

DISCLAIMER

This Suggested Answer hosted on the website do not constitute the basis for evaluation of the student's answers in the examination. The answers are prepared by the Faculty of the Board of Studies with a view to assist the students in their education. While due care is taken in preparation of the answers, if any error or omission is noticed, the same may be brought to the attention of the Director of Board of Studies. The Council of the Institute is not in anyway responsible for the correctness or otherwise of the answers published herein.

Further, in the Elective Papers which are Case Study based, the solutions have been worked out on the basis of certain assumptions/views derived from the facts given in the question or language used in the question. It may be possible to work out the solution to the case studies in a different manner based on the assumptions made or views taken.

PAPER-6A – RISK MANAGEMENT

The Question paper comprises five case study questions. The candidates are required to answer any four case study questions out of five.

Answers in respect of Multiple Choice Questions are to be marked on the OMR Answer Sheet only. Candidates may use calculator

CASE STUDY: 1

Environmental concerns and various issues relating to availability of oil have made it necessary for the automobile sector to adopt battery operated/electric technology. ABC Scooters Limited decided to commence production of battery-operated electric scooters under Startup India Programme from April, 2019. The said company is a two-wheeler manufacturing company in Maharashtra. It was formed in the year 1997. It was manufacturing and selling 125-cc gearless scooters. The project technical manager of the company studied the feasibility of the project and noted the following:

- *The battery-operated electric scooter falls under the category of Battery Electric Vehicle (BEV). It will get the power to run from battery packs. It will not have an internal combustion engine or a fuel tank.*
- *It has a choice to use either of the two types of batteries (i) nickel metal hydride (NiMH) (ii) Lithium-ion (Li-ion)*
- *The usage of Li-ion batteries has become the industry standard and is preferred over NiMH batteries.*
- *The vehicle can be fitted with an in-built wireless connectivity, GPS navigator, digital console and mobile charger.*
- *Data such as the speed of the vehicle, mileage, time taken to charge, the condition of the battery and health of the engine could be collected and shared with the central sever through an application installed in the user's mobile. Such data would be automatically analyzed by software in the company's server and which in turn would give automated response to the users on various parameters.*
- *The mobile application would also provide the user information about the availability of nearby charging station, facility to reserve the time for charging and to make online payment.*
- *Standard charges can be used for charging the vehicles. A charge for four hours would make the vehicle run for 150 kms. at an average speed of 30 kms. per hour.*
- *Charging Stations to be established in petrol pumps on trial basis.*

Suitable modifications were done to the manufacturing facility and trial production commenced in January, 2019.

The risk management consultant engaged to explore the various risk aspects of the proposal made the following observations:

- The estimated project cost of manufacturing NiMH Batteries (Project A) and Li-ion Batteries (Project B) ` 30 Lakhs and ` 34 Lakhs respectively.
- During the trial run of 50 vehicles for 100 kms. at an average speed of 30 kms. per hour, five vehicles broke down due to battery failure.
- Based on projections made, the worst-case and best-case scenarios were analyzed using statistical tools. There are no precedents available to compare the results projected in the scenarios.
- The company can export the vehicles to neighboring countries. Thus, forward exchange contract with bank could be entered. The estimated US Dollar rate on 30th April, 2019 was ` 69.50 per dollar and it was expected that the rupee would weaken by 2% at the end of 3 months.
- The consultant stressed upon. to the management that the risk management should be a continuous and developing process which runs throughout the company and improvements are to be made proactively in the areas of: Strategy, dynamically adopted Tactics, achieving Operational Objectives and Compliances.
- The consultant elaborated on counter measures such as, periodic inspections of the supply chain mechanisms (SCM) and periodic staff training. The same to consider measures to be taken in case of shortage of availability of raw materials, skilled man-power and reduction in sales. There would be a disruption in company's SCM but that would not impact the ERM process and there is a 10% probability that the project would not be successful.

You are required to answer the following questions:

Multiple Choice Questions

Choose the most appropriate answer from the answer options.

- (1.1) During second trial run of another 50 vehicles with the same conditions as that of the first trial run, it was found that three vehicles broke down due to battery failure. The combined probability of vehicle break-down due to battery failure is:
- (A) 0.006
(B) 0.080
(C) 0.160
(D) 0.06
- (1.2) Forward exchange contract was entered into on 30th April 2019 with the bank for USD 10,000 for 3 months with its expected figure. The actual USD Rate on expiry of contract was ₹ 71/-. The company has:

- (A) Earned a profit of ₹ 1,390/-
- (B) Incurred a loss of ₹ 1,100/-
- (C) Incurred a loss of ₹ 1,500/-
- (D) Earned a profit of ₹ 1,420/-

(1.3) Which one of the following would MOST likely be called a systemic risk?

- (A) Failure of the outsourced person to supply the raw materials on time.
- (B) Risk of skilled employees leaving the employment of the organization en masse and joining the company of a competitor.
- (C) Break down of machinery.
- (D) Risk of disruption in the functioning of the entire industry.

(1.4) From your point of view, which of the following argument is correct with respect to the consultant's opinion on SCM?

- (A) Consultant is wrong as it increases speculative risks.
- (B) Consultant is right as it minimises the project risk.
- (C) Consultant is wrong as it has an effect on ERM process.
- (D) Consultant is right as it does not have an impact on human resource risk.

(1.5) The company's method of analyzing the stress scenario would chiefly be generated from:

- (A) Events that will cause movements in the relative risk factors.
- (B) Events that will have adverse risk factor movements.
- (C) Events that will lead to control failures and exposures.
- (D) Events that will have the attention of the board of directors.

