

Roll No.

**Final New Syllabus
Paper - 6 A
Risk Management**

MAY 2019

Total No. of Case Study Questions – 3

Total No. of Printed Pages – 20

Time Allowed – 4 Hours

Maximum Marks – 100

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Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

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

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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 upto ₹ 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 Apr., 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.

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- 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 :

**2×10
=20**

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) $(PAT + Interest) / (Current\ portion\ of\ long\ term\ debt + Interest)$

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- 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 analysing 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 organisation
(C) Regularly reviewing and monitoring the objectives set as part of the framework
(D) Business objectives are defined and communicated

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- 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

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.

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- | | | |
|-------|---|---|
| 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 |
| 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 |
| 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 |
| 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 |
| 1.16. | <p>The company is expecting the following risks and opportunities in the installation of various machinery :</p> <p>(1) There is a 7% probability of belatedly receiving the parts for the machinery and this would cause an additional cost of ₹ 7 Lakhs.</p> <p>(2) By effective dealings with the suppliers of the machinery parts, the probability that the company could save ₹ 3 Lakhs is 40%.</p> <p>(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.</p> <p>(4) By simplifying the processes, the company expects to save ₹ 1.60 Lakhs in the installation of machinery with a probability of 6%</p> <p>(5) The expected defects in the design would cost the company a sum of ₹ 1 Lakh with a probability of 10%</p> <p>Calculate the expected monetary value of the cost of these risks and opportunities.</p> | 6 |
| 1.17. | Explain the safety risks that the company has to address. | 4 |

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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

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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.

Each question carries 2 marks.

Choose the correct answer in the following :

10×2
=20

- 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.

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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.

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**

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**

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**

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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.

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Multiple Choice Questions. Each question carries 2 marks.

10×2
=20

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

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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

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

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

3.13 Briefly discuss the role of risk assessment with respect to financial reporting. 2

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

- 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**
- 3.16 Suggest the types of countermeasures for vulnerabilities faced by the company while assessing and evaluating risks. **2**
- 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**
- 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**
- 3.19 Briefly explain the risk mitigation process in providing the letter of credit facility to the company. **2**