 7.00%

C. 5.00%

D. 6.40%

ANSWER: D

Explanation:

6.40% is correct under the question's simplifying assumption that the corporate bond's promised yield compensates only for expected default losses and contains no additional credit-risk or liquidity premium. Normalize the current bond price to 1. If the issuer does not default, which occurs with probability 95%, the one-year zero-coupon bond pays its promised gross return of 1.12. With zero recovery, it pays nothing in default. Therefore, its expected payoff is 0.95 × 1.12 = 1.064. Equating that expected one-year payoff to the payoff of a risk-free investment gives a risk-free gross return of 1.064, hence a risk-free rate of 0.064, or 6.40%. This is an expected-payoff calculation: the 5% default probability reduces the promised 12% return by the expected loss associated with receiving zero on default. In actual market pricing, corporate-bond spreads can also reflect compensation for systematic default risk, liquidity, risk aversion, taxes, and other factors, so the observed yield spread need not equal expected loss alone. The calculation is nevertheless appropriate for the assumptions stated in this question. See the Bank for International Settlements discussion of credit-risk pricing and the Federal Reserve analysis of corporate bond credit spreads.

QUESTION NO: 9

Which of the following are valid techniques used when performing stress testing based on hypothetical test scenarios:

I. Modifying the covariance matrix by changing asset correlations

II. Specifying hypothetical shocks

III. Sensitivity analysis based on changes in selected risk factors

IV. Evaluating systemic liquidity risks

A. I, II, III and IV

B. II, III and IV

C. I, II and III

D. I and II

ANSWER: A

Explanation:

I, II, III and IV is correct because hypothetical stress testing constructs severe but plausible adverse conditions and assesses their effect on a firm's portfolio, capital, funding, and liquidity. Scenario construction can explicitly alter dependence assumptions, including correlations represented in a covariance matrix, because correlations may rise sharply or otherwise behave differently during market stress. It can also apply defined hypothetical shocks, such as a large spread widening, rate movement, exchange-rate move, or market-price decline. Sensitivity analysis is a closely related approach: selected risk factors are shocked to measure the portfolio's response and identify material vulnerabilities. Finally, systemic liquidity risk can appropriately be evaluated in a hypothetical scenario, for example where market liquidity deteriorates, funding sources become constrained, counterparties draw committed facilities, and asset-sale haircuts increase simultaneously. These methods are commonly combined rather than treated as mutually exclusive, allowing stress testing to capture both direct market-risk impacts and broader contagion, funding, and liquidity effects. The Basel Committee's stress-testing principles emphasize the use of severe scenarios, changing relationships among risk factors, and institution-wide assessment of liquidity and other risks. See the Basel Committee's Principles for sound stress testing practices and supervision and the Basel liquidity stress-testing guidance.

QUESTION NO: 10

For a loan portfolio, expected losses are charged against:

A. Economic capital

B. Regulatory capital

C. Credit reserves

D. Economic credit capital

ANSWER: C

Explanation:

Credit reserves is correct because expected loss is the average credit loss anticipated over a specified horizon, based on the portfolio's probability of default, loss given default, and exposure at default. Since it is an expected, recurring cost of extending credit, a bank should recognize and provision for it through loan-loss allowances or credit-loss reserves, with the cost reflected through earnings. These reserves are intended to absorb the losses that are expected to arise in the normal course of lending activity. This treatment distinguishes expected loss from the less frequent and more severe variation around that expectation, which is the rationale for holding capital against unexpected loss. Under the IFRS 9 expected-credit-loss model, entities recognize a loss allowance for expected credit losses on relevant financial assets and update that allowance as credit risk and forward-looking information change. Similarly, US banking guidance describes the allowance for credit losses as a valuation account that is deducted from the amortized cost basis of financial assets and is measured using expected credit losses. See the IFRS 9 overview and the Federal Reserve's allowance for credit losses resources.

QUESTION NO: 11

Which of the following credit risk models includes a consideration of macro economic variables such as unemployment, balance of payments etc to assess credit risk?

A. KMV's EDF based approach

B. The CreditMetrics approach

C. The actuarial approach

D. CreditPortfolio View

ANSWER: D

Explanation:

CreditPortfolio View is designed to incorporate the effect of the macroeconomic environment on portfolio credit risk. Its central premise is that obligors' default and rating-migration behavior is systematically related to common economic conditions, rather than being driven solely by firm-specific events. The model represents the economy through underlying sectoral or country factors and connects those factors to observable macroeconomic variables, which can include unemployment, output growth, interest rates, exchange rates, inflation, and external-sector measures such as balance-of-payments conditions.

