RISK MANAGEMENT IN BANKING & INSURANCE

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

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

SECTION – A (Compulsory)

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

(i) Bankruptcy reorganizations are used by management to:
- **a. Forestall the inevitable liquidation in all cases.**
- **b. Allow the courts time to set up an administrative structure**
- **c. Provide time to turn the business around.**
- **d. None of the above.**

(ii) A Cap Also Called Ceiling -
- **a. Is A Call Option on Interest Rate**
- **b. A Put Option on Interest Rate**
- **c. A Short Option on Interest Rate**
- **d. All of the above**

(iii) Which of the following is the correct definition of Loss Given Default (LGD)?
- **a. It measures the remaining economic maturity of the exposure**
- **b. It is the estimated amount outstanding in a loan commitment if default occurs**
- **c. It measures the proportion of the exposure that will be lost if Default occurs**
- **d. It measures the likelihood that the borrower will default over a given time horizon**

(iv) Operational Risk is the risk of _____.
- **a. When borrowers or counterparties fail to meet contractual obligations.**
- **b. The unpredictability of equity markets, commodity prices, interest rates, and credit spreads.**
- **c. Loss due to errors, interruptions, or damages caused by people, systems, or processes.**
- **d. All of the above.**

(v) Which of the following is contract between two insurers i.e. original insurer and another insurer?
- **a. Premium**
- **b. Cover note**
- **c. Reinsurance**
- **d. Co-insurance**

(vi) In which Policy, the insurer agrees to pay the assured or his nominees a specified sum of money on his death or on the maturity of the policy whichever is earlier?
- **a. Money Back Plan**
- **b. Annuity Policy**
- **c. Unit-linked insurance plan**

d. Endowment Plans

(vii) What is the minimum capital and net worth requirement for exclusive corporate agents under IRDAI regulations?
a. ₹10 lakhs
b. ₹25 lakhs
c. ₹50 lakhs
d. ₹1 crore

(viii) Calculate the refund amount considering the given information: Sum Insured: ₹100.00 lakh, Premium Paid: ₹1,00,000.00, Units allotted at the time of Policy Issuance: 8,000 @ ₹10.00 per unit, Medical Expenses: ₹ 5,500 , The proportionate Risk premium for the cover period: ₹12,500
Stamp Duty Charges: ₹ 800, Fund Manager Charges: ₹1,200. Unit Price as of the date of cancellation: ₹9.50 per unit.
a. ₹77,000
b. ₹56,000
c. ₹60,000
d. ₹85,000

(ix) Master policy is issued for _____.
a. group insurance schemes
b. individual insurance
c. permanent insurance
d. Term insurance schemes

(x) ____ refers to the manner in which the risk control measures that have been implemented shall be financed.
a. Risk retention
b. Risk avoidance
c. Risk financing
d. Risk transfer

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

Mumbai branch of Popular Bank granted a term loan of 2 Crores to a reputed corporate client for 6 years at 2% + Base rate. Presently, the base rate of the bank is 10%. The loan will be repaid by the company in 20 equal quarterly installments with a moratorium period of 6 months. The loan has been funded by the bank out of fixed deposit @ 7% fixed rate of interest, of equal amount, with a maturity period of 4 years. The CRR and SLR are to be ignored for any calculations.

(i) In this case, the loan is carrying a floating rate and the deposit is carrying a fixed rate. If the rate of interest is reduced during the first 4 years i.e., during the period of FDR, 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 rate of interest at the end of 4 years on a loan and the fresh deposit to be raised for funding this loan can be different. This is called:
a. Gap or Mismatch.
b. Basis Risk.
c. Embedded Options Risk.
d. Reinvestment Risk.

(iii) There is a possibility that the company may prepay the loan or the depositor may withdraw the deposit prematurely. Due to this, the bank is exposed to:
a. Reinvestment Risk.
b. Embedded Option Risk
c. Basis Risk.
d. Gap or Mismatch.

(iv) With quarterly repayment of the loan, the repayment amount has to be deployed by the bank elsewhere and the rate of interest may not be at par with the interest being charged on the loan. 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 other risk is not associated with this transaction?
a. Liquidity Risk.
b. Market Risk.
c. Credit Risk.
d. Operational Risk.

