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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 three case study questions. The candidates are required to answer any two case study questions out of three.

Answers in respect of Multiple Choice Questions are to be indicated in capital letters, i.e. A or B or C or D as the case may be.

Candidates may use calculator

CASE STUDY: 1

Mr. Krish is having an experience of 15 years in manufacturing and selling pharmaceutical products. He is the managing partner of M/s. Krish Pharma situated in Mumbai.

In the month of May 2018, he came across a notification No. F. No. 10(6)/2016- DBA-II/NER dated 12th April, 2018 issued by Ministry of Commerce and Industry which announced a scheme called "North East Industrial Development Scheme (NEIDS), 2017".

The scheme provides

(i) Central Capital Investment Incentive (30% of the investment in plant & machinery with an upper limit of ₹ 5 crore),

(ii) Central Interest Incentive (3% interest on working capital for 5 years),

(iii) Central Comprehensive Insurance Incentive (Reimbursement of 100% insurance premium for 5 years),

(iv) Income Tax Reimbursement of centre's share for 5 years,

(v) GST reimbursement of Central Govt. share of CGST & IGST for 5 years,

(vi) Employment Incentive under which additional 3.67% of the employer's contribution to EPF in addition to Govt. bearing 8.33% Employee Pension Scheme (EPS) contribution of the employer in PMRPY and

(vii) Transport incentive on finished goods movement by Railways (20% cost of the transportation), by Inland Waterways Authority (20% of the cost of transportation) & by air (33% of cost transportation of air freight) from the station/port/airport nearest to unit to the station/port/airport nearest to the destination point. Also, under this scheme, a single unit can avail overall benefits up to ₹ 200 crores.

He immediately formulated an idea to commence a private limited company in the state of Assam to commence manufacturing and selling of pharmaceutical products. He checked the said scheme and ensured that the proposed manufacturing of products would be eligible under the scheme.

With the help of a consultant he floated a private limited company in Assam and constructed factory and office buildings in a 15-year leased land of 30000 sq.ft. The initial contribution of ₹ 10 crores was made by him along with his other family members. The consultant, who was appointed for preparing the project proposal, totally estimated a cost of ₹ 20 crores for the entire project including purchase of new machinery. He also estimated that there might be a probable project cost overrun of 5%. The company could manufacture the pharma products from 1st April, 2019.

The consultant putforth the following:

- *The consultant has employed various statistical tools for arriving out at various projections made in the project. He had also prepared a detailed cash / funds flow analysis for three years commencing from 1st April, 2019.*
- *To approach the bank for a 10-year term loan of ₹ 10 crores*
- *Initially, for two years, the company could face liquidity problems and suggested to go for a working capital loan of ₹ 2 crores initially.*
- *To consider alternative logistic arrangements for moving the finished goods to various parts of the country.*
- *To consider the possibility of exporting the finished products to friendly foreign countries.*
- *To appoint (i) an internal auditor to look into various control aspects and (ii) a statutory auditor for ensuring required compliances.*
- *A risk committee would be constituted with a main focus to conduct a detailed company-wide risk management program including the possible oversights and as far as possible strive to include all the foreseeable risk situations, possible measures to prevent the same and steps to be taken for mitigation.*
- *Prepare a detailed process manual and safety manual and periodically to revise the same with the improvements happening.*

As a risk management consultant, you are required to clarify the following to the management.

1. Multiple Choice Questions:

Choose the correct answer in the following Multiple Choice Questions:

1.1 *For calculating 'the cash flow available to pay current debt obligations', the bank would most likely use which of the following calculations?*

(A) (PAT + Dep + Interest) / (Current portion of long-term debt + Dep + Interest)

(B) (PAT + Dep) / (Current portion of long-term debt + Dep)

(C) (PAT + Dep + Interest). / (Current portion of long-term debt + Interest)

(D) (PAT + Interest) / (Current portion of long-term debt + Interest)

1.2 *What is the probability of getting a tail each time, if the coin is flipped for eight times ?*

(A) 1/32

(B) 1/256

(C) 1/128

(D) 1/64

1.3 *The company is preparing a process manual for its manufacturing activities. The process manual would LEAST likely contain:*

(A) technology used in the sub-process

(B) factory specifications

(C) specific individual roles

(D) controls to be tested

1.4 *The company, while analyzing the significance and assigning priority to the risks, would plot the identified risks in a matrix chart. This would be done under:*

(A) Qualitative Analysis

(B) Impact Analysis

(C) Likelihood Analysis

(D) Quantitative Analysis

1.5 *An internal auditor, who is appointed would LEAST likely look into which of the following aspects, when concluding on the company's risk maturity level?*

(A) Control environment is strong including the tone from the top

(B) Risk appetite is defined and communicated across the organization

(C) Regularly reviewing and monitoring the objectives set as part of the framework

(D) Business objectives are defined and communicated

1.6 *Which one of the following is a NOT type of risk that the company would face in its investment project decision making?*