(5 x 2 Marks = 10 Marks)

Descriptive Questions

(1.6) Discuss the methodology that you would suggest for analyzing the data on vehicular movement. (6 Marks)

(1.7) Net present value and probability distribution for Project A and Project B:

Project A		Project B	
NPV estimates (₹)	Probability	NPV estimates (₹)	Probability
12,00,000	0.10	12,00,000	0.40
11,00,000	0.20	11,00,000	0.30
9,00,000	0.30	9,00,000	0.20

7,50,000	0.40		7,50,000	0.10
	1.00			1.00

- (i) Compute the expected net present values of projects A and B.
- (ii) Compute the profitability index (PI) of each project and suggest which Project can be undertaken. **(5 Marks)**

(1.8) Briefly explain the areas of improvements suggested by the consultant with reference to the operations of the company. **(4 Marks)**

Answer

Multiple Choice Questions

- 1.1 (A)
 1.2 (B)
 1.3 (D)
 1.4 (C)
 1.5 (A)

Descriptive Questions

1.6 The data on vehicular movement is available to the company and the same creates probabilities for near real-time analysis.

Machine learning which is a standard software code is characterized by explicit rules that a computer is supposed to perform.

Deep learning and reinforced learning are good examples of newly developed machine learning techniques.

Machine learning techniques can be divided into two primary groups; 1) Supervised Learning and 2) Unsupervised Learning

For the company to process and analyse the data from the vehicles, the method of Unsupervised Machine Learning is suggested for the following reasons:

- As the data obtained from the vehicle is huge, statistical methods that aim to delve into the challenging realm of data that has no dependent or response variable i.e. there is no variable that supervises the behaviour of the algorithm.
- The primary aim of this kind of analysis is to understand the relationships between the variables or between the observations.
- The algorithms behind the unsupervised learning allow the computer systems to process complex processing tasks than the supervised learning method.

- As the data obtained are clustered into various groups by the unsupervised learning method, the reporting part is made easy.

1.7 Calculation of NPV and Profitability Index

- (i) Expected NPV of the Projects:

Project A

$$\begin{aligned}
 &= ₹ 12,00,000 \times 0.10 + ₹ 11,00,000 \times 0.20 + ₹ 9,00,000 \times 0.30 + ₹ 7,50,000 \times 0.40 \\
 &= ₹ 1,20,000 + ₹ 2,20,000 + ₹ 2,70,000 + ₹ 3,00,000 \\
 &= ₹ 9,10,000
 \end{aligned}$$

Project B

$$\begin{aligned}
 &= ₹ 12,00,000 \times 0.40 + ₹ 11,00,000 \times 0.30 + ₹ 9,00,000 \times 0.20 + ₹ 7,50,000 \times 0.10 \\
 &= ₹ 4,80,000 + ₹ 3,30,000 + ₹ 1,80,000 + ₹ 75,000 \\
 &= ₹ 10,65,000 \text{ or } ₹ 10.65 \text{ Lakh}
 \end{aligned}$$

- (ii) Computation of Profitability Index (PI)

Project A

$$\text{PV of Cash Inflows} = ₹ 30,00,000 + ₹ 9,10,000 = ₹ 39,10,000 \text{ or } ₹ 39.10 \text{ Lakh}$$

$$PI_A = \frac{₹ 39.10 \text{ Lakh}}{₹ 30.00 \text{ Lakh}} = 1.3033$$

Project B

$$\text{PV of Cash Inflows} = ₹ 34,00,000 + ₹ 10,65,000 = ₹ 44,65,000 \text{ or } ₹ 44.65 \text{ Lakh}$$

$$PI_B = \frac{₹ 44.65 \text{ Lakh}}{₹ 34.00 \text{ Lakh}} = 1.3132$$

Decision: Since NPV as well PI of Project B is more, the same project should be chosen.

- 1.8 The areas of improvement suggested by consultants with reference to the operation of company are:

Strategy: Strategic decisions are mostly long term and taken by the top management, such as, to become the market leader in the e-scooter category. As the company is venturing into new realms, periodical risk assessment is to be done exploring the possibilities of different strategic options, analyse them and adopting the best strategic decisions.

Dynamically adopting tactics: Tactical decisions are mostly taken by the middle level of management. In order to achieve the strategic decision of achieving the goal to become

the market leader, many tactical decisions, such as, expanding the business to new areas, introducing new products and services are to be taken periodically.

Achieving operational objectives: Any disruption to the operations would cause inconvenience to the company in achieving the various targets, reduction in profits etc., The company has to identify such disruptions and bottlenecks well in advance and take proactive actions to reduce the likelihood of such events occurring and therefore limit the damages, such as, ensuring continuous supply of raw materials to the production unit which in turn would ensure smooth production.

Compliances with various regulatory mechanisms: Of late, significant changes are made in various regulatory authorities in the country. Much time and cost could be saved in ensuring the timely compliances, such as, timely filing of various returns, payment of taxes, adherence to the rules and regulations etc.

CASE STUDY: 2

M/s. Modern Realty Developers is a partnership concern situated in Chennai. The current project of the firm is construction of 20 luxury apartments in the outskirts of Chennai. Each apartment is identical and the ultimate selling price of each apartment is ₹ 2.50 crores. The project had commenced in April, 2018 and the project completion is scheduled to be completed in September, 2019. Two apartments remained un-booked. A term loan was taken for ₹ 12 crores in April 2018 with no moratorium period.

