PAPER-20B: RISK MANAGEMENT IN BANKING AND INSURANCE
SUGGESTED ANSWERS
SECTION-A

1. (a)

(i) (B)

(ii) (C)

(iii) (B)

(iv) (D)

(v) (A)

(vi) (A)

(vii) (B)

(viii) (C)

(ix) (C)

(x) (C)

1. (b)

(xi) (C)

(xii) (B)

(xiii) (C)

(xiv) (A)

(xv) (B)

SECTION-B

2. (a)

The following are six essential loss control strategies aimed at reducing the possibility of a loss and/ or limiting the severity.

Avoidance:

By choosing to avoid a particular risk altogether, we can eliminate potential loss associated with that risk. For example, builders can choose to shut down construction operations in inclement weather; manufacturers can choose to halt production of faulty products before selling them to customers. Although risk avoidance is a simple method for controlling losses, this strategy isn't always practical because it can result in lost revenue potential.

Prevention:

Accepting that certain risks are unavoidable, we can implement preventative measures to reduce loss frequency. For example, installing video surveillance cameras can prevent the frequency of theft in stores. Lowering a highway speed limit can reduce the number of automobile accidents on a specific road. Loss prevention measures break the sequence of events leading to a loss and thus make a loss less likely to occur.

Reduction:

Reduction measures can be applied before and after a loss occurs to minimize the severity of potential losses. For example, erecting firewalls to limit damage from a fire is a pre-loss measure; activating a fire detection/suppression system is a post-loss measure. The physical and financial impacts of a loss are reduced by implementing this strategy.

Separation:
By isolating loss exposures from one another, we can minimize the adverse effects of a single loss. For example, storing inventory at two separate warehouses will minimize losses if one facility is destroyed. Separation of exposure units can reduce a business's dependence on a single asset, activity, or person, making individual losses smaller.

Duplication:
Keep backups, spares, or copies of critical property, information, or capabilities in reserve to use when a primary asset is damaged or destroyed. For example, store information on a backup server to use if the original server fails. Like separation, duplication can reduce a business's dependence on a single asset, activity, or person, making individual losses smaller.

Diversification:
Spread loss exposures over numerous projects, products, markets, or regions. For example, a business can enter into different geographic markets. If one market becomes too competitive, the other markets may still generate enough profit for the business to continue operations. Diversification prevents a single event or series of events from destroying a large percentage of the organization's assets.

2. (b)
The term structure of interest rates is a graph that plots the yields of similar bonds on the Y-axis with the maturities, or time, on the X-axis.

The reason why the term structure of interest rates and a yield curve is the same is that the graph of the term structure of interest rates plots different yields being offered by bonds of different maturities.

The term structure of interest rates can take one of three yield curve shapes: normal, inverted, and flat.

A normal yield curve means that as the maturity of the bonds increases in time, so do the yields, creating a convex shape. The yield curve represents the changes in interest rates associated with particular security based on the length of time until maturity. Unlike other metrics, the yield curve is not produced by a single entity or government.

Instead, it is set by measuring the feel of the market at the time, often referring to investor knowledge to help create the baseline. The direction of the yield curve is considered a solid indicator of the current direction of an economy.

An inverted yield curve means short-term yields are higher than long-term yields, and the curve slopes downward in a concave fashion. This means yields and maturities are negatively inverted. In addition to its impact on investors, an inverted yield curve also has an impact on consumers. For example, homebuyers financing their properties with adjustable-rate mortgages (ARMs) have interest-rate schedules that are periodically updated based on short-term interest rates. When short-term rates are higher than long-term rates, payments on ARMs tend to rise. When this occurs, fixed-rate loans may be more attractive than adjustable-rate loans.

Lines of Credit are affected similarly. In both cases, consumers must dedicate a larger portion of their incomes toward servicing existing debt. This reduces expendable income and hurts the economy as a whole.