(A) Decision making under uncertainty

(B) Decision making under probability

(C) Decision making involving risk

(D) Decision making under certainty

1.7 *If the company, in its estimation, has over-stated the revenue without considering any internal controls, the same would be classified under:*

(A) Residual Risk

(B) Operational Risk

(C) Knowledge Risk

(D) Inherent Risk

1.8 *The bank while processing the application for the loan would like to measure the interest rate risk. Which of the following techniques, the bank would not consider for measuring such interest rate risk?*

(A) Value at Risk

(B) Simulation

(C) Frequency of Loss

(D) Maturity Gap Analysis

1.9 *The company would like to make an analysis based on sequence or development of events which start from one set of assumptions in order to evaluate or map various outcomes of a particular situation. This is better known as:*

(A) Scenario analysis

(B) Risk appetite analysis

(C) Historical experience analysis

(D) Stress test analysis

1.10 *The company, in its risk management process, tries to minimise the probability of the negative risks as well as enhancing the opportunities by creating risk mitigation strategies, preventive plans and contingency plans. This step would be performed under:*

(A) Evaluate the Risk

(B) Treat the Risk

(C) Analyse the Risk

(D) Review the Risk ***(10 x 2 Marks = 20 Marks)***

Descriptive Questions:

1.11 *As per the suggestion of the consultant to Mr. Krish, a risk committee was constituted appointing an Independent Director as chair of the Committee. The committee identified the risks that the company would face, but did not give any solutions to mitigate the same. A consultant was asked to provide the advice on mitigation of the risks and sound practices* *that should be adopted. Now you are appointed as the consultant, please give a report describing the advices that would be given to the company.* ***(6 Marks)***

1.12 *In the above report under 1.11, it was mentioned 'a loss would occur or no loss would occur and there would be no possibility for gain'. Explain this risk and different types of such risks.* ***(4 Marks)***

1.13 *Since Mr. Krish wanted to export his company's goods, describe the various qualitative tools that may be used to measure country risk assessment.* ***(4 Marks)***

1.14 *In view of the company's exposure to various stakeholders not only in India and also outside India, describe the challenges that the company would be facing while developing the risk management and oversight practices.* ***(4 Marks)***

1.15 *Mr. Krish wanted to analyse the cash flows, explain to him any two types of cash flows that you wish to consider.* ***(2 Marks)***

1.16 *The company is expecting the following risks and opportunities in the installation of various machinery:*

(1) There is a 7% probability of belatedly receiving the parts for the machinery and this would cause an additional cost of ₹ 7 Lakhs.

(2) By effective dealings with the suppliers of the machinery parts, the probability that the company could save ₹ 3 Lakhs is 40%.

(3) When fitting the machinery there is a 60% probability that the two parts would not fit together and the expected cost of the same is ₹ 6 Lakhs.

(4) By simplifying the processes, the company expects to save ₹ 1.60 Lakhs in the installation of machinery with a probability of 6%

(5) The expected defects in the design would cost the company a sum of ₹ 1 Lakh with a probability of 10% :

Calculate the expected monetary value of the cost of these risks and opportunities.

(6 Marks)

1.17 *Explain the safety risks that the company has to address.* ***(4 Marks)***

Answer Case Study 1

Multiple Choice Questions

1.1 (C)

1.2 (B)

1.3 (D)

1.4 (A)

1.5 (C)

1.6 (B) or (D)

1.7 (D)

1.8 (C)

1.9 (A)

1.10 (B)

Descriptive Questions:

1.11 Report to Management

To: Management of Krish Pharma Ltd.

From: Risk Management Consultant

Date: 7 June 2019

Subject: Measures to Mitigate Risks and Sound Practices to be followed.

The Risk committee:

(a) Is required to be a standalone committee, distinct from the audit committee;

(b) Has a chair who is an independent director and avoids "dual – hatting" with the chair of the board, or any other committee;

(c) Includes members who are independent;

(d) Includes members who have experience with regard to risk management issues and practices;

(e) Discusses al risk strategies on both an aggregated basis and by type of risk;

(f) Is required to review and approve the firms risk policies at least annually;

(g) Oversees that management has in place process to ensure the firms adherence to the approved risk policies.

1.12 These Risks are called 'Pure Risks'. 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. 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.

Above risks are insurable.

1.13 Qualitative Measures to measure Country Risks are as follows:

(i) **Numeral Coding:** In this method, after considering various factors, a number is assigned to a country. While the highest number indicates lesser risk, the lowest number indicates higher risk.

(ii) **Colour Coding:** Different colours can be used to indicate the level of country risk. While Red Color indicates higher risk, Green Colour indicates a risk free zone.

(iii) **Combination of Numeral and Colour:** A combination of colour and numeral is also used to indicate relative level of country risk.

