03-Operational Risk and Resiliency

单项选择题

1.You are a risk manager for a hedge fund. You are told that the TED spread increased sharply. Which of the following statements best describes the change in your situation?

A.An increase in the TED\nspread indicates that the Federal Reserve will push interest rates up,

B.An increase in the TED\nspread indicates a bigger gap between the fed funds rate and Treasurie

C.An increase in the TED\nspread could indicate greater concerns about bank solvency, so that yo

D.An increase in the TED\nspread could indicate more willingness of banks to lend since they get

参考答案：C

【莽学解析】Statement a. is not correct because a wider TED spread is consistentwith the Fed lowering rates. Statement b. is not correct because the fed fundsrate is for collateralized loans, whereas Eurodollar rates are foruncollateralized deposits. Statement d. is incorrect because a wider TED spreadmeans that the cost of bank borrowing goes up, not down.(2)

2.You have been asked to review a memo on how market liquidity is affected by shocks to the financial system. Which of the following observations made in the memo is incorrect?

A.In periods of acute market stress, market liquidity typically\nincreases in the most liquid markets,

B.Evaporation of market liquidity is an important factor in\ndetermining whether and at what speed fin

C.Market shocks may not be reflected in marked-to-market portfolio\nvalues immediately for portfolios

D.The impact of a market shock on the liquidity of a specific asset\ndepends on the characteristics of

参考答案：A

【莽学解析】Answer b. is correct, as proved by the events of 2007. Answer c.correctly states that the prices of illiquid assets reflect a delayed reactionto events. Answer d. explains that asset liquidity depends on investorpositions, which is correct. An asset that is mainly owned by leveragedinvestors can experience a sharp swing in prices if the investors are forced tosell.(5)

3.Your CRO asks you to prepare a list of early warning indicators for liquidity problems for your bank. Which of the following are early warning indicators of a potential liquidity problem? I. Rapid asset growth, especially when funded with potentially volatile liabilities II. Growing concentrations in assets or liabilities III. An increase of the weighted average maturity of liabilities IV. Reduction in the frequency of positions approaching or breaching internal or regulatory limits V. Narrowing debt or credit default swap spreads VI. Counterparties that request additional collateral for credit exposures VII. Increasing redemptions of CDs before maturity

A.I, II, VI, and VII

B.I, III, V, and VI

C.II, IV, V, and VII

D.I, V, VI, and VII
参考答案：A
【莽学解析】Statement I is correct; this is the northern rock story. Statement IIis also a problem because it means higher probability of either asset orfunding risk. Statement III is not a correct answer, because longer liabilitiesreduce the probability of a near-term funding problem. Statement IV is not acorrect answer, because this is market risk. Statement V is not a correctanswer, because a problem would arise from widening, not narrowing spreads. StatementVI is correct because collateral demands create a claim on liquidity. StatementVII is correct because this requires cash for repayment.(1)

4.Which of these statements about economic and regulatory capital are valid? I. Regulatory capital seeks soundness and stability in the banking system by ensuring that there is enough capital in the banking system. II. Economic capital is designed to keep a financial institution solvent at a specified confidence level. III. For an individual bank, economic capital is always less than regulatory capital. IV. The determination of economic capital, and its allocation to the various business units, is a strategic decision process that affects the risk/return performance of the business units and the bank as a whole.
A.II and IV only
B.I, II, III, and IV
C.I, II, and IV only
D.I and IV only
参考答案：C
【莽学解析】All the statements are correct, except III, that economic capital mustalways be less than regulatory capital. This is too broad a statement. The twomeasures are not necessarily related, even though this is the goal of havingmore risk-sensitive capital requirements.(2)

5.Tower Bank approaches economic capital and risk aggregation by first estimating the stand-alone economic capital for individual risk factors. In a second step, the bank aggregates risks based on the relative amounts of economic capital allocated to these risks, taking into account the correlations between risk factors. Which of the following variables is not a primary driver of the diversification benefit that accrues from aggregation?
A.The number of risk positions
B.The size of the portfolio
C.The concentration of those risk positions, or their relative\nweights in a portfolio
D.The correlation between the positions
参考答案：B
【莽学解析】A portfolio is generally more diversified when it has many positions,which are not too large, and with low correlations. hence answer ACD involve driver ofdiversification. in contrast, risk measures are homogeneous with the size ofthe portfolio. Doubling all the positions will double the risk of theportfolio.(1)

6.Consider a bank that wants to have an amount of capital so that it can absorb unexpected losses corresponding to a firm-wide VAR at the 1% level. It measures firm-wide VAR by adding up the VARs for market risk, operational risk, and credit risk. There is a risk that the bank has too little capital because

A. It does not take into account the correlations among risks.
B. It ignores risks that are\nnot market, operational, or credit risks.
C. It mistakenly uses VAR to\nmeasure operational risk because operational risks that matter are
D. It is meaningless to add VARs.
参考答案：B
【莽学解析】VAR can be added across different types of risk, but this will providea conservative estimate of capital as diversification effects are ignored. Soanswer a. would be for too much capital. Answer c. is not correct because rareevents can be factored into operational VAR. Most likely, the bank may have toolittle capital for other types of risk than those measured by these threecategories.(1)

7. Counterparty A is an American company with manufacturing operations in Indonesia and its main customers in the United States, while counterparty B is an American company that manufactures its goods domestically and exports solely to Indonesia. Which one of the following transactions with either counterparty will be a wrong-way exposure for a bank?
A. A five-year plain-vanilla IDR\/USD cross-currency swap between the bank\nand counterparty A where the
B. A five-year plain-vanilla IDR\/USD currency option sold by the bank\nto counterparty A for it to buy
C. A five-year plain-vanilla IDR\/USD cross-currency swap between the bank\nand counterparty B where the
D. A five-year plain-vanilla IDR\/USD currency option bought by the\nbank from counterparty B for the ba
参考答案：C
【莽学解析】This is an example of a wrong-way exposure, where a gain on theinstrument for the bank is associated with a higher PD for its counterparty. Ifthe IDR depreciates, company A will make a profit because its costs will godown in dollars. Conversely for company B, because its dollar revenues willdecrease. Under c., the company pays USD and receives IDR. This transactionwill create a loss if the IDR depreciates. In this situation, company B will losemoney as well on its exports. Hence, this is a wrong-way trade.(5)