Answer:

i	ii	iii	iv	v	vi	vii	viii	ix	x
c	a	c	c	c	d	c	b	a	c

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

Section – B

(Answer any five questions out of seven questions given. Each question carries 14 Marks)

[5 x 14 = 70]

2. (a) Identify the core components of an effective risk management framework in financial institutions. [7]

(b) International Bank has following assets and liabilities in its balance-sheet as on March 31, 2022:

Capital	**₹4,000 Crores**
Reserves	**₹24,000 Crores**
Saving Bank Accounts	**₹12,000 Crores**
Term Deposits	**₹1,20,000 Crores**
Borrowing from RBI	**₹12,000 Crores**
Cash Balances	**₹27,000 Crores**
Balances with other Banks	**₹60,000 Crores**
Investment in Securities	**₹60,000 Crores**
Bills Payable	**₹8,000 Crores**
Cash Credit	**₹80,000 Crores**
Term Loan	**₹80,000 Crores and**
Fixed Assets	**₹12,400 Crores**
Total Assets and Total Liabilities	**₹4,00,000 Crores.**

The term loans have a fixed rate of interest. Based on this information, answer the following:

i. Calculate the amount of interest rate-sensitive assets (RSA).
ii. Calculate the amount of interest rate-sensitive liabilities (RSL).
iii. Determine the interest rate sensitivity gap and identify whether it is a positive or negative gap and by how much.
iv. Calculate the Tier-1 Capital of the bank. [7]

Answer:

(a)

- Comprehensive Risk Assessment: Decision-makers need to understand risk context and trends through evaluating a variety of factors, such as:
  - Root cause of the risk
  - Likelihood of a negative event.
  - Impact of a negative event.
  - Preparedness to respond to a negative event.
  - Trajectory of risk increasing, decreasing, or flat.
  - Activities to manage or reduce risk.
  - Residual risk if mitigating activities are accomplished.
  - Description of the environment.

A thorough risk assessment that analyses these elements allows an organization to pinpoint and address risk areas based on each area's specific circumstances. It can also inspire an organization to create new mitigation strategies that help prevent or manage future exposure. New mitigation strategies can take the form of policies and procedures, systems, processes, education, and personnel

- Risk-Focused Practices: Similar to risk assessments, there are traditional, narrow risk-focus practices that only analyse financial activities and controls. While it's critical to assess financial activities and controls, many other factors also put organizations at risk. That's why it's important to take a broader, more comprehensive approach to risk-focus practices, addressing top risk areas throughout the financial institutions.

- Address High-Risk Areas: More comprehensive evaluations focus on higher-risk areas, include the following:
  - Cyber security.
  - Reliance on third-party service providers.
  - Credit Risk and Current Expected Credit Losses (CECL) implementation.
  - Regulatory risk, the Anti-Money Laundering law (AML)
  - Fraud

- Improve Performance: All functional areas of financial institutions are connected, and each area has associated risks and opportunities for improving performance. Taking a more comprehensive approach to addressing an organization's risk areas allows evaluating potential issues that might otherwise be overlooked. In addition to the above risk areas, financial institutions should analyse the following elements to improve performance after a complete risk-focus assessment:
  - Governance and management. Such as leadership, development, and succession.
  - Structure and staffing. Including staffing levels, skills, training, recruiting, retention, and turnover.
  - Operational efficiency. Such as technology, internal controls, policies, and procedures.
  - Safety and security. Including fraud, waste, and abuse
  - Processes. Such as procurement, compliance, financial reporting, and marketing.

- Program Development and Implementation: While risk assessment is important, continuing to analyse and mitigate risk following the assessment is key to the company's continued safety. The hardest part of this process may be finding the time to prioritize continued mitigation efforts. This is where internal audits or risk management practices-depending on which functions exist within the organization can take on an expanded role to help the company:
  - Prioritize risk
  - Develop annual internal audit programs that focus on reducing priority risks.
  - Validate management actions.
  - Track and report program implementation progress.

- Implement Key Benefits: Of course, management is ultimately responsible for implementing new ways to mitigate risk, but there are many ways internal audits or risk-management practices can help, such as:
  - Providing policy, procedure, and process best practices.
  - Guiding efforts to update policies and procedures and streamline processes.
  - Supplying training opportunities
  - Focusing testing on areas of identified weakness.

(b)

(i) Assets other than cash and other assets like Fixed Assets are rate sensitive.