A flat yield curve means there is little or no variation between yields and maturities, and all maturities have similar yields. This makes the yield curve parallel to the X-axis. A flattening yield curve may be a result of long-term interest rates falling more than short-term interest rates or short-term rates increasing more than long-term rates. A flat yield curve is typically an indication that investors and traders are worried about the macroeconomic outlook.

One reason the yield curve may flatten is market participants may be expecting inflation to decrease or the Bank Regulator of the Country to raise the Regulator funds rate in the near term.

3. (a)

The following are the main types of credit risks:

(i) Credit default risk:

Credit default risk occurs when the borrower is unable to pay the loan obligation in full or when the borrower is already 90 days past the due date of the loan repayment. The credit default risk may affect all credit-sensitive financial transactions such as loans, bonds, securities, and derivatives.

The level of default risk can change due to a broader economic change. It can also be due to a change in a borrower's economic situation, such as increased competition or recession, which can affect the company's ability to set aside principal and interest payments on the loan.

(ii) Concentration risk:

Concentration risk is the level of risk that arises from exposure to a single counterparty or sector, and it offers the potential to produce large amounts of losses that may threaten the lender's core operations. The risk results from the observation that more concentrated portfolios lack diversification, and therefore, the returns on the underlying assets are more correlated.

For example, a corporate borrower who relies on one major buyer for its main products has a high level of concentration risk and has the potential to incur a large amount of losses if the main buyer stops buying their products.

(iii) Country risk:

Country risk is the risk that occurs when a country freezes foreign currency payment obligations, resulting in a default on its obligations. The risk is associated with the country's political instability and macroeconomic performance, which may adversely affect the value of its assets or operating profits. The changes in the business environment will affect all companies operating within a particular country.

Factors Affecting Credit Risk Modelling:

In order to minimize the level of credit risk, lenders should forecast credit risk with greater accuracy. Listed below are some of the factors that lenders should consider when assessing the level of credit risk.

(i) Probability of Default (POD):

The probability of default, sometimes abbreviated as POD, is the likelihood that a borrower will default on their loan obligations. For individual borrowers, POD is based on a combination of two factors, i.e., credit score and debt-to-income ratio.

The POD for corporate borrowers is obtained from credit rating agencies. If the lender determines that a potential borrower demonstrates a lower probability of default, the loan will come with a low interest rate and low or no down payment on the loan. The risk is partly managed by pledging collateral against the loan.

(ii) Loss Given Default (LGD):

Loss-given default (LGD) refers to the amount of loss that a lender will suffer in case a borrower defaults on the loan. For example, assume that two borrowers, A and B, with the same debt-to-income ratio and an identical credit score. Borrower A takes a loan of ₹1,00,000 while B takes a loan of ₹2,00,000.

The two borrowers present with different credit profiles, and the lender stands to suffer a greater loss when Borrower B defaults since the latter owes a larger amount. Although there is no standard practice of calculating LGD, lenders consider an entire portfolio of loans to determine the total exposure to loss.

(iii) Exposure at Default (EAD):

Exposure at Default (EAD) evaluates the amount of loss exposure that a lender is exposed to at any particular time, and it is an indicator of the risk appetite of the lender. EAD is an important concept that references both

individual and corporate borrowers. It is calculated by multiplying each loan obligation by a specific percentage that is adjusted based on the particulars of the loan.

Exposure at Default (EAD) is the predicted amount of loss a bank may face in the event of and at the time of, the borrower's default. The loss is dependent upon the amount to which the bank was exposed to the borrower at the time of default, as the default occurs at an unknown future date. It is obtained by adding the risk already drawn on the operation to a percentage of undrawn risk.

3. (b)

Dealing in foreign currencies and with counterparties in another country, will sometimes result in country risk. Movement of funds across international borders creates uncertainty with regard to their receipts and payments and this uncertainty is defined as country risk. The foreign parties may be unwilling or unable to fulfil their obligations for reasons, such as the imposition of exchange and other controls by the central bank or the government regulation, on which the parties do not have any control (externalization). Country risk is considered very high in the case of countries which are facing problems related to foreign exchange reserves, balance of payments, management of resources, liquidity, etc.