8. Your bank calculates a one-day 95% VAR for market risk, a one-year 99% VAR for operational risk, and a one-year 99% VAR for credit risk. The measures are $100 million, $500 million, and $1 billion, respectively. Operational risk is defined to include all risks that are not market risks and credit risks, and these three categories are mutually uncorrelated. The market risk VAR assumes normally distributed returns, and the bank expects to be successful to keep its market risk VAR at that level for the whole year. Your boss wants your best estimate of a firm-wide VAR at the 1% level. Among the following choices, your best estimate is:
A. $1.7 billion
B. $1.94 billion
C. $2.50 billion
D. It is impossible to\naggregate risks with different distributions having only this information
参考答案：C
【莽学解析】

$$\mathrm{VAR}_{\mathrm{MKT}} = \$100 \times \left(\frac{2.326}{1.645}\right)\sqrt{252} = \$2{,}245.$$

$$\mathrm{VAR} = \sqrt{\$2{,}245^2 + \$500^2 + \$1{,}000^2} = \$2{,}458.$$

9.Which of the following is not a proper practice of risk management and control for a financial institution with assets in excess of $100 million?

A.A firm’s sole mechanism to monitor the implementation of the\ncontrol policies defined by the board

B.A subcommittee of the board is responsible for the approval of risk\nlimits, risk management policie

C.Senior management is responsible for the day-to-day oversight of\nthe firm’s activities, implementin

D.Senior management is responsible for establishing written\ndocumentation about control procedures at

参考答案：A

【莽学解析】Control policies also need to be verified by an internal auditfunction.(0)

10.The following is not a problem of having one employee perform trading functions and back-office functions.

A.The employee gets paid more\nbecause she performs two functions.

B.The employee can hide\ntrading mistakes when processing the trades.

C.The employee can hide the\nsize of her book.

D.The employee’s firm may not\nknow its true exposure.

参考答案：A

【莽学解析】Answers b., c., and d. all can lead to a situation where the traderloses money and hides the losses. Answer a. is not a problem.(0)

11.The CEO of a regional bank understands that failing to anticipate cash flow needs is one of the most serious errors that a firm can make and demands that a good liquidity-at-risk (LaR) measurement system be an essential part of the bank's risk management framework. Which of the following statements concerning LaR is correct?

A.Reducing the basis risk through hedging decreases LaR.

B.Hedging using futures has the same impact on LaR as\nhedging using long option positions.

C.For a hedged portfolio, the LaR can differ\nsignificantly from the VaR.

D.A firm's LaR tends to decrease as its credit quality\ndeclines.

参考答案：C

【莽学解析】The LaR can differ substantially from the VaR in a hedgedportfolio, and in different situations can be larger or smaller than the VaR.For example, consider a portfolio where futures contracts are used tohedge. While the hedge can reduce theVaR of the portfolio, the LaR can be larger than the VaR as the futurescontracts create an exposure to margin calls and the potential for cashoutflows. Alternatively, in situations where the hedging instruments do notresult in potential cash outflows over the measurement period (e.g. a portfolioof European options which do not expire during the period), the LaR can besmaller than the VaR.(1)

12.Nordlandia is a country with a developed economy maintaining its own currency, the Nordlandian crown (NLC), and whose most important export is domestically produced oil and natural gas. In a recent stress test of Nordlandia's banking system, several scenarios were considered. Which of the following is most consistent with being part of a coherent scenario?
A.An increase in domestic inflation and appreciation of\nthe NLC
B.A significant increase in crude oil prices and a\ndecrease in the Nordlandian housing price index
C.A drop in crude oil prices and appreciation of the NLC
D.A sustained decrease in natural gas prices and a\ndecrease in the Nordlandian stock index
参考答案：D
【莽学解析】A scenario is coherent when a change in one factorinfluences other factors in a logical manner. In this case, choice d is a coherent scenario since the Nordlandianeconomy depends heavily on exports of oil and natural gas, so therefore asustained decrease in natural gas prices should lead to a decrease in stockprices as the domestic economy weakens. In stress testing banks, it is oftenchallenging to develop scenarios where all factors behave coherently.(1)

13.The CFO at a bank is preparing a report to the board of directors on its compliance with Basel requirements. The bank's average capital and total exposure for the most recent quarter is as follows:

Using the Basel III framework, which of the following is the best estimate of the bank's current leverage ratio?
A.2.94%
B.3.70%
C.4.68%
D.5.08%
参考答案：B
【莽学解析】For Basel III purposes, the leverage ratio is Tier 1Capital / Total Exposure = 136 / 3,678= 3.70%.(1)

14.In the latest guidelines for computing capital for incremental risk in the trading book, the incremental risk charge (IRC) addresses a number of perceived shortcomings in the 99 %/10-day VAR framework. Which of the following statements about the IRC are correct? I. For all IRC-covered positions, the IRC model must measure losses due to default and migration over a one-year horizon at a 99% confidence level. II. A bank can incorporate into its IRC model any securitization positions that hedge underlying credit instruments held in the trading account. III. A bank must calculate the IRC measure at least weekly, or more frequently as directed by its supervisor. IV. The incremental risk capital charge is the maximum of (1) the average of the IRC measures over 12 weeks and (2) the most recent IRC measure. In the latest guidelines for computing capital for incremental risk in the trading book, the incremental risk charge

REGULATORY CAPITAL	
Total Common Equity Tier 1 Capital	
Additional Tier 1 Capital	
Prior to regulatory adjustments	
Regulatory adjustments	
Total Tier 1 Capital	
Tier 2 Capital	
Prior to regulatory adjustments	
Regulatory adjustments	
Total Capital	
Total Average Exposure	

(IRC) addresses a number of perceived shortcomings in the 99 %/10-day VAR framework. Which of the following statements about the IRC are correct? I. For all IRC-covered positions, the IRC model must measure losses due to default and migration over a one-year horizon at a 99% confidence level. II. A bank can incorporate into its IRC model any securitization positions that hedge underlying credit instruments held in the trading account. III. A bank must calculate the IRC measure at least weekly, or more frequently as directed by its supervisor. IV. The incremental risk capital charge is the maximum of (1) the average of the IRC measures over 12 weeks and (2) the most recent IRC measure.

