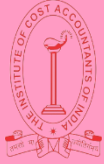

FINAL EXAMINATION **SET - 1**

MODEL ANSWERS **TERM – JUNE 2024**

PAPER – 20B **SYLLABUS - 2022**

RISK MANAGEMENT IN BANKING AND INSURANCE

Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.

SECTION – A (Compulsory)

1. Choose the correct option: **[15 x 2 = 30]**

(i) Legal Risk is known as ________________.

a. When the actions can lead to the entire financial system coming to a standstill.
b. When there is a financial loss to the bank arising from legal suits filed against the bank or by a bank for applying a law wrongly.
c. When a bank chooses the wrong strategy or follows a long-term business strategy which might lead to its failure.
d. All of the above

(ii) If the 1- day VaR of a portfolio is ₹ 50,000 with a 97% confidence level. In a period of 1 year of 300 trading days, in how many days the loss on the portfolio may exceed ₹50,000?

a. 9 days
b. 3 days
c. 100 days
d. None of the above

(iii) When did India started implementing BASEL-I guidelines?

a. 1988
b. 1990
c. 1991
d. 1992

(iv) Bankruptcy reorganizations are used by management to ________________.

a. Forestall the inevitable liquidation in all cases.
b. Provide time to turn the business around.
c. Allow the courts time to set up an administrative structure.
d. All of the above.

(v) ____________________ is a voluntary termination of the contract by the policy holders.

a. Report
b. Surrender
c. Prospectus
d. Cover note

(vi) ____________ Policy matures on the assured death or on his attainment of a particular age whichever occurs earlier.

a. Endowment

b. Money back
c. Joint life
d. Single premium

(vii) The duty of disclosure of material facts arises in life insurance ____________________.
a. only during the proposal stage
b. only during the policy period if there is a change in risk
c. only at the time of renewal
d. All of the above

(viii) _____________ is the most famous tool of risk management.
a. Certainty risk
b. Insurance
c. Loss prevention
d. Uncertainty risk

(ix) _____ risks happen within a stable environment and are constant over an observed period of time.
a. Speculative
b. Pure
c. Dynamic
d. Static

(x) Insurance companies manage risks by_________________.
a. Diversification
b. Reinsurance
c. Matching and hedging of assets
d. All of the above

Answers:

1. (b) 2.(a) 3.(d) 4.(b) 5.(b) 6.(a) 7.(d) 8.(b) 9.(d) 10.(d)

(b) Based on the following case study, you are required to answer the questions no. (i) to (v)

The Bangalore branch of South Indian Bank granted a loan of Rs.25 Crore to Excel Manufacturers Ltd. The term of the loan was 10 years with applicable interest rate of 3% over the base rate. At present the base rate is 9% p.a. The loan is repayable in 40 quarterly instalments with a moratorium of two quarters. The bank funded the loan entirely out of fixed deposit issued at 8% p.a. The fixed deposit, however, had a tenure of 6 years only. Based on the given information, answer the following questions. Ignore impact on CRR and SLR.

(i) In the given situation, the loan carries a floating rate based on base rate while the deposit

carries a fixed rate. Now, if the base rate declines over the first 6 years resulting into a reduction in the interest rate, what type of risk, the bank is exposed to____________.

a. Funding Risk
b. Embedded Options Risk
c. Basis Risk
d. Gap or Mismatch

(ii) The bank apprehends that the rate of interest at the end of 6 years on a loan and the fresh deposit to be raised for funding this loan will be different. This risk is termed as____________________.

a. Reinvestment Risk
b. Embedded Option Risk
c. Basis Risk
d. Gap or Mismatch

(iii) The bank apprehends that the quarterly collection of the instalments on loan may have to be deployed into fresh loans at a lower rate than the existing one. Due to this, the bank is exposed to ______________.

a. Reinvestment Risk
b. Embedded Option Risk
c. Basis Risk
d. Gap or Mismatch

(iv) South Indian Bank also has an apprehension that Excel Manufacturers Ltd. may prepay the loan at the end of 5th year and may not continue the same till the maturity. Due to this, the bank is exposed to ______________.

a. Reinvestment Risk
b. Embedded Option Risk
c. Basis Risk
d. Gap or Mismatch

(v) Which of the following risks is not associated with this loan issued to Excel Manufacturer?

a. Liquidity Risk
b. Equity Risk
c. Credit Risk
d. Operational Risk

Answers:

i.(c)
ii.(d)
iii.(a)
iv.(b)
v.(b)

SECTION-B

(Answer any 5 questions out of 7 questions given. Each question carries 14 marks.)