Country risk is usually controlled by fixing country-wise exposure limits and, the risk being dynamic, it has to be constantly monitored, more particularly in case of difficult countries. The difficult countries may give high returns, as not too many countries, banks or parties may wish to take exposure to such countries.

It would be worthwhile to mention that country risk is different from the usual credit and other risks associated with lending decisions, like credit risk, settlement risks, liquidity risk, etc.

A country risk arises when the counterparty or the borrower or the buyer is a good credit risk and does not have any desire to default, but by local laws or directives, is forbidden by the government or the central bank to honour the commitment. A sovereign risk is larger, when the counterparty is the foreign government itself or any of its agencies, and enjoys sovereign immunity under the laws, with no legal recourse to another party. Another dimension of sovereign risk could be a change in the government policies, or the change in the government itself, which could invalidate the previous contracts and thus forbid the parties concerned to complete or take recourse for the same.

While sovereign risk cannot be completely avoided when dealing with another country, it can be suitably reduced by inserting disclaimer clauses in the documentation and also by making the contracts and the sovereign counterparties subject to a third-country jurisdiction.

Comments: Country Risk is the risk associated with those factors which determine or affect a country's ability and willingness to pay on-schedule interest and amortization on its external debt. More specifically, it is the credit risk of borrowers in a country as a whole viewed from a specific country perspective. It differs from sovereign risk in that the latter is the credit risk of a sovereign government as a borrower. Thus, country risk analysis consists mainly of the assessment of the political and economic factors of a borrowing country which may interrupt timely repayment of principal and interest. Country risk needs to be treated as a separate risk- different from the credit risk of individual borrowers because the borrowers don't have any control over these factors. The country risk analysis results are used as pre-lending as well as post-lending decision tools. Prior to lending, decisions such as whether or not to lend, how much to lend, and how much risk premium it should charge, are based on the measured risk. After lending, periodic country risk analysis serves as a monitoring device, providing a prewarning system. The result of the analysis is also used to determine the need for bank loan portfolio adjustment and the discount prices of loans when they are sold in the secondary market.

4. (a)

Identification of operational risk:

Banks should identify and assess the operational risk inherent in all material products, activities, processes, and systems. Banks should also ensure that before new products, activities, processes, and systems are introduced or undertaken, the operational risk inherent in them is identified clearly and subjected to adequate assessment procedures.

Risk identification is paramount for the subsequent development of a viable operational risk monitoring and control system. Effective risk identification should consider both internal factors (such as the bank's structure, the nature of the bank's activities, the quality of the bank's human resources, organizational changes, and employee turnover) and external factors (such as changes in the industry and technological advances) that could adversely affect the achievement of the bank's objectives.

The first step towards identifying risk events is to list out all the activities that are susceptible to operational risk.
Usually, this is carried out at several stages.

- The main business groups viz. corporate finance, trading and sales, retail banking, commercial banking, payment, and settlement, agency services, asset management, and retail brokerage.

- The analysis can be further carried out at the level of the product teams in these business groups, e.g., transaction banking, trade finance, general banking, cash management, and securities markets.

- Thereafter the product offered within these business groups by each product team can be analyzed, e.g., import bills, letters of credit, and bank guarantees under trade finance.

After the products are listed, the various operational risk events associated with these products are recorded. An operational risk event is an incident/experience that has caused or has the potential to cause material loss to the bank either directly or indirectly with other incidents. Risk events are associated with the people, processes, and technology involved with the product.