Under this framework, a user can formulate economic scenarios and translate them into conditional default probabilities and transition probabilities for borrowers in affected industries or regions. This is especially useful for stress testing: an adverse macroeconomic scenario produces a coherent, economically motivated deterioration in credit quality across a portfolio and therefore supports estimates of potential portfolio loss. The approach consequently provides a bridge between forecasts of the business cycle and credit-risk measurement. The Bank for International Settlements discusses macroeconomic-factor approaches to modelling credit risk and portfolio default dependence in its Working Paper on credit risk modelling. Further context on macroprudential credit-risk stress testing is available from the International Monetary Fund.

QUESTION NO: 12

For a loan portfolio, unexpected losses are charged against:

A. Credit reserves

B. Economic credit capital

C. Economic capital

D. Regulatory capital

ANSWER: B

Explanation:

Economic credit capital is the appropriate resource against which unexpected losses in a loan portfolio are charged. In credit-risk management, expected loss represents the long-run average level of credit losses anticipated from defaults and changes in credit quality. It is treated as a normal cost of lending and is ordinarily reflected through pricing, provisions, and credit-loss reserves. Unexpected loss is the potential for actual credit losses to exceed that expected level over a specified horizon and confidence level. Economic credit capital is therefore held as a loss-absorbing buffer for this adverse, statistically unexpected component of credit risk. Its amount is commonly derived from a portfolio credit-risk model and reflects the institution's chosen solvency standard, including correlations and concentration effects across borrowers and exposures. The term is more precise than the broader concept of economic capital because the question specifically concerns losses arising from a loan portfolio—that is, credit risk. The Basel framework likewise distinguishes expected loss treatment from capital held to absorb unexpected losses; see the Basel Committee's International Convergence of Capital Measurement and Capital Standards. For related supervisory discussion of expected and unexpected credit losses, see the Basel Committee guidance on credit risk.

QUESTION NO: 13

Which of the following is the most important problem to solve for fitting a severity distribution for operational risk capital:

A. The risk functional's minimization should lead to a good estimate of the 0.999 quantile

B. Determine plausible scenarios to fill the data gaps in the internal and external loss data

C. Empirical loss data needs to be extended to the ranges below the reporting threshold and above large value losses

D. The fit obtained should reduce the combination of the fitting and approximation errors to a minimum

ANSWER: A

Explanation:

The risk functional's minimization should lead to a good estimate of the 0.999 quantile is correct because the purpose of fitting an operational-risk severity distribution for capital modelling is not simply to achieve the closest visual or in-sample statistical fit. The essential objective is a reliable estimate of the extreme tail of the aggregate annual loss distribution—the 99.9th percentile over a one-year horizon. A fitting criterion, or risk functional, should therefore be selected and assessed according to how well it supports estimation of that tail quantity. This focus is particularly important because operational-risk loss severities are typically highly skewed and heavy tailed: infrequent, very large losses can dominate the capital result even though they are sparsely represented in observed data. The Basel operational-risk framework historically specified a one-year, 99.9% confidence-level soundness standard for internally modelled operational-risk capital, making tail-estimation accuracy the central modelling outcome. Data thresholds, scenario analysis, extrapolation, and the control of fitting or approximation error are relevant modelling activities insofar as they improve the stability, plausibility, and accuracy of this extreme-quantile estimate. See the Basel Committee's International Convergence of Capital Measurement and Capital Standards and its operational-risk regulatory-capital guidance.

QUESTION NO: 14

When estimating the risk of a portfolio of equities using the portfolio's beta, which of the following is NOT true:

A. relies upon the single factor CAPM model

B. use of the beta assumes that the portfolio is diversified enough so that the specific risks of the individual stocks offset each other

C. explicitly considers specific risk inherent in the portfolio for risk calculations

D. using the beta significantly eases the computational burden of calculating risk

ANSWER: C

Explanation:

explicitly considers specific risk inherent in the portfolio for risk calculations is the statement that is not true. A beta-based portfolio-risk estimate is grounded in the single-factor Capital Asset Pricing Model framework, in which an asset or portfolio's return sensitivity is represented by its exposure to broad market movements. Beta therefore captures systematic, market-related risk: it measures the expected change in the portfolio's return associated with a change in the market return. For a sufficiently diversified equity portfolio, firm-specific return shocks are assumed to offset across holdings, leaving market risk as the principal risk component relevant to the beta estimate.