A.I and II

B.III and IV

C.I, II, and III

D.II, III, and IV

参考答案：B

【莽学解析】Statement I. is incorrect because the confidence level is99.9%. Statement II. Is incorrect because securitizations are subject to thebanking book capital requirements. The others two statements are correct.(2)

15.All the following are operational risk loss events, except:

A.An individual shows up at a\nbranch presenting a check written by a customer for an amount

sub
B.A bank, acting as a trustee\nfor a loan pool, receives less than the projected funds due to
C.layed repayment of certain loans.
D.During an adverse market\nmovement, the computer network system becomes overwhelmed, and only
参考答案：B
【莽学解析】Statement a. represents external fraud, which is included inoperational risk. Statement c. represents a systems failure. Statement d. is afailure in internal processes.(1)

16.Randy Bartell has collected operational loss data to calibrate frequency and severity distributions. Generally, he regards all data points as a sample from an underlying distribution and therefore gives each data point the same weight or probability in the statistical analysis. However, external loss data is inherently biased. Which of the following is not typically associated with external data?
A.Data capture bias
B.Scale bias
C.Truncation bias
D.Survivorship bias
参考答案：D
【莽学解析】Internal data certainly has a problem of survivorship bias because abank where employees compute the operational risk distribution is still alive.This precludes a history of large, deadly losses.(1)

17.Which of the following statements are valid about hedging operational risk? I. A primary disadvantage of insurance as an operational risk management tool is the limitation of policy coverage. II. If an operational risk hedge works properly, a firm will avoid damage to its reputation from a high-severity operational risk event. III. While all insurance contracts suffer from the problem of moral hazard, deductibles help reduce this problem. IV. Catastrophe (cat) bonds allow a firm to hedge operational risks associated with natural disasters.
A.I, III, and IV only
B.I, II, and IV only
C.II and III only
D.III and IV only
参考答案：A
【莽学解析】All the statements are valid, except for II. Even if a firm implementsa hedge or purchases insurance, the news of a large operational loss will stilldamage its reputation.(3)

18.The following statements concern differences between market and operational risk VAR models. Which of the following statements is false?
A.Market risk models are\nprimarily driven by historical data, whereas operational risk models a
B.Market risk models typically\ndefine VAR as a specific quantile of the loss distribution, wher
C.Backtesting is generally a\nmore useful form of validation for market risk models than for ope
D.The time horizon over which VAR is evaluated differs between market\nand operational risk models.

参考答案：B
【莽学解析】Statement a. is true because operational risk models often relyheavily on scenario analysis. Backtesting is more difficult for operationalrisk models, so c. is true. VAR is usually evaluated over shorter horizons, sod. is true. Statement b. is false because both market and operational riskmodels use a quantile of the distribution.(3)

19.Which of the following statements about its methodology for calculating an operational risk capital charge in Basel II is correct?
A.Basic indicator approach is suitable for institutions with\nsophisticated operational risk profile.
B.Under the standardized approach, capital requirement is measured\nfor each of the business line.
C.Advanced measurement approaches will not allow an institution to adopt\nits own method of assessment
D.AMA is less risk-sensitive than the standardized approach.
参考答案：B
【莽学解析】The BI approach is suitable for banks with basic risk profiles, soanswer a. is incorrect. The AMA approach is an internal model, so answer c. isincorrect. The AMA is more risk-sensitive than the SI approach, so answer d. isincorrect.(1)

20.In a market crash the following are usually true? I. Fixed-income portfolios hedged with short Treasury bonds and futures lose less than those hedged with interest rate swaps given equivalent durations. II. Bid-offer spreads widen because of lower liquidity. III. The spreads between off-the-run bonds and benchmark issues widen.
A.I, II, and III
B.II and III
C.I and III
D.None of the above
参考答案：B
【莽学解析】In a crash, bid offer spreads widen, as do liquidity spreads. AnswerI. is incorrect because Treasuries usually rally more than swaps, which leadsto greater losses for a portfolio short Treasuries than swaps. (1)

21.You are a manager of a renowned hedge fund and are analyzing a 1,000 share position in an undervalued but illiquid stock BNA, which has a current stock price of USD 72 (expressed as the midpoint of the current bid-ask spread.) Daily return for BNA has an estimated volatility of 1.24%. The average bid-ask spread is USD 0.16. Assuming returns of BNA are normally distributed, what is the estimated liquidity-adjusted daily 95% VaR, using the constant spread approach?
A.USD 1,389
B.USD 1,468
C.USD 1,549
D.USD 1,629
参考答案：C
【莽学解析】The constant spread approach adds half of the bid-askspread (as a percent) to the VaR calculation:Daily 95% VaR = 72,000*(1.645*0.0124) = USD 1469Liquidity cost =

72,000*(0.5*0.16/72) = 80LVaR = VaR + LC = 1549(0)

