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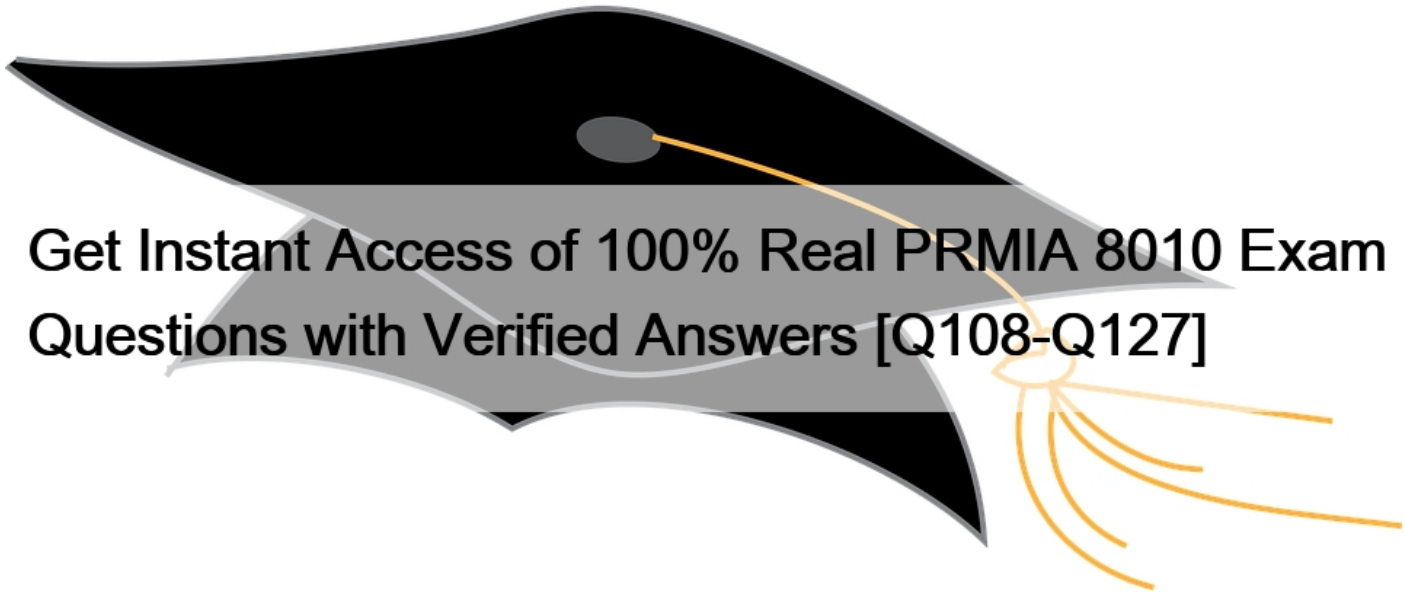

Get Instant Access of 100% Real PRMIA 8010 Exam Questions with Verified Answers Exam Dumps for the Preparation of Latest 8010 Exam Questions QUESTION 108

Which of the following was not a policy response introduced by Basel 2.5 in response to the global financial crisis:
* Comprehensive Risk Model (CRM)
* Comprehensive Capital Analysis and Review (CCAR)
* Stressed VaR (SVaR)
* Incremental Risk Charge (IRC)

Explanation

The CCAR is a supervisory mechanism adopted by the US Federal Reserve Bank to assess capital adequacy for bank holding companies it supervises. Itwas not a concept introduced by the international Basel framework.

The other three were indeed rules introduced by Basel 2.5, which was ultimately subsumed into Basel III.

Stressed VaR is just the standard 99%/10 day VaR, calculated with theassumption that relevant market factors are under stress.

The Incremental Risk Charge (IRC) is an estimate of default and migration risk of unsecuritized credit products in the trading book. (Though this may sound like a credit risk term, it relates to market risk – for example, a bond rated A being downgraded to BBB. In the old days, the banking book where loans to customers are held was the primary source of credit risk, but with OTC trading and complex products the trading book also now holds a good dealof credit risk. Both IRC and CRM account for these.) While IRC considers only non-securitized products, the CRM (Comprehensive Risk Model) considers securitized products such as tranches, CDOs, and correlation based instruments.

