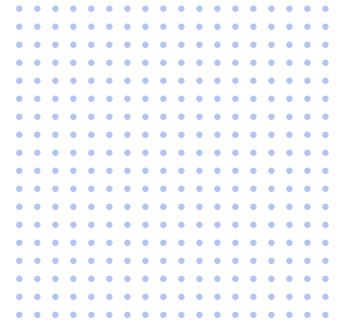




FOR CA FINAL EXAM PREPARATION

CA Final 2023 Suggested Answers · Paper 6A Risk Management (Old Scheme)

EXAM	YEAR	TYPE
CA Final	2023	Suggested Answers

SUBJECT	DATE
Paper 6A Risk Management (Old Scheme)	May 2023

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. Alternate Answers have been incorporated, wherever necessary. 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.

2

FINAL EXAMINATION: MAY, 2023

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 (MCQs) are to be marked on the OMR Answer Sheet as given on the Cover Page of the answer book.

Answer to MCQs, if written inside the descriptive answer book, will not be evaluated.

Candidates should answer the Case Study Questions as selected by them in totality i.e. MCQ as well as descriptive Question of the same Case Study Question.

Candidates are not permitted to answer MCQs of one Case Study Question and the descriptive questions of another Case Study Question and vice-versa.

Candidates may use calculator.

CASE STUDY – 1**Cooperative Farming:**

Cooperative farming is a form of agricultural production which involves a group of farmers pooling their resources, mainly their agricultural lands, and work together to achieve common objectives. The members can share their knowledge and expertise and this form of performing agricultural operations promotes efficiency, reduce costs, increase production and earnings. The role played by these types of organisations is vital to the growth of rural communities by supporting sustainable agricultural practices and providing greater economic opportunities.

Green Field Farmers Limited (GFFL):

Mr. Shreyas, who has more than ten years of experience in cooperative farming, owned fifty acres of fertile agricultural lands in his hometown and he floated the idea of commencing a venture in cooperative farming. The idea received positive response from the agriculturalists situated nearby and soon he was able to gather around five hundred acres to be inducted into cooperative farming, mainly to cultivate wheat. A company named Green Field Farmers Limited (GFFL) was formed with an initial capital of ₹ 10 crores. Shares were allotted in the proportion of each farmer's land holding. There were fifty shareholders and out of them seven formed the Board of Directors. All the directors are entitled to a monthly remuneration of ₹ 20,000 each. Mr. Shreyas is the Managing Director (MD). The main objectives of GFFL is to provide reasonable and stable income and improve the social, economic well-being and the overall quality of life of the shareholders.

Governance structure:

Any company in the long run can survive only if it has a strong Corporate Governance (CG) which in turn would assist the company in improving the overall economic efficiency and bring more stability.

PAPER – 6A: RISK MANAGEMENT**3**

The management of GFFL wishes to ensure that it operates in a democratic and transparent manner by having clear policies in the matters of electing members to the Board, conducting meetings and decision-making process. Committees, advisory groups and working groups, which would support the various activities and operations, shall be formed to ensure that the interests of the stakeholders are well safe guarded.

Proposal for Loan:

- GFFL principally decided to approach its Bankers for financing the purchase of 30 tractors to be used for farming operations. The Bankers, in order to assign weightages and thereby arrive at the score to decide whether to grant the loan or not, requested GFFL to furnish various operating parameters along with its proposal for the loan. The MD, in his personal capacity, is prepared to act as the Guarantor for the above loan.
- The management is aware that in case, if the wheat seeds for sowing are not timely received from the supplier of such seeds, then consequently (i) that the cultivation of wheat crops would come to a halt and (ii) thereby GFFL could not make loan repayments to the Bank on a timely basis.

Pilot Project:

A Pilot Project was envisaged by the Chief Financial Officer (CFO) and the details of the same are:

Possible Event	Pilot Project	
	Cash Flow (₹ 000)	Probability
A	4,800	0.40
B	6,000	0.30
C	7,000	0.20
D	8,100	0.10

Risk Management aspects of GFFL:

- GFFL wants to have risk management principles to be meticulously followed. The first step in the process of risk management cycle is to identify (i) business functions, (ii) assets and (iii) vulnerabilities & threats. The Risk Manager (RM) identified the vulnerabilities and threats that GFFL might face, such as, (i) monsoon failures, (ii) yield per acre reducing and (iii) depletion in soil fertility.
- The aim of the Chief Executive Officer (CEO) is that the Risk Management and Internal Controls should be fully embedded into GFFL's operations and thereby enables GFFL to convert the prevailing market uncertainties into opportunities.

4

FINAL EXAMINATION: MAY, 2023

- The Board of Directors are having an apprehension about the future performance of GFFL. They posed the question to the RM that 'what challenges and uncertainties GFFL is likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance? They wanted the RM to include his answer to the question while presenting his Integrated Report (IR) that would contain discussion under various Content Elements.
- The Board agreed to appoint a full-time internal auditor, Ms. Vidhya, who would be given the task of periodically reviewing both the automated and manual controls in each of the processes that have a direct bearing on the financials and overall operations of GFFL.
- During his study of international practice on risk identification and assessment procedures, the MD came across a useful technique of risk identification, viz., "Corporate Knowledge" which would analyse the history of various risks.
- The Human Resources (HR) manager analysed the industry data available with him and escalated a problem to the management that there might be delays in crop harvesting due to acute labour shortage during the harvesting season, since the same set of farm labourers have to service other farm owners also.

Based on the above, you are requested to answer the following questions:

Multiple Choice Questions

Choose the most appropriate answer from the given options -

- (1.1) The possibility that the cultivation of wheat crops coming to a halt and its consequences could also be called:
- (A) Two Way Risk
 - (B) Risk Return Trade-off
 - (C) Default Risk
 - (D) Bank Guarantee Risk
- (1.2) The MD's study of the risk identification technique which would analyse the history of various risk to provide insight into future threats or opportunities through the following except:
- (A) Documented Knowledge
 - (B) Experiential Knowledge
 - (C) Lessons Learned
 - (D) Tacit Knowledge
- (1.3) The aim of the CEO points out to which of the following risk maturity level?
- (A) Risk Aware
 - (B) Risk Defined

PAPER – 6A: RISK MANAGEMENT

5

(C) Risk Managed

(D) Risk Enabled

(1.4) The Standard Deviation (rounded off to two digits) of the Pilot project as envisaged by the CFO is:

(A) 1,080.56

(B) 1,100.95

(C) 1,121.35

(D) 2,671.25

(1.5) The RM while presenting his IR would answer the question of the Board under which of following Content Elements?