(iv) **Other Methods:** In addition to above, other methods can also be used which are as follows:

(a) Grade Based Rating – The grade can be assigned such as S & P, Moody's and Fitch assigns rating. For example, while USA been assigned rating of Aaa, AA+ and AAA by these agencies respectively of safer zone, Venezuela has been assigned rating Caa, B- and C indicating riskier zone.

(b) Event Driven – A very specific negative event such as removal of current government by military or sovereign default etc. assessed with the probability of happening.

1.14 The challenges that M/s Krish Pharma would be facing while developing the risk management and oversight practices are as follows:

- linking risks to strategy;
- better defining risks;
- developing corporate responses to risks that manage to address all five key dimensions (strategy, people, detail, tasks, and drivers);
- effectively considering stakeholders' and gatekeepers' concerns; and
- addressing all these issues from a whole-enterprise perspective.

1.15 Two types of Cash flows that Krish can consider are as follows:

(a) **Operating Cash flow -** The first set of cash flow transactions is from operational business activities. Cash flows from operations starts with net income and then reconciles all noncash items to cash items within business operations. For example, accounts receivable is a noncash account. If accounts receivables go up, it means sales are up, but no cash was received at the time of sale. The cash flow statement deducts receivables from net income because it is not cash. Also included in cash flows from operations are accounts payable, depreciation, amortization and numerous prepaid items booked as revenue or expenses but with no associated cash flow

(b) **Investment cash flow -** Cash flows from investing activities includes cash spent on property, plant and equipment. This is where analysts look to find changes in capital expenditures (CAPEX). While positive cash flows from investing activities is a good thing, investors prefer companies that generate cash flows primarily from business operations, not investing and financing activities.

(c) **Financing cash flow -** Cash flows from financing is the last business activity detailed on the cash flow statement. The section provides an overview of cash used in business financing.

Analysts use the cash flows from financing section to find the amount paid out in dividends or share buybacks. Cash obtained or paid back from capital fundraising efforts, such as equity or debt, is also listed.

1.16 Expected Monetary Value of Risks and Opportunities

S. No.	Particulars	Risks	Opportunity
1	Belatedly receiving the parts for the machinery	0.07 x ₹ 7 Lakhs = ₹ 49,000	-----
2	Effective Dealing with suppliers of the machinery parts	-----	0.40 x ₹ 3 Lakhs = ₹ 1,20,000
3	Two parts of machine does fit together.	0.60 x ₹ 6 Lakhs = ₹ 3,60,000	-----
4	Simplifying the Process	-----	0.06 x ₹ 1.60 Lakhs = ₹ 9,600
5	Defects in the Design	0.10 x ₹ 1 Lakh = ₹ 10,000	-----
	Total	**₹ 4,19,000**	**₹ 1,29,600**

1.17 Safety Risks that Krish Pharma has to address:

- Spills on floors or tripping hazards, such as blocked aisles or cords running across the floor. Working from heights, including ladders, scaffolds, roofs, or any raised work area.
- Unguarded machinery and moving machinery parts; guards removed or moving parts that a worker can accidentally touch.
- Electrical hazards like frayed cords, missing ground pins, improper wiring.
- Confined spaces.
- Machinery-related hazards (lockout/tag out, boiler safety, forklifts, etc.).

CASE STUDY: 2

Peer Group Analysis

ABC Constructions, a customer prospect, is compared against two peers :

₹ Cr. *Latest FYE*	*New Customer* *ABC Constructions* *31.03.2011*	*Peer 1: Customer PQR Constructions* *31.03.2011*	*Peer 2: Non Customer XYZ Construct** *31.03.2011*
Sales	*259.7*	*458.4*	*689.7*
Gross Profit Margin (GPM)	*25.4%*	*17.7%*	*18.1%*
Net Profit Margin	*5.63%*	*6.10%*	*5.9%*
Bank Borrowings (Funded)	*Nil*	*50*	*147.1*
Provision for Bad Debts (2011)	*12.1*	*32*	*4.81*
Trade Debtors on 31.03.2011	*59.7*	*160.3*	*480*
% of Provision to Trade Debtors	*20.3%*	*20.0%*	*1.0%*
EBITDA	*22*	*51*	*87.3*
EBITDA Margin	*8.2%*	*11.1%*	*12.6%*
Net Debt	*Net Cash Position*	*18*	*30*
Net Debt/EBITDA	*N.A.*	*0.35x*	*0.24x*
S&P/Moody's Rating	*BBB+*	*BBB*	*BBB-*

** Listed company in the stock market*

Comments

A comparison with two other prominent peer group companies shows that ABC is more conservative and enjoys relatively better GPM. The better Margin is attributable to the careful selection of contracts and efficiency of operations. The relatively lower Net Profit Margin reflects the aggressive debtors provisioning policy adopted by ABC compared to its peers. ABC continues to be nil geared. In view of the recent construction sector slowdown, ABC and PQR Constructions had booked substantial additional provision on debtors, however ABC is more conservative. However, XYZ Construct hardly increased the provisions during 2010, despite having significant exposure to some of the troubled companies, which drew criticisms from a few equity analysts (such as Silverman Sachs), who cover this stock. Overall, ABC can be considered as a reasonably strong player in this market segment.