The IRC, SVaR and CRMcomplement standard VaR by covering risks that are not included in a standard VaR model. Their results are therefore added to the VaR for capital adequacy determination.

QUESTION 109

If the full notional value of a debt portfolio is $100m, its expected value in a year is $85m, and the worst value of the portfolio in one year’s time at 99% confidence level is $60m, then what is the credit VaR?
* $40m
* $25m
* $60m
* $15m

Explanation

Credit VaR is the difference between the expected value of the portfolio and the value of the portfolio at the given confidence level. Therefore the credit VaR is $85m – $ 60m = $25m. Choice ‘b’ is the correctanswer.

Note that economic capital and credit VaR are identical at a risk horizon of one year. Therefore if the question asks for economic capital, the answer would be the same.

[Again, an alternative way to look at this is to consider the explanation given in III.B.6.2.2: Credit Var = Q(L)

– EL where Q(L) is the total loss at a given confidence interval, and EL is the expected loss. In this case Q(L) –

$100-$60 = $40, and EL = $100-$85=$15. Therefore Credit VaR = $40-$15=$25.]

QUESTION 110

Which of the following statements is true:

I. Expected credit losses are charged to the unit’s P&L while unexpected losses hit risk capital reserves.

II. Credit portfolio loss distributions are symmetrical

III. For a bank holding $10m in face of a defaulted debt that it acquired for $2m, the bank’s legal claim in the bankruptcy court will be $10m.

IV. Thelegal claim in bankruptcy court for an over the counter derivatives contract will be the notional value of the contract.
* I and III
* I, II and IV
* III and IV
* II and IV

Explanation

Statement I is true as expected losses are the ‘cost ofdoing business’ and charged against the P&L of the unit holding the exposure. When evaluating the business unit, expected losses are taken into account. Unexpected losses however require risk capital reserves to be maintained against them.

Statement II isnot true. Credit portfolio loss distributions are not symmetrical, in fact they are highly skewed and have heavy tails.

Statement III is true. The notional, or the face value of a defaulted debt is the basis for a claim in bankruptcy court, and not the market value.

Statement IV is false. In the case of over the counter instruments, the replacement value of the contract represents the amount of the claim, and not the notional amount (which can be very high!).

QUESTION 111

An assumption regarding the absence of ratings momentum is referred to as:
* Ratings stability
* Time invariance
* Markov property
* Herstatt risk
Explanation

Choice ‘c’ is the correct answer. The Markov property is the assumption that there is no ratings momentum, and that transition probabilities are dependent only upon where the rating currently is and where it is going to.

Where it has come from, or what the past changes in ratings have been, have no effect on the transition probabilities. (‘Herstatt risk’ refers to settlement risk, and is irrelevant.)

QUESTION 112

An investor enters into a 5-year total return swap with Bank A, with the investor paying a fixed rate of 6% annually on a notional value of $100m to the bank and receiving thereturns of the S&P500 index with an identical notional value. The swap is reset monthly, ie the payments are exchanged monthly. On Jan 1 of the fourth year, after settling the last month’s payments, the bank enters bankruptcy. What is the legal claim thatthe hedge fund has against the bank in the bankruptcy court?
* $100m
* $6m
* The replacement value of the swap
* $0, as all payments on the swap are current
Explanation

According to ISDA standard definitions, the legal claim for OTCderivatives is the current replacement value of the contract. Therefore Choice ‘c’ is the correct answer. None of the other choices are correct.

QUESTION 113

Which of the following statements are true?