(A) Business Model

(B) Performance

(C) Outlook

(D) Strategy and Resource Allocation

(2 x 5 = 10 Marks)**Descriptive Questions**

(1.6) GFFL wishes to be transparent in its disclosures as part of their CG framework. Based on the information available, provide your inputs which can be considered for disclosure under (i) Objectives of GFFL, (ii) Governance Structure and (iii) Remuneration of Directors. **(3 Marks)**

(1.7) You are required to suggest remedial measures to the vulnerabilities and threats identified by the RM. **(3 Marks)**

(1.8) What parameters will the Bankers look for in the proposal for tractor loan of GFFL? As far as the recovery risk of the tractor loan is concerned, how would the Banker consider the same? **(4 Marks)**

(1.9) (i) What are the main purposes of the task proposed to be entrusted to Ms. Vidhya? **(3 Marks)**

(ii) Write the Risk Factor and Key Risk Indicator in the problem escalated by the HR manager to the management. **(2 Marks)**

Answer**Multiple Choice Questions**

1.1 (A)

1.2 (D)

1.3 (D)

1.4 (B)

6

FINAL EXAMINATION: MAY, 2023

1.5 (C)

Descriptive Questions

1.6 Disclosure as part of their Corporate Governance framework under:

- (i) **Objective:** The main objective of GFFL is to provide reasonable and stable income and improve the social, economic well-being and the overall quality of life of the shareholders.
- (ii) **Governance Structure:** Having clear policies in the matters of electing members to the Board, conducting meetings and decision-making process. Committees, advisory groups and working groups, which would support the various activities and operations, shall be formed to ensure that the interests of the stakeholders are well safe guarded.
- (iii) **Remuneration to Directors:** A monthly remuneration of ₹ 20,000 to each director.

1.7 Remedial measures to the vulnerabilities and threats identified by the RM:

- (i) **Monsoon failures:** As an alternate means of getting water, GFFL, a) may dig wells, without affecting the eco system of the agricultural lands, b) Rain-water harvesting may be done and c) drip and sprinkler irrigation methods may be followed.
- (ii) **Yield per acre reducing:** a) To follow scientific methods of farming to increase the yield, b) May resort to crop insurance
- (iii) **Depletion in soil fertility:** a) usage of organic manure to maintain the soil fertility, b) rotation of crops and c) applying right ratio of nutrient requirement by making scientific soil study.

1.8 The Bankers will look for the following parameters in respect of the tractor loan proposal of GFFL:

- (i) soil fertility, ii) area under cultivation, iii) produce per acre, iv) rainfall / reservoirs levels, v) make and model of the tractor.

Recovery Risk is related to recoveries in the event of default, by GFFL, which in turn depends upon various factors such as quality of guarantee provided by GFFL, and other surrounding circumstances. This risk can be reduced through Collateral and Third-Party Guarantee.

Third party Guarantee Risk: The MD, in his personal capacity, is prepared to act as the Guarantor for the above loan. The collateral is a kind of simple transfer of risk on Guarantor and if the guarantor defaults, then the risk again comes back to lender.

1.9 (i) The main purposes of task entrusted to Ms. Vidhya, the internal auditor:

A review of control is to be done regarding:

- appropriateness of the purpose of the control and its correlation to the risk/assertion.

PAPER – 6A: RISK MANAGEMENT

7

- appropriateness of control considering the nature and significance of the risk.
- Competence of authority performing the control (especially if it is of a nature of supervisory review);
- Frequency and consistency with which the review control is performed, including clarity of the exact steps of performance of the review control.

OR

(i) Periodically reviewing both the automated and manual controls in each of the processes that have a direct bearing on the financial and overall operations of GFFL.

(ii) Risk Factor and Key Risk Indicator in the problem escalated by the HR manager:

Risk Factor: Delays in crop harvesting

Key Risk Indicator: Acute labour shortage during the harvesting season.

CASE STUDY– 2

The Company and its project

Aero Manufacturing Limited (AML) is a company presently engaged in manufacturing electronics parts for aircrafts and runs the project PUMA. The project PUMA is a passenger aircraft program and it is likely to reach the implementation stage soon. It is going to be India's first aircraft manufacturing Company. The Company is expecting its new project will be a game changer and would be in alignment with the growth story of the Indian aviation sector. This project has necessitated entering into agreements with more than 100 vendors. Most of the vendors have a long standing relationship with AML.

Before this project was started, the Company gained extensive experience in aircraft manufacturing as a trusted partner of a leading public sector company that manufactures combat aircraft and has been a preferred vendor for aircraft manufacturers in France and the USA. Approximately 40% of the revenue is from export and 30% of procurement like chips etc. is imported.

Risk management at AML

As the Company is deeply involved in innovation there is less focus on aligning risk with the strategy. The Chief Executive Officer (CEO) believes that this is necessary for the Company as it allows flexibility which is necessary for innovation. He also backs his proposition based on past success. However, there are few directors who have a different view and they differ from the view of the CEO.

During risk assessment procedures, AML discovered that appropriate security clauses around sensitive information related to the project PUMA have not been incorporated appropriately into the vendor contract. The legal team of AML and the procurement head is of the opinion that this is common practice and should not be worried as the cost of implementation of security protocol will make the contract costlier. When the vendor was requested to assess the

contract cost impacts of incorporating the new security protocols, the cost was more than AML could bear. AML now has two options:

- (i) Give a waiver to the vendors or
- (ii) Negotiate with prime vendors to meet the intent of the levied security protocols to ensure the protection of sensitive information while maintaining the cost impacts within budgetary constraints.

On a review, it is evident that a waiver would have an irreparable impact and leave much sensitive information vulnerable to theft or misuse. The positive point is that the vendors are long-standing partners of AML. One of the consultants has suggested that training to vendor's workforce can minimise the cost to implement a new security protocol. Not everyone is convinced by this idea and the matter is unresolved even though there is an agreement to find a solution to this burning problem.

Further, the Board is aware that defining and applying risk appetite is one of the more challenging risk principles. Also, there is no formal process for the identification and measurement of key risk indicators (KRIs) and associated risk tolerance ranges in AML. Despite dissent by a few directors, the majority of directors have decided to rope in a leading consultant in this area so that a comprehensive and complete risk appetite statement for AML can be developed.

Treasury operations by AML

The treasury of AML has been managing forex risk on a regular basis using currency options and currency futures. In very few instances currency forwards have been used as the head of the treasury believes that the forward currency contract market lacks liquidity in India. The financial performance has been spectacular during the last decade.

Mr. Rakshit has recently joined the bank with which AML is dealing and has been asked to handle spot currency transactions related to AML. He has been given access to the Reuter Screen. The following quotes are available on the Reuter Screen:

USD/INR	84.3245 / 46
USD/GBP	1.1298 / 02

In addition to the above the treasury has taken a long position in USD/INR call option. It is desired that a more detailed analysis is done on currency option positions in terms of delta, Vega, gamma, and theta. The Treasury has been using Black-Scholes Option Pricing Model (BSOPM) instead of the Binomial Trial Model for the valuation of interest rate derivatives. The auditors have raised concerns about the same.