Interest Rate-Sensitive Assets = Total Assets−Non-Sensitive Assets (Cash + Fixed Assets)
= ₹4, 00,000 Crores − ₹27,600 Crores − ₹12,400 Crores
= ₹3, 60,000 Crores

(ii) Liabilities other than capital, reserves and current accounts are rate sensitive
RSL = Total Liabilities−Non-Sensitive Liabilities (Capital + Reserves + Non-Interest Deposits)
= ₹4, 00,000 − ₹4,000 + ₹24,000 + ₹1, 20,000
= ₹2, 52,000 Crores

(iii) Gap = RSA – RSL
= ₹3,60,000 − ₹2,52,000
= ₹1,08,000 Crores

Since assets > liabilities → Positive Gap
₹1, 08,000 Crores with Positive Gap

(iv) Tier-1 Capital = Capital + Reserves
= ₹4,000 + ₹24,000
= ₹28,000 Crores

3. (a) Examine the concept of Credit Default Swaps (CDS) in credit risk management and analyze why investors buy them. [7]

(b) Discuss the key channels of the sovereign-bank nexus and discuss policies to manage the related risks. [7]

Answer:

(a) Credit Default Swap (CDS) is a financial instrument for swapping the risk of debt default. Credit default swaps may be used for emerging market bonds, mortgage-backed securities, corporate bonds, and local government bonds. The buyer of a credit default swap pays a premium for effectively insuring against a debt default receives a lump sum payment if the debt instrument defaults. The seller of a credit default swap receives monthly payments from the buyer. If the debt instrument defaults, they have to pay the agreed amount to the buyer of the credit default swap. For example: An investment trust owns £1 million in corporate bonds issued by a private housing firm. If there is a risk the private housing firm may default on repayments, the investment trust may buy a CDS from a hedge fund. The CDS is worth £1 million. The investment trust will pay interest on this credit default swap of say 3%. This could involve payments of £30,000 a year for the duration of the contract. If the private housing firm doesn't default. The hedge fund gains the interest from the investment bank and. pays nothing out. It is simple profit. If the private housing firm does default, then the hedge fund has to pay compensation to the investment bank of £1 million the value of the credit default swap. Therefore, the hedge fund takes on a larger risk and could end up paying £ 1 million.

The higher the perceived risk of the bond, the higher the interest rate the hedge fund will require. In addition to hedging credit risk, the potential benefits of CDS include:

- Requiring only a limited cash outlay (which is significantly less than for cash bonds)
- Access to maturity exposures not available in the cash market.
- Access to credit risk with limited interest rate risk.
- Investments in foreign credits without currency risk.

- At times, more liquidity than investing in the underlying cash bonds.

The performance of credit default swaps, like that of corporate bonds, is closely related to changes in credit spreads. This sensitivity makes them an effective tool for portfolio managers to hedge or gain exposure to credit. Credit default swaps also allow for arbitrage opportunities.

Why Would People Buy Credit Default Swaps?

- Hedge against Risk : Suppose an investment fund owned mortgage bonds from riskymortgage.co.uk. It might be worried about losing all its investment. Therefore, to hedge against the risk of default, they could purchase a credit default swap from Lloyds TSB. If riskymortgage.co.uk defaulted, they will lose their investment, but receive a pay-off from Lloyds to compensate. If they don't default, they have paid a premium to Lloyds but have had security.
- Speculation : e.g., the Risk is Under-Priced. Suppose a hedge fund felt a risky mortgage was very likely to default because of a rise in home repossessions. They would buy a credit default swap. If the debt defaulted, then they would make a profit from Lloyds TSB. Note you don't have to own debt to take a credit default swap. The riskier a bond is the higher premium will be required from a buyer of a credit default swap. It is argued that credit default swaps provide an important role in indicating the riskiness/creditworthiness of a firm.
- Arbitrage : If a company's financial position improves, the credit rating should also improve and therefore, the CDS spread should fall to reflect an improved rating. This makes CDS more attractive to sell CDS protection. If the company's position deteriorated, CDS protection would be more attractive to buyers. Arbitrage could occur when dealers exploit any slowness of the market to respond to signals.