Key figures :

Item	Projected	Actual
Project Completion	60%	45%
Collections from Customers	₹ 27 Crores	₹ 25 Crores
Term Loan payable to bank	12 installments	10 installments
Payments outstanding towards supply of materials	₹ 2 Crores	₹ 3 Crores
Salaries and Wages payable	Nil	25 lakhs
Outstanding statutory payments	Nil	50 Lakhs

Other issues faced:

- Workers hired were not adequately skilled.
- Scarcity of the Raw Material-river sand. Compelled to use substitute- M-Sand.
- Increase in price of construction materials by 10% over the estimated price.
- Acute water scarcity in Chennai.
- Accidents occurred. Workers and the site supervisors did not follow the safety regulations.

The construction industry today favours low cost housing aimed at the middle-class section of people. This is due to the availability of concessions in the form of reduced interest rates, interest subsidy and tax benefits. The workers at the construction site faced dust and pollution problems. The neighbours around the site were complaining about the increasing dust levels.

It was suggested that the workers use protective face masks and spray water to the buildings under construction. Data variables about the (i) dust control measures and (ii) dust levels were collected and correlation between the above two variables was calculated for further analysis.

When preparing the cement mortar, it was decided to use 1 part of cement and 6 parts of sand. Drawing samples from 20 places, where cement mortar was applied, it was found that at 3 places such ratio was not maintained. The management contemplated to provide training in (i) handling the equipment, (ii) work culture, (iii) safety programs.

Funds were earmarked for payment of income-tax. The same was utilized to purchase cement and bricks. Hence the payment of income-tax could not be made on the due date.

The firm received a notice from the bank asking for repayment of the outstanding dues immediately failing which, the bank would take precautionary steps to make the firm to prepay the loan.

Answer the following:

Multiple Choice Questions

Choose the most appropriate from the answer options:

(2.1) Instance of non-payment of income-tax on the due date would most likely show:

- (A) Risk appetite is lower than the risk capacity.
- (B) The firm has taken an internal risk.
- (C) The firm has considered it as a residual risk.
- (D) Risk appetite is higher than the risk capacity.

(2.2) Which of the following is MOST likely the reason that prompted the bank to issue such a notice?

- (A) The bank felt that it is facing Exposure Risk.
- (B) The bank felt that it is facing Default Risk.
- (C) The bank felt that it is facing Recovery Risk.
- (D) The bank felt that it is facing Guarantee Risk.

(2.3) The proposed action of the management to provide training and safety programs would fall under:

- (A) Risk Alternatives.

- (B) Insurance Alternatives.
- (C) Operational Alternatives.
- (D) Strategic Alternatives.

(2.4) What extra information is required to calculate the covariance discussed in the scenario?

- (A) Correlation Coefficient.
- (B) Sample Means.
- (C) Standard Deviation.
- (D) Conditional Probability.

(2.5) If the tolerable limit for exception was 6% in the case of cement mortar sampling, the most likely conclusion would be:

- (A) the control risk is high.
- (B) the detection risk is high.
- (C) the control risk is low.
- (D) the detection risk is low.

(5 x 2 Marks = 10 Marks)

Descriptive Questions

(2.6) Briefly explain the types of risks faced by the firm. (6 Marks)

(2.7) Prepare a sample risk register on dust and pollution risk faced in the activities of the firm. (5 Marks)

(2.8) Briefly explain the benefits of 'Improved risk measurement and Management' to the management. (4 Marks)

Answer

Multiple Choice Questions

2.1 (D)

2.2 (A)

2.3 (B)

2.4 (C)

2.5 (A)

2.6 The types of risk can be faced by the firm are as follows:

- (i) **Market Risk:** The firm is facing Market Risk due to adverse change in raw material cost and scarcity of water. There is lull in the demand for big housing projects as most of the middle-class households are moving towards low cost housing. Hence the firm could not sell/ book the two apartments.

- (ii) **Operational Risk:** Risk of loss resulting from failure of people employed in the organization as workers are not adequately trained and accidents are occurring at the site. In addition to this workers and supervisors are not following safety instructions. The inefficiency of the workers resulted in wastage of material and caused delay. The substitute for natural sand might result in poor finishing and less mortar bonding. Water scarcity forced the firm to pay extra money for the construction.
- (iii) **Compliance Risk:** As payment of Income Tax not made out on time. Hence it might face action from the Income Tax Department.
- (iv) **Strategic Risk:** Since the current and prospective impact on earning is adverse.
- (v) **Financial Risk:** The risks in connection with the cash flows and the pressure given by the bank in its notice for the repayment of the loan.
- (vi) **Credit Risk:** The inability of the firm to repay the outstanding dues to the bank.
- (vii) **Liquidity Risk:** The act of paying for the purchase of bricks and cement from out of the funds earmarked for the payment of Income Tax shows the firm is facing the same.
- (viii) **Reputation Risk:** As the project is getting delayed, the firm is subject to reputation risk.
- (ix) **Legal Risk:** The persons who have booked the apartments may sue the firm or ask for compensation for the delay in completion.
- (x) **Safety Risk:** The workers are not following the safety standards.
- (xi) **Environment Risk:** The increased dust and pollution cause environmental risks

2.7 Sample Risk Register on dust and pollution risk faced by the firm

Risk	Dust and Pollution Risk.
Causes	Usage of electric drills, hammers, cement & sand mixing etc.,
Consequences	Workers health affected, complaints from neighbours, regulatory authorities imposing fines etc.
Ownership	Owned by the site supervisors.
Inherent risk score	Seven out ten. This is calculated before implementing controls towards containing the dust and pollution
Controls	Provide safety masks, helmets, boots, hand gloves to workers. Sprinkle water periodically so that the minute waste does not fly.
Residual risk score	Four out of ten. After implementing the controls, residual risk stands at this level.