PAPER – 6A: RISK MANAGEMENT

9

Multiple Choice Questions*Choose the most appropriate answer from the given options.*

- (2.1) Which one of the following is correct regarding the statement that the forward currency market lacks liquidity in India?
- (A) Forward contracts generally result in losses in import transactions in India as USD has been regularly appreciated.
 - (B) Forward contracts cannot be converted into cash.
 - (C) It may be difficult to unwind the forward currency transaction before the maturity date.
 - (D) Forward contracts are less preferred hedging instruments.
- (2.2) Assuming AML has called Mr. Rakshit and asked him to sell INR, what rate he will quote to AML?
- (A) INR 84.3245
 - (B) INR 84.3246
 - (C) INR 84.3201
 - (D) INR 84.4546
- (2.3) Assuming AML has called Mr. Rakshit and asked him to sell GBP, what rate he will quote to AML?
- (A) GBP 1.1298
 - (B) GBP 1.1202
 - (C) GBP 1.1302
 - (D) GBP 1.0298
- (2.4) Which of the following is incorrect with respect to the alignment of risk with strategy?
- (A) Alignment of risk with strategy is right.
 - (B) Alignment of risk with strategy is a combination of setting strategy, managing performance, and managing risk.
 - (C) Risk appetite binds strategy and risk together.
 - (D) Alignment of risk with a strategy does not work in the case of companies developing innovative products.
- (2.5) Which of the following is correct when the interest rate of base currency increases in the case of the USD/INR call option?
- (A) Call option price will go down.
 - (B) Call option price will go up.
 - (C) There will be no change in the call option price.

10

FINAL EXAMINATION: MAY, 2023

- (D) Only the volatility of the call option will change. **(2 x 5 = 10 Marks)**

Descriptive Questions

- (2.6) (A) Do you think AML should have built-in IT security in the vendor agreements? Which option you would recommend to address the problem related to the non-inclusion of security clauses in the Vendor Agreement executed by AML? Give a reasoned answer. **(2 Marks)**
- (B) If training at the vendor site would reduce cost, what are the broad aspects you can identify that need to be included in the training program? **(3 Marks)**
- (2.7) (A) Do you agree with the view that defining and applying risk appetite is one of the more challenging risk principles? Give a reasoned answer. **(2 Marks)**
- (B) Before finalising the risk appetite statement what key factors AML should consider? **(2 Marks)**
- (2.8) Explain the limitations of BSOPM when applied to the valuation of interest rate derivatives. **(3 Marks)**
- (2.9) Briefly explain the derivatives which can be used by AML to hedge its currency risk. **(3 Marks)**

Answer**Multiple Choice Questions**

- 2.1 (C)
 2.2 (A)
 2.3 (A) or (C)
 2.4 (D)
 2.5 (B)

Descriptive Questions

- 2.6 (A) Yes. AML should have built-in IT security in the vendor agreements.

IT security is critical to AML. IT security needs to be built into vendor agreements to reduce operational risks considering the criticality of the project PUMA. Ideally, it should have been incorporated at the time of entering into the contract. If such clauses have not been factored into existing contracts, it would be worthwhile to subsequently incorporate these clauses into the contracts and rationalise the incremental cost structure by working with the vendor.

Option 2 i.e. negotiation with prime vendors needs to be considered as sensitive information related to the PUMA Project needs to be protected for long-term value creation. This is also backed by the past relationship of the vendor. It should be possible to work with it to find a solution. The way forward should be to work closely

PAPER – 6A: RISK MANAGEMENT**11**

to identify the security requirements and reduce risk to the largest extent and identify how these requirements could be levied on the prime vendors with minimal cost impact from wording or process changes.

(B) Training the team at the vendor site could be a possible solution and is likely to decrease the cost. This will help the vendor team to fully understand and implement the new security protocols. The training may typically involve:

- (i) How to identify and categorise sensitive information
- (ii) How to mark information
- (iii) How to handle sensitive information
- (iv) How to store information
- (v) What should be the protocol for the transmission of information
- (vi) What should be the possible administrative action and criminal prosecution

2.7 (A) Yes, as there is no set standard that fits all entities.

Further, defining risk appetite and preparing a risk appetite statement requires consideration of both qualitative and quantitative measures, which is generally challenging because qualitative characteristics are often difficult to measure and monitor. To make it more effective consideration is needed to align risk appetite to the risk culture and decision-making environment.

(B) Before finalizing the risk appetite statement, it would be helpful for AML to identify the key risk indicators (KRIs) relevant to measuring and monitoring risk and to establish risk tolerance ranges for the identified KRIs. This process can help inform the language used to describe the risk and related risk appetite. Moreover, regular reporting of KRIs with the associated risk tolerance can help the AML monitor whether it is operating within its targeted risk profile and whether it can ultimately achieve its strategic and business objectives.

2.8 (i) In the BSOPM the risk-free interest rate is kept constant. The interest rate derivatives are predicated on likely changes in interest rates.

(ii) Volatility or standard deviation is kept constant in BSOPM. The volatility of a bond varies over its maturity period.

(iii) The underlying for BSOPM is typically share which is an asset whereas interest rates are not assets.

(iv) The BSOPM is applicable for the European style option and any early exercise provisions make it difficult to apply.

2.9 AML can use following derivatives to hedge its currency risk:

(i) Forward Contract: The simplest form of derivatives is the forward contract. It obliges one party to buy, and the other to sell, a specified quantity of a nominated underlying financial instrument at a specific price, on a specified date in the future.

12

FINAL EXAMINATION: MAY, 2023

- (ii) Future Contract: Though very similar to the forward contract in its obligation and payoff profile but its contract terms are standardized in terms of Quantity and Quality of the underlying, time and place of delivery and settlement.
- (iii) Option Contract: An option is a contract which has one or other of two key attributes:

- to buy (call option)
- or to sell (put option)

The purchaser is called the buyer or holder; the seller is called the writer or grantor. The premium may be expressed as a percentage of the price per unit of the underlying.

- (iv) Swaps: A swap transaction commits the participants to exchange cash flows at specified intervals, which are called payment or settlement dates. Cash flows are either fixed or calculated for specific dates by multiplying the quantity of the underlying by specified reference rates or prices.

CASE STUDY – 3***Introduction of the company named TQM***

Over the past decade, TQM had grown rapidly through acquisition, snapping up more than 30 firms and creating a highly complex conglomerate in the process. By 2022, TQM had become one of India's largest and the most diverse companies, covering a wide variety of businesses that include, inter alia, chemical, sugar, automotive tyres, electronic, medical instruments, media, and FMCG.

While most consumers are unfamiliar with the TQM name but its brands are well-known among businesses and consumers. TQM was structured into seven business segments, each of which is bigger than most of their competitors' entire companies.

Issues identified in TQM

- *Along with the high growth path various risks have magnified over the period. In one instance in the Tyre Segment, a particular lot of sizable quantity was recalled for faulty production. Following this incident revenue went down significantly. However, the replacement of tyres and communication with the customers helped the Company in gaining lost ground.*
- *Various risks like strategic, reputational, credit, market, liquidity, interest, legal, regulatory, etc., have been rising. No independent review has taken place in order to bring a new perspective to risk management.*
- *Managing business risks and financial risks is the top priority of the management going forward. There are some processes for managing financial risks but there are no formal*

PAPER – 6A: RISK MANAGEMENT**13**

methods used to manage business risks. In the absence of a structured process for risk management, the Board wants a clear roadmap for integrated risk management.