[5 x 14 = 70]

2. (a) List the broad parameters of risk management function. **[7]**

Answer.

The broad parameters of risk management function should encompass:

i. Organizational structure;
ii. Comprehensive risk measurement approach;
iii. Risk management policies approved by the Board which should be consistent with the broader business strategies, capital strength, management expertise, and overall willingness to assume risk;
iv. Guidelines and other parameters used to govern risk taking including the detailed structure of prudential limits;
v. Strong MIS for reporting, monitoring, and controlling risks;
vi. Well laid out procedures, effective control, and comprehensive risk reporting framework;
vii. Separate risk management framework independent of operational Departments and with clear delineation of levels of responsibility for the management of risk; and
viii. Periodical review and evaluation.

(b) Demonstrate the Principles for banks and supervisors on interest rate risk. **[7]**

Answer.

The following principles define supervisory expectations for the management of IRRBB. Principles 1 to 7 are of general application for the management of IRRBB, covering expectations for a bank's IRRBB management process, in particular the need for effective IRRBB identification, measurement, monitoring, and control activities. Principles 8 and 9 set out the expectations for market disclosures and banks' internal assessment of capital adequacy for IRRBB respectively.

Principles 10 to 12 address the supervisory approach to bank's IRRBB management framework and capital adequacy.

1. IRRBB is an important risk for all banks that must be specifically identified, measured, monitored and controlled. In addition, banks should monitor and assess CSRBB.

2. The governing body of each bank is responsible for oversight of the IRRBB management framework, and the bank's risk appetite for IRRBB. Monitoring and management of IRRBB may be delegated by the governing body to senior management, expert individuals, or an asset and liability management committee (henceforth, its delegates). Banks must have an adequate IRRBB management framework, involving regular independent reviews and evaluations of the effectiveness of the system.

3. The banks' risk appetite for IRRBB should be articulated in terms of the risk to both economic value and earnings. Banks must implement policy limits that target maintaining IRRBB exposures consistent with their risk appetite.

4. Measurement of IRRBB should be based on outcomes of both economic value and earnings-based measures, arising from a wide and appropriate range of interest rate shock and stress scenarios.

5. In measuring IRRBB, key behavioural and modeling assumptions should be fully understood, conceptually sound, and documented. Such assumptions should be rigorously tested and aligned with the bank's business strategies.

6. Measurement systems and models used for IRRBB should be based on accurate data, and subject to appropriate documentation, testing, and controls to give assurance on the accuracy of calculations. Models used to measure IRRBB should be comprehensive and covered by governance processes for model risk management, including a validation function that is independent of the development process.

7. Measurement outcomes of IRRBB and hedging strategies should be reported to the governing body or its delegates regularly, at relevant levels of aggregation (by consolidation level and currency).

8. Information on the level of IRRBB exposure and practices for measuring and controlling IRRBB must be disclosed to the public regularly.

9. Capital adequacy for IRRBB must be specifically considered as part of the Internal Capital Adequacy Assessment Process (ICAAP) approved by the governing body, in line with the bank's risk appetite on IRRBB.

10. Supervisors should, regularly, collect sufficient information from banks to be able to monitor trends in banks' IRRBB exposures, assess the soundness of banks' IRRBB management, and identify outlier banks that should be subject to review and/or should be expected to hold additional regulatory capital.

11. Supervisors should regularly assess banks' IRRBB and the effectiveness of the approaches that banks use to identify, measure, monitor, and control IRRBB. Supervisory authorities should employ specialist resources to assist with such assessments. Supervisors should cooperate and share information with relevant supervisors in other jurisdictions regarding the supervision of banks' IRRBB exposures.