(b) First, banks and sovereigns are linked by multiple interacting channels:

- the sovereign-exposure channel (banks hold large amounts of sovereign debt).
- the safety net channel (banks are protected by government guarantees), and
- the macroeconomic channel (the health of banks and governments affect and is affected by economic activity)

Evidence suggests that all three channels are relevant.
Second, policies aimed at weakening the nexus should be designed from a holistic point of view. Measures targeting one channel may have undesired consequences for others (and thus could be counterproductive). In a related vein, because of the systemic nature of banks and sovereigns, the nexus can be weakened but not completely severed. Policies should be designed to acknowledge this constraint.

Third, stronger balance sheets and governance of banks and sovereigns may not sever the nexus, but they will reduce its relevance. Larger fiscal buffers and better management of public debt improve debt sustainability and reduce the risk of sovereign-related bank distress. Larger capital buffers and better prudential frameworks strengthen banks and reduce the risk of bank-induced sovereign distress.

Fourth, policies that discourage banks from holding excessive amounts of sovereign bonds, such as positive risk weights or limits on exposures, can improve financial stability and market efficiency. But they should be designed to minimize their procyclical effects. Further, banks hold some sovereign bonds as a natural feature of the financial system, so calibration should consider the benefits and costs of smaller holdings. Additional disclosure of sovereign holdings would strengthen market discipline.

Fifth, limits on public guarantees and private loss-sharing arrangements for bank resolution may reduce excessive risk-taking (ex-ante) and the direct fiscal cost of bank resolution (ex-post). Efforts to "end too-big-

to-fail" go in the right direction. However, simply limiting government backstops and safety nets could worsen an eventual banking crisis and increase its indirect fiscal and economic costs. Reforms of safety net arrangements should start with a sound resolution framework with broad resolution powers and tools, effective cross-border cooperation, and robust early intervention powers.

Sixth, there is an international dimension to the sovereign-bank nexus. In theory, the nexus would be weakened if banks were fully diversified across countries and had access to a supra-national safety net. However, because the latter is missing, cross-border diversification should not lead to complacency as bank exposures (and thus the strength of the nexus) can change quickly during crises. The lack of effective arrangements for cross-border resolution complicates the matter.

4. (a) Discuss different types of Loan commitment and the advantages and disadvantages associated with each. [7]

(b) International Bank has provided the following information relating to its advance portfolio as of Mar 31, 2022: Total advances of ₹ 40,000 Crores. Gross NPA 9% and Net NPA 2%. Based on this information, calculate the following:

(i) Considering that all the standard loan accounts represent general advances, calculate the amount of provision for standard loan accounts?
(ii) provision on NPA accounts?
(iii) total amount of provisions on total advances, including the standard accounts?
(iv) amount of gross NPA and net NPA?
(v) provision coverage ratio for NPA
(vi) minimum amount of provisions to be maintained by the bank to meet the provisioning coverage ratio of 70%? [7]

Answer:

(a) A 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.

Financial institutions make loan commitments based on the borrower's creditworthiness and if it's a secured commitment on the value of some form of collateral. In the case of individual consumers, this collateral may be a home. Borrowers can then use the funds made available under the loan commitment, up to the agreed-upon limit. An open-end loan commitment works like a revolving line of credit: When the borrower pays back a portion of the loan's principal, the lender adds that amount back to the available loan limit.
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. Because the credit limit is typically based on the value of the secured asset, the credit limit is often higher for a secured loan commitment than for an unsecured loan commitment. In addition, the loan's interest rate may be lower and the payback time may be longer for a secured loan commitment than for an unsecured one. However, the approval process typically requires more paperwork and takes longer than with an unsecured loan.

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. The process for acquiring this type of loan often takes less paperwork and approval time than a secured loan commitment.

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)

(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.

(iv) Gross NPA = ₹ 40,000 Crores x 9%
= ₹ 3,600 Crores.
Net NPA = ₹ 40,000 Crores x 2%
= ₹ 800 Crores.

(v) Total provision on NPA / Gross NPA
= ₹ 2,800 Crores / ₹ 3,600 Crores
= 77.8%

(vi) Provision = Gross NPA x 70%
= ₹3,600 Crores x 70%
= ₹2,520 Crores

5. **(a) Sniper 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, calculate the following:**

- **The amount of Tier-1 capital and Tier-2 capital.**
- **The amount of fund.**
- **The capital adequacy ratio of the bank.**
- **The amount of minimum capital to support Credit and Operational Risk.**
- **The amount of minimum Tier 1 and Tier 2 to support the credit and operational risk.**
- **The amount of Tier-1 and Tier-2 capital fund, to support Market Risk.** **[7]**

(b) Describe the role of insurance in economic development. **[7]**

Answer:

(a)

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

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 × 45%, at 55% discount) + ₹600 Crores
= ₹1,220 Crores.