Process	Processes to control the dust are implemented
Action for further mitigation	To explore and study measures adopted by the other industry players. To educate and train the workers.
Action owner	Site Manager.
Due Date	Within three months.

2.8 The Risk Management Payoff Model of Epstein and Rejc, 2005, demonstrates how improved risk measurement and management provides benefits throughout the organization. Benefits extend to:

1. Enhanced working environment
Safety measures are to be addressed by giving training which in turn would increase the performance of the workers.
2. Improved allocation of resources to the risks that really matter
Key risk areas identified and resources are allocated.
3. Sustained or improved corporate reputation
By completing the project on time would increase the credibility of the firm.
4. Other gains, all of which lead to prevention of loss, better performance and profitability, and increased shareholder value.
By following better project management, the firm can reduce the wasteful expenditure and thereby achieving improved profitability.

CASE STUDY: 3

Ms. Rita is running a shopping mall RUBIK for the past six years. Sales for the year ended 31st March, 2019 was ₹10 Crores. In January 2019, a new branded shopping mall was started and from the said month there was a decline of 10% in sales of RUBIK.

Ms. Rita started studying the various aspects of risk management which are applicable and also capable of being applied to her business.

Ms. Rita started building the spending profiles of the customers based on their pin-codes.

The user ID of an employee who was dismissed last year was not deleted. The employee accessed the computer system remotely and transferred an amount of 5 lakhs to his bank account from Ms. Rita's bank account. Only on the next day of the transaction, Ms. Rita was able to find it out who then deleted the ex-employees ID, besides changing the password of her bank account. She lodged a complaint to the cyber-crime cell. It was noticed by her that the flash floods in the year 2015, which was the worst rainfall in 100 years in Chennai, had caused extensive damage to the goods in the ground floor. She decided to include the same in the risk consideration. She is also contemplating to borrow ₹ 2 Crores as long term loan for 15 years from the bank for the modernization of the shopping mall. She is nervous on taking on the burden

of such a huge loan amount. Due to sudden power spike, the computer server crashed resulting in 15-day data loss. Hence, Ms. Rita proposes to outsource the back-up services to a service provider situated in Hyderabad, besides installing a back-up server at the office.

Ms. Rita is estimating the sales of various products. She came out with the following:

- She is forecasting the sales performance for the FY 2019-2020 conditional on the market state of the country in which her business is based. She divides the market's performance into three categories of good, neutral and poor and the sales performance into three categories of increase, constant and decrease. The estimates are:
- Probability that the market state is good is 45%. In this state, probability for increase in sales is 70% and probability for decrease in sales is 15%.
- Probability that the market state is neutral is 30%. In this state, probability for increase in sales is 50% and probability for decrease in sales is 30%.
- If the market state is poor, probability of increase in sales is 25% and probability of decrease in sales is 60%.

You are requested to help Ms. Rita by answering the following:

Multiple Choice Questions

Choose the most appropriate answer from the answer options.

(3.1) The bank transfer off ₹ 5 lakhs could have been avoided if there was a strong:

- (A) Segregation of duties control
- (B) Data encryption
- (C) User access management
- (D) Firewall mechanism

(3.2) The samples are drawn out from the profiles of the customers for further analysis. Such an act of drawing the sample is known as:

- (A) Stratified sampling method.
- (B) Purposive sampling method.
- (C) Systematic sampling method.
- (D) Clustered sampling method.

(3.3) In the decision to include the damages due to flash floods in risk consideration, which of the following MOST likely should be given importance?

- (A) Strategic Plan.
- (B) Contingency Plan.

(C) Operational Plan.

(D) Tactical Plan.

(3.4) Which of the following would LEAST likely enable the identification of new risks?

(A) Periodically running some trend analysis reports to analyse incidents.

(B) Conducting root cause analysis.

(C) Using benchmarking techniques for comparing the risks with competitors.

(D) Recording incidents in a register.

(3.5) The proposal to engage the service provider at Hyderabad is an example of:

(A) Risk avoidance.

(B) Risk mitigation.

(C) Risk transfer.

(D) Risk acceptance.

(5 x 2 Marks = 10 Marks)

Descriptive Questions on CASE STUDY:

(3.6) Calculate the probability assuming the market state is neutral as the sales performance is more or less constant. **(6 Marks)**

(3.7) List the various Risk Maturity Levels and their Key Characteristics. **(5 Marks)**

(3.8) Briefly explain the economic risks that could be faced by Ms. Rita. **(4 Marks)**

Answer

3.1 (C)

3.2 (A) or (D)

3.3 (B)

3.4 (C)

3.5 (B)

3.6 Calculation of Probability

Using Bayes Theorem:

$$\begin{aligned}
 P[\text{Neutral}|\text{Constant}] &= \frac{P(\text{Constant} | \text{Neutral}) * P(\text{Neutral})}{P(\text{Constant})} \\
 &= \frac{0.30 \times 0.20}{(0.45 \times 0.15 + 0.30 \times 0.20 + 0.25 \times 0.15)}
 \end{aligned}$$

$$= \frac{0.06}{0.0675 + 0.06 + 0.0375}$$

$$= 0.3636 \text{ i.e. } 36.36\%$$

- 3.7 The table given below shows the levels of risk maturity. Key Characteristics at Different Levels of Risk Maturity: -

Risk Maturity	Key Characteristics
Risk Naive	No formal approach developed for risk management.
Risk Aware	Scattered silo based approach to risk management. Risks identified within functions and not across processes. Also risks not communicated across enterprise.
Risk Defined	Strategy and policy in place and communicated. Risk appetite defined.
Risk Managed	Enterprise wide approach to risk management developed and communicated. Risk register in place.
Risk Enabled	Risk management and internal control fully embedded into operations. Organization in readiness to convert market uncertainties into opportunities.