12. Supervisors must publish their criteria for identifying outlier banks. Banks identified as outliers must be considered as potentially having undue IRRBB. When a review of a bank's IRRBB exposure reveals inadequate management or excessive risk relative to capital, earnings, or general risk profile, supervisors must require mitigation actions and/or additional capital.

The implementation of these principles should be commensurate with the bank's nature, size, and complexity as well as its structure, economic significance, and general risk profile.

3. (a) Discuss the internal and external factors in banks that may potentially lead to liquidity risk problems in Banks. **[7]**

Answer.

The internal and external factors in banks that may potentially lead to liquidity risk problems in Banks are as under:

Internal Banking Factors	External Banking Factors
High off-balance sheet exposures	Very sensitive financial markets depositors.
The banks rely heavily on the short-term corporate deposits.	External and internal economic shocks.
A negative gap (liability is more than the asset) in the maturity dates of assets and liabilities.	Low/slow economic performances.
The banks' rapid asset expansions exceed the available funds on the liability side	Decreasing depositors' trust on the banking sector.
Concentration of deposits in the short-term Tenor.	Non-economic factors.
Less allocation in the liquid government instruments.	Sudden and massive liquidity withdrawals from depositors.
Fewer placements of funds in long-term deposits.	Unplanned termination of government deposits.

(b) Debt Repudiation vs. Debt Rescheduling – discuss. **[7]**

Answer.

Loan repudiation refers to a situation of outright default where the borrower refuses to make any further payments of interest and principal. In contrast, loan rescheduling refers to a temporary postponement of payments during which time new terms and conditions are agreed upon between the borrower and lenders. In most cases, these new terms are structured to make it easier for the borrower to repay. The reasons why it is easier to reschedule debt in the form of bank loans than bonds, especially in the context of post-war lending in international financial markets, include:

(a) Loans usually are made by a small group (syndicate) of banks as opposed to bonds that are held by individuals and institutions that are geographically dispersed. Even though bondholders usually appoint trustees to look after their interests, it has proven to be much more difficult to approve renegotiation agreements with bondholders in contrast to bank syndicates.
(b) The group of banks that dominate lending in international markets is limited and hence able to form a cohesive group. This enables them to act in a unified manner against potential defaults by countries.
(c) Many international loans, especially those made in the post-war period, contain cross-default clauses, which make the cost of default very expensive to borrowers. Defaulting on a loan would trigger default clauses on all loans with such clauses, preventing borrowers from selectively defaulting on a few loans.

(d) In the case of post-war loans, governments were reluctant to allow banks to fail. This meant that they would also be actively involved in the rescheduling process by either directly providing subsidies to prevent repudiations or providing incentives to international agencies like the IMF and World Bank to provide other forms of grants and aid.

4. (a) Discuss the types of loan commitments, its advantages and disadvantages. **[7]**

Answer.
loan commitment is an agreement by a commercial bank or other financial institution to lend a business or individual a specified sum of money. A loan commitment is useful for consumers looking to buy a home or a business planning to make a major purchase.

Loan commitments can be either secured or unsecured.

Secured Loan Commitment:
A secured commitment is typically based on the borrower's creditworthiness and it has some form of collateral backing it. Two examples of open-end secured loan commitments for consumers are a secured credit card–where money in a bank account serves as collateral–and a home equity line of credit (HELOC)–in which the equity in a home is used as collateral.

Unsecured Loan Commitment:
A loan that doesn't have any collateral backing is primarily based on the borrower's creditworthiness. An unsecured credit card is one very basic example of an unsecured open-end loan commitment. Typically, the higher the borrower's credit score, the higher the credit limit.

However, the interest rate may be higher than on a secured loan commitment because no collateral is backing the debt. Unsecured loans typically have a fixed minimum payment schedule and interest rate.