(ii) Total Capital Fund = Tier - 1 capital + Tier - 2 capital
= ₹1600 Crores + ₹1220 Crores
= ₹2,820 Crores.

(iii) ₹2820 Crores / ₹28000 Crores = 10.07%

(iv) ₹20,000 Crores × 9% = ₹1,800 Crores

(v) Tier 1 = ₹20,000 Crores x 4.5%
= ₹900 Crores

Tier2 = ₹20,000 Crores x 4.5%
= ₹900 Crores

(vi) Total Tier-1 Minus Min Tier 1 for Credit and Operational risk
= ₹1,600 Crores - ₹900 Crores
= ₹700 Crores

Total Tier 2 Minus Min Tier 2 for credit and operational risk
= ₹1,220 Crores - ₹900 Crores
= ₹320 Crores

(b) Indian insurance companies play the following roles in the economic development of our country.

- Saving and Insurance: Saving involves refraining from present consumption. The investment can take place only when there are savings. The relationship between. saving, investment, and growth of GDP can be explained as: G = S / K. Where G – Rate of GDP growth, S – Saving Ratio, and K – Capital output ratio. Insurance companies lead to economic development by mobilizing savings and investing them into productive activities. Indian insurance companies can mobilize long-term savings to support economic growth and also facilitate economic development by providing insurance cover to a large segment of our people as well as to business enterprises throughout India.

- Capital Formation and Insurance: Capital formation may be defined as an increase in the capital stock of the country consisting of plants, equipment, machinery, tools, building, means of transport, communication, etc. The process of capital formation envisages three essential steps.
  These are:
  - Real saving: Mobilization of saving through financial and non-financial intermediaries to be placed at the disposal of investors.
  - The act of investment: The contribution of insurance companies in the process of capital formation appears at all these stages. Insurance services act as a tool to mobilize savings, function as a financial intermediary, and at times also indulge indirect investment. Also govt. has made regulations under which every insurer carrying on the business of life insurance shall invest 25% of funds in Govt. securities and not less than 15% in infrastructure and social sector.
  - Increased Employment: Before the liberalization of the insurance sector in India, the employment opportunities were limited with the LIC of India as the sole employer. While some of the professionals left the country looking for opportunities elsewhere, those who remained, worked within the confines and constraints of public sector monopoly.

- Obligation to Rural and Social Sector : In India, insurance companies are required to fulfil their obligation to rural and social sectors. For this, Life insurers are required to have 5%, 7%, 10%, 12%, and 15% of total policies in the first five years respectively in the rural sector. Likewise, General Insurers are required to have 2% 3%, and 5% thereafter of total gross premium income written in the first five financial years respectively in the rural sector.

- Insurance as a financial intermediary : Financial intermediaries perform the function of channelizing saving into domestic investment. They facilitate efficient allocation of capital resources, which in turn improves productivity and economic efficiency which results in a reduced capital-output ratio. Insurance companies perform an extremely useful function in the economy as financial intermediaries.

- Promotes Trade and Commerce : The increase in GDP is positively correlated to the growth of trade and commerce in the economy. Whether it is the production of goods and services, domestic or international trade, or venture capital projects, insurance dominates everywhere. Even banks demand insurance cover of assets while granting loans for the purchase of assets. Thus, insurance covers promote specialization and flexibility in the economic system that plays a contributory role in the healthy and smooth growth of trade and commerce.

- Facilitates efficient capital allocation : Insurance provides cover to a large number of firms, enterprises, and businesses and also deploys its funds in several investment projects. The vast pool of knowledge and expertise so gained enable them to distinguish between productive and high return projects. Therefore, they promote efficient and productive allocation of capital resources, which in turn lead to increased productivity and efficiency in the system.