22.In march 2009, the Basel Committee published the consultative document “Guidelines for computing capital for Incremental risk in the trading book”. The incremental risk charge (IRC) defined in that document aims to complement additional standards being applied to the value-at-risk modeling framework which address a number of perceived shortcomings in the 99%/10-day VaR framework. Which of the following statements about the IRS is/are correct? I. For all IRC-covered positions, a bank’s IRC model must measure losses due to default and migration over a one-year capital horizon at a 99% confidence level. II. A bank must calculate the IRC measure at least weekly, or more frequently as directed by its supervisor.
A.Statement I only
B.Statement II only
C.Both statements are correct
D.Both statements are incorrect
参考答案：B
【莽学解析】I is incorrect. Specifically, for all IRC-coveredpositions, a bank’s IRC model must measure losses due to default and migrationat the 99.9% confidence interval over a capital horizon of one year, takinginto account the liquidity horizons applicable to individual trading positionsor sets of positions. II is correct. A bank must calculate the IRC measure atleast weekly, or more frequently as directed by its supervisor. (1)

23.The Basel Committee recommends that banks use a set of early warning indicators in order to identify emerging risks and potential vulnerabilities in its liquidity position, which of the following are not early warning indicators of a potential liquidity problem? i. Rapid asset growth ii. Negative publicity iii. Credit rating downgrade iv. Increased asset diversification
A.ii and iii
B.iv only
C.i and iv
D.i, ii and iv
参考答案：B
【莽学解析】Rapid asset growth, negative publicity and credit ratingdowngrade are all early warnings of a potential liquidity problem. Increasedasset diversification is not an early warning indicator of liquidity.(0)

24.Using approved approaches. Barlop Bank has calculated the following values: Risk-weighted assets for credit risk, RWAc:USD 47 million Market risk capital requirement, CRm: USD 3.2 million Operational risk capital requirement. CRo: USD 2.8 million Assuming Tier 3 capital is USD 0, in which scenario below does Barlop Bank meet the Basel II minimum capital requirement?
A.
B.无
C.无
D.无
参考答案：B
【莽学解析】The total risk-weighted assets are: RWAt = RWAc + 12.5*(CRm -CRo) = 47 + 12.5*(3.2+2.8) = USD 122 million Eligible regulatory capital is: RC = Tier 1 + Tier 2 -

(all figures in USD million)

	Tier 1 Capital	Tier 2 Capital	De
a.	6.8	3.2	0.4
b.	6.2	4.8	0.8
c.	6.2	8.4	2.8
d.	4.8	6.2	0.0

Deductions In addition, Tier 2 capital must be less than or equal toTier 1 capital. Minimum capital requirement is: RC/ RWAt >= 8% In this case, RC >= 0.08*122 = 9.76 RC = 6.8 + min(3.2, 6.8) - 0.4 = 9.6   (Fails to meet the minimum capitalrequirement) RC = 6.2 + min(4.8, 6.2) - 0.8 = 10.2 (Meets the minimum capital requirement) RC = 6.2 + min(8.4, 6.2) - 2.8 = 9.6   (Fails to meet the minimum capitalrequirement) RC = 4.8 + min(6.2, 4.8) - 0.0 = 9.6   (Fails to meet the minimum capitalrequirement) (1)

25.Based on “Supervisory Guidance for Assessing Banks’ Financial Instrument Fair Value Practices” issued by the Basel Committee, which of the following factors should be considered in determining whether the sources of fair values are reliable and relevant? i. Frequency and availability of prices/ quotes ii. Maturity of the market iii. Agreement of values with those generated by internal models iv. Number of independent sources that produce the prices/ quotes

A.i and ii only

B.iii and iv only

C.i, ii and iii only

D.I, ii and iv only

参考答案：D

【莽学解析】Agreement with internally generated values is notnecessary or relevant. The other three factors should be considered indetermining the reliability and relevancy of the sources of fair values.(0)

26.Major Investments is an asset management firm with USD 25 billion under management. It owns 20% of the stock of a company. Major Investments’ risk manager is concerned that, in the event the entire position needs to be sold, its size would affect the market price. His estimate of the price elasticity of demands is -0.5. What is the increase in Major Investments’ Value-at-Risk estimate for this position if a liquidity adjustment is made?

A.4%

B.10%

C.15%

D.20%

参考答案：B

【莽学解析】

$$\frac{LVaR}{VaR}=1-\frac{\Delta P}{P}=1-\eta\frac{\Delta N}{N}$$

The ratio of LVaR to VaR depends on the elasticity ofdemand η and the size of the trade, relative to the size of the market. (ΔN/N) We are given; dN/N =0.2 and that the price elasticity is - 0.5. Thus dP/P = elasticity* dN/N = -0.1 Therefor LVaR/VaR = 1- dP/P = 1+0.1 = 1.1 The liquidity adjustment increases the VaR, by 10%. (1)

27.Bank A, a large international bank, engages in trading with counterparties throughout the world. Recently, it has started to pay more attention to wrong-way risk in its trading book. Which one of the following four scenarios would serve as an example of wrong -way risk from Bank A's perspective?

A.Bank A has a large exposure to Bank B's equity, and\nBank B offers to sell put options with long mat

B.Bank A enters into a medium-term repurchase agreement\nwith Bank B using several different types of

C.Bank A actively manages its credit portfolio using\ncredit default swaps, and decides to sell long-t

D.Bank A enters into a forward rate agreement with Bank\nB to deliver at LI BOR+2 .5%

参考答案：A

【莽学解析】According to Section 101 of Basel III, a bank is exposedto "specific wrong-way risk" if future exposure to a specificcounterparty is highly correlated with the counterparty's probability ofdefault. For example, a company writing put options on its own stock createswrong-way exposures for the buyer that is specific to the counterparty.(1)

28.The Chief Risk Officer of your bank has put you in charge of operational risk management. As a first step, you collect internal data to estimate the frequency and severity of operational-risk-related losses. The table below summarizes your findings:

Frequency Distribution

Number of Occurrences	Probability	Lo
0	0.6	1,0
1	0.3	10
2	0.1	1,0

Based on this information, what is your estimate of the expected loss due to operational risk?