Assessment of Operational Risk:

In addition to identifying the risk events, banks should assess their vulnerability to these risk events. Effective risk assessment allows a bank to better understand its risk profile and most effectively target risk management resources. Amongst the possible tools that may be used by banks for assessing operational risk are:

- **Self-Risk Assessment:**
  A bank assesses its operations and activities against a menu of potential operational risk vulnerabilities. This process is internally driven and often incorporates checklists and/or workshops to identify the strengths and weaknesses of the operational risk environment. Scorecards, for example, provide a means of translating qualitative assessments into quantitative metrics that give a relative ranking of different types of operational risk exposures. Some scores may relate to risks unique to a specific business line while others may rank risks that cut across business lines. Scores may address inherent risks, as well as the controls to mitigate them.

- **Risk Mapping:**
  In this process, various business units, organizational functions, or process flows are mapped by risk type. This exercise can reveal areas of weakness and help prioritize subsequent management action.

- **Key Risk Indicators:**
  Key risk indicators are statistics and/or metrics, often financial, which can provide insight into a bank's risk position. These indicators should be reviewed periodically (such as monthly or quarterly) to alert banks to changes that may be indicative of risk concerns. Such indicators may include the number of failed trades, staff turnover rates, and the frequency and/or severity of errors and omissions.

4. (b)

(i) The protection seller compensates the protection buyer for the loss on the face value of the asset received by the protection buyer.
This is equal to ₹10 million × (100% – 45%) = ₹5.5 million.

(ii) The protection buyer makes annual payments equal to ₹10 million × 0.03 = ₹3,00,000

The protection buyer pays the accrued premium from the previous premium payment date to the time of the credit event. The credit event occurs after 2 months, then the protection buyer pays:
₹10 million × 0.03 × 2/12 = ₹50,000 of the premium accrued

5. (a)

(i) Standard account Total = ₹50,000 Crores - 8% NPA = ₹4,000 Crores
= ₹50,000 Crores - ₹4,000 Crores = ₹46,000 Crores.
Provision at 0.4% = ₹46,000 Crores x 0.4% = ₹184.00 Crores.

(ii) Provision on NPA = Gross NPA 8% - Net NPA 3% = 5% i.e.
₹50,000 Crores x 5% = ₹2,500 Crores.

(iii) Provision on NPA = Gross NPA 8% - Net NPA 3% = 5% i.e.,
₹50,000 Crores x 5% = ₹2,500Crores.
Provision on standard account ₹184.00 Crores.
Hence Total Provision = ₹2,684 Crores

(iv) Gross NPA = ₹50,000 Crores x 8% = ₹4,000 Crores.
Net NPA = ₹50,000 Crores x 3% = ₹1,500 Crores.

(v) Provision coverage ratio for NPA =
Total provision on NPA / Gross NPA
= ₹2,500 Crores / ₹4,000 Crores = 62.5%

(vi) Minimum provision required =
Gross NPA x 70% = ₹4,000 Crores x 70% = ₹2,800 Crores

5. (b)

Onsite Inspections:

The Authority has the power to call for any information from entities related to the insurance business – Insurance companies and intermediaries, as may be required from time to time.

On-site, inspection is normally carried out on an annual basis which includes inspection of corporate offices and branch offices of the companies. These inspections are conducted to check compliance with the provisions of the Insurance Act, Rules, and regulations framed thereunder.

The inspection may be comprehensive to cover all areas or maybe targeted on one, or a combination of, key areas.

When a market-wide event having an impact on the insurers occurs, the Supervisor obtains relevant information from the insurers, monitors developments, and issues directions as it may consider necessary. Though there is no specific requirement, events of importance trigger such action. The supervisor reviews the "internal controls and checks" at the offices of Insurance companies, as part of an on-site inspection.

Off-site Inspections:

The primary objective of off-site surveillance is to monitor the financial health of Insurance companies, identifying companies that show financial deterioration and would be a source for supervisory concerns. This acts as a trigger for timely remedial action.

The off-site inspection is conducted by analyzing periodic statements, returns, reports, policies, and compliance certificates mandated under the directions issued by the Authority from time to time. The periodicity of these filings is generally annual, half-yearly, quarterly, and monthly and is related to business performance, investment of funds, remuneration details, expenses of management, business statistics, and auditor certificates related to various compliance requirements.