This approach is computationally convenient because risk can be approximated from the portfolio beta and the volatility of the market factor, rather than requiring a complete covariance matrix for every individual equity. That convenience rests on the diversification and single-factor assumptions. Specific risk is not separately or explicitly modelled by beta; incorporating it would require an additional idiosyncratic-risk component or a richer multifactor/full covariance risk model. The CFA Institute describes beta as a measure of systematic risk relative to the market, while the SEC explains that diversification can reduce company-specific risk. See CFA Institute: Portfolio Risk and Return and SEC Investor.gov: Diversification.

QUESTION NO: 15

Which of the following risks and reasons justify the use of scenario analysis in operational risk modeling:

I. Risks for which no internal loss data is available

II. Risks that are foreseeable but have no precedent, internally or externally

III. Risks for which objective assessments can be made by experts

IV. Risks that are known to exist, but for which no reliable external or internal losses can be analyzed

V. Reducing the complexity of having to fit statistical models to internal and external loss data

VI. Managing the capital estimation process as to produce estimates in line with management's desired capital buffers.

A. I, II and III

B. I, II, III and IV

C. V

D. All of the above

ANSWER: B

Explanation:

I, II, III and IV is correct because scenario analysis is a forward-looking operational-risk technique designed to complement loss-data analysis where historical observations are unavailable, sparse, unreliable, or inherently unable to represent the exposure. It is especially useful for plausible, high-severity events that may not have occurred within the institution or anywhere externally, but which can be identified through structured consideration of processes, systems, people, external events, and the control environment. Subject-matter experts provide informed assessments of event frequency and severity, provided the process is disciplined, well governed, challenged, documented, and supported by relevant evidence where available. Scenario analysis can therefore address risks with no internal data, foreseeable risks without precedent, risks amenable to expert assessment, and known exposures for which neither internal nor external loss experience is sufficiently reliable for statistical estimation. This reflects the Basel Committee's expectation that operational-risk measurement and management incorporate forward-looking assessments alongside internal and external loss data. Scenario outputs should be credible and independently challenged so that they inform a risk-based view of potential loss exposure and capital adequacy. See the Basel Committee's Principles for the Sound Management of Operational Risk and its operational risk capital standards.

QUESTION NO: 16

Once the frequency and severity distributions for loss events have been determined, which of the following is an accurate description of the process to determine a full loss distribution foroperational risk?

A. A firm wide operational risk distribution is generated by adding together the frequency and severity distributions

B. A firm wide operational risk distribution is generated using Monte Carlo simulations

C. A firm wide operational risk distribution is set to be equal to the product of the frequency and severity distributions

D. The frequency distribution alone forms the basis for the loss distribution for operational risk

ANSWER: B

Explanation:

A firm wide operational risk distribution is generated using Monte Carlo simulations. Under the loss distribution approach, operational-risk losses are modelled from two components: the number of loss events over a specified horizon (frequency) and the monetary amount associated with each event (severity). A Monte Carlo process repeatedly draws a simulated event count from the calibrated frequency distribution, then draws the corresponding number of individual losses from the calibrated severity distribution. Those simulated severities are aggregated for each trial to produce one annual total-loss outcome. Repeating this process many times produces an empirical aggregate loss distribution for the firm or for individual risk cells that may subsequently be aggregated. This distribution supports estimation of high quantiles, including operational-risk value-at-risk measures, and expected shortfall where applicable. The approach captures the fact that an extreme annual loss can arise from an unusually high number of events, unusually severe events, or a combination of both. In its foundational operational-risk guidance, the Basel Committee describes the loss distribution approach as estimating frequency and severity distributions and combining them to construct an aggregate loss distribution. PRMIA's operational-risk resources likewise identify loss distribution modelling and simulation as central quantitative tools for measuring operational risk. See the Basel Committee's operational risk guidance and PRMIA's professional risk-management resources.

QUESTION NO: 17

A bank expects the error rate in transaction data entry for a particular business process to be 0.005%. What is the range of expected errors in a day within +/- 2 standard deviations if there are 2,000,000 such transactions each day?