A.USD 20,000

B.USD 70,250

C.USD 130,600

D.USD 140,500

参考答案：B

【莽学解析】The expected loss can be calculated by multiplying theexpected frequency and the expected severity. Expected frequency is equal to:(0 * 0.6) + (1 * 0.3) + (2 * 0.1) = 0.5, Expected severity is equal to:(1000 * 0.5) + (100,000 * 0.4) + (1,000,000 * 0.1) =140,500The expected loss is therefore:0.5 * 140,500 = 70,250 (2)

29.In recent years, large dealer banks financed significant fractions of their assets using short-term, often overnight, repurchase (repo) agreements in which creditors held bank securities as collateral against default losses. The table below shows the quarter-end financing of four broker-dealer banks. All values are in USD billions:

	Bank A	Bank B	Ba
Financial instruments owned	823	629	72
Pledged as collateral	272	289	38

In the event that repo creditors become nervous about a bank’s solvency, which bank is least vulnerable to a liquidity crisis?

A.Bank A

B.Bank B

C.Bank C

D.Bank D

参考答案：A

【莽学解析】A liquidity crisis could materialize if repo creditorsbecome nervous about a bank’s solvency and choose not to renew their positions.If enough creditors choose not to renew, the bank could likely be unable toraise sufficient cash by other means on such short notice, therebyprecipitating a crisis. However, this vulnerability is directly related to theproportion of assets a bank has pledged as collateral. Bank A is least vulnerable since it has the leastdependence on short-term repo financing (i.e. the lowest percentage of itsassets out of the four banks is pledged as collateral: 272/823, or 33%.(0)

30.In calculating its risk-adjusted return on capital, your bank uses a capital charge of 2.50% for revolving credit facilities with a loan equivalent factor of 0.35 assigned to the undrawn portion. Recently, you have become concerned that the protective covenants embedded in these loans are weak and may not prevent customers from drawing on the facilities during times of stress. As such, you have recommended doubling the loan equivalent factor to 0.70. This recommendation has met with resistance from the loan origination team, and senior management has asked you to quantify the impact of your recommendation. For a typical facility that has an original principal of USD 1 billion and is 30% drawn, how much additional economic capital would have to be allocated if you increase the loan equivalent factor from 0.35 to 0.70?

A.USD 3.50 million

B.USD 6.13 million

C.USD 8.75 million

D.USD 13.63 million

参考答案：B

【莽学解析】The required economic capital to support a loan in theRAROC model can be calculated using the following formula:Required Capital= [BDRAWN + (BUNDRAWN *LEF)]*CFwhere LEF represents the loan equivalent factor and CFrepresents the capital factor.Therefore, the initial required economic capital iscalculated as follows: [(1 billion * 0.3) + (1 billion * 0.7 * 0.35)] * 2.5% =USD 13.625 million,and the required capital if the change is implementedwould be: [(1 billion * 0.3)+ (1 billion * 0.7 * 0.70)] * 2.5% = USD 19.75 million.Hence the additional required economic capital would be19.75 - 13.625 or 6.13 million.(0)

31.Grayson Ballentine, an analyst with Platinum Consultants, is analyzing the economic effects of buying stock with borrowed funds for a high net worth individual client. Assume that the client has $200 cash invested (i.e., no borrowed funds) and then uses the cash to purchase stock. The client then decides to use 50% borrowed funds to purchase stock on margin. After the margin transaction, the total assets on the full economic balance sheet and the leverage ratio are closest to:

A.

	Total Assets	Leverage Ratio
a.	$200	1.0
b.	$300	1.5
c.	$300	2.0
d.	$400	2.0

B.无

C.无

D.无

参考答案：B

【莽学解析】

Asset		Liabilities and Equity	
Cash	$200	Debt	$0
Stock	$0	Equity	$200
Total assets	$200	TL and OE	$200

Asset		Liabilities and Equity
		Margin loan $100
Stock	$200	Equity $100
Total assets	$200	TL and OE $200

Asset		Liabilities and Equity
Cash	$100	Margin loan $100
Stock	$200	Equity $200
Total assets	$300	TL and OE $300

Thus, the leverage ratio has increased to 1.5 (i.e., $300 / $200). (6)

32. As a result of the new Basel standards, every bank must now calculate explicit capital charges to cover operational risk using one of three approaches: the basic indicator approach (BIA), the standardized approach (SA), and the advanced measurement approach (AMA). How many of the following statements are true with respect to these operational risk approaches? I. In practice the AMA is the most stringent approach for operational risk. II. The most popular method to satisfy the AMA is the loss distribution approach. III. The AMA allows a bank to build its own operational risk model and measurement system comparable to market risk standards. IV. BIA is widely used in insurance and actuarial science.

A. One.

B. Two.

C. Three.

D. Four.

参考答案：B

【莽学解析】StatementI is incorrect. AMA is the most flexible method. Statement II is correct. The most popular method to satisfy the AMA is the lossdistribution approach (LDA). Statement III is correct. The AMA method allows abank to build its own operational risk model and measurement system that iscomparable to market risk standards. Statement IV is incorrect. LDA is widelyused in insurance and actuarial science. (1)

33. Compare the capital requirements of Bank A and Bank B based on the following equal-sized portfolios.

Bank A	Bank B
25% OECD sovereign debt	50% OECD sovereign deb
75% non-OECD sovereign debt	50% non-OECD sovereig

The credit risk capital requirement of Bank A will be greater than the credit risk capital requirement of Bank B under the:

A.standardized\napproach of Basel I.

B.standardized\napproach of Basel II.

C.IRB foundation\napproach of Basel II.

D.advanced\nmeasurement approach of Basel II.

参考答案：A

【莽学解析】UnderBasel I, OECD risk weights were always less than non-OECDrisk weights, but this is not the case under Basel II. Bank A has more non-OECD debt, so it will havea higher capital requirement under Basel I. Choices c and d depend on externaland internal ratings, respectively, which are unknown. (0)

34.Alan Walters is a risk manager at OneFirst Bank. He has recently been asked to prepare a risk management report for his bank's board of directors. The board members are planning to utilize this report to make critical risk management decisions regarding relevant bank risks. Walters ensures the board that the report will be accurate and complete by covering all material risk areas within the organization. He also points out that the report will contain meaningful information that will be applicable to all employees and easily understood at all levels of the organization. Walters plans on distributing the risk management report to all relevant parties while ensuring confidentiality. Which of the following effective risk data aggregation and risk reporting principles set forth by the Basel Committee on Banking Supervision did Walters most likely violate?