Multiple Choice Questions

Choose the correct answer in the following:

2.1 *ABC Constructions has holdings in a Bank, which is subject to Basel II norms. In that bank, Operation Risk states :*

(A) the risk of loss resulting from inadequate or failed processes, people and systems and from external events.

(B) the risk of loss resulting from inadequate or failed processes, people and systems and from internal events.

(C) the risk which is not an overarching concept interrelated with several other types of risk, and cannot be viewed in isolation.

(D) None of the above.

2.2 *In the measurement of 'Risk consequences', if the level on a scale of 5 is 3, then it is :*

(A) Insignificant

(B) Minor

(C) Moderate

(D) Major

2.3 *According to WEF [World Economic Forum] and current trend, the following one is not a global risk indicator :*

(A) Increasing disparity between the rich and the poor.

(B) Global warming and climate changes.

(C) Intelligent devices replacing human intervention, impacting employment, manufacturing and services sector

(D) Population has more females.

2.4 *Based on the data: Default: 10%; Amount of Exposure: ₹ 1,00,000; and Recovery Rate: 1%, the random loss is ₹ --- -----:*

(A) 9,900

(B) 1,000

(C) 9,000

(D) 1,00,000

2.5 *According to the UN International Strategy for Disaster Reduction (ISDR), Mumbai is the most vulnerable in the world in terms of total population exposed to coastal flood hazard. Is the statement True?*

(A) Yes

(B) No

2.6 *Every company has risk appetite. One of the following key principles has not underpinned Risk Appetite:*

(A) which can be complex.

(B) which needs to be measurable.

(C) which is not a single, fixed concept.

(D) which is none of the above.

2.7 *Probability of an event always is a number which is:*

(A) 0 to 1

(B) -1 to +1

(C) 0 to 10

(D) 0 to 100

2.8 *If the long term instrument is rated as "BBB", this means that the instrument carries:*

(A) Highest Safety

(B) Moderate Safety

(C) High Risk

(D) Moderate Risk

2.9 *In a listed company, the 'risk committee' is required to be:*

(A) Audit committee

(B) Stand-alone committee

(C) A committee which should contain all directors of the company.

(D) None of the above.

2.10 *In case of an airlines company which is subject to hijack, the high impact low probability is seen:*

(A) with severe impact that putting a risk mitigation plan is very difficult.

(B) with no impact that putting a risk mitigation plan is very difficult.

(C) with no impact that putting a risk mitigation plan is not necessary.

(D) with severe impact that putting a risk mitigation plan is not necessary at all.

(10 x 2 Marks = 20 Marks)

Descriptive Questions:

2.11 *The key question for the Chief Risk Officer is how much risk do the company: Constructions ABC take? Outline the key principle that would underpin risk appetite.* ***(10 Marks)***

2.12 *What does the rating 'BBB' 'indicate? List at least six credit rating agencies in India. Describe Credit Risk Rating Process.* ***(1 + 3 + 4 = 8 Marks)***

2.13 *For Construction ABC and its peers, what risks can arise in Risk Assessment with respect to the data furnished in the Peer Group Analysis?* ***(12 Marks)***

Answer Case Study 2

Multiple Choice Questions

2.1 (A)

2.2 (C)

2.3 (D)

2.4 (A)

2.5 (A)

2.6 (D)

2.7 (A)

2.8 (B)

2.9 (B)

2.10 (A)

2.11 The following are some of the key questions for the Chief Risk Officer are how much risk do the company:

- What is the probability that things can go wrong? (Probability) This view will have to be taken strictly on the technical point of view and should not be mixed up with past experience. While deciding on the class to be accorded, one has to focus on the available measures that can prevent such happening.
- What is the cost if what can go wrong does go wrong? (Exposure)

The following key principles have underpinned risk appetite:

(1) *Risk appetite can be complex.* Excessive simplicity, while superficially attractive, leads to dangerous waters: far better to acknowledge the complexity and deal with it, rather than ignoring it.

(2) *Risk appetite needs to be measurable.* Otherwise there is a risk that a statement may become empty and vacuous.

(3) *Risk appetite is not a single, fixed concept.* There will be a range of appetites or ranges for different risks which need to be aligned and these appetites may vary over time. Like in sourcing decisions, the Board may set vendor business share limits as they would be make the entity dependent on few vendor companies that could eventually impact business continuity or range of quality defects.

(4) *Risk appetite should be developed in the context of an organization's risk management capability,* which is a function of risk capacity and risk management maturity. Risk management remains an emerging discipline and some organizations, irrespective of size or complexity, do it much better than others. This is in part due to their risk management culture (a subset of the overall culture), partly due to their systems and processes, and partly due to the nature of their business. However, until an organization has a clear view of both its risk capacity and its risk management maturity, it cannot be clear as to what approach would work or how it should be implemented.