- *Mr. Rowan, who is head of the treasury, is confident that his team will be able to identify risks that can be clubbed under business risk and financial risk categories and would be able to design a system that would help in the effective management of the same. For better clarity, he will also prepare a list of controllable and uncontrollable risks so that effective steps are taken to manage them if found inadequate on review.*
- *TQM has a very liberal credit policy in relation to customers which is reflected in rising receivables days over the period and also substantial jumps in bad debts in a major segment of the business. This also has created a liquidity problem for the Company.*
- *The surplus cash has been invested in a mix of equity and long-term debt instrument to generate more return. In addition to this, the Company has made investments in five private equity firms. The Company regularly receives data on the performance of private equity investment along with Value-at-Risk (VaR) data. One of the juniors has made an effort to compare the VaR data of five private equity firms but could not do so as each private equity firm has a different time horizon and asset mix and uses different confidence levels.*
- *The compliances have gone up significantly due to the diversified nature of business and so is the cost of compliances. In fact, there have been instances of payment of fines that were imposed by the regulatory authorities. In each case of non-compliance, operational managers shift the blame to internal audits.*
- *Sometimes the Board also gets confused regarding the responsibility of operational risk management and internal audit.*
- *In addition to the above, TQM has used significant debt amount for funding acquisitions and uses various interest rate derivatives like Interest Rate Swaps (IRS), Forward Rate Agreement (FRA), CAPs, Floors, Swaptions and Credit Default Swap (CDS) for hedging/restructuring existing and future debt. The Company has developed an in-house skill set to deal with such derivative products. But there is a problem of staff attrition, especially in the treasury area. Past data shows that the Company has become a training ground for treasury operations. To some extent, it helps in building a reputation but it also involves costs in training junior professionals. The Company has decided to prepare a structured training manual so that cost of training can be minimized. You, being an expert in financial derivatives, have been hired to prepare a training manual.*

Future business plans

- *The Board has agreed to support the management to identify new business opportunities. Following this direction, the management has ventured into the natural gas discovery business. The Chief Finance Officer (CFO) expects to borrow USD 20 million*

in one year's time to finance a new offshore drilling platform, and will need the funds for a period of one year. The current market interest rate is 5%. The treasury team expects that the rate will rise to 6.00 % by the time TQM needs the money. The treasury team has decided to lock in the 5.00% rate and accordingly has entered a 12 x 24 FRA at 5.00 per cent with a foreign bank, where the reference rate is the LIBOR.

Multiple Choice Questions

Choose the most appropriate answer from the given options.

- (3.1) Which of the following is incorrect with respect to an IRS?
- (A) IRS has two major sources of risks namely market risk and credit risk.
 - (B) Interest rate affects both fixed and floating sides of the swap in a similar manner.
 - (C) Interest rate affects both fixed and floating sides of the swap differently.
 - (D) Credit exposure changes over the life of an IRS.
- (3.2) The sources of risk in capital budgeting, depend on the type of investment being considered. These sources do not include:
- (A) Project specific risk
 - (B) Company specific risk
 - (C) Industry specific risk
 - (D) Governance specific risk
- (3.3) Which of the following is incorrect with respect to CDS?
- (A) In CDS protection buyer pays periodic payments (premium) to the protection seller.
 - (B) Protection seller pays par value to the protection buyer in case of default on the reference obligation and the protection buyer delivers the defaulted reference obligation.
 - (C) There are two basic settlement methods: cash settlement and physical settlement.
 - (D) Protection seller only pays par value to the protection buyer in case of default on the reference obligation.
- (3.4) Which of the following is correct with respect to controllable risks?
- (A) Controllable risks need to be prevented always.
 - (B) Attrition of people is one of the internal factors of controllable risks.
 - (C) Natural calamities are external factors of controllable risks.
 - (D) Controllable risks need not necessarily be prevented but the financial loss can be minimised.
- (3.5) Which of the following is correct with respect to uncontrollable risk?
- (A) Contingency plan has no role in addressing uncontrollable risks.

PAPER – 6A: RISK MANAGEMENT

15

- (B) Technological changes are not a factor of uncontrollable risk.
 (C) Compliance with regulatory changes is an example of uncontrollable risk.
 (D) Recessionary economy is an example of uncontrollable risk. **(2 x 5 = 10 Marks)**

Descriptive Questions

- (3.6) Do you think credit risk in IRS is the same as that in bonds? Give your reasoned answer.
(3 Marks)
- (3.7) Answer the following questions based on the information given for FRA
- (A) The settlement amount of FRA will depend on which date and which period LIBOR?
(1 Mark)
- (B) Assuming that the 12m LIBOR has risen to 6% on the reference date TQM will receive or pay and what would be the amount assuming 365 days count convention?
(2 Marks)
- (3.8) (A) Identify and list four key financial risks and business risks being faced by TQM.
(2 Marks)
- (B) Based on the information given in the Case Study, identify two prominent credit risks being faced by TQM?
(1 Mark)
- (3.9) In your opinion can the VaR be applied uniformly across private equity firms? Give a reasoned answer.
(2 Marks)
- (3.10) Few Board members of TQM are confused with responsibilities related to operational risk management. Do you think internal audit is part of operational risk management? Give a reasoned answer.
(2 Marks)
- (3.11) What are the analysis and investigation models you would like to suggest to the management of TQM for assessing business risks?
(2 Marks)

Answer**Multiple Choice Questions**

- 3.1 (B)
 3.2 (D)
 3.3 (D)
 3.4 (D)
 3.5 (D)

Descriptive Questions

- 3.6 Credit risk in IRS is not the same as in bonds.

Though both IRS and Bonds are exposed to Credit Risk but following are some major differences.

16

FINAL EXAMINATION: MAY, 2023

- (i) **Nature:** - While in IRS the counter party can default in payment of interest amount. In Bond this default can be both account interest and as well as Principal.
- (ii) **Structure:** - While an IRS is a bilateral agreement between two parties in Bond there is one issuer and multiple holders.
- (iii) **Exposure:** - In IRS risk limited to PV of net future cash flows. In Bond it is usually full amount of Bond.

Or

Credit risk in IRS is not the same as in bonds.

In fact, it differs from bonds. In the IRS the principal is notional on which interest is calculated. This means the principal is never exchanged. Therefore, unlike bonds, there is no principal risk in IRS. Also, when the current value of an IRS is negative there is no loss from the IRS being terminated on account of counterparty default and hence there is no credit risk concern. Only in case the value of the IRS is positive credit risk exists.

- 3.7 (A) The settlement amount of the FRA will depend on the 12 months LIBOR in 12 months.

Or

Interest Rate after 12 months for a period of 12 months.

- (B) Final settlement amount shall be computed by using formula:

$$= \frac{(N)(RR - FR)(dtm/DY)}{[1 + RR(dt/DY)]}$$

Where,

N = the notional principal amount of the agreement;

RR = Reference Rate for the maturity specified by the contract prevailing on the contract settlement date;

FR = Agreed-upon Forward Rate; and

dtm = maturity of the forward rate, specified in days (FRA Days)

DY = Day count basis applicable to money market transactions which could be 360 or 365 days.