A.Principle\n7-Accuracy.

B.Principle\n8-Comprehensiveness.

C.Principle\n9-Clarity and Usefulness.

D.Principle 11-Distribution.

参考答案：C

【莽学解析】Principle9 requires that reports be tailored to the end user (e.g., the board, seniormanagers, and risk committee members) and should assist them with sound riskmanagement and decision making. Walters suggested that the report would not betailored to the board because the report was going to be applicable to all employeesand easily understood at all levels of the organization. Principle 7 requiresthat risk reports should be accurate and precise. Board members should be ableto use the reports to make critical decisions about bank risks. Principle 8 requiresthat reports should contain position and risk exposure information for all relevantrisks. Principle 11 requires that reports should be disseminated in a timelyfashion while maintaining confidentiality where required.(51)

35.Ki Dean, FRM, is a consultant for U.S.-based McGreggor Bank. Dean attended a meeting where a Senior Vice President made the following statements about the Basel II Accord. I. By switching from the standardized approach to the foundation IRB approach, our risk weightings for a majority of the bank's assets are lower, which could reduce our capital requirements by as much as 15% next year. II. Under the IRB advanced approach, we generate all the estimates used in the models. III. Pillar 2 concerns external monitoring and supervisory review. How many of the statements are correct?

A.None.

B. One.
C. Two.
D. Three.
参考答案：B
【莽学解析】OnlyStatement II is correct. Statement I is incorrect. There is a transition periodwhereby the capital requirement under IRB cannot be less than 90% of thecapital requirement the previous year and 80% in the second year. Statement IIIis also incorrect. Pillar 2 concerns supervisory review; Pillar 3 concernsmarket discipline, including external review.(1)

36. Model risk is the risk associated with trying to capture an observed phenomenon using a financial model. Models, by their very construction, are flawed instruments and cannot possibly capture the full scope of factors necessary to explain the dynamic relationships we observe. It is better to ask oneself what is wrong with the model rather than glossing over potential errors in construction. Important sources of model risk include incorrect model specifications, incorrect model application, implementation risk, incorrect calibration, programming errors, and data problems. Which of the following statements is correct regarding sources of model risk?
A. An example of\nincorrect model application would be if a model assumes a binomial\ndistribution
B. Multiple users\nof the capital asset pricing model (CAPM) may incorporate different measures o
C. Use of outdated\nmodel input parameters measured with error or based on inappropriate sample\np
D. Using the standard bond valuation model to value mortgage-backed securities is an example of incorrect model application
参考答案：D
【莽学解析】Thefollowing model risks are represented by choices a through c: incorrect model specification,implementation risk, and calibration error. Choice d is correct. (2)

37. Given the information below, what is the liquidity-adjusted VaR at the 95% confidence level? Current stock price $200 Stock price standard deviation 3.0% Bid-ask spread mean 1.0% Bid-ask spread standard deviation 0.5% Spread confidence parameter 1.96
A. $11.73.
B. $11.88.
C. $13.59.
D. $13.74.
参考答案：B
【莽学解析】The liquidity-adjusted VaR is the sum of two components. Thefirst component is the VaR, which is the stock price times the z-score timesthe stock price standard deviation: $200 x0.03 x 1.65 = $9.90. The secondcomponent adjusts for liquidity risk and is half the stock price times abid-ask spread component: 0.5 x [$200 x (0.01 + 1.96 x 0.005)] = $1.98. Note thatwe use a critical z-score of 1.96 when calculating the liquidity riskcomponent.The

liquidity-adjusted VaR is thus: $9.90 + $1.98 = $11.88.The incorrect liquidity-adjusted VaR answers use theincorrect critical z-scores.(3)

38.A trader observes a quote for Stock ZZZ, and the midpoint of its current best bid and best ask price is CAD 35. ZZZ has an estimated daily return volatility of 0.25% and average bid-ask spread of CAD 0.1. Assuming the returns of ZZZ are normally distributed, what is closest to the estimated liquidity-adjusted, 1-day 95% VaR, using the constant spread approach on a 10,000 share position?
A.CAD 1,000
B.CAD 2,000
C.CAD 3,000
D.CAD 4,000
参考答案：B
【莽学解析】The daily 95% VaR=35*10,000*(1.645*0.0025) =CAD 1,440The constant spread approach adds half of the bid-askspread (as a percent) to the VaR calculation, using the following formula:Liquidity Cost (LC)=1/2 (spread*p), where spread is equalto the actual spread divided by the midpoint and p is the value of the position.Therefore, the liquidity cost (LC)=350,000*(0.5*0.1/35) =CAD500Liquidity-adjusted VaR (LVaR)=VaR + LC =CAD 1,940.(2)

39.The risk management department at Southern Essex Bank is trying to assess the impact of the capital conservation and countercyclical buffers defined in the Basel III framework. They consider a scenario in which the bank’s capital and risk-weighted assets are as shown in the table below (all value are in EUR million):

Risk-weighted assets	3,110
Common equity Tier 1 (CET1) capital	230
Additional Tier 1 capital	34
Total Tier 1 capital	264
Tier 2 capital	81
Tier 3 capital	-
Total capital	345

Assuming that all Basel III phase-ins have occurred and that the bank’s required countercyclical buffer is 0.75%, which of the capital ratios does the bank satisfy?
A.The CET 1 capital ratio only.
B.The CET 1 capital ratio plus the capital conservation\nbuffer only.
C.The CET 1 capital ratio plus the capital conservation\nbuffer and the countercyclical buffer.
D.1
参考答案：B
【莽学解析】The bank has CET1 capital ratio of (230/3110) or 7.4%.This ratio meets the 4.5% minimum and the additional 2.5% capital conservationbuffer but not the additional

countercyclical buffer of 0.75%(4.5%+2.5%+0.75=7.75%).(4)

40.As a risk manager of Bank ABC, John is asked to calculate the market risk capital charge of the bank' s trading portfolio under the internal models approach using the information given in the table below. Assuming the return of the bank' s trading portfolio is normally distributed, what is the market risk capital charge of the trading portfolio?