I. Retail Risk Based Pricing involves using borrower specific data to arrive at both credit adjudication and pricing decisions II. An integrated ‘Risk Information Management Environment’ includes two elements – people and processes III. A Logical Data Model (LDM) lays down the relationships between data elements that an organization stores IV. Reference Data and Metadata refer to the same thing
* II and IV
* I and III
* I, II and III
* All of the above
Explanation

Statement I is correct. Retail Risk Based Pricing (RRBP) involves the use of borrower specific data (such as FICO scores, average balances etc) to arrive at credit decisions. These ‘retail’ credit decisions may include decisions on whether to grant a line of credit, a mortgage, issue a credit card, or any of the various other retail activities abank may be dealing with. At the same time, this data can also be used to price the product, in addition to providing a yes or no credit decision so that risky borrowers are charged more than less risky borrowers.

Statement II is not correct, because an integrated Risk Information Management Environment includes three elements – people, processes and technology (and not just people and processes).

Statement III is correct. An LDM is a blue print of an organization’s data, and describes the relationships between the various data elements.

Statement IV is not correct because reference data and metadata are not the same thing. Reference data refers to relatively static data, such as customer name (while actual transactions may not be so static). Metadata refers to data about data, and is stored in a data dictionary.

Therefore Choice ‘b’ is the correct answer and the rest are incorrect.

QUESTION 114

There are three bonds in a diversified bond portfolio, whose default probabilities are independent of each other and equal to 1%, 2% and 3% respectively over a 1 year time horizon. Calculate the probability that none of the three bonds will default.
* 94%
* 0.11%
* 0.0006%
* 2%
Explanation

The probability that only none of the three bonds will default is equal to the probability of all surviving. Since default correlation is zero, we can simply multiply the probabilities of survival. Therefore the correct answer is

94% = (1 – 1%) * (1 – 2%) * (1 – 3%)

QUESTION 115

When pricing credit risk for an exposure, which of the following is a better measure than the others:
* Expected Exposure (EE)
* Notional amount
* Potential Future Exposure (PFE)
* Mark-to-market
Explanation

Exposure for derivative instruments can vary significantly over the lifetimeof the instrument, depending upon how the market moves. The potential future exposure represents the extremes, not the most likely outcome.

The expected exposure is the most suitable measure for pricing the credit risk. Over time, as multiple transactionsare entered into, the expectation (or the mean) will be realized – though individual transactions may have more or less by way of exposure.

The notional amount may not be relevant, though for loans it may be the most important contributor to the expected exposure. Mark-to-market will represent the exposure at a given point in time, but cannot be predicted nor be used to price the credit risk.

QUESTION 116

If P be the transition matrix for 1 year, how can we find the transition matrix for 4 months?
* By calculating the cube root of P
* By numerically calculating a matrix M such that M x M x M is equal toP
* By dividing P by 3
* By calculating the matrix P x P x P

Explanation

Assuming time invariance and the Markov property, it is easy to calculate the transition matrix for any time period as Pn, where P is the given transition matrix for one period andn the number of time periods that we need to compute the new transition matrix for.

However, when the new time period is less than the time period the matrix is available for, the only way to deriving a transition matrix for a partial period is to numerically calculate a matrix M such that Mn = P.

Therefore Choice ‘b’ is the correct answer. Taking cube roots of a matrix is not a possible operation, dividing by 3 gives a matrix meaningless in this context, and P x P x P will give us the transition matrix for 3 years, not

1/3rd of a year.

QUESTION 117

Which of the following is not an event of default covered in the ISDA Master Agreement?

I. failure to pay or deliver

II. credit support default

III. merger without assumption

IV. Bankruptcy
* All are considered events of default
* II and III
* I
* IV

Explanation

Note that events of default under the ISDA MA are caused by one of the parties that is considered ‘atfault’. In contrast, “termination events” are events for which no one is at fault, for example changes in legislation, illegality etc that still justify termination of the transactions under the contract.

The ISDA MA describes the following 8 types of events of default:

1. failure of pay or deliver

2. breach of agreement

credit support default

4. misrepresentation

5. default under specified transaction

6. cross default

7. bankruptcy

8. merger without assumption

All of the options presented in the question are events of default.

QUESTION 118

The frequency distribution for operational risk loss events can be modeled by which of the following distributions:

I. The binomial distribution

II. The Poisson distribution

III. The negative binomial distribution

IV. The omega distribution
* I, II and III
* I and III
* I, III and IV
* I, II, III and IV

Explanation

The binomial, Poisson and the negative binomialdistributions can all be used to model the loss event frequency distribution. The omega distribution is not used for this purpose, therefore Choice ‘a’ is the correct answer.