- 3.8 The various economic risks that could be faced by Ms. Rita are as follows:
- (i) The competitor opening a shopping mall nearby reduced the sales of the concern.
 - (ii) Lower income received as the sales are declining.
 - (iii) Increased cost of operations due to outsourcing back-up services to a service provider situated in Hyderabad.
 - (iv) Increased interest burden of loan services of Rs. 2 crores proposed to be taken for modernisation of Mall.
 - (v) Lack of capital for modernisation of the shopping mall has necessitated to obtain loan from the bank which would result in payment of interest to the bank.
 - (vi) Liquidity crunch would have a bearing on operational expenses.

CASE STUDY: 4

A company in the financial services sector has been fined by the Regulator for various breaches of relevant regulations owing to which they suffered Reputation Loss and Credibility among customers and the public. There is a possibility that some of the Directors and Officers may be penalised and could be sued by the shareholders for losses suffered and wrongs committed. The Board and the Top Management of the company were quite worried about this tum of events as breach of Corporate Governance norms and non-compliance of laws and regulations were not expected to happen in the company.

You have been appointed as the new Chief Risk Officer to review and ensure best practices in Corporate Governance particularly in the areas of compliance, disclosures, consumer protection, management of frauds and financial crime and ethical conduct in the organisation. It is a well understood fact that in the financial services sector, Regulators are active and regulatory risk is one of the major risks faced by companies in this sector. You are also aware that there have been many scandals and collapses in the financial sector world-wide and you share the concern of the Board that it is important to set benchmarks for governance in the company.

Keeping in mind that disclosures are information that is meant for shareholders, consumers who have bought products from the company and for other stakeholders such as employees, agents, other intermediaries and those in the ecosystem of the company, you are asked to reshape the disclosure policy of the company in tune with regulations and best practices.

Consumer protection is increasingly being focused on by Regulators. Consumer Forums, Courts and other bodies raise their voices against customer service deficiencies and penalise companies. They are shamed when such information is circulated in the media. The CRO is asked to ensure that conduct risk is better managed by a cultural change in the organisation.

Fraud and financial crime are on the rise and these can be happening with the connivance of or wholly by employees and even at senior management levels. Cyber-crimes, frauds and losses are becoming common place and there is a need to ensure that systems are security proofed and employees are made aware of the risks. This can be further risk proofed by raising the ethical standards and putting place necessary controls to ensure that the conduct of everyone in the institution is ethical and upright.

You have been asked to advise the Board and draft suitable policies for upgrading corporate governance practices and risk management. To bring about cultural change in areas that is dependent on management and employee conduct. To create a culture that is customer oriented and strongly against violations of regulations. To discourage opaque practices that give rise to arbitrary decisions at operational levels as these work against customers, reputation and bottom line of the company.

Based on such a background and considering the OECD guidelines on corporate Governance, please answer the following questions.

Multiple Choice Questions

Choose the most appropriate answer from the following

(4.1) *Corporate Governance risk is intended to identify deficiencies that can damage the following important existential aspects of the company.*

Point out the wrong answer.

- (A) Reputation.*
- (B) Existence.*

- (C) Sales growth.
- (D) Continuity.
- (4.2)** A holistic risk management framework would empower the Board to Point out the wrong answer.
- (A) Identify top threats to the entity and asset protection measures.
- (B) Link risks to more efficient capital allocations and business strategy.
- (C) Develop a common language in the organisation for problem solving.
- (D) Look back strategy made to ensure that best practices are continued.
- (4.3)** Stress Tests are important for Banks and are an important aspect for Board/Corporate Governance oversight. Choose the right reason for conducting Stress Tests from the options given below:
- (A) To deal with natural and manmade asset and disaster risks.
- (B) To manage optimally business and portfolio downside movement.
- (C) To manage political and country risks.
- (D) To prevent fraud risks, malpractices and financial crimes.
- (4.4)** Credit risk mitigation in Banks is a key concern of the Board. It can include the following except one. Point out which answer is inappropriate.
- (A) Norms of lending are tightened.
- (B) Credit insurance.
- (C) Making Covenants with the borrowers.
- (D) Verification of assets.
- (4.5)** Normally every Board of a company should have a Risk Committee. Among other things the following are the duties of this Committee except one, which?
- (A) Risk Committee discusses every matter in the agenda of the Board prior to the Board Meeting.
- (B) Is required to review and approve the company's risk policies at least annually.
- (C) Discusses all the risk strategies on both aggregate basis and by risk type.
- (D) Oversees that management puts in place robust processes to ensure adherence to the risk policies approved by the Board. **(5 x 2 Marks = 10 Marks)**

Descriptive Questions

- (4.6)** Explain Corporate Governance referring to OECD guidelines and explain how the Board can shield against Corporate Governance Risks. **(5 Marks)**

(4.7) What is the type of risk management that is to be initiated by the Board/Management so as to prevent frauds and financial crimes? (5 Marks)

(4.8) How can Credit Risk Management be upgraded to ensure that risk of default is kept to the minimum. (5 Marks)

Answer

Multiple Choice Questions

4.1 (C)

4.2 (D)

4.3 (B)

4.4 (D)

4.5 (A)

4.6 There are many areas of risk that a company may face relating to governance risks. The absence of an effective corporate governance framework and properly documented governance policies can create serious risks. There has to be equitable treatment of shareholders, and the role of stakeholders have to be defined, communicated and monitored, to prevent risks in these areas.