Accordingly,

If actual rate of interest after 12 months happens to be 6%

$$= \frac{(\text{USD } 20 \text{ Million})(0.06 - 0.05)(365/365)}{[1 + 0.06(365/365)]}$$

$$= \frac{(\text{USD } 20 \text{ Million})(0.01)}{1.06} = \text{USD } 1,88,679 \text{ or USD } 0.18867 \text{ Million}$$

Thus, foreign bank will pay TQM a sum of USD 1,88,679 or USD 0.18867 Million.

PAPER – 6A: RISK MANAGEMENT

17

Or

Bank of TQM will pay TQM on the start date.

Settlement amount = $20,000,000 \times (6\% - 5\%) / (1 + 0.06) = \text{USD } 1,88,679$

- 3.8 (A)** Four key financial risks faced by TQM are Credit Risk, Market Risk, Liquidity Risk and Interest Rate risks.

Four key business risks faced by TQM are Legal Risk, Regulatory Risk, Strategic Risk and Reputational Risk.

- (B)** Two prominent credit risks faced by TQM are as follows:

- (i) Rising receivable days over the period.
- (ii) Substantial jumps in bad debts in a major segment of the business.
- (iii) Counterparty risk in derivative transactions.

- 3.9** No, VAR cannot be uniformly applied across private equity firms because of the following reasons:

- (i) Unique Characteristic of Investment: – Generally Private Equity investments are often characterised by their unique nature and hence lack standardization.
- (ii) Longer Period of Investment: – PE investments generally have a longer period and are quite illiquid in nature. Hence, application of VAR is bit difficult.
- (iii) Assumptions: – Unlike publicly traded financial assets in valuation of PE investments a lot of additional assumptions are required to be made.
- (iv) Lack of Sufficient Historical Data: – Contrary to traditional financial instruments there is a dearth of historical data for PE investments.

Or

No, VAR cannot be uniformly applied across private equity firms.

Each private equity firm will have different time horizons, confidence levels, and measuring periods and hence VaR cannot be applied consistently across private equity firms. VaR is not additive. It is a measure of the probability that is dependent upon firm's time horizon, specified confidence levels, and asset mixes. VaR measures vary widely across equity firms.

- 3.10** Internal audit should not be confused with the responsibilities related to operational risk management. Internal Audit is an independent third line of defense which is different from the first (business) and second (risk management) line of defense. But internal audit is responsible for auditing the second line (risk management), but that does not mean that it will also be a part of risk management.

Or

Yes, Internal Audit is part of Operational Risk Management as it is covered under the 3rd line of defense. Further an effective internal audit would highlight issues and potential

gaps in processes, which were missed by the first two lines of defense as well. As an independent vertical, their value addition provides a better insight into the process from a holistic perspective since they are not directly involved in managing the process.

3.11 For assessing business risks, TQM can use following models:

- (i) SWOT analysis (Strengths, Weaknesses, Opportunities and Threats)
- (ii) PESTLE Analysis where P denotes for Political, E for Economic, S for Social, T for Technological, L for Legal and E for Environmental.

The above models will be useful for assessing competitor positions, business strategies, plans, industry and market.

CASE STUDY – 4

The Company:

Universal Traders Limited (UTL) is engaged in procuring, marketing, and distributing Consumer Packaged Goods (CPG). Their product range includes packaged foods and beverages, cosmetics, toiletries etc., consumed mainly by household consumers. UTL has retail outlets throughout the State of Tamil Nadu.

Availability of products:

The number of products consumed are increasing day by day as well as the customers' needs. The tendency of the present-day customer is to get the products immediately, the moment they are shown in a television advertisement or other online media. Either the consumer would visit a store to get them, or they would resort to online buying. Even a product that is available in the market for a long time, consumers prefer to buy it online. This has placed a tremendous challenge to companies like UTL. Timely availability, coupled with competitive pricing are the main remedies to the challenge.

Supply Chain Risk Management:

It is all the more necessary for UTL to revisit the aspects of Supply chain mechanism and to strengthen the same and the management realised the need to study and assess the Supply Chain Risk Management. It is the process of identifying, assessing, and evaluating and taking mitigation efforts to counter the risks which have the propensity to impact the delivery of goods and services in a supply chain process.

Natural disasters, political unrests, labour problems, breakdown of transport vehicles etc., are some common risks which could impact supply chains. It is imperative to maintain and meticulously follow proper policies and procedures for all the processes followed. Constant and proactive lookout is necessary to address the gaps in the processes besides continuous monitoring mechanism of the control structure. The presence of any weakness could undermine the entire supply chain.

PAPER – 6A: RISK MANAGEMENT

19

Loan for Expansion:

The Managing Director (MD) requested the Chief Financial Officer (CFO), Ms. Tiya, to study the various aspects of expansion of the present operations of UTL. After completing the task, Ms. Tiya arrived at a figure of ₹ 7 Crores which might be needed for the expansion. She felt that the same may be obtained as a long-term loan from its banker, ABC Bank Limited (ABCBL). Ms. Tiya approached ABCBL and negotiated the interest rates and other charges on the loan. Ms. Tiya was insistent for reduction in interest rates and other charges and the negotiations are taking longer time with ABCBL. In this scenario, ABCBL concluded that there is possibility that the pay off by UTL will be late.

Challenges faced:

- In order to ensure the continuity of the business of UTL, the Risk Manager, Mr. Das, after studying the occurrence of stress scenarios of similar companies in the industry, concluded that such stress scenarios happened in the industry once or twice in a ten-year time period.
- The Operations Manager, Mr. Raj, narrated a few problems found with some of their staff to the Human Resources (HR) Manager, such as, not having sufficient experience as required by the job required to be performed, indulging in theft of materials from the warehouse of the company and not being punctual in attending work on many days.
- UTL is having an investment portfolio totalling to ₹ 5 Crores. Ms. Tiya and the Chief Executive Officer (CEO) were discussing on the right kind of tool to employ, in order to optimise the return on investments, Ms. Tiya is opting for using Value at Risk (VaR) methods, whereas the CEO advocated for employing Coherent Risk Measures to achieve the results. Ms. Tiya clarified to the CEO that as far as UTL's transactions are concerned, VaR would be a better option. Ms. Tiya explained the few drawbacks of VaR to the CEO to be borne in mind.
- UTL is considering hedging the interest rate risk. It wants to follow the traditional method for the same. The finance manager was asked to suggest such a suitable method.
- The IT Manager, Mr. Suresh, is given the exercise of conducting a risk evaluation for the project of revamping the existing information system (IS) of UTL. With regard to the above project, Mr. Suresh comes out with the following proposal:

	Investment in IS ₹ (in crores)	Total risk of failure (in %)
Original Investment	5	30
Additional Investment	2	20

- The Logistics Manager, Mr. Pavan, is considering the possibility of outsourcing the logistics operations. He believes that if such functions are contracted out, UTL can

attribute the delay in deliveries to the logistics operator and thereby make them responsible and avoid negative publicity to UTL.