A. 80 to 120 errors in a day

B. 60 to 80 errors in a day

C. 0 to 200 errors in a day

D. 90 to 110 errors in a day

ANSWER: A

Explanation:

80 to 120 errors in a day is correct. The expected daily error count is found by multiplying the number of transactions by the error probability: 2,000,000 × 0.005% = 2,000,000 × 0.00005 = 100 expected errors. For rare, independent events observed across a large number of opportunities, the daily number of errors is appropriately modeled using a Poisson distribution. A defining property of the Poisson distribution is that its mean and variance are both equal to its rate parameter, λ. Thus, with λ = 100, the variance is 100 and the standard deviation is $\sqrt{100} = 10$. A range of plus or minus two standard deviations around the expected count is therefore 100 ± (2 × 10), giving 80 to 120 errors. This is a standard-deviation range around the expected count rather than an exact probability interval; however, at λ = 100, the Poisson distribution is sufficiently close to a normal approximation for this calculation to be appropriate. The result provides a practical operational-risk expectation for normal daily variation in data-entry errors. See the NIST overview of the Poisson distribution and the NIST discussion of Poisson distribution properties.

QUESTION NO: 18

A long position in a credit sensitive bond can be synthetically replicated using:

A. a long position in a treasury bond and a short position in a CDS

B. a long position in a treasury bond and a long position in a CDS

C. a short position in a treasury bond and a short position in a CDS

D. a short position in a treasury bond and a long position in a CDS

ANSWER: A

Explanation:

a long position in a treasury bond and a short position in a CDS replicates the principal economic exposures of a long credit-sensitive bond, subject to standard assumptions such as matched maturity, notional amount, recovery convention, and financing. A credit bond's return can be decomposed into a relatively risk-free interest-rate component and compensation for bearing the issuer's default risk, commonly represented by its credit spread. Holding the Treasury bond supplies the risk-free cash-flow component. Taking a short CDS position means selling credit protection: the protection seller receives the periodic CDS premium, which is the synthetic credit-spread income, and assumes the credit-loss obligation if the reference entity defaults. Thus, the combined Treasury holding and protection-selling position earns a risk-free yield plus credit-spread premium while bearing credit-default risk, mirroring the central return and loss drivers of owning the risky bond. This relationship is a standard cash-and-credit-derivative decomposition used in credit-risk pricing and hedging. The International Swaps and Derivatives Association describes CDS as contracts that transfer credit risk between protection buyer and seller: ISDA Credit Derivatives Definitions. The Federal Reserve also discusses CDS protection as a mechanism for transferring default risk: Federal Reserve research on credit default swaps.

QUESTION NO: 19

The backtesting of VaR estimates under the Basel accord requires comparing the ex-ante VaR to:

A. hypothetical profit and loss keeping the positions constant

B. the Basel accord does not require banks to backtest VaR estimates

C. ex-ante VaR calculated for the subsequent periods

D. realized profit and loss for the period

ANSWER: D

Explanation:

The correct comparison is **realized profit and loss for the period**. Value at Risk is an ex-ante estimate: it forecasts the potential loss over a specified horizon at a stated confidence level, using information available at the beginning of that horizon. Backtesting tests whether that forecast has performed appropriately by comparing it with the profit or loss that was actually realized over the corresponding period. A loss larger than the reported VaR is a VaR exception, also called an exceedance. Basel's market-risk framework uses the number of such exceptions over the prescribed observation window as an important indicator of model performance and, historically, as an input to the supervisory traffic-light approach and capital-multiplier assessment. The comparison must use a P&L measure aligned with the VaR horizon and portfolio scope so that the test meaningfully evaluates the model's forecasts. This process provides empirical evidence about whether the model's confidence level and risk estimates are suitably calibrated in actual trading outcomes. See the Basel Committee's 1996 market-risk amendment and the current Basel Framework's MAR 99: Backtesting.

QUESTION NO: 20

Which of the following statements is correct?

A. Funding liquidity risks present themselves in the form of an adverse market impact on prices from a trade

B. Dynamic simulations of liquidity needs require an assumption of counterparty risk remaining constant

C. Market liquidity risk is idiosyncratic while funding liquidity risk is not

D. Market liquidity risks present themselves in the form of higher bid offer spreads

ANSWER: D

Explanation:

Market liquidity risk concerns the ability to sell, buy, hedge, or otherwise transact in an asset without causing a material adverse movement in its price. When market liquidity deteriorates, dealers typically become less willing or able to provide immediacy and inventory capacity. Consequently, quoted bid-offer spreads widen: buyers pay more relative to the price at which sellers can transact, reflecting the increased cost and uncertainty of executing trades. Wider spreads are therefore a standard, observable manifestation of market liquidity risk, together with reduced market depth, smaller executable trade sizes, and greater price impact for a given order. The statement “Market liquidity risks present themselves in the form of higher bid offer spreads” correctly identifies this core transmission mechanism. This distinction is important in liquidity-risk management because a firm may hold assets that appear valuable at quoted prices but cannot be converted to cash promptly at those prices during stressed market conditions. Basel’s liquidity-risk principles emphasize that institutions should account for the marketability of assets and the possibility that market conditions impair their ability to monetize liquidity buffers. See the Basel Committee’s Principles for Sound Liquidity Risk Management and Supervision and the IMF discussion of market liquidity and its indicators.