- Encouraging Financial Stability and Reducing Anxiety : Insurer promotes financial stability in the economy by ensuring the risks and losses of individuals, firm, and organizations. Because of uninsured large losses, the firm may not be able to compensate for it leading to its insolvency which may cause loss of employment, revenue to suppliers & Govt., loss of products to the customer, etc. Moreover, it relieves the tensions and anxiety of individuals by securing the loss of their lives and assets.

- Reducing Burden on Govt. Exchequer : Insurance companies, particularly life insurers provide a variety of insurance products covering the needs of children, women, the aged, etc under the social security networks and thereby reduce the burden on Govt. the exchequer by providing these services. This Govt. saves expenditure on these items and the amount can be utilized for more productive projects. To conclude, we can say that insurance companies play an important role in the economic development of the country.

6. (a) Align the objectives of the Tariff Advisory Committee (TAC) with the broader regulatory goals of the Insurance Act, 1938. **[7]**

(b) Analyze some of the health insurance policies with the specific needs they fulfil. **[7]**

Answer:

(a) TAC is the Statutory Body under Insurance Act 1938. Tariff Advisory Committee controls and regulates the rates, advantages, terms and conditions that may be offered by insurers in respect of General Insurance Business relating to Fire, Marine (Hull). Motor, Eng. And Workmen Compensation. The main task of Tariff Advisory Committee is to regulate and control the rates, benefits, terms and conditions offered by life insurance companies in India.

The TAC Board has been reconstituted with seven members representing the present General Insurance Industry and eight members from government and Industry. The Controller of Insurance cum Chairman IRDA is the Chairman of TAC. TAC consists of Chairman, vice chairman and eight members. Tariff Advisory Committee has been designated by IRDA as the data repository for the non-life insurance industry. The transaction level data on Motor, Health and other lines are being collected for the Repository presently.

The Tariff Advisory Committee ("Advisory Committee") is a body corporate, which controls and regulates the rates, advantages, terms and conditions offered by insurers in the general Insurance business. The Advisory Committee has the authority to require any insurer to supply such information or statements necessary for discharge of its functions. Any insurer falling to comply with such provisions shall be deemed to have contravened the provisions of the insurance Act. Every Insurer is required to make an annual payment of fees to the Advisory Committee of an amount not exceeding in case of reinsurance business in India, one parent of the total premiums in respect of facultative insurance accepted by him in India; and in case of any other insurance business, one percentage of the total gross premium written direct by him in India.

Powers of the TAC:

- Power to control rates, advantages, terms and conditions in respect of risk other than life (general insurance): The Act empowers TAC to control and regulate the rates, advantages, terms and conditions offered by the insurers in respect of any class of risk and it shall be binding on all insurers. However, in certain cases it may permit any insure for a limited period (not exceeding 2 years) to adopt different rates from those fixed by it, subject to such conditions as may be imposed by TAC.
- TAC may require by notice under section 64 UE any insurer to supply necessary information within the period specified by it and failure to do so would be deemed as contravention of the Act.
- Section 64 UE empowers the Authority to depute any of its officers to make personal inspection of accounts, ledger etc. in order to verify accuracy of statements furnished by the insurer.
- TAC is also empowered to make arrangements for inspection on application of the insurer under sub-section (4) in respect of risks, adjustment of losses etc.
- TAC is empowered to constitute regional committees.

(b) The Health Insurance Policies are as follows:

- Family Floater Health Insurance : Family health insurance plan covers entire family in one health insurance plan. It works under assumption that not all member of a family will suffer from illness in one time. It covers hospital expense which can be pre and post. Most of health insurance companies in India offering family insurance have good network of hospitals to benefit the insurer in time of emergency.
- Pre-Existing Disease Cover Plans : It offers covers against disease that policyholder had before buying health policy. Pre-Existing Disease Cover Plans offers cover against pre-existing disease e.g., diabetes, kidney failure and many more. After Waiting period of 2 to 4 years it gives all covers to insurer.
- Senior Citizen Health Insurance : As name suggests these kinds of health insurance plans are for older people in the family. It provides covers and protection from health issues during old age. According to IRDA guidelines, each insurer should provide cover up to the age of 65 years.
- Maternity Health Insurance : Maternity health insurance ensures coverage for maternity and other additional expenses. It takes care of both pre- and post-natal care, baby delivery (either normal or caesarean). Like Other Insurance, the maternity insurance provider has wide range of network hospitals and takes care of ambulance expense.
- Hospital Daily Cash Benefit Plans : Daily cash benefits are a defined benefit policy that pays a defined sum of money for every day of hospitalization. The payments for a defined number of days in the policy year and may be subject to a deductible of few days.
- Critical Illness Plans : These are benefit-based policies which pay a lump-sum (fixed) benefit amount on diagnosis of covered critical lllness and medical procedures. These illnesses are generally specific and high severity and low frequency in nature that cost high when compared to day to day medical / treatment need. e.g., heart attack, cancer, stroke etc. Now some insurers have come up with option of staggered payment of claims in combination to upfront lump-sum payment.
- Disease Specific Special Plans : Some companies offer specially designed disease specific plans like Dengue Care. These are designed keeping in mind the growing occurrence of viral diseases like Dengue in India which has become a cause of concern and thus provide assistance based on medical needs, behavioural