Audit of Transactions:

An auditor, Mr. Arvind was appointed to go through the past two years' transactions. He was very much careful in selecting the transactions for testing as well as applying the audit procedures, as they may be subject to sampling as well as non-sampling risk. He conducted a test of controls on the transactions by applying sampling techniques and found out few errors and omissions. He informed the management that these errors and omissions could have been avoided, had there been strong internal controls.

Other Information:

In respect of a transaction involving foreign exchange, the Accountant, Mr. Gupta, gathered the following information from ABCBL.

On Sep 05, 2022, the Bank quotes the following:

Spot exchange Rate (US \$ 1) INR	79.2221	79.5258
2 months' swap points	60	80
3 months' swap points	150	178

In a spot transaction, delivery is made after 5 days.

Based on the above, you are requested to answer the following questions:

Multiple Choice Questions

Choose the most appropriate answer from the given options.

- (4.1) Which one of the following is not true about a non-sampling risk in the audit conducted by Mr. Arvind?
- (A) Non-sampling risk includes the possibility of selecting audit procedures that are not appropriate to achieve the specific objective.
 - (B) Non-sampling risk varies inversely with sample size, the smaller the sample size, the greater the non-sampling risk.
 - (C) Non-sampling risk arises because the auditor may fail to recognize misstatements included in documents that he examines, which would make that procedure ineffective even if he were to examine all items.
 - (D) Non-sampling risk can be reduced through such factors as adequate planning and supervision.

PAPER – 6A: RISK MANAGEMENT**21**

- (4.2) Which one of the following statements is true with respect to the consideration of Mr. Pavan?
- (A) UTL's exposure may be tolerable without any further action being taken.
 - (B) It is generally not possible to transfer reputation risk even if logistics operations are outsourced.
 - (C) The risks are containable to acceptable levels by terminating the activity itself.
 - (D) Action is taken to contain the risk of outsourcing to an acceptable level.
- (4.3) The conclusion of ABCBL is based on which of the following ground rules of credit risk assessment followed by ABCBL?
- (A) Recovery
 - (B) Due Diligence
 - (C) Check the Credibility
 - (D) Understand the Reality
- (4.4) Which of the following method of hedging of interest rate risk, the finance manager would suggest?
- (A) Forward Rate Agreement
 - (B) Interest Rate Futures
 - (C) Cap Option
 - (D) Basis Rate Swap
- (4.5) The study of Mr. Das would make him conclude that the stress scenarios of similar type of companies in the industry would be categorised under:
- (A) Severe stress scenario
 - (B) Near default stress scenario
 - (C) Normal stress scenario
 - (D) Reverse stress test scenario

(2 x 5 = 10 Marks)**Descriptive Questions**

- (4.6) In respect of the transaction involving foreign exchange, Mr. Gupta has requested you to:
- (i) ascertain swap points for 2 months and 15 days. (For 25 Nov, 2022)
 - (ii) determine foreign exchange rate for 25 Nov, 2022, and
 - (iii) compute the annual rate of premium/discount of US\$ on INR, on an average rate.
- Assume spot date as Sep 10, 2022
- Assume 1 swap point = 0.0001
- (4.7) Write a brief note on Mitigating Controls. Suggest mitigating controls for the problems narrated by Mr. Raj to the HR Manager.

(3 Marks)**(3 Marks)**

22

FINAL EXAMINATION: MAY, 2023

(4.8) What are the drawbacks as explained to the CEO by Ms. Tiya? **(4 Marks)**

(4.9) (i) What is purpose of Mr. Suresh's exercise? Do you agree with his proposal of making additional investment in IS? Show your workings. **(3 Marks)**

(ii) Discuss the relationship between Control Effectiveness and Residual Risks. **(2 Marks)**

Answer**Multiple Choice Questions**

4.1 (B)

4.2 (B)

4.3 (D)

4.4 (A)

4.5 (C)

Descriptive Questions4.6 (i) **Swap Points for 2 months and 15 days**

	Bid	Ask
Swap Points for 2 months (a)	60	80
Swap Points for 3 months (b)	150	178
Swap Points for 30 days (c) = (b) – (a)	90	98
Swap Points for 15 days (d) = (c)/2	45	49
Swap Points for 2 months & 15 days (e) = (a) + (d)	105	129

(ii) **Foreign Exchange Rates for 25th November 2022**

	Bid	Ask
Spot Rate (a)	79.2221	79.5258
Swap Points for 2 months & 15 days (b)	0.0105	0.0129
	79.2326	79.5387

(iii) **Annual Rate of Premium**

	Bid	Ask
Spot Rate (a)	79.2221	79.5258
Foreign Exchange Rates for 25 th November 2022 (b)	79.2326	79.5387
Premium (c)	0.0105	0.0129
Total (d) = (a) + (b)	158.4547	159.0645

PAPER – 6A: RISK MANAGEMENT

23

Average (d) / 2	79.2274	79.5323
Premium	$\frac{0.0105}{79.2274} \times \frac{12}{2.5} \times 100$	$\frac{0.0129}{79.5323} \times \frac{12}{2.5} \times 100$
	= 0.0636%	= 0.0778%
	or 0.064%	or 0.078%

- 4.7** Mitigating controls: They refer to procedures, methods and other measures which are put in place to lessen the risk or the impact of a certain threat or vulnerability.

From the problems by narrated by Mr. Raj, it can be said that the company is facing Staffing Risk.

Mitigating controls suggested to address the staffing risk:

- (i) employing the right person for the right job, ii) well drafted job descriptions, iii) thorough background verifications and iv) employing experienced personnel are the some of the mitigating controls.

Or

Mitigating Controls are activities that are intended to prevent the inherent risk from materialising into a real failure of the process / transaction. These activities are designed keeping in mind the overall process objective, the inherent risks in the process, and the impact of the risk if the failure were to materialise in reality.

For the problems narrated by Mr. Raj to the HR Manager following mitigating controls are suggested: -

- (i) **Preventive Controls:** – Proper appointment of staff having requisite qualification and experience.
- (ii) **Detective Controls:** – To control theft, intensive processes of verification and authorization are required to be built in.
- (iii) **Automated Controls:** – To ensure punctuality of attendance, Automated Control such as punching machines can be installed.

- 4.8** The drawbacks of VaR as explained to CEO by Ms. Tiya:

- (a) VaR uninformative of tail losses – VaR tells us the most we can lose if a tail event does not occur. It tells us the most we can lose 95% of the time but tells us nothing about what we can lose on the remaining 5% of the occasions. If a tail event (i.e. loss in excess of VaR) does occur, we can expect to lose more than the VaR but VaR itself does not give any indication of how much that might be.
- (b) VaR can create perverse Incentives Structures – It is not feasible to use information about VaR at multiple confidence levels and where it is not, the failure of VaR to take account of losses in excess of itself can create some perverse outcomes. For example, an investor using a VaR risk measure can easily end up with perverse positions because a VaR based risk return analysis fails to take account of the magnitude of the losses in excess of VaR. If a particular investment has a higher

expected return at the expense of the possibility of a higher loss, a VaR based decision will suggest that we should make that investment if the higher loss does not affect the VaR regardless of the size of the higher expected return and the size of higher expected loss. Such acceptance of any investment that increases expected return regardless of the possible loss and the investor who makes decisions in this way is asking for trouble.