The statutory and the internal auditors are required to audit all the areas of functioning of the Insurance companies.

The particular area of focus is the preparation of accounts of the company to reflect the true and fair position of the company as of the Balance Sheet date. The auditors also examine compliance or otherwise with all statutory and regulatory requirements, and in particular whether the Insurance Company has been compliant with the various directions issued by the supervisor. In addition, the Authority relies upon the certifications which form part of the Management Report. The Board is required to certify that the management has put in place an internal audit system commensurate with the size and nature of its business and that it is operating effectively.

All Insurance companies are required to publish financial results and other information in the prescribed formats in newspapers and on their websites at periodic intervals.

6. (a)

A surveyor and a Third-Party Administrator (TPA) both come into the picture for a claim settlement purpose for insurance products but their roles are quite different.

The Primary responsibility of a surveyor is to estimate the liability of the loss incurred by the policyholder who has taken insurance cover, to enable the assurance company to arrive at the amount to be indemnified to the policyholders under the terms of the insurance contract. A surveyor has to be a qualified person both academically as well as technically with experience in the field in which he is required to offer his services for the survey.

Surveyors come into the picture when estimated losses are more than ₹ 50,000 for a motor insurance claim and over ₹ 1 lakh in other insurance claims, such as for fire or marine insurance.

Third-Party Administrator (TPA) is a person (generally a company) complying with certain requirements as stipulated under the Act. TPAs are appointed by an insurance company to render services in connection with the health insurance business. TPAs are also required to deal with the claim settlement process in the case of health insurance policies, but they do not act like surveyors, as they do in the case of general insurance business.

A person can act as a TPA only with a valid license issued by IRDAI to perform the functions of a TPA. It is generally only a company registered under the Companies Act which is allowed the licence to act as a TPA. The main object of the Memorandum of the company should provide for carrying out of the business as TPA in the health services. Further engaging in any other business than IPA is prohibited. The company must have a minimum paid-up capital of ₹ 1 crore at all times.

Thus, the role of the surveyor for general insurance (motor, marine and fire) and the role of TPA for health insurance come under after-sales services of the insurers and before and during the settlement of the claim. Prima facie the roles look to be the same, but functionally their roles are quite different. The surveyor only assesses the quantum of the claim and reports to the insurer whereas the TPA besides offering health-related services also processes the documents for the health insurance claims and communicates with the insured on behalf of the insurer.

6. (b)

Types of Postal Life Insurance Schemes:

1. Whole Life Insurance (Suraksha)
2. Endowment Assurance (Santosh)
3. Convertible Whole Life Insurance (Suvidha)
4. Anticipated Endowment Assurance (Sumangal)
5. Joint Life Endowment Assurance (Yugal Suraksha)
6. Scheme for Physically Handicapped Person
7. Children Policy (Bal JeevanBima)

Students are expected to elaborate briefly on the above schemes.

7. (a)

Alternative risk transfer (ART) refers to the products and solutions that represent the convergence or integration of capital markets and traditional insurance. The increasingly diverse set of offerings in the ART world has broadened the range of solutions available to corporate risk managers for controlling undesired risks, increased competition amongst providers of risk transfer products and services, and heightened awareness by corporate treasurers about the fundamental relations between corporate finance and risk management.

The alternative risk transfer (ART) market is a portion of the insurance market that allows companies to purchase coverage and transfer risk without having to use traditional commercial insurance. The ART market includes risk retention groups (RRGs), insurance pools, and captive insurers, wholly-owned subsidiary companies that provide risk mitigation to its parent company or a group of related companies.

- The alternative risk transfer (ART) market allows companies to purchase coverage and transfer risk without having to use traditional commercial insurance.
- The ART market includes risk retention groups (RRGs), insurance pools, captive insurers, and alternative insurance products.
- Self-insurance is a form of alternative risk transfer when an entity chooses to fund its own losses rather than pay insurance premiums to a third party.