Also note that the negative binomial distribution provides the best model fit because it has more parameters than the binomial or the Poisson. However, in practice the Poisson distribution is most often used due to reasons of practicality and the fact that the key model risk in such situations does not arise from the choice of an incorrect underlying distribution.

QUESTION 119

Which of the following statements are true:

I. The sum of unexpected losses for individual loans in a portfolio is equal to the total unexpected loss for the portfolio.

II. The sum of unexpected losses for individual loans in a portfolio is less than the total unexpected loss for the portfolio.

III. The sum of unexpected losses forindividual loans in a portfolio is greater than the total unexpected loss for the portfolio.

IV. The unexpected loss for the portfolio is driven by the unexpected losses of the individual loans in the portfolio and the default correlation between these loans.
* I and II
* I, II and III

* III and IV
* II and IV

Explanation

Unexpected losses (UEL) for individual loans in a portfolio will always sum to greater than the total unexpected loss for the portfolio (unless all the loans are correlatedin such a way that they default together).

This is akin to the ‘diversification effect’ in market risk, in other words, not all the obligors would default together. So the UEL for the portfolio will always be less than the sum of the UELs for individual loans.

Therefore statement III is true.This ‘diversification effect’ will be affected by the default correlations between the obligors, in cases where the probability of various obligors defaulting together is low, the UEL for the portfolio would bemuch less than the UEL for the individual loans. Hence statement IV is true.I and II are false for the reasons explained above.

QUESTION 120

Conditional default probabilities modeled under CreditPortfolio view use a:

* Power function
* Altman’s z-score
* Probit function
* Logit function

Explanation

Conditional default probabilitiesare modeled as a logit function under CreditPortfolio view. That ensures the resulting probabilities are ‘well behaved’, ie take a value between 0 and 1. The probability may be expressed as

= 1/ (1 + exp(I)), where I is a country specific index taking various macro economic factors into account.

QUESTION 121

If the odds of default are 1:5, what is the probability of default?

* 16.67%
* 20.00%
* 12.00%
* 50.00%

Explanation

Odds are the ratio between the probability of the occurence of an event to the probability that the event does not occur.

If odds are H, then p = H/(1 + H) and H = p/(1-p). In this case the odds are 1:5, or 1/5, therefore the correct answer is Choice ‘a’, equal to (1/5)/(1 + 1/5) = 1/6 = 16.67%. All other choices are incorrect.

QUESTION 122

For a group of assets known to be positively correlated, what is the impact on economic capital calculations if we assume the assets to be independent (or uncorrelated)?

* Economic capital estimates remain the same
* Estimates of economic capital go down
* Estimates of economic capital go up
* The impact on economic capital cannot be determined in the absence of volatility information

Explanation

By assuming the assets to be independent, we are reducing the correlation from a positive number to zero.

Reducing asset correlations reduces the combined standard deviation of the assets, and therefore reduces economic capital. Therefore Choice ‘b’ is the correct answer.

Note that this question could also be phrased in terms of the impact on VaR estimates, and the answer would still be the same. Both VaR and economic capital are a multiple of standard deviation, and if standard deviation goes down, both VaR and economic capital estimates will reduce.

QUESTION 123

What isthe risk horizon period used for credit risk as generally used for economic capital calculations and as required by regulation?
* 1-day
* 1 year
* 10 years
* 10 days

Explanation

The credit risk horizon for credit VaR is generally one year.Therefore Choice ‘b’ is the correct answer.

QUESTION 124

A risk management function is best organized as:
* integrated with the risk taking functions as risk management should be a pervasive activity carried out at all levels of theorganization.
* report independently of the risk taking functions
* reporting directly to the traders, as to be closest to the point at which risks are being taken
* a part of the trading desks and other risk taking teams

Explanation

The point that this question is trying to emphasize is the independence of the risk management function. The risk function should be segregated from the risk taking functions as to maintain independence and objectivity.