There are disclosure and transparency norms and if they are not articulated, considerable risks arise. The various responsibilities of the Board cannot be left undefined, nor undocumented or not reviewed. If the Board has not defined risk capacity, appetite and risk response strategies, and initiated a proper enterprise risk management policy and approach to risks, there can arise risks for governance.

The Board cannot be ignorant of the risks facing the company. Risk managers should be independent and be not implementing strategy. The Risk management function and the CRO should report directly to the Board. Board should ensure that risk management and oversight practices should not face challenges and all stakeholder concerns should be met. Boards need to look at the long term; many risks will arise if the focus is on the short term. They need to disclose the process of risk management and the results of risk assessments. They should ensure that whistle-blower matters are attended, and shield the company against negative media reports, shareholder activism, unauthorised related party transactions, disputes among promoter/owners and other shareholders.

An independent assessment of risk governance framework has to be initiated so that there is an improving risk management capability for the company. The risk management framework (RMF) should define a policy statement on matters such as determining when to review the RMF and the frequency for undertaking the review, and deciding who is

responsible for the review. This may be done by the Audit Committee or a team of Directors or with external facilitation and selecting the scope and review. The results have to be sent to the various layers of the company and risk management tightened and enhanced.

- 4.7** Fraud risk is an inherent risk which arises from the opportunities to make an unlawful gain by an internal employee or an external person or entity by exploiting the gaps in the processes of the organisation. Fraud risk in financial reporting also has assumed importance. The COSO framework has been enhanced to ensure highest degree of accuracy and completeness in financial statements. Operational control failures such as those that allow an employee to deliberately tamper with the data can lead to fraud risk owing to poorly designed reporting of data.

Fraud risk can be reduced by ensuring that there are controls in place, such as proper verification by the same or another person. There has to be reconciliation of facts and figures. Equally important is the segregation of duties which will not allow a person of one department to carry out the entire transaction on his own. There is also the need for physical controls such as safekeeping of money, documents, legal agreements in safe vaults etc. Use of two keys may be required when dealing with high amounts of cash or high value documents. There has to be supervisory controls, exception triggers and proper authorisation and approval. There has to be proper preventive controls, detective controls, manual controls and automated controls.

The Board has to see that the Internal Audit Function has carried out their management function in ensuring that internal controls and other defences are in place so that the chances of fraud and financial crimes are minimised and there is a tightening based on reviews.

- 4.8** The first step is to identify credit risks and hence there is need to study borrower's profile to understand the borrower's financial stability, regularity in payments, possibility of default risk, the source of income etc.

Credit risk has to be migrated through means such as funded and non-funded risk mitigation. Funded credit is when the bank has recourse to cash or assets of the buyers. Funded credit mitigation methods include On Balance Sheet Netting of mutual claims/reciprocal cash balances between the bank and counterparty. Another method is collateral method whereby assets or security is retained or deposited with the bank against grant of any loan advances, debit or credit lines. These can be in the form of cash, gold, Corporate Debt Securities etc.

Unfunded credit risk mitigation process involves an unsecured obligation of third party, where this entity is more credit worthy than the primary borrower.

BASEL II has provided updated norms for the financial market, which has three main

pillars. The first is more focussed on credit risk. It provides three different ways of managing credit risks:

1. Standardised approach based on credit rating and risk weight,
2. Internal rating-based approach with a basic foundational and higher-level advanced approach,
3. Credit risk mitigation steps through CDS and counter party risk approaches as also through securitisation.

There are other methods to enable proper credit rating:

1. **Risk based pricing:** Where the risk of default is higher, the interest rate will be increased.
2. **Credit insurance:** The lender can transfer the risk to an insurer such as in housing loans to ensure that the mortgage is secured.
3. **Tightening:** Lender can tighten the norms for lending.
4. **Diversification:** By lending to a greater number and kinds of small borrowers to diversify the lending pool.
5. **Covenants:** Covenants may be entered into with the borrowers for review, full payment in case of improvement in debt coverage ratio, audit of business operation etc.

There can also be qualitative techniques of credit risk management duly implemented by three levels of approach as under:

- a. Transaction risk management
- b. Portfolio risk management
- c. Policies and processes that keep improving the risk management of all lending activities.

Financial institutions also attempt to mitigate lending risks by performing credit analysis on individuals and businesses by a review of the borrower's five C's which are capacity, capital, character, collateral and conditions.

CASE STUDY: 5

A manufacturing company had a major loss occurring to them in the pure risk category, namely a flood loss in its premises. The loss caused severe damage to buildings, compound walls, plant and machinery on the main factory floor and basements as also stock including stock in the open. Motor vehicles and other mechanised transport were also damaged by entry of water into their engines. The loss happened in the middle of the monsoon season. The factory was insured and as the company did not have any claim for the last 10 years the insurance department and

risk management department had become careless and the level of underinsurance was overall 40% in relation to the replacement value of the assets.

The claim process was slow and tedious as the company did not have any knowledge of claim processes and the kind of papers and documents that were needed to be submitted to prove the various kinds of losses and how to make the estimates to compute the amount to be claimed. It had to depend on the insurance company's agent and surveyor to help them to see that they complied with the obligations that have to be met when losses occur such as informing the civil and police authorities of the loss; and in saving damaged materials from further loss and segregating them; in measuring the physical dimensions of the loss and estimating the cost of repairs and reconstruction; in producing the account books showing the value of assets and stocks lost etc.

There had to be many visits by the surveyor and many rounds of negotiations for the claim to process and the company did not get the claim for a long period.