Examples of ART:

- Securitisation and insurance derivatives.
- Insuratisation.
- Finite and financial reinsurance.
- Captives.

Captives and protected cells:

Businesses bundle up their risks before transferring to reinsurers or the capital markets.

Insurance companies generally secure their financial security arising from policy claims through re-insurance and retrocession. These are the traditional methods of financial security, but through the passing of time, there are various products available in the market, by utilizing those an insurance company transfers its risks or pays its liabilities arising in the future by utilizing capital market instruments and derivatives. The Alternative Risk Financing market is a huge market.

This is not a replacement in whole or part of the regular and traditional insurance market but it plays as an Alternate Market for the Insurance Companies. It relegates insurance to just one of a complete range of risk financing techniques and is transforming the insurance industry to deal with hitherto uninsurable business risks such as fluctuation in interest rates, rates in foreign exchange, temperature fluctuation, and commodity prices.

The new forms are financial hybrid and their intention is to cover a customised combination of:

1. Event Risks (Natural disasters, etc.) and;
2. Financial Risks (Interest rate fluctuation, foreign exchange fluctuation, commodity prices, etc.).

7. (b)

Depending on emerging threats, professionals in the insurance sector face a wide variety of risks. Let's take a look at some examples of what those risks might be (and what to do about them):

Property damage:

Insurance companies are often concerned with protecting their clients' physical assets, including their brick-and-mortar properties. While natural disasters and other events may not destroy property entirely, they always pose a significant threat to a business's ability to operate normally.

Mitigation Options:

- Invest in inadequate insurance coverage.
- Implement strategic controls for prevention.
- Develop a fool proof Business Continuity Plan that is proactively communicated with the organization.

Data breaches:

There's no question that businesses are relying more on technology today than ever before, meaning everyone is more susceptible to the risks associated with technology. Cyber security threats and ransomware attacks in recent years have skyrocketed, and data hacks have impacted businesses of all industries and sizes.

Mitigation Options:

- Conduct intuitive and objective IT risk assessments.
- Align policies and procedures to best-practice frameworks and regulations like ISO, NIST, COBIT, GDPR, CCPA, and more.
- Take a holistic approach to managing IT risk by engaging departments across the enterprise.

Product or Service Issues:

When customers feel that their product did not meet expectations, challenges and risks are inevitable. So how do prevent those risks from materializing into a more serious offense like a lawsuit?

Mitigation Options:

- Invest in professional liability insurance.
- Implement ERM software in the organization to prevent negligence claims.
- Conduct vendor due diligence to prevent third-party providers from producing products or services that don't meet the organization's standards.

Human Capital Costs:

Employees pose a significant amount of risk to any business. Human needs and how they make decisions can directly impact a company's well-being.

Mitigation Options:

- Invest in workers' compensation insurance.
- Focus on protecting the organization from liability claims by investing in enterprise risk management software.
- Conduct mid-year reviews (at the minimum) to determine where to invest more time and where to scale back resources.

8. (a)

Report to the Management

To
The Management
Reliable Bank Ltd

Subject: Asset Liability Management Policy Recommendations

Dear Management,

Following our detailed discussion on Asset Liability Management (ALM), I have formulated a policy proposal based on the guidelines issued by the Reserve Bank of India (RBI) regarding the placement of volatile portions of money in different maturity buckets. The policy aims to effectively manage capital, reserves, and deposit accounts while adhering to the RBI guidelines.