Choice ‘d’, Choice ‘c’ and Choice ‘a’ run contrary to this requirement of independence, and are therefore not correct. The risk function should report directly to senior levels, for example directly to the audit committee, and not be a part of the risk taking functions.

QUESTION 125

Which of the following statements are true:

I. Capital adequacy implies the ability of a firm to remain a going concern II. Regulatory capital and economic capital are identical as they target the same objectives III. The role of economic capital is to provide a buffer against expected losses IV. Conservative estimates of economic capital are based upon a confidence level of 100%
* I and III
* I, III and IV
* III
* I

Explanation

Statement I is true – capital adequacy indeed is a reference to the ability of the firm to stay a ‘going concern’.

(Going concern is an accounting term that means the ability of the firm to continue in business without the stress of liquidation.) Statement II is not true because even though the stated objective of regulatory capital requirements is similar to the purposes for which economic capital is calculated, regulatory capital calculations are based upon a large number of ad-hoc estimates and parameters that are ‘hard-coded’ into regulation, while economic capital is generally calculated for internal purposes and uses an institution’s own estimates and models. They are rarely identical.

Statement II is not true as the purpose of economic capital is to provide a buffer against unexpected losses.

Expected losses are covered by the P&L (or credit reserves), and not capital.

Statement IV is incorrect as even though economic capital may be calculated at very high confidence levels, that is never 100% which would require running a ‘risk-free’ business, which would mean there are no profits either. The level of confidence is set at a level which is an acceptable balance between the interests of the equity providers and the debt holders.

QUESTION 126

Which of the following are true:

I. The total of the component VaRs for all components of a portfolio equals the portfolio VaR.

II. The total of the incremental VaRs for each position in a portfolio equals the portfolio VaR.

III. Marginal VaR and incremental VaR are identical for a $1 change in the portfolio.

IV. The VaR for individual components of a portfolio is sub-additive, ie the portfolio VaR is less than (or in extreme cases equal to) the sum of the individual VaRs.

V. The component VaR for individual components of a portfolio is sub-additive, ie the portfolio VaR is less than the sum of the individual component VaRs.

* II and V
* II and IV
* I and II
* I,III and IV

Explanation

Statement I is true – component VaR for individual assets in the portfolio add up to the total VaR for the portfolio. This property makes component VaR extremely useful for risk disaggregation and allocation.

Stateent II is incorrect, the incremental VaRs for the positions in a portfolio do not add up to the portfolio VaR, in fact their sum would be greater.

Statement III is correct. Marginal VaR for an asset or position in the portfolio is by definition the change in the VaR as a result of a $1 change in that position. Incremental VaR is the change in the VaR for a portfolio from a new position added to the portfolio – and if that position is $1, it would be identical to the marginal VaR.

Statement IV is correct, VaR is sub-additive due to the diversification effect. Adding up the VaRs for all the positions in a portfolio

will add up to more than the VaR for the portfolio as a whole (unless all the positions are 100% correlated, which effectively would mean they are all identical securities which means the portfolio has only one asset).

Statement V is in incorrect. As explained for Statement I above, component VaR adds up to the VaR for the portfolio.

QUESTION 127

For a bank using the advanced measurement approach to measuring operational risk, which of the following brings the greatest ‘model risk’ to its estimates:
* Choice of an incorrect distribution for loss event frequencies
* Insufficient number of simulations when building the loss distribution
* Choice of incorrect parameters for loss severity distributions
* Aggregation risk, from selecting an incorrect value of estimated correlations between different operational risk estimates

Explanation

The greatest model risk when calculating operational risk capital comes fromincorrect assumptions about correlations between different operational risks for which standalone risk calculations have been made.

Generally, the correlation can be expected to be positive, and would therefore vary between 0 and 1. These two values determine the ‘bounds’ between which the total operational risk capital would lie, and these bounds are generally quite far apart. Therefore the total value of the operational risk capital is very sensitive to the value chosen for the correlation, and this is the source of the biggest model risk under the AMA.