QUESTION NO: 21 - (SIMULATION)

Which of the following decisions need to be made as part of laying down a system for calculating VaR:

I. How returns are calculated, eg absoluted returns, log returns or relative/percentage returns

II. Whether VaR is calculated based on historical simulation, Monte Carlo, or is computed parametrically

III. Whether binary/digital options are included in the portfolio positions

IV. How volatility is estimated

ANSWER: See the explanation for the answer

Explanation:

Correct answer: I, II, and IV.

I: The return definition must be selected for each risk factor—for example, absolute changes, relative/percentage returns, or log returns.
II: The VaR methodology must be chosen: historical simulation, Monte Carlo simulation, or a parametric/variance-covariance approach.
IV: The volatility-estimation approach must be specified, including the data window and whether techniques such as EWMA or GARCH are used.

III is not a VaR-methodology decision. Whether binary/digital options are held is determined by the actual portfolio. If they are in the portfolio, their risk should be modeled; their inclusion is not a choice made when defining the VaR calculation system.

QUESTION NO: 22

The returns for a stock have a monthly volatilty of 5%. Calculate the volatility of the stock over a two month period, assuming returns between months have an autocorrelation of 0.3.

A. 8.062%

B. 7.071%

C. 5%

D. 10%

ANSWER: A

Explanation:

8.062% is correct because the two-month return is the sum of the returns in each individual month, and the stated autocorrelation means the monthly returns are not independent. The variance of a sum must therefore include the covariance term: $Var(R_1 + R_2) = Var(R_1) + Var(R_2) + 2Cov(R_1, R_2)$. With equal monthly volatility of 5% and correlation of 0.3, covariance is $0.3 \times 0.05 \times 0.05$. Thus, the two-month variance is $0.05^2 + 0.05^2 + 2(0.3)(0.05)(0.05) = 0.0065$. Taking the square root gives $\sqrt{0.0065} = 0.08062$, or approximately 8.062%.

This applies the standard portfolio-variance relationship to returns observed across time: correlation affects the total variability of the summed return just as it affects a combination of correlated risk positions. The result appropriately incorporates the positive dependence between consecutive monthly returns. For the covariance and variance-of-a-sum framework, see NIST/SEMATECH e-Handbook: covariance and PRMIA Credit and Counterparty Risk Manager certification.

QUESTION NO: 23

Which of the following are valid objectives of a reverse stress test:

I. Ensure that a firm can survive for long enough after risks have materialized for it to either regainmarket confidence, restructure or be sold, or be closed down in an orderly manner,

II. Discover the vulnerabilities of the current business plan,

III. Better integrate business and capital planning,

IV. Create a 'zero-failure' environment at the systemic level in the financial sector

A. I and IV

B. I, II and III

C. II and III

D. All of the above

ANSWER: B

Explanation:

I, II and III correctly identifies the valid objectives of reverse stress testing. Reverse stress testing starts from an outcome that would threaten a firm's viability—such as failure of its business model or inability to meet capital or liquidity requirements—and works backward to identify the scenarios and combinations of events that could cause that outcome. This approach helps management understand severe but plausible vulnerabilities in the current business plan, including important tail-risk exposures and dependencies that may not be sufficiently visible in conventional stress tests.

A core prudential purpose is to support credible recovery, restructuring, sale or orderly wind-down planning by assessing whether the firm could remain viable long enough for an appropriate response after severe risks crystallize. The exercise also usefully links strategic business decisions to capital planning: once vulnerabilities and failure points are identified, management can assess capital adequacy, risk appetite, contingency actions, and the resilience of the operating model in an integrated way.

The UK Financial Services Authority's stress-testing policy described reverse stress testing as a means to explore business-model vulnerabilities, better integrate business and capital planning, and improve contingency planning. See the FSA Stress and Scenario Testing consultation paper and the Basel Committee's Principles for sound stress testing practices and supervision.