(5) *Risk appetite must be integrated with the control culture of the organization.* The Risk Management framework explores this by looking at both the propensity to take risk and the propensity to exercise control. The framework promotes the idea that the strategic level is proportionately more about risk taking than exercising control, while at the operational level the proportions are broadly reversed. Clearly the relative proportions will depend on the organization itself, the nature of the risks it faces and the regulatory environment within which it operates.

2.12 Rating of 'BBB' indicates the Moderate Safety Level.

Few leading credit rating agencies in India are as follows:

- Credit Rating Information Services of India Limited (CRISIL)

- Indian Credit Rating Agency (ICRA)
- Credit Analysis and Research Ltd (CARE)
- Fitch Ratings India Private Limited (Fitch)
- Equifax
- Credit Information Bureau India Limited (CIBIL)
- High Mark Credit Information Services
- SME Rating Agency of India Ltd (SMERA)
- Brickwork Rating India Private Limited (Brickwork)

Credit Risk Rating Process

Credit Risk Rating or Credit Rating is an important tool to manage large ticket exposures credit risk. The rating provides a consistent and common scale for measurement of credit risk of a loan asset in terms of Probability of Default (PD) across products and sectors. Coupled with estimation of Loss Given Default (LGD), it enables the organisation to make an estimate of credit cost for the loan assets and thus, helps to differentiate among loan assets as objectively as possible. PD is measured by the internal rating assigned to the Borrower and assesses the likelihood that the Borrower will default on its debt obligations. LGD is measured by the value of the security/ collateral / cash flow cover (project finance)/ DSRA/other credit enhancements for the particular facility provided by the Borrower, after applying haircut to each assets sub class, which will form a cover for the outstanding facility, once a default has occurred.

Each Bank / FI would have an internal credit rating model which takes into account critical success parameters relevant for each industry, competitive forces within the industry, regulatory issues while capturing financial parameters, management strengths, project parameters, etc. and the LGD models take into consideration the cover expected to be available for recovery based on asset or cash flows that could be accessed after a default has happened. The LGD model also factors in the estimated time to invoke different types of securities for applying suitable discounting factors.

Each proposed debt commitment is rated before taking a sanction decision and all such ratings of assets in the portfolio are periodically reviewed by banks / FIs. Revised ratings are awarded for the borrower if there is deterioration in the financial parameters from the originally assessed and projected, adverse changes in industry / sector, changes in government regulations etc. Each corporate loan is then assessed for rating migration (upward or downward movement) throughout the loan life cycle.

2.13 Following Risks can arise in Risk Assessment with respect to data furnished:

(a) Changes in operating environment. Changes in the regulatory or operating environment can result in changes in competitive pressures and significantly different risks.

(b) New personnel. New personnel may have a different focus on or understanding of internal control.

(c) New or revamped information systems. Significant and rapid changes in information systems can change the risk relating to internal control.

(d) Rapid growth. Significant and rapid expansion of operations can strain controls and increase the risk of a breakdown in controls.

(e) New technology. Incorporating new technologies into production processes or information systems may change the risk associated with internal control.

(f) New business models, products, or activities. Entering into business areas or transactions with which an entity has little experience may introduce new risks associated with internal control.

(g) Corporate restructurings. Restructurings may be accompanied by staff reductions and changes in supervision and segregation of duties that may change the risk associated with internal control.

(h) Expanded foreign operations. The expansion or acquisition of foreign operations carries new and often unique risks that may affect internal control, for example, additional or changed risks from foreign currency transactions.

(i) New accounting pronouncements. Adoption of new accounting principles or changing accounting principles may affect risks in preparing financial statements.

CASE STUDY- 3

M/s. ABC Spinning Mills Limited is an unlisted company founded in the year 2003. It procures cotton yarn from the ginneries and manufactures cone yarn, which is mainly used by power loom textile sector. The company also exports the cotton yarn to neighboring countries such as Bangladesh, Nepal and Sri Lanka. The sale bills are raised in the respective currencies of such countries.

The company is situated in a total area of 45 acres, out of which, 20 acres are lying vacant. It has a fixed deposit of ₹ 10 crores with a bank and has secured an overdraft limit ₹ 5 crores against the same. The average utilization on the OD was ₹ 3 crores during the Financial Year 2018-19.

The Board of directors decided to effectively utilize the vacant land and surplus funds and construct an additional manufacturing unit to manufacture polyester yarn by the end of March, 2020. The Board also considered the possibility of going for public issue. A consultant was appointed to go through the above proposals and provide his opinions.