The company also found that the expected loss reimbursement or indemnity, as is technically known in insurance terminology, did not get allowed as the policies taken had terms which made deduction of depreciation necessary and also because all assets were not insured at full value and hence underinsurance applied. This caused not only considerable delay in the formalities of the claim, but also the amount assessed was below the expectations of those who took the decisions relating to insurance as their knowledge was incomplete and the advice. The concerned department could not explain under what risk management policy and practices of the company they had taken decisions which made the company ineffective in getting indemnity to the extent they could have got and that also by through a speedier settlement.

In view of the delay in the settlement of the claim the company faced a financial struggle to get the factory back to normalcy during which the company made losses and its interest cost rose very high. It had to lay off workers owing to which the employee morale was hit. As production could not be resumed early enough, the loyalty of stockists and customers began to fall. In view of all this, the insurance and risk management departments were asked to review its risk management policies and practices with regard to pure or insurable risks. The final decisions included steps such as to insure the factory on reinstatement value, to ensure review of the sum insured every year, to take on add on covers for debris removal and the like.

The company appointed a new Insurance Officer, with additional duties to assist the Risk Management Department in the management of pure risks. He researched and found that insurance is essential in areas such as property protection, loss of earnings, liability insurance for the firm, its Directors and other employees. Protection of employee lives and health was becoming a norm in organised industries. Health Insurance had become necessary as an employee benefit. The Board of Directors were concerned about the emerging risks that faced the Directors on the Board and the Officers of the company for wrongful actions and the need

to have a well-designed Directors and Officers Liability insurance cover; as also insurance for product liability and any other liabilities that can arise because liability claims can be very large and may lie hidden for many years. Increasingly authorities are directly slapping criminal and civil cases against the company when loss of lives take place and where products are concerned especially those exported to foreign countries; product liability insurance has become almost a compulsory requirement.

In examining existing insurance practices, many poor practices were identified. For instance, many low-level losses which were claimable the concerned departments were not reporting the claims to the insurance department and hence many claims which were of lower amounts but were claimable were found to be unrecovered. Hence reporting processes had to be reworked and made known across the organisation. Similarly, loss prevention in tune with insurance requirements were not properly carried out and, in the process, there were possibilities that the insurance claim, if such arise could have been turned down or paid at a lower amount on account of breach of conditions and warranties in the policy.

There are still questions that were to be examined relating to risks in the context of insurance and risks which cannot be insured. You are asked to look at some of these questions.

Multiple Choice Questions

Choose the correct answer to the following questions.

(5.1) *Insurable risks are most likely to arise from which of the following categorisation of risks.*

- (A) Hazard Risks.*
- (B) Control Risks.*
- (C) Opportunity Risks.*
- (D) None of the above.*

(5.2) *In Annual Reports it is necessary to have a section on Management Discussion and Analysis. One of the following is not necessary to be discussed in the above section.*

- (A) Opportunities and Threats.*
- (B) Risk and concerns.*
- (C) Details of managing insurance risks.*
- (D) Internal Control systems and their adequacy.*

(5.3) *Credit risk is insurable and has various components as per list seen below except one - point out the exception.*

- (A) Recovery Risk.*
- (B) Collateral Risk.*

- (C) *Exposure Risk.*
(D) *Rejection risk.*
- (5.4)** *The purpose of risk evaluation is to do the following, one of which is not essential. Which?*
- (A) *Identify probabilities of failures and threats.*
(B) *Calculate the exposure i.e. possible damage or loss.*
(C) *Make control recommendations keeping cost-benefit analysis in mind.*
(D) *Get consensus from all concerned.*
- (5.5)** *Certain risks are called pure risks. In this kind of risks either a loss occurs or no loss occurs. There is no scope for gain. Which of the following is not a pure risk ?*
- (A) *Early Death.*
(B) *Physical damage.*
(C) *Loss in the share market.*
(D) *Liability for damages due to negligence/wrong doing. (5 x 2 Marks = 10 Marks)*
- (5.6)** *Define what a pure risk is and distinguish it from other types of risks. Explain why insurance coverage for pure risk is important. (4 Marks)*
- (5.7)** *Why operational risk management is important for the management of a company to avoid losses whether insurable or not? (4 Marks)*
- (5.8)** *What is the role and responsibility of the Risk Manager? What are the objectives and process of risk management to prevent losses? (7 Marks)*

Answer

Multiple Choice Questions

5.1 (A)

5.2 (C)

5.3 (D)

5.4 (D)

5.5 (C)

5.6 Pure Risk

Pure Risks are associated with uncertainties which may cause loss. In a pure risk situation, a loss occurs or no loss occurs – there is no possibility for gain. These uncertainties may be due to perils such as fire, floods, etc. or may arise from human action such as theft, accident etc.

Distinguish Pure Risk from other risks

There are certain risk events that can only result in negative outcomes such as fire accidents or leakage of harmful chemicals from a manufacturing plant. These risks are hazard risks or pure risks, and these may be thought of as operational or insurable risks. A good example of a hazard risk faced by many organizations is that of theft. There are different types of pure risks:

- Personal risks - It includes early death, sudden accident and disability, unemployment, etc.
- Property risks - reduction in value of assets due to physical damage, fire, theft, etc.
- Liability Risks - the risk of legal liability for damages accruing to customer, suppliers, vendors, etc. Such risks are also connected with compensation payable to employees for injuries and other harm afflicted in the workplace.

Importance of insurance coverage for pure risks

There are risks which are not insurable even though there may be no gain in them. These include:

Fundamental Risks which are impersonal in nature, present in the nature and the economy which has pervasive effects. Such include war, inflation, mass unemployment etc. Generally, these are not insurable and it is left to the government to deal with the effect of these events.