- (c) VaR can discourage diversification – Another drawback is that VaR can discourage diversification. The VaR of the diversified portfolio is much larger than the VaR of the undiversified one. So, a VaR measure can discourage diversification of risks because it fails to take into account the magnitude of losses in excess of VaR.
- (d) VaR not sub-additive – Sub-additivity means that aggregating individual risks does not increase overall risk. Sub-additivity matters for a number of reasons. If the risks are sub-additive then adding risks together would give us an overestimate of combined risk. This facilitates decentralised decision making within a firm as we can always use the sum of the risks of the units as a conservative measure. But if the risks are not sub-additive, adding them together gives us an underestimate of combined risks, and this makes the sum of risks effectively useless as a risk measure. In risk management, we want our risk estimates to be biased or unbiased conservatively.
- 4.9 (i) The purpose of the risk evaluation is to identify the inherent risk of performing various business functions especially with regard to usage of information technology enabled services.

The purpose of a risk evaluation exercise for the project of revamping the existing information system (IS) of the company:

- Identify the probabilities of failures and threats,
- Calculate the exposure, i.e., the damage or loss to assets,
- Make control recommendations keeping the cost-benefit analysis in mind.

Savings in making additional investments:

	Investment in IS ₹ (in Crores)	Total risk of failure	Exposure ₹ (in Crores)
Original Investment	₹ 5 Crores	30%	1.5 (₹ 5 Cr × 30%)
Additional Investment	₹ 2 Crores	20%	1.4 (₹ 7 Cr × 20%)

Thus, there is a saving of ₹ 10 lakhs (₹ 1.5 Cr – ₹ 1.4 Cr).

Therefore, I agree to the proposal of Mr. Suresh.

PAPER – 6A: RISK MANAGEMENT**25****(ii) Relationship between Control Effectiveness and Residual Risks:**

The higher the control effectiveness, the lower the residual risk.

Lower the control effectiveness, the residual risk would be same or similar to level of inherent risk.

CASE STUDY - 5**About the company**

Dynamic Pharma Limited (DPL), is a pharmaceutical company established in Pune and having an overall turnover of ₹ 2,400 Crores in the financial year 2021-22. It is a listed company in India and in the United States of America. DPL has eight manufacturing facilities in various locations in India and four manufacturing facilities outside India.

Out of DPL's total revenue, exports to USA constitute 70%. Since DPL's major market is in the USA, it had to obtain approvals from Food & Drug Administration (FDA) before it manufactures or markets any of its drugs in USA. Due to the incidence of COVID-19, the Company's applications for approval of new drugs were pending with the FDA for a long period of time, on account of which the Company is unable to launch new products in USA in recent past.

The company has a Risk Management Function headed by its Chief Risk Officer. The function has a team of twenty five people working for all the functions/businesses in an ERM centric environment. The ERM team works independently and the ownership of implementation of Risk management is with the risk management team.

Expansion plans of the company

During the financial year 2021-22, DPL procured Active Pharmaceutical Ingredient (APIs) aggregating to ₹ 750 Crores by importing from European countries where payments were made in USD. These APIs are predominantly used in the generic medicines for treating patients affected with Oncology, Immunology, Anti-diabetics etc.

As a strategic move, DPL's board has suggested to setup an API plant in Cyprus to manufacture & reduce the imports to India from European suppliers. The management team has also evaluated the associated Country and Political risks.

The following benefits were noticed:

1. *Free trade agreement between India and Cyprus is in force, wherein all the API imports from Cyprus attracts Nil import duty, whereas imports from European countries attracts 16% duty.*
2. *Cyprus government has extended the following benefits to the project:*
 - *Leasehold land in an industrial zone for 25 years.*
 - *Contract labour upto 1500 labourers can be engaged at the Unit.*
 - *Uninterrupted supply of water & electricity.*

- *Permission to have bank accounts outside of Cyprus and no restrictions on repatriation of Funds.*

However, the following obligations to be complied by DPL were also identified:

- (1) Labour and environmental laws to be followed.*
- (2) Local suppliers to be used.*
- (3) Insurance cover to be sourced from local insurance companies*
- (4) Create employment opportunities in Cyprus and*
- (5) Expats strength should not increase above 400 at the Unit.*

Issues emerged at Cyprus

Based on the approvals, the management team has initiated the capex projects of setting up the API manufacturing facility in Cyprus. Six months after the start of these major capex projects in Cyprus, the company started receiving multiple whistle blower complaints with respect to misappropriation of funds in capex projects, contracts issued for civil, mechanical & instrumentation works. One of the employees at the project misappropriated cash by an act of Phishing. The contracts were being allotted to the relatives of one of the senior officers in the company. The complaints also included non-payment of salaries on a timely basis to the contract workmen by the contractors.

There is no finance head to manage the Cyprus project. All finance related transactions are also handled by the project manager.

Other issues faced by DPL

- (1) The Company was also facing certain delays in receiving payments against the sales made to its US customers. Four of the major customers constituting 20 % of USA sales, have defaulted their payments to the company.*
- (2) In the background of multiple complaints, the Chief Financial Officer (CFO) recommended slowing down the payment towards capex projects in Cyprus.*
- (3) As the Cyprus currency is highly fluctuating compared to US\$, the CFO proposed to take Credit default swaps to address the default risks faced by the Company, and sought approval of the Board.*
- (4) In the recent Board meeting, Managing Director has updated the status of the above challenges faced by the company covering USA FDA challenges, New API plant in Cyprus, customer defaults, etc. and invited suggestions for solution.*
- (5) On the date of discussion of the default and intimation to the stock exchange there was a sudden fall in the stock prices of the Company listed on the US & Indian stock exchanges. Being a listed company, the Company is required to comply with the listing agreement norms and include integrated reporting in its annual disclosures.*

PAPER – 6A: RISK MANAGEMENT

27

Multiple Choice Questions

Choose the most appropriate answer from the given options.

