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**II Semester M.Com. Degree Examination, September/October - 2024****COMMERCE****Risk Management And Derivatives****(CBCS Scheme)****Paper : 2.2****Time : 3 Hours****Maximum Marks : 70****SECTION - A****Answer any Seven questions out of ten. Each question carries 2 marks. (7×2=14)**

1. a) What is the meaning of risk management?
- b) Write two primary objectives of risk management.
- c) Define perils and clauses in risk management.
- d) What do you mean by Value at Risk (VaR)?
- e) Define stress testing in the context of risk management.
- f) What is unsystematic risk?
- g) What do you mean by Option?
- h) Give the meaning 'future of contract'.
- i) What do you mean by currency swap?
- j) What is RAROC?

**SECTION - B****Answer any Four questions out of six. Each question carries 5 marks. (4×5=20)**

2. Explain the different types and classification of risk faced by organisations.
3. Analyse the factors affecting credit risk in financial institutions.
4. Describe operations risk management (ORM) and its features.
5. Define market risk and explain the various types of market risk.
6. Nifty spot is 6500 points. You want to take a position in 3 months Nifty futures. The continuously compounded rate of interest is 8% and the continuously compounded yield on the Nifty stocks is 2% p.a. what would be the theoretical value of Nifty futures?

**[P.T.O.]**



7. Following is the information about Mr J's portfolio:

Investment in shares of ABC Ltd.,	:	Rs. 200 Lakhs
Investment in shares of XYZ Ltd	:	Rs. 200 Lakhs
Daily standard deviation of both shares	:	1% ..
Coefficient of correlation between both shares	:	0.3 ,

Required

Determine the 10-day 99% Value-at-Risk (VAR) for Mr J's portfolio. Given : The Z score from the Normal Table at 99% confidence level is 2.33.

### SECTION - C

**Answer any Two questions out of four. Each question carries 12 marks. (2×12=24)**

8. Explain the mechanism of credit risk scoring by CIBIL and its significance in credit decision-making.
9. From the information provided relating to a company, Calculate Altman's Z-Score and comment on the financial condition of the company.

Equity share capital (of Rs. 10 each)	2,00,000
12% Preference Share Capital (of Rs. 100 each)	1,00,000
Fixed assets	3,00,000
Current assets	2,00,000
Fictitious assets	25,000
Current Liabilities	1,00,000
10% Debenture	2,00,000
General Reserve	75,000
Profit % Loss A/C (Cr)	50,000
Sales	10,00,000
Earnings before tax	1,30,000
Interest on Debentures	20,000
Market value of each Equity share	15
Market value of each preference share	150



10. Following information is available for X company's shares
- |                              |                            |
|------------------------------|----------------------------|
| Current share Price          | Rs. 185                    |
| Option exercise price        | Rs. 170                    |
| Risk free interest rate      | 7% (Continuous Compounded) |
| Time of the expiry or option | 3 Years                    |
| Standard deviation           | 0.18                       |
- Calculate the value of option using Black - Scholes formula.
11. Write a short note
- Mark to Market
  - 5M model
  - SWAPS

### SECTION - D

Answer the following question

(1×12=12)

#### 12. FACTS OF THE CASE

Innovative Agri Limited (IAL), based in NOIDA, is manufacturing and selling various agricultural tools, such as, sickle, axe, plough and various types of weeders for the past ten years. The revenue for the past three years is almost stagnant.

Mainly during October and November of every year, the farmers, especially in the northern part of the country burn their crop wastes. This is known as stubble burning and it causes a variety of problems-health problems to the public, environmental pollution, soil quality deterioration etc.

#### NEW PROPOSALS

IAL wants to explore the possibility of commencing manufacturing Stubble Removing Machine (SMR), which will greatly reduce the ill-effects of stubble burning. Currently SMRs are being sold for anywhere between Rs. 7 lakhs to Rs. 20 lakhs in the market. IAL came across a technology, which would substantially reduce the selling price to Rs. 4.5 lakhs including a trailer that would be attached to SMR. The technology can be bought for a one-time payment of Rs. 50 lakhs.

IAL intends to manufacture SMR under 'Make in India' scheme. Towards meeting the cost of SMR manufacturing project, IAL has decided to approach a bank for a term loan for fifteen years. On being satisfied, after the detailed workings and explanations of the project manager, the bank agreed in-principle to sanction the loan. The loan officer of the bank, **Mr. Arun** analysed the internal factors affecting the credit risk of the bank while considering the loan proposal of IAL. To meet a portion of the cost of the project, IAL wants to sell some assets held in the form of market securities before their stated maturities and has entrusted this job to the Chief Financial Officer, **Mr. Ravi**.

IAL is also having a proposal to manufacture and sell Plant Cutting Scissors. The estimated cost of the project is expected to be funded by the directors. The details of the project are as under:

[P.T.O.]



Sl. No.	Particulars	Figures
1	Initial Capital Cost	Rs. 5 Cr.
2	Annual unit sales (nos)	0.2 Cr
3	Selling price per unit	Rs. 120
4	Variable cost per unit	Rs. 60
5	Fixed costs per year	Rs. 1 Cr.
6.	Discount Rate	7%

### OTHER OBSERVATIONS

It was decided to improve the risk management system of IAL. Mr. Raj, the Internal Auditor was assigned the task of finding out the risk maturity level of IAL. He suggested to the management to consider forming a Risk Committee and an Audit Committee of the Board. He opined that

- i) Risk management of IAL would surely minimise the impact of risk on the business with the help of the Risk Committee and
- ii) The Audit Committee would act on the terms of reference as specified by the Board and would primarily include evaluation of risk management systems including internal control system and internal audit.

The Managing Director (MD) requested Mr. Raj to explain to him the concepts of

- i) Magnitude of the Risk,
- ii) Risk Perception,
- iii) Cognitive Psychology and
- iv) Emotional Intelligence. It was also decided to hold periodic meetings with the management and the departmental heads to capture learning and develop related recommendations at the end of a major activity or engagement.

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

- a) Explain the risks you foresee and suggest remedial measures towards the same, in the proposal to manufacture SMR.
  - b) What would be the explanations of Mr. Raj to MD on various concepts which he requested him to explain?
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