and lifestyle factors associated with such conditions. These plans aim to help customers manage their unexpected health expenses better and at a very minimal cost. Healthcare has become one of India's largest sectors - both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players.

7. (a) Demonstrate the three major risk groups that are important to non-life insurance companies. [7]
(b) Demonstrate the concept and structure of captive insurance companies. [7]

Answer:

(a) The three major risk groups that are important to non-life insurance companies are:

1. Premium Risk: Premium related risk encompasses the risk in the process of product definition, pricing, underwriting, and selling either operating individually or collectively. 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.
   - Product might not be competitive.
   - Lenience in underwriting.
   - Adverse selection.
   - Inappropriate discounts.
   - Change in market, economy, regulation and judicial decisions and
   - Inability to reach the project sales volume.
   - Inadequate reinsurance.
   - Inability to get reinsurance cover.

2. Claims Risk: Claims risks are those risks involved in the claims process such as claim notification, adjudication, settlement, reserving, litigation and recovery consisting of:
   - Increased Severity.
   - Frequency of claims high above the expectation.
   - Increase in fraudulent claims.
   - Reporting delays.
   - Judicial decision adversely impacting the claims.
   - Latent claims.
   - Catastrophes.
   - Failure of reinsurers.
   - Accumulation of risk.
   - Expense risk.

3. Investment Risk: Investment risk is the risk of an adverse movement in the value of a general insurer's assets or off-balance sheet exposures which includes
   - Liquidity risk.
   - Market risk.
   - Credit risk.
   - Cash flow.
   - Security of capital. Insurance companies manage these risks by:
   - Diversification - by country, currency, industry, classes, assets.
   - Reinsurance.
   - Matching and hedging of assets.
   - Good management information system and
   - Internal control mechanisms.

(b) Captives is an insurer created and wholly owned by its sponsors to provide a facility to aggregate, insure and reinsure only their risks. This process is a legal and adopted in most of countries.

A captive insurance company is a wholly-owned subsidiary insurer that provides risk-mitigation services for its parent company or a group of related companies. A captive insurance company may be formed if the parent company cannot find a suitable outside firm to insure them against particular business risks, if the premiums paid to the captive insurer create tax savings, if the insurance provided is more affordable, or if it offers better coverage for the parent company's risks.

The insurance companies forming Captives as its wholly owned subsidiary and to lower company's insurance cost and provide more specific coverages, but also comes with additional overhead of running a distinct insurer. The main act of these Captives is to writing insurance policies of parent company or parent group companies. It does not insure any other company than its parent and parent group companies. This is a mode of tax savings for the parent companies.

A "captive insurer" is generally defined as an insurance company that is wholly owned and controlled by its insureds; its primary purpose is to insure the risks of its owners, and its insureds benefit from the captive insurer's underwriting profits.

These points do not clearly distinguish the captive insurer from a mutual insurance company. A mutual insurance company is technically owned and controlled by its policyholders. But no one who is merely a mutual insurance company's policyholder exercises control of the company? The policyholder may be asked to vote on matters requiring policyholder action. But this usually means that the policyholder will be presented with a proxy and advised by the board that runs the company as to how to exercise its vote. As soon as the insurance ceases, so does the policyholder's ownership status. The policyholder has not invested any assets in the insurance company and does not actively participate in running it.