The consultant came out with the following observations/suggestions:

- *It was suggested to have the product mix of manufacturing 70% cotton yarn and 30% polyester yarn from 1st April, 2020. The estimated earnings before interest and tax for the cotton yarn and polyester yarn would be ₹ 2 crores and ₹ 30 lakhs respectively for the FY 2020-21. The above product mix was suggested after studying the market demand of polyester yarn.*
- *The project would cost a total of ₹ 30 crores. A 10-year bank term loan of ₹ 20 crores @12% to be obtained and the balance to be raised from the existing shareholders. It was also suggested to fully utilise the OD to meet the working capital requirements in future.*
- *New machinery, which are fully automated and computer controlled, to be purchased from a London based company. The company requires a letter of credit (unfunded) towards the same. The above machinery uses the latest technology and is based on intuitive machine learning.*
- *Based on the market study, it was observed that the existing customers would also buy the polyester yarn.*
- *At present, the pollution level was above the tolerable industry level, resulting in increased bronchitis problems among the workers and the company had spent an additional amount of ₹ 20 lakhs towards medical expenses of 48 workers. It was observed that workers who were affected did not wear the face masks regularly.*
- *The roof of the stock storage facility did not have proper against various weather conditions. The loss on account of the same was ₹10 lakhs during the FY 2018-19. The cost of renovation of the facility is estimated to cost ₹1 crore. An additional loan, repayable at the end of one year, from bank to be obtained at an interest of 14%.*
- *The company did not receive insurance compensation towards the additional amount spent on medical expenses and the stock loss incurred.*
- *To provide a monthly advance of ₹ 10 lakhs to each of the eight agricultural co-operative societies, where the cotton growing farmers are members. Such advance would be adjusted in the subsequent month against the purchases made from the respective societies. This step is taken to ensure continuous supply and reduce the volatility in prices of raw materials.*
- *A new comprehensive ERP software to be installed covering both the existing and future operations.*
- *The managers' in-charge failed to oversee the controls involved in the operations which resulted in control failures in various activities.*

- *The exchange rate fluctuated resulting in reduction of anticipated selling prices on export sales made to foreign countries. Few foreign buyers of a particular country did not pay their dues, citing violence in their country.*
- *Due to stiff competition, the company is forced to sell some varieties of yarn manufactured, below the cost price. It was observed that existing machinery used in manufacturing, where regular maintenance was not done, required reconditioning so as to have better productivity. This could involve an additional cost of ` 2 crores.*
- *In lieu of the above observations, the consultant suggested to address the above issues, assess and evaluate the risks faced and then proceed with the proposal to go-in for public issue. The board of directors has taken note of the risks and have decided to address these by appropriate consideration at their level.*

As the risk management consultant, you are required to assist the management in answering the following questions raised by them.

Multiple Choice Questions. Each question carries 2 marks.

Choose the correct answer in the following:

3.1 *A software error, in the automated computer-controlled imported machinery, in case of raw material may lead to wasted production.*

This would more LIKELY be called as:

(A) Operational Loss

(B) Business Disruption Loss

(C) Propagation Error Loss

(D) Program Error Loss

3.2 *From the present and proposed operations of the company which of the following is NOT an opportunity risk?*

(A) purchase of new machinery

(B) diversifying into new products

(C) payment of purchase advance

(D) stiff competition faced by the company

3.3 *The company's proposal for the new project would LEAST likely to have the specific risk of:*

(A) error of estimation in resources and allocation

(B) completion of the project in scheduled time

(C) estimation of cash flows

(D) regulatory restrictions on industry

3.4 *The determining of the risks that might impact the timely completion of the project would be done MOSTLY as a part of:*

(A) Risk Management Planning

(B) Risk Identification

(C) Quantitative Risk Analysis

(D) Qualitative Risk Analysis

3.5 *The bank while appraising the proposal for the term loan would verify the stature of the directors with respect to the following, EXCEPT:*

(A) verify that the name of the director appears in the list of defaulters by way reference to his DIN

(B) use independent source of confirmation of identity of the director, in case of doubt

(C) verify the ability to infuse further capital by the directors for the expansion of business

(D) review of director's status as Politically Exposed Persons (PEPs)

3.6 *In the product mix, EBIT would increase by 4% for every increase of 10% of manufacturing cotton yarn and a decrease of ₹ 10 lakhs for every decrease of 10% in manufacturing of polyester yarn. Which of the following would be the ideal mix of cotton yarn and polyester yarn products?*

(A) 70% : 30%

(B) 80% : 20%

(C) 90% : 10%

(D) 100% : 0%

3.7 *Out of the workers affected with bronchitis, 50% are aged over 49 years. The probability of catching bronchitis was 75% of the workers, who did not regularly wear face masks. The ratio of the men and women workers affected was 3:1. How many women workers, aged less than 50 years, did not regularly wear the face masks?*

(A) 6

(B) 8

(C) 16

(D) 24

3.8 *When deciding on the selection of maintenance policies of the machinery, the same should be based on:*

(A) minimizing the potential consequences

(B) some form of Monte Carlo analysis

(C) reliability instead of risk

(D) risk instead of reliability

3.9 *The economic risks faced by the company would LEAST likely to include which of the following?*