Dynamic Risks are risks which arise due to changes in the economy like fluctuations in price levels, consumer preferences, shift in technology etc. These are again not considered insurable as they are less predictable and pervasive.

However, **Particular Risks** are risks which have their origin in individual events which can be clearly controlled such as road accidents. These risks are considered insurable subject to conditions.

Risks are also categorized into hazard risks which is another term for pure risks which are insurable, while Control risks are pure uncertainty risks and are associated with project management and these risks are hard to quantify. Finally, there are opportunity risks which are also called speculative risks. These have opportunity for gain and hence are not insurable.

5.7 The operational risk is important for management of company because of following reasons:

- (a) The Companies Act 2013 (Sections 134 and 177) lays down clear expectations from Boards of organisations in assessing the robustness of risk management framework implemented by the company. Section 134 instructs that Board of Directors should

include a statement on development and implementation of risk management framework for the company, including identification of risks, which as per Board's opinion could threaten the very existence of the company.

Clause (e) of Sub-section 5 of Section 134 explains the meaning of the term 'internal financial controls' as "the policies and procedures adopted by the company for ensuring the orderly and efficient conduct of its business, including adherence to company's policies, the safeguarding of its assets, the prevention and detection of frauds and errors, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information."

Section 177 instructs that the Audit Committee shall review the risk management procedures implemented by the management.

Schedule IV instructs that Independent Directors are required to get assurance that systems of risk management are robust and defensible.

- (b) Paragraph 4(c) of the Standard on Auditing (SA) 315 "Identifying and Assessing the Risks of Material Misstatement Through Understanding the Entity and Its Environment" defines the term 'internal control' as "the process designed, implemented and maintained by those charged with governance, management and other personnel to provide reasonable assurance about the achievement of an entity's objectives with regard to reliability of financial reporting, effectiveness and efficiency of operations, safeguarding of assets, and compliance with applicable laws and regulations. The term "controls" refers to any aspects of one or more of the components of internal control."
- (c) Clause 49 of the Listing Agreement, indicates that disclosures are to be made to the Board of Directors on risk management, on whether the company has laid down any procedures to inform Board members about the risk assessment and mitigation procedures.
- (d) The ICAI Guidance Note on Audit of Internal Financial Controls over Financial Reporting has several sections pertinent to the understanding of operational controls underlying in the processes;

While the Guidance Note does not explicitly dwell on operational risk per se, the overall approach and methodologies mentioned in the Note rest on, and derive from an implied understanding of the auditor's understanding of operational risks and the mitigating controls of the organisation; for instance, the auditor is expected to have a thorough understanding of the automated and manual controls that lie in each of the processes that have a direct bearing on the financials of the organisation.

5.8 The role of the Risk Manager includes following tasks: -

1. Manage the implementation of all aspects of the risk function, including implementation of processes, tools and systems to identify, assess, measure, manage, monitor and report risks.
2. Select the most suited risk identification techniques and approaches.
3. Manage the process for developing risk policies and procedures, risk limits and approval authorities.
4. Monitor major, critical and minor risk issues.
5. Manage the process for elevating control risks to more senior levels when appropriate.
6. Management of risk reporting, including reporting to senior management.
7. Prepare high-level user requirements to assist in preparation of Project Initiation documents.
8. Liaison with Business users to prepare Functional risk specifications. Translate business requirements and functional needs into business / reporting and system specifications. Ensure technical specifications meet the stated needs of the business.
9. Generate project management documents.
10. Provide User Training for in-house developed risk management systems.
11. Conduct compliance & risk assessments.
12. Conduct and document audits of risk related compliance to industry standards
13. Define & develop risk policies, procedures, processes & other documentation as required.
14. Implement the risk management program and risk strategy. Ensure the risk management program is effectively integrated into product development and delivery methodology.
15. Participate in local and global discussions to formulate new or enhance existing risk management processes, policies and standards.

Objectives of risk management

The first step to defining risk management goals and risk management objectives is to define the organization's shared vision. Once the shared vision is articulated, overall risk management goals and objectives must be defined.

While a vision statement is often aspirational, the goals and objectives should ordinarily describe in simple terms what is to be accomplished. They should be actionable by the organization. They should be defined in the context of the organization's business strategy.

Risk Management Process

All risk management processes follow the same basic steps, although sometimes different description may be used to describe these steps. Together these 5 risk management process steps combine to deliver a simple and effective risk management process.

Step 1: Identify the Risk

Uncover, recognize and describe risks that might affect your project or its outcomes. There are a number of techniques one can use to find business risks. During this step you start to prepare your Risk Register.

Step 2: Analyse the risk

Once risks are identified thereafter determine the likelihood and consequence of each risk. Develop an understanding of the nature of the risk and its potential to affect business goals and objectives. This information is also entered in the Risk Register.

Step 3: Evaluate or Rank the Risk

Evaluate or rank the risk by determining the risk magnitude, which is the combination of likelihood and consequence. Make decisions about whether the risk is acceptable or whether it is serious enough to warrant treatment. These risk rankings are also added to the Risk Register.

Step 4: Treat the Risk

This is also referred to as Risk Response Planning. During this step assess the highest ranked risks and set out a plan to treat or modify these risks to achieve acceptable risk levels. Minimize the probability of the negative risks as well as enhancing the opportunities by creating risk mitigation strategies, preventive plans and contingency plans.

Step 5: Monitor and Review the risk

Review the Risk Register and use it to monitor, track and update risks.