- (5.1) An event that has the probability of instantaneous or near instantaneous loss, and can be due to flash crashes, other market crisis, malicious activity by selected market participants and other events is considered as:
- (A) Speculative risk
 - (B) Liquidity risk
 - (C) Technology risk
 - (D) Real time risk
- (5.2) Which of the following risks is not a Political Risk?
- (A) Exchange control risk
 - (B) Taxes & Regulatory Risk
 - (C) Human Development Index
 - (D) Inefficient Legal System
- (5.3) In the case of export oriented units, uncertainty arising from global events is one of the reasons which start playing on the minds of shareholders. What is the most effective tool that assists to address this issue?
- (A) Operational risk management
 - (B) Enterprise risk management
 - (C) Corporate governance module
 - (D) Country risk assessment
- (5.4) Governance risks mean significant deficiencies that can impact the reputation, existence and continuity of the organization. Such deficiencies would not occur because of:
- (A) Inability of the Board to identify trivial risk facts that can impact business continuity.
 - (B) Inappropriate practices adopted by the Senior Management.
 - (C) Failure of the Board to direct and control the organisation & evaluate whistle blower complaints.
 - (D) Collusion of management to override significant internal control mechanism causing financial losses.
- (5.5) Phishing is _____
- (A) A technique to create fraudulent transactions to benefit financially.
 - (B) A technique to encrypt the entire data on an individual or entity's computer system to ruin the business.
 - (C) A fraud technique to get access to the victim's computer systems.

28

FINAL EXAMINATION: MAY, 2023

(D) A financial transaction that an organization performs outside its network.

(2 x 5 = 10 Marks)

Descriptive Questions

(5.6) Describe under the Integrated Reporting what are the obligations of DPL with respect to the Organisation's governance structure support its ability to create value in the short medium and long term. **(5 Marks)**

(5.7) Discuss how the Credit Insurance and Credit Default Swaps (CDS) act as techniques to mitigate default risks. Mention any five differences between the two. **(5 Marks)**

(5.8) DPL is considering to hedge its foreign exchange risk. For its imports made during the period July-September 2022, it has to make a payment of US\$ 60,000 on December 31, 2022. The present exchange rate is 1 US \$ = ₹ 82. It can purchase forward 1 \$ at ₹ 81. The company will have to make an upfront premium @ 2% of the forward amount purchased.

(a) In the following situations as on December 31, 2022, compute the exchange gain or loss that DPL will make when the exchange rates are at:

(i) ₹ 85 per US \$

(ii) ₹ 79 per US \$

(iii) ₹ 82 per US \$

(2 Marks)

(b) What is the difference between Forward Contracts and Futures Contract and which is suitable for DPL to hedge its imports? **(3 Marks)**

Answer

Multiple Choice Questions

5.1 (D)

5.2 (C)

5.3 (B) or (D)

5.4 (A)

5.5 (C)

Descriptive Questions

5.6 The following are main obligations of DPL with respect to the organisation's governance structure support its ability to create value in the short, medium and long term. An integrated report provides insight about how such matters as the following are linked to its ability to create value:

- The organization's leadership structure, including the skills and diversity (e.g., range of backgrounds, gender, competence and experience) of those charged with governance and whether regulatory requirements influence the design of the governance structure.

PAPER – 6A: RISK MANAGEMENT**29**

- Specific processes used to make strategic decisions and to establish and monitor the culture of the organization, including its attitude to risk and mechanisms for addressing integrity and ethical issues.
- Particular actions those charged with governance have taken to influence and monitor the strategic direction of the organization and its approach to risk management.
- How the organization's culture, ethics and values are reflected in its use of and effects on the capitals, including its relationships with key stakeholders.
- Whether the organization is implementing governance practices that exceed legal requirements.
- The responsibility those charged with governance take for promoting and enabling innovation
- How remuneration and incentives are linked to value creation in the short, medium and long term, including how they are linked to the organization's use of and effects on the capitals.

5.7 Credit Insurance is an insurance policy and a risk management product offered by private insurance companies and governmental export credit agencies to business entities wishing to protect their accounts receivable from loss due to credit risks such as protracted default, insolvency or bankruptcy.

A Credit Default Swap (CDS) is a financial swap agreement that the seller of the CDS will compensate the buyer (usually the creditor of the reference loan) in the event of a loan default (by the debtor) or other credit event. That is, the seller of the CDS insures the buyer against some reference loan defaulting. The buyer of the CDS makes a series of payments (the CDS "fee" or "spread") to the seller and, in exchange, receives a payoff if the loan defaults.

Differences between Credit Insurance and credit Default Swap

1. The most important being that an insurance contract provides an indemnity against the losses actually suffered by the policy holder on an asset in which it holds an insurable interest. By contrast a CDS provides an equal payout to all holders, calculated using an agreed, market-wide method. The holder does not need to own the underlying security and does not even have to suffer a loss from the default event. The CDS can therefore be used to speculate on debt objects.
2. The seller might in principle not be a regulated entity (though in practice most are banks).
3. The seller is not required to maintain reserves to cover the protection sold.
4. Insurance requires the buyer to disclose all known risks, while CDSs do not (the CDS seller can in many cases still determine potential risk, as the debt instrument being "insured" is a market commodity available for inspection, but in the case of

30

FINAL EXAMINATION: MAY, 2023

certain instruments like CDOs made up of "slices" of debt packages, it can be difficult to tell exactly what is being insured).

5. Insurers manage risk primarily by setting loss reserves based on the Law of large numbers and actuarial analysis. Dealers in CDSs manage risk primarily by means of hedging with other CDS deals and in the underlying bond markets.
6. CDS contracts are generally subject to mark-to-market accounting, introducing income statement and balance sheet volatility while insurance contracts are not.
7. To cancel the insurance contract the buyer can typically stop paying premiums, while for CDS the contract needs to be unwound.

5.8 (a)

	(₹)
Present Exchange Rate ₹ 81 = 1 US\$	
If company purchases US\$ 60,000 forward premium is	
$60000 \times 81 \times 2\%$ (Hedging Cost)	97,200
If exchange rate is ₹ 85	
Then gain (₹ 85 – ₹ 81) for US\$ 60,000	2,40,000
Less: Hedging cost	<u>97,200</u>
Net gain	<u>1,42,800</u>
If US\$ = ₹ 79	
Then loss (₹ 79 – ₹ 81) for US\$ 60,000	1,20,000
Add: Hedging Cost	<u>97,200</u>
Total Loss	<u>2,17,200</u>
If US\$ = ₹ 82	
Then Gain (₹ 82 – ₹ 81) for US\$ 60,000	60,000
Less: Hedging Cost	<u>97,200</u>
Total Loss	<u>37,200</u>

(b) Difference between forward and future contract is as follows:

Feature	Forward Contract	Futures Contract
Amount	Flexible	Standard amount
Maturity	Any valid business date agreed to by the two parties	Standard date. Usually one delivery date such as the second Tuesday of every month
Furthest maturity date	Open	12 months forward

PAPER – 6A: RISK MANAGEMENT**31**

Currencies traded	All currencies	Majors
Cross rates	Available in one contract; Multiple contracts avoided	Usually requires two contracts
Market-place	Global network	Regular markets – futures market and exchanges
Price fluctuations	No daily limit in many currencies	Daily price limit set by exchange
Risk	Depends on counter party	Minimal due to margin requirements
Honouring of contract	By taking and giving delivery	Mostly by a reverse transaction
Cash flow	None until maturity date	Initial margin plus ongoing variation margin because of market to market rate and final payment on maturity date
Trading hours	24 hours a day	4 – 8 hours trading sessions

The company can choose either of the two hedging techniques, depending upon the estimated changes in the currency rates.