Advantages and Disadvantages of Loan Commitments:

Open-end loan commitments are flexible and can be useful for paying unexpected short-term-debt obligations or covering financial emergencies. In addition, HELOCs typically have low-interest rates, which may make their payments more affordable. Secured Credit Cards can help consumers establish or rebuild their credit; paying their bills on time and keeping total credit card debt low will improve their credit scores, and in time they may be eligible for an unsecured credit card. The downside of a secured loan commitment is that borrowers who take out too much money and are unable to repay the loan may have to forfeit their collateral. For example, this could mean losing their home. Unsecured commitments have a higher interest rate, which makes borrowing more expensive.

(b) International Bank has provided the following information relating to its advance portfolio as of Mar 31, 2023:
Total advances of ₹40,000 Crores. Gross NPA 9% and Net NPA 2%. Based on this information, answer the following questions:
(i) Considering that all the standard loan accounts represent general advances, what is the amount of provision for standard loan accounts?
(ii) What is the provision on NPA accounts?
(iii) What is the total amount of provisions on total advances, including the standard accounts? **[7]**

Answer.

(i) Standard account Total =₹40,000 Crores - 9% NPA = ₹3,600 Crores
= ₹40,000 Crores - ₹3,600 Crores = ₹36,400 Crores.
Provision at 0.4% =₹ 36,400 Crores x 0.4% =₹145.60 Crores.

(ii) Provision on NPA = Gross NPA 9% - Net NPA 2% = 7%
i.e., ₹40,000 Crores x 7% =₹2,800 Crores.

(iii) Provision on NPA = Gross NPA 9% - Net NPA 2% = 7%
i.e., ₹40,000 Crores x 7% = ₹2,800 Crores.
Provision on standard account ₹145.60 Crores.
Hence Total Provision =₹ 2,945.60 Crores.

5. (a) International Bank has paid up capital of ₹200 Crores, free reserves of ₹600 Crores, provisions and contingencies reserves ₹400 Crores, Revaluation Reserve of ₹600 Crores, Perpetual non-Cumulative Preference Shares of ₹800 Crores, and Subordinated Debt of ₹600 Crores. The Risk Weighted Assets for Credit and Operational Risk are ₹20,000 Crores and for-Market Risk ₹8,000 Crores. Based on the above information, determine the following:
(i) The amount of Tier-1 capital.
(ii) The amount of Tier-2 capital.
(iii) The capital adequacy ratio of the bank. **[7]**

Answer.

(i) Tier-1 = Capital + Free Reserves + Perpetual non-cumulative preference shares
= ₹200 Crores + ₹600 Crores + ₹800 Crores =- ₹1,600 Crores.

(ii) Tier II = (Provisions and Contingencies Reserves Maximum 1.25% of Risk Weighted Assets)
+(Revaluation Reserve at 55% Discount) + (Subordinated Debts)

= ₹350 Crores + ₹270 Crores (₹600 Crores x 45%, at 55% discount) + ₹600 Crores
= ₹1,220 Crores.

(iii) Capital adequacy ratio of the bank:
₹2820 Crores / ₹28000 Crores = 10.07%

(b) List the features of Insurance. **[7]**

Answer.

Features of Insurance:

1. Sharing of Risk:

Insurance is a device to share the financial losses which might befall an individual or his family in the

happening of a specified event.

The event may be the death of a breadwinner to the family in the case of life insurance, marine-perils in marine insurance, fire in fire insurance, and other certain events in general insurance, e.g., theft in burglary insurance, accident in motor insurance, etc. The loss arising from these events, if insured, is shared by all the insured in the form of a premium.

2. Co-operative Device:

The most important feature of every insurance plan is the cooperation of a large number of persons who, in effect, agree to share the financial loss arising due to a particular risk that is insured.

Such a group of persons may be brought together voluntarily or through publicity or solicitation of the agents.

3. Value of Risk:

The risk is evaluated before insuring to charge the share of an insured, herein called, Consideration or premium. There are several methods of evaluation of risks.

If there is an expectation of more loss, a higher premium may be charged. So, the probability of loss is calculated at the time of insurance.