VaR (95%, 1-day) of last trading day	USD
Average VaR (95%, 1-day) for last 60 trading days	USD
Multiplication Factor	2

A.USD 84,582
B.USD 134,594
C.USD 189,737
D.USD 222,893
参考答案：D
【莽学解析】Market Risk Capital Charge =
MAX(40,000*SQRT(10)/1.65*2.326,2*25,000*SQRT(10)/1.65*2.326) = 222,893Candidate is required to convert the VaR (95%,1-day) to a95% 10-day VaR.(2)

41.Several steps are involved in developing the loss distribution approach (LDA), including derivation of frequency and severity distributions, estimation of the tail distribution, modeling correlations, and incorporation of insurance. Which of the following statements about LDA modeling is incorrect?
A.To select the appropriate distribution of the frequency of losses\n(Poisson distribution, bino
B.Extrapolation of observed losses,\nin order to develop a more complete severity distribution (of los
C.To build an LDA model that includes adequate representation in the tail,\nboth internal and ex
D.The LDA typically allows for the risk reducing effect of insurance by lowering\nthe severity o
参考答案：A
【莽学解析】Statement a isincorrect. Selection of the appropriate distribution is done by applying a goodness-of-fittest, such as chi-squared test. The chosen distribution will most closely fitthe hypothetical distribution. Statement b is correct. Extrapolation could leadto the inclusion of severe hypothetical losses. thus the overestimation of theneeded capital charge. Statement c is correct. To develop distributions forvarious threshold levels and the respective weights, internal as well asexternal data sources are required. Statement d is correct. Loss severity isreduced because insurance indemnifies the insured (institution) above thedeductible level; however, no one has control over frequency of unintentional losses. (2)

42.A firm has determined that the risk-adjusted return on capital (RAROC) for a particular project is 14%. To evaluate whether the firm should accept the project, an analyst determines that the firm’s beta is 1.3, the expected market return is 13%, and the risk-free interest rate is 5.5%. If the analyst uses the adjusted RAROC (ARAROC) methodology to make an accept/reject decision, should the project be accepted?

A. No, because the computed ARAROC is approximately 1 % less than the market\nrisk premium.

B. No, because the RAROC is 1.25% less than the return predicted by the CAPM.

C. Yes, because the computed ARAROC is approximately 1 % more than the market\nrisk premium.

D. Yes, because the ARAROC is approximately 4% more than the return predicted\nby the CAPM.

参考答案：A

【莽学解析】

$$\text{ARAROC} = \frac{(\text{RARAOC} - R_F)}{\beta_E} = \frac{0.14 - 0.055}{1.3} = 0.06538$$

43. A bank issues a $200,000,000 loan with the following characteristics: • Loan pays a fixed annual interest rate of 8.5%. • The interest expense associated with the loan is 6.0%. • The operating cost to the bank’s commercial lending division is $1,600,000. • Economic capital required to support the loan is $16 million, which is invested in T-bills paying a rate of 2.8%. • The expected loss for the loan is 15 basis points per year. What is the risk-adjusted return on capital (RAROC) for this loan?

A. 2.50%.

B. 6.25%.

C. 18.28%.

D. 22.18%.

参考答案：D

【莽学解析】

$$\text{RAROC} = \frac{\text{revenues} - \begin{pmatrix}\text{expected}\\ \text{loss}\end{pmatrix} - \text{expenses} + \begin{pmatrix}\text{return on}\\ \text{economic capital}\end{pmatrix} \pm}{\text{economic capital}}$$

$$\text{RAROC} = \frac{17{,}000{,}000 - 300{,}000 - 13{,}600{,}000 + 448{,}000 \pm 0}{16{,}000{,}000} = 22.17$$

44. The balance sheet for Pierce Bankholdings as of December 31, 2013, included the following items: • Preferred stock (cumulative): $200,000. • Common stock: $1,800,000. • Retained earnings: $16,000,000. • Unrealized gains on long-term equity holdings: $75,000. Based only on this information, estimate the Tier 1 and Tier 2 capital of Pierce Bankholdings as of 12/31/13.

A.

	Tier 1	Tier 2
a.	$1,800,000	$200,000
b.	$1,800,000	$275,000
c.	$17,800,000	$200,000
d.	$17,800,000	$275,000

B.无

C.无

D.无

参考答案：D

【莽学解析】Tier1 capital includes common stock and retained earnings, but not cumulative preferredstock. Tier 2 capital would include the cumulative preferred, as well as the unrealizedgains on long term investments.(2)

45.. Suppose a bank loan has the following characteristics: • Gross revenues are $1.3 million. • Interest expense is $0.3 million. • The return on the $5million economic capital invested in T-bills is $100,000. • The firm beta is 1.5. • The unexpected loss for the loan is estimated at $500,000. • The adjusted RAROC is equal to 8%. What is the worst-case loss for this loan?

A.$1.6 million.

B.$2.3 million.

C.$0.9 million.

D.$0.75 million.