(A) disruptions in a production process

(B) lapsing of deadlines for construction of a new operating facility

(C) payment of contractual penalties for delayed sales

(D) hike in the price for raw materials

3.10 *The default by the foreign buyers could have been avoided, if the company referred to the:*

(A) Global Peace Index

(B) Gini Coefficient Index

(C) Delinquency Index

(D) Democracy Index ***(10 x 2 Marks = 20 Marks)***

Descriptive Questions on CASE STUDY:

3.11 *The movement of data to the proposed ERP system would involve certain operational risks to be addressed. Describe the points that have to be covered in such deployment exercise.* ***(4 Marks)***

3.12 *What issues the board of directors would consider and questions they would ask in addressing the present and future risks of the company at the board level?* ***(4 Marks)***

3.13 *Briefly discuss the role of risk assessment with respect to financial reporting.* ***(2 Marks)***

3.14 *One way of completely or partially offsetting the exposure from the fluctuations in the prices of foreign currencies would be to raise the sale bills in Indian currency without affecting the transaction costs Explain the same.* ***(4 Marks)***

3.15 *The Bank while extending loan facilities to the company would be facing a number of risks such as refusal or inability of the company to pay the loan partially or in full or in time. Briefly describe the internal and external factors affecting such risks.* ***(4 Marks)***

3.16 *Suggest the types of countermeasures for vulnerabilities faced by the company while assessing and evaluating risks.* ***(2 Marks)***

3.17 *The company at present is facing a number of risks. There are also some indirect risks that the company may be necessitated to face. Enumerate them.* ***(4 Marks)***

3.18 *Briefly enumerate the risks of dealing with the buyers of a foreign country, in which there are changes in the political scenarios as well as adverse decisions taken by the ruling Government of that foreign country.* ***(4 Marks)***

3.19 *Briefly explain the risk mitigation process in providing the letter of credit facility to the company.* ***(2 Marks)***

Answer Case Study 3

Multiple Choice Questions

3.1 (A)

3.2 (D)

3.3 (D)

3.4 (B)

3.5 (C)

3.6 (A)

3.7 (A)

3.8 (D)

3.9 (C)

3.10 (A)

3.11 Point to be covered before deployment of ERP System.

- Data, both dynamic and static
- Functionality mapping from old to new system, and any changes to be adequately familiarised within user groups
- Exception reports that could help track any incorrect migration points
- User acceptance test scripts to be intelligent enough to enable the usage of the new system after adequate granular review
- An emergency roll back plan in case some significant unpredictable issue comes up in migration deployment.
- An auditor or operational risk manager is required to carry out a review of the data integrity and the functionality of the systems that have an impact on the financials of the organisation. This risk is not only restricted to financial reporting, but any risk that could jeopardise the business process, including regulatory, financial and other risks.

3.12 The following are some of the issues that directors may have to consider and the questions they should ask:

A degree of risk is inevitable in business operations. To obtain higher returns, innovate and secure market leadership one may need to adopt a higher risk strategy. Not innovating and being risk averse can result in the stagnation of the enterprise. A Board should establish and communicate its risk appetite and agree to the level of risk it is prepared to accept in different areas of corporate operation. Which stakeholder should be involved and how should they be engaged? Does the risk culture of the board match to that of the organization and its aspirations? If not, what changes are required and how might they be brought about?

What are the risk oversight functions of the board and how effectively are they being discharged? For example, is annual reporting of risk to shareholders fair and balanced? Would confidence accounting present a clearer picture? Within the governance structure, what arrangements have been made for risk governance which involves setting a strategy and policies for the management of risks and monitoring the performance of those to whom risk and security responsibilities are delegated?

Policies could cover the transfer of risk, such as whether or not to hedge or insure against certain risks, depending upon the costs and practicalities involved. They could establish criteria and thresholds for reporting and guiding management responses. Directors need to ensure effective processes and practices are in place for the identification and management of risks. How complex and comprehensive do these needs to be once the most likely and significant risks have been addressed?

Assumptions and business models should be periodically challenged. An assessment of the implications, consequences and dependencies of certain corporate strategies, policies and projects might reveal exposure and vulnerability. Corporate systems and processes need to be sufficiently resilient to be able to withstand the simultaneous materialization of multiple risks.

3.13 A direct relationship exists between the degrees of risk that a significant deficiency or material weakness could exist in a particular area of the company's internal financial controls over financial reporting and the amount of audit attention that should be devoted to that area. In addition, the risk that a company's internal financial controls over financial reporting will fail to prevent or detect a misstatement caused by fraud usually is higher than the risk of failure to prevent or detect error.

The auditor should focus more of his or her attention on the areas of highest risk. On the other hand, it is not necessary to test controls that, even if deficient, would not present a reasonable possibility of material misstatement to the financial statements. The complexity of the organisation, business unit, or process, will play an important role in the auditor's risk assessment and the determination of the necessary procedures.