Placement of Current and Saving Account Deposits:

According to the RBI guidelines, savings bank deposits and current account deposits are classified into volatile and core portions. The volatile portion comprises 10% of savings bank deposits and 15% of current account deposits. The placement of these portions is as follows:

(A) Volatile Portion (to be placed in 14 days bucket):	(₹ Crore)
Savings Bank Deposits	560
Current Account Deposits	210
(B) Core Portion	
Savings Bank Deposits	5,040
Current Account Deposits	1,190

Placement of Term Deposits (up to less than 12 months maturity):

The term deposits are to be placed in their respective maturity buckets as follows:	**(₹ Crore)**
1-month maturity bucket	560
1 month to less than 3 months maturity bucket	1,120
3 months to less than 6 months maturity bucket	1,680
6 months to less than 12 months maturity bucket	2,800
Total:	6,160

Other Relevant Information:

Capital: ₹1,652 Crore

Reserves: ₹16,800 Crore

Borrowing from RBI: ₹560 Crore

The capital and reserves are to be placed in the over 5-year bucket as per RBI guidelines.

Please note that the proposed placements are in line with the RBI guidelines on Asset Liability Management, which aim to ensure effective management of the bank's assets and liabilities while considering the maturity profiles.

Should you require any further information or clarification, please do not hesitate to contact me. I am available to discuss the details of this report and address any questions you may have.

Thank you for your attention to this matter.

Sincerely,
Management Accountant

8. (b)

Introduction:

This report presents the individual liability of insurers for the fire claim incurred by Western Ltd. on 31st July, 2024. The company had secured fire policies from three general insurers, namely M Insurance Co. Ltd., N Insurance Co. Ltd., and S Insurance Co. Ltd.

This question calls for an inter-say allocation of liabilities amount different insures have insured. The main idea of an insurance contract is to indemnify the insured, against losses. The insured cannot gain out of a loss and hence the claim will have to be settled on pro-rata basis by all the three insurers collectively as per their sum insured liability ratios.

Since there are three insurers, the liability to settle claims has to be distributed ratably. The claim amount has to be calculated applying the 'SUE" clause in the order namely:
S – Salvage
U – Under-insurance
E – Excess

The distribution will be as under:

The actual stocks at the time of loss were ₹1,60,00,000.
Insurance covers available are 75 lakh + 50 lakh + 25 lakh = ₹1.50 crore.

There is under insurance.

Loss	1,60,00,000
Less salvage	1,50,000
	₹1,58,50,000

The loss has therefore to be limited to the maximum of the same assured under the policies.

Loss limited to	1,50,00,000
Less 'Salvage'	1,50,000
Maximum Allowable	1,48,50,000

to be distributed among M, N & S in the ratio of 3:2:1 viz. after adjusting for the underinsurance clause.

The stocks were insured only to the value of ₹ 1,50,00,000 i.e., upto a value of 93.75%. Hence, the amount payable is to be adjusted for underinsurance after adjustment of salvage, and Excess of ₹10,000.

Hence 93.75% of ₹1,48,50,000 = 1,39,21,875 which is to be divided amongst the three insurers in rateable proportion after excess adjustment.

Actual Total Loss	₹1,60,00,000	
Loss limited to	₹1,50,00,000	
Less (-) 'Salvage'	₹1,50,00	₹ 1,48,50,000
Less (-) Underinsurance (6.25%)		₹ 9,28,125
		₹ 1,39,21,875
Less (-) Mandatory Excess*		₹10,000

(* 5% of every claim subject to a minimum of ₹10,000 is taken as mandatory excess)
Balance Amount of loss payable ₹1,39,11,875

Loss Payable ₹1,39,11,875 to be distributed among M, N & S in the ratio of 3:2:1
(Based on the respective contribution of M, N and S in the Sum Assured)
M Insurance Co. Ltd., 3/6 of 1,39,11,875 or ₹ 69,55,938
N Insurance Co. Ltd., 2/6 of 1,39,11,875 or ₹ 46,37,292
S Insurance Co. Ltd., 1/6 of 1,39,11,875 or ₹ 23,18,645

Conclusion:

Based on the calculations, this report provides the individual liability of each insurer for the fire claim faced by Western Ltd. It is recommended that the company contacts the respective insurers to initiate the claim settlement process according to their individual liabilities.

Please note that this report provides an estimate of individual liabilities and the final settlement amounts may be subject to the terms and conditions of the insurance policies and agreements between Western Ltd. and the insurers.