4. Payment at Contingency:

The payment is made at a certain contingency insured. If the contingency occurs, payment is made. Since the life insurance contract is a contract of certainty, because the contingency, the death, or the expiry of the term will certainly occur, the payment is certain. The contingency is that the fire or the marine perils, etc., may or may not occur in other insurance contracts.

So, if the contingency occurs, payment is made. Otherwise, no amount is given to the policy-holder. Similarly, in certain policies, payment is not certain due to the uncertainty of a particular contingency within a particular period.

5. Payment of Fortuitous Losses:

Another characteristic of insurance is the payment of fortuitous losses. A fortuitous loss is unforeseen and unexpected and occurs as a result of chance. In other words, the loss must be accidental.

For example, a person may slip on an icy sidewalk and break a leg. The loss would be fortuitous. Insurance policies do not cover intentional issues.

6. Amount of Payment:

The amount of payment depends on the value of loss due to the particular insured risk provided insurance is there up to that amount. In life insurance, the purpose is not to make good the financial loss suffered. The insurer promises to pay a fixed sum on the happening of an event.

If the event or the contingency takes place, the payment does fail due if the policy is valid and in force at the time of the event, like property insurance, the dependents will not be required to prove the occurring loss and the amount of loss.

It is immaterial in life insurance what was the amount of loss was at the time of contingency. But in the property and general insurances, the amount of loss and the happening of loss is required to be proved

7. A large number of Insured Persons:

To spread the loss immediately, smoothly, and cheaply, a large number of persons should be insured. The co-operation of a small number of persons may also be insurance, but it will be limited to the smaller area. The cost of insurance for each member may be higher.

6. (a) Discuss the records to be maintained by a Corporate Agent. **[7]**

Answer.

Following are the Records to be maintained by the Corporate Agent:

a) Records of KYC as required under the Prevention of Money Laundering Rules;

b) Copy of Proposal form, with Agent's Confidential Report duly signed by the concerned Specified Person;

c) Policy Register;

d) Complaints Register;

e) Specified Persons Register;

f) Copies of correspondence exchanged with IRDAI;

g) Financial Statements including annual Balance Sheet, Profit and Loss account etc. – details of payments made to and payments received from Group entities of corporate agents to be separately disclosed in the accounts. Non-exclusive corporate agents to separately capture the income from insurance intermediation in their books of account;

h) Records to be maintained for a minimum period of 10 years.

(b) The Government of India has taken number of initiatives to boost the insurance industry. Discuss any seven of such initiatives. **[7]**

Answer.

The Government of India has taken number of initiatives to boost the insurance industry. Some of them are as follows:

- In 2022, the Indian government plans to sell a 7% stake in LIC for Rs. 50,000 crores (US$ 6.62 billion). This is the largest initial public offering (IPO) in India.
- In November 2021, the Indian government signed an agreement with the World Bank for a US$ 40 million project to advance the qualities of health services in Meghalaya, including the state's health insurance programme.
- In September 2021, the Union Cabinet approved an investment of Rs. 6,000 crores (US$ 804.71 million) into entities, offering export insurance cover to facilitate additional exports worth Rs. 5.6 lakh crore (US$ 75.11 billion) over the next five years.
- In August 2021, the Parliament passed the General Insurance Business (Nationalisation) Amendment Bill. The bill aims to allow privatisation of state-run general insurance companies.
- In June 2021, the government extended a Rs. 50 lakhs (US$ 66.85 thousand) insurance coverage scheme for healthcare workers across India until the next one year.
- Under Union Budget 2021, fund of Rs. 16,000 crores (US$ 2.20 billion) has been allocated for crop insurance scheme.
- Life insurance industry in the country is expected to increase by 14-15% annually for the next three to five years.

7. (a) Demonstrate the underwriting risks faced by the insurance companies. **[7]**

Answer.

Given below are some of the underwriting risks facing the insurance companies and the list is by no means exhaustive.

♦ Flawed Product definition

- Product not be appropriate for the market.
- Pricing of the product might not be correct
- Unfavourable Terms and conditions of the product.
- Adverse selection.
- Inappropriate discounts.
- Inability to reach the project sales volume.