3.14 Yes, raising of sale bills in Indian Currency avoids foreign exchange exposure. But buyers' preferences may be for other currencies. Many markets, such as oil or aluminium, in effect require that sales be made in the same currency as that quoted by major competitors, which may not be the seller's own currency.

In a buyer's market, sellers tend increasingly to invoice in the buyer's ideal currency. The closer the seller can approximate the buyer's aims, the greater chance he or she has to make the sale.

Should the seller elect to invoice in foreign currency, perhaps because the prospective customer prefers it that way or because sellers tend to follow market leader, then the seller should choose only a major currency in which there is an active forward market for maturities at least as long as the payment period. Currencies, which are of limited convertibility, chronically weak, or with only a limited forward market, should not be considered.

The seller's ideal currency is either his own, or one which is stable relative to it. But often the seller is forced to choose the market leader's currency. Whatever the chosen currency, it should certainly be one with a deep forward market. For the buyer, the ideal currency is usually its own or one that is stable relative to it, or it may be a currency of which the purchaser has reserves.

3.15 The Internal and External factors affecting the risks such as refusal or inability to pay the loan partially or in full or in time are as follows:

(i) *Internal Factors:* These factors are internal to the bank, some of these are as follows:

(a) Concentration of credit in particular geographical locations or business segments.

(b) Excessive lending to particular industry is subject to cyclical fluctuations.

(c) Ignoring the purpose for which loan was sought by the customer.

(d) Poor Quality or Liberal Credit Appraisal while granting the loan.

(e) Absence of efficient recovery mechanism.

(ii) *External Factors:* These factors are external to the bank and beyond its controls. These factors not only impact the profitability of borrower but also effect their repayment capability. Some of such external factors are as follows:

(a) Fluctuation in Exchange Rate.

(b) Change in Govt. Policies.

(c) Fluctuation in Interest Rates.

(d) Change in Political Environment of the own country.

(e) In case of Foreign project change in Country Risk profile.

3.16 Following are the countermeasures for vulnerabilities:

(i) Deterrent controls reduce the likelihood of a deliberate attack.

(ii) Preventative controls protect vulnerabilities and make an attack unsuccessful or reduce its impact.

(iii) Corrective controls reduce the effect of an attack.

(iv) Detective controls discover attacks and trigger preventative or corrective controls.

3.17 Following are indirect risks the company may be facing:

- If your suppliers are affected, you may run out of the products you sell, or the materials you need to make products.
- If your customers are personally affected their priorities may change and you could experience a reduced demand for your products or services.
- If your general location is affected, you and your customers may not be able to access your premises, or your utilities could be affected.
- For example, you could lose power, which could mean you:
  - ❖ will not be able to operate your business;
  - ❖ may need to throw out any perishable goods and replace them, which can be costly.

3.18 **Risks** of dealing with the buyers of a foreign country, in which there are changes in the political scenario as well as adverse decision taken by the ruling Government of that country are as follows:

(i) *Nationalisation or Expropriation Risk:* This is most common form of risk wherein host country takes over the business of MNCs without or with inadequate compensation.

(ii) *Exchange Control Risk:* This form of risk prevents the MNCs to get converted their earning from local currency to foreign currency to repatriate the same to home country of MNCs. Due to this restriction even investors in MNCs business also suffer a lot.

(iii) *Taxes, Rule and Regulation Risk:* This risk arises mainly due to a sudden or dramatic change in Rule and Regulations governing the host country. These sudden changes can be in any of following type of forms:

- Unanticipated increase tax rates applicable for MNCs operating in the host country.
- Compulsion to hire local workforce.
- Compliances of stricter environmental standards.

(iv) *Inefficient Legal System:* High level of red tapism and corruption at local and higher level pose a serious risk for MNCs operating in the host country as it leads to uncertainty and high cost of operation.

(v) *Repudiation of Contracts:* This type of risk arises on account revocation of earlier awarded turnkey projects by the Government of host country without adequate consideration and damages. This risk is also called indirect expropriation risk.

3.19 Following are the different types of credit risk mitigation methods in the process of providing the Letter of Credit (if fully funded):

(a) *On Balance Sheet Netting:* On balance sheet netting of mutual claims/reciprocal cash balances between the bank and the counterparty creates effective security and collaterals.

This norm accordingly be recognised as an acceptable form of credit risk; in order take in account a funded credit risk mitigation, the underlying arrangement has to go through the legal test.

(b) *Collateral:* The assets/security which are retained or deposited with bank against grant of any loan advances, debt or credit lines. The typical examples are

- Cash or cash equivalents – Cash or Hand loans
- Gold Pledging
- Corporal Debt Securities
- Debt securities issued by banks, local authorities and certain other entities which meet stated credit quality criteria;
- Short term debt securities with an acceptable rating;
- equities or convertible bonds listed on the various indices
- units in a collective investment scheme such as mutual funds, provided that they have a daily price quotation and invest only in instruments which are themselves eligible for recognition as specified under the by-laws.