Captive insurance is utilized by insureds that choose to:

- Put their own capital at risk by creating their own insurance company.
- Working outside of the commercial insurance marketplace.
- To achieve their risk financing objectives. Reviewing these three essential features of captive insurance will help to clarify

8. (a) A Corporate need a Corporate Loan of ₹1,000 Crores to be withdrawn immediately and availed for one year. Among other banks, Universal Bank is also approached for this. The bank is ready to sanction a loan up to ₹250 Crores (due to exposure ceiling), while the company has requested a loan of ₹500 Crores, as the balance part has been managed by the company, from other banks. To retain the customer, for accommodating the party to the extent of ₹500 Crores, Analyse, which of the following will be used by the bank.

(a) Credit Default Swap.
(b) Total Return Swap.
(c) Credit Linked Notes.
(d) Credit Spread Options. **[7]**

(b) M/s NG Ltd. is engaged in the manufacture and sale of metalized and coated films and papers. The company is planning to start a new manufacturing facility for which project planning has already begun. The project team is working day and night to procure land, financial arrangements, procuring orders and procurement of machinery from various places, storing machinery purchased and delivered, etc. The company agreed to purchase one Machinery from M/s GV Limited, England for a total value of £ 5 lakh. The machinery purchased was to be installed at the company's Plant at Jammu and to ensure, secured and safe delivery, the company took a marine cargo (Specific Voyage Policy) for a total assured sum of ₹500 lakh against any loss/damage occurring to the machinery during transit from Port to Jammu. The company paid the insurance premium due, to complete the contract. NG Ltd. bought the same policy from another insurer also for the same sum insured and on almost the same terms and conditions. The machinery had arrived at Mumbai Port and was delivered to the petitioner's warehouse at Jammu. However, on opening the packed cases, it transpired that the machinery had got damaged during transit. Both the diffusion pumps of the vacuum metallizer had cracked and the elbow of one of the pumps had bent and was damaged beyond repair. Consequently, insurers were informed about the damage and also sought for surveying assessment of loss estimated at ₹50 lakhs.

Answer the following questions considering the above:

1. **Is it possible that NG Ltd. can take multiple marine insurance policies for the same cargo? In insurance terminology, what do we call NG Ltd.?**
2. **Discuss the admissibility of the claim and which insurer will bear the loss?**
3. **Do you think any insurance product covers the project before it starts operations? Discuss.** **[7]**

Answer:

(a) Credit Default Swap. : The bank can sanction a loan of ₹500 Crores and go for a credit default swap (CDS) of ₹250 Crores and can sell this amount to a protection seller (particularly those banks that are at a disadvantage so for credit risk origination is concerned)-under CDS. In this transaction, the loan will continue to be with the originating bank and will not be required to be transferred to the bank.

(b)

1. It is possible that the Policyholder can take multiple marine insurance policies for the same cargo or freight with different insurers. Under such circumstances, where two or more policies are effected by or on behalf of the same assured on the same adventure and interest or any part thereof, and the sums insured exceed the

indemnity allowed by Marine Insurance Act, 1963, the assured is said to be over-insured by double insurance. NG Ltd. is called insured as NG Ltd. procures the policy or becomes the beneficiary through the insurance contract.

2. Claim is admissible and where the assured is over-insured by double insurance:
   - the assured unless the policy otherwise provides, may claim payment from the insurers in such order as he may think fit. However, he is not entitled to receive any sum over the indemnity allowed by this Act
   - where the policy under which the assured claims is a valued policy, the assured must give credit as against the valuation, for any sum received by him under any other policy, without regard to the actual value of the subject-matter insured.
   - where the policy under which the assured claims is an unvalued policy he must give credit, as against the full insurable value, for any sum received by him under any other policy
   - where the assured receives any sum over the indemnity allowed by Marine Insurance Act, 1963, he is deemed to hold such sum in trust for the insurers, according to their right of contribution among themselves.

3. Before an industry is set up, it involves project planning, financing, procurement of land, land levelling and earthwork, excavation of land, placing orders and procurement of machinery from various places, storing this machinery and other equipment connected with the project in safe conditions, erecting the equipment's as per a planned schedule and finally testing and commissioning the erected plant and machinery for their rated capacity. So, the project can be insured. The engineering policies, recommended at the project stage can be any one of the following three covers:
   - Erection All Risks (also known as Storage Cum Erection Insurance)
   - Contractors (Construction) All Risks Insurance.
   - Contractor's Plant and Machinery Insurance.