(b) Enumerate the information which a product proposal includes to assist the Board or senior management in making informed decisions, in relation to Risk Reduction. **[7]**

Answer.

The insurer should ensure that the product proposals include the following information to assist the Board or senior management in making informed decisions:

- scope and level of coverage proposed for the product including options and guarantees, if any;
- risk exposure limits (which can be defined by premiums, sum insured, probable maximum loss or other risk measures and may also include interim limits to manage new product growth);
- reinsurance protection;
- pricing methodology;
- delegation of authority for underwriting and claims;
- underwriting and claims assessment criteria;
- investment strategy;

8. (a) A Gujarat-based Cooperative bank permitted loans amounting to ₹1,500 Crores to the Group Companies of M/s Patel and Shah Limited, against overpriced shares of Group Companies. The following modus operandi was followed by the bank in disbursing these loans:

The bank will issue pay orders to the borrower without having any real cash balance in their account or without ensuring funding requirements as necessary in case of pre-paid instruments.

M/s Patel and Shah Limited was having an account with bank B at a branch in Ahmedabad. Bank B discounted the pay order issued by the Co-operative Bank amounting to ₹112 Crores and presented these through a clearing house. But the Co-operative Bank failed to honour the pay order due to a lack of funds. Resultantly, the pay orders were dishonoured. The clearing house regulator put an embargo on the Co-operative Bank.

Bank B is still to recover ₹90 Crores from M/s Patel and Shah Limited out of a total of ₹112 Crores. Later on, the investigations revealed that on the day of failure to make payment by the cooperative Bank, 65% of the pay orders discounted by Bank B belonged to the cooperative Bank.

Bank B now holds its manager responsible for inadequate management control.

It is also found that around 65% of total loans given by the said Co-operative Bank were restricted to 12 entities.

(i) Bank B's loss of ₹90 Crores in discounting the pay orders falls under which category of risk?

(ii) Cooperative Bank's outstanding loans to M/s Patel and Shah Limited group were more than 38% of their Capital Funds. Such high exposure to a single group by a bank is against the regulatory guidelines to avoid which kind of risk?

(iii) RBI is hesitant, for the time being, to put an embargo or ordered the liquidation of the said Co-operative Bank, as it could lead to a possible risk. Which kind of risk it would be?

(iv) As per existing guidelines of RBI, the Co-operative Bank was required to disclose its exposure to Capital Market under which heading? **[7]**

Answer.

(i) Credit risk & Operational risk, credit risk, because it involves borrowing and Operational risk, because of staff negligence.

(ii) Concentration Risk.

(iii) Systemic risk, because systemic risk means the risk of failure of a banking system due to the failure of a major bank

(iv) Exposure to sensitive sectors, Because Banks are submitting information to RBI on sensitive sector advances such as capital market exposure, commodity exposure, etc.

(b) True Ltd. is engaged in the business of manufacturing garments and has an office in New Delhi. The company is operating from rented premises. Management of the company decided to have its building/premises considering the requirement of more space and also to reduce the fixed expenses in the future.

Accordingly, the plan was made and fund arranging exercise begun. The funds available with the company were enough considering the current cost of construction. But management fears that construction costs will rise in the times to come and then the company may face a financial crunch. Management of the company seeks your guidance as to whether there is any way out that the risk of future price rise in construction costs can be handled/mitigated. Guide them suitably. **[7]**

Answer.

Risk transfer is another technique for handling risk. Risks can be transferred by several methods. Some of the methods are:

(i) Transfer of Risk by Contracts.
(ii) Hedging Price Risks and
(iii) Conversion to Public Limited Company.

In the given case, Transfer of Risk by Contract can be suggested. Unwanted risks can be transferred by contracts. For example, the risk of a defective television or stereo set can be transferred to the retailer by purchasing a service contract, which makes the retailer responsible for all repairs after the warranty expires. The risk of a substantial rent increase can be transferred to the landlord by a long-term lease. The risk of a substantial price increase in construction costs can be transferred to the builder by having a firm price in the contract rather than a cost-plus contract.