参考答案：C

【莽学解析】First, determine RAROC as follows:RAROC = ΒE * ARAROC + RFThe RF is calculated as the return from economiccapital, which is: $100,000/$5,000,000 = 2%RAROC = 1.5x0.08+0.02RAROC = 14%Second, determine the expected loss for the loan asfollows:EL= - (RAROCx EC - revenues + expenses - return on EC)EL= - (0.14x$5M - $1.3M + $0.3M - $0.1M) = $400,000Finally, compute the worst-case loss as the sum ofexpected and unexpected loss:worst-case loss = expected loss + unexpected lossworst-case loss = $400,000 + $500,000worst-case loss = $0.9M(4)

46.Becky has been researching the application of the LDA (loss distribution approach) by banks to quantify risk and estimate capital charge under the Basel II Accord. She shares with you her insights about this methodology in the following statement: "The LDA models losses with respect to both frequency and severity with the goal of determining the appropriate level of capital. This approach requires a variety of assumptions concerning the distribution of frequency and severity, and the parameters and correlations. The analysis should incorporate data from both the institution being analyzed and external Sources. Ultimately, the assumptions of the model should be tested with scenarios, stress tests, and back-testing." She is, however, unsure about certain dimensions of the purposes and structure of the LDA and needs your feedback. Which of the following statements regarding the LDA is correct?

A.The LDA is the accepted method in the Basel II\nAccord for determining the operational risk regulato

B. To model an operational risk loss distribution, every\ndata point in the business line\/event type ma
C. To model an operational risk loss distribution, a\ndistribution from loss severity data is derived a
D. The LDA ensures that losses would be perfectly\ncorrelated in order to estimate the overall operatio
参考答案：A
【莽学解析】Statementa is correct. Firms can use the LDA model, the accepted method, for estimatingregulatory capital. However, firms can use this approach for calculating the economiccapital as well. Statement b is incorrect. Every data point in the business line/eventtype matrix is given an equal weight except for split losses, old losses, and externallosses and scenarios. Statement c is incorrect. To model an operational risk lossdistribution, distributions from both event frequency and loss severity areneeded. Statement d is incorrect. The LDA approach ensures that losses wouldnot be perfectly correlated. (1)

47. The table below gives information on a $200 million loan portfolio of the Third Premier Bank regarding its allocations to the six obligors and associated risk weightings. (Risk weightings were assigned based on each exposure. The split of the total loan [allocations] among various obligors had no impact on credit ratings.) The bank uses the standardized approach for maintaining capital of at least 8% of total risk-weighted assets.

Obligors	Allocations %	Risk Weighting %
France sovereign debt (OECD)	30	0
Thailand sovereign debt (Non-OECD)	20	25
AAA rated corporate debt	25	30
AA rated corporate debt	15	60
Corporate debt-no external rating	3	100
Past due loan	7	150

Which of the following statements is correct?
A. Under Basel I, OECD\nsovereign exposures are considered most risky (with 0% risk weighting) co
B. Under Basel II,\nthe risk weightings focus on credit risk only whereas under Basel I, risk\nwei
C. Capital\nrequirements for the bank can be estimated using the IRB method if we are given\naddit
D. Actual\ncalculations for computing the capital requirements (using any method of\nestimation) a
参考答案：D

【莽学解析】Statement a is incorrect because OECD sovereign exposuresare considered least risky. Statement b is incorrect because Basle I requiresrisk weightings to focus on credit risk only. Statement c is incorrect becausewe need inputs more than just probability of default (PD) to calculaterisk-weighted assets and capital requirements using the IRB approach-foundationor advanced. Statement d is correct. Minimum capital requirements = 8% x(0.30x200x0 + 0.20 x 200 x 0.25 + 0.25 x 200 x 0.30 + 0.15 x200x 0.60 +0.03 x200 x 1 + 0.07 x 200 x 1.50) = $5.6 million. (1)

48.Basel II/III contains capital rules for the banking industry, while Solvency II looks at the regulatory framework and quantifiable risks in the insurance industry. Comparing Solvency II and Basel II/III, which statement best characterizes the Basel II/III approach?

A.Basel II\/III\ndoes not try to achieve safety for the entire company, but rather focuses on\nasset-spe

B.Basel II\/III requires a more holistic perspective than\nSolvency II.

C.Basel II\/III does not take in consideration pro-cyclical\neffects.

D.The goal of Basel II\/III is to operate under no\nsupervisory authority.

参考答案：A

【莽学解析】Dueto the nature of the banking industry, Basel II/III is more focused on systemic risk as opposed totrying to achieve a safety level for the whole company. However, it does focuson three risk classes, which are all asset-specific (market risk, credit risk,and operational risk). The goal of Basel II/III is to operate above capitalrequirements under Pillar 1. (2)

49.Large Bank is attempting to transition to the new Basel III standards. Specifically, they are wondering if their liquidity and funding ratios meet the updated requirements as specified by the Basel Committee. Given the following information, what is the bank's current liquidity coverage ratio? • High-quality liquid assets $300 • Marketable securities $125 • Required amount of stable funding $250 • Cash inflows over the next 30 days $214 • Net cash outflows over the next 30 days $285 • Long-term economic capital $500 • Available amount of stable funding $255

A.95%.

B.105%.

C.125%.

D.140%.

参考答案：B

【莽学解析】The 30-day liquidity coverage ratio (LCR) is equal to thestock of high-quality liquid assets divided by the net cash outflow over a30-day period. Under Basel III, this ratio must equal or exceed 100%. LargeBank's liquidity coverage ratio = $300 / $285 = 1.053=105.3%. (1)

50.Risk aggregation is one of the challenging areas within the economic capital implementation framework. Risk aggregation involves identifying the individual risk types and making certain choices in aggregating those risk types. Classification by risk types (market, credit, operational, and business) may be approximate and prone to error. For example, the definitions of risk types may differ across banks or within a given bank, which complicates the aggregation process. Most banks begin by aggregating risk into silos by risk-type across the entire bank.

Other banks prefer using business unit silos, while others combine both approaches. Which of the following statements regarding risk aggregation is correct?
A.Combining two\nportfolios, for risk aggregation across different portfolios or business units
B.A simple summation\nmethod of risk aggregation adds together individual capital components, di
C.A\nvariance-covariance matrix risk aggregation method summarizes the interdependencies\nacross
D.A full modeling\/simulation\nmethod of risk aggregation combines marginal probability distribut
参考答案：C
【莽学解析】Thevariance-covariance matrix summarizes the interdependencies across risk typesand provides a flexible framework for recognizing diversification benefits. (3)