PG – 652

Second Semester M.Com. Degree Examination, November/December 2023
(CBCS Scheme) (2020 – 21)
COMMERCE
Paper – 2.2 : Risk Management and Derivatives

Time : 3 Hours Max. Marks : 70

SECTION – A

1. Answer **any seven** questions out of ten. **Each** question carries **two** marks. **(7×2=14)**

   a) What are the primary challenges that risks pose to businesses ?
   b) How does Altman's Z Score Model classify companies based on their financial health ?
   c) What is the Credit Risk Score provided by CIBIL ?
   d) State the concept of risk and uncertainty.
   e) Define operations risk and provide an example.
   f) What is stress testing in the context of risk management ?
   g) What are the economic benefits of derivatives for businesses and investors ?
   h) Explain the term "Clearing and Settlement" in the context of futures trading.
   i) Give the meaning of American option.
   j) Define Yield Curve and mention its types.

SECTION – B

Answer **any four** questions out of six. **Each** question carries **five** marks. **(4×5=20)**

2. How does the concept of Agri Risk Management help the agricultural sector mitigate risks ?

3. Given the following information for a company :
   Asset value = $ 5,000,000
   Standard Deviation of Asset Value = $ 400,000
   Debt Amount = $ 2,000,000
   Risk-Free Rate = 5%
   Calculate the default probability using the KMV model.

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4. Discuss the significance of the Yield Curve in assessing market conditions.

5. Explain the factors contributing to the growth of the derivatives market in India in recent years.

6. Explain the role of margin in managing risk in futures trading and discuss the different types of margin.

7. Suppose a stock is currently trading at $ 100 per share. You are considering a European call option with a strike price of $ 110 and a maturity of 6 months. The risk-free interest rate is 5% per annum. Calculate the option price using the Binomial option pricing model. Assume that there are two periods during the life of the option, and each period is three months.

SECTION – C

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

8. Explore the significance of insurance in risk management, including the role of perils, clauses and risk covers in ensuring financial protection.

9. You are a credit risk analyst at XYZ Bank. You have been tasked with assessing the credit worthiness of a potential corporate borrower. The borrower's financial statements provide the following information :

   Total assets : $ 5,000,000

   Total liabilities : $ 3,200,000

   Earnings before interest and taxes (EBIT) : $ 800,000

   Market value of equity : $ 2,400,000

   Book value of equity : $ 2,000,000

   Using Altman's Z Score Model, calculate the Z Score for this borrower and interpret the result. Also, provide your recommendation on whether the bank should extend credit to this borrower based on the Z Score.

10. Explain the challenges and complexities of implementing Stress Testing in risk management, using real-world examples.

11. Critically analyze the recent trends in derivative trading strategies, focusing on their effectiveness, risks and implications for market stability and investor behavior.

SECTION – D

Compulsory Skill based question on subject. **(1×12=12)**

12. You are given the following information :

Current stock price (S0) = $ 100

Strike price (K) = $ 110

Time to expiration (T) = 1 year

Risk-free interest rate (r) = 5% per annum

Volatility of the stock (σ) = 20% per annum

a) Calculate the value of a European call option using the Black-Scholes model.

b) Calculate the value of a European Put option using the Black-Scholes model.