PG – 1312

II Semester M.Com. Examination, October/November 2024
(CBCS) (2020-21)
COMMERCE
Paper – 2.2 : Risk Management and Derivatives

Time : 3 Hours | Max. Marks : 70

SECTION – A

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

1. a) Mention the objectives of risk management.

   b) What do you mean by non-diversifiable risk ?

   c) How would you define Credit risk ?

   d) List down any two features of ORM.

   e) What do you understand by VaR ?

   f) Write a note on the concept of Flat Yield Curve.

   g) Mention any four functions of derivatives.

   h) State any two sources of credit risk.

   i) Define futures market.

   j) What are the different types of Swaps ?

SECTION – B

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

2. Explain the key steps involved in the risk management process.

3. Differentiate between futures and options.

P.T.O.

4. Elucidate the factors contributing to the growth of the derivatives market in India.

5. Briefly explain the Risk Modelling Methods.

6. XYZ Ltd. has the following financial data :

   a) Working capital to total assets = 0.15

   b) Retained earnings to total assets = 0.10

   c) Earnings before interest and taxes (EBIT) to total assets = 0.08

   d) Market value of equity to book value of total liabilities = 1.2

   e) Sales to total assets = 1.5

   Using the Altman's Z-Score Model for a publicly traded company, calculate the Z-Score and interpret whether the company is in a safe zone, grey zone, or distress zone. Show all necessary steps.

7. A stock market index provides a dividend yield of 4% per annum. The current value of the index is 1500, and the continuously compounded risk-free rate of return is 7% per annum.

   1) Find the value of a one-month futures contract on the given index per unit.

   2) Find the value of a one-month futures contract on the given index assuming each contract contains 100 units.

SECTION – C

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

8. Elaborate the various methods of calculating VaR and suggest the most suitable method for a diversified investment portfolio. Justify your answer with examples.

9. Describe the evolution of Derivatives in Indian financial market along with economic benefits involved in derivative contracts.

10. From the following information, prepare the margin account of a trader who has taken the short position : Number of contracts = 2; Number of units per contract = 40 : Price per unit on day 1 = ₹ 800 : Initial margin = 10%, Maintenance margin = 70%.

Day	1	2	3	4	5	6	7	8	9
Closing Price	800	785	765	770	750	740	755	760	780

a) Calculate the initial margin deposit for the trader.

b) Create a table showing the daily mark-to-market settlement and the margin balance of the trader.

c) Identify on which days, if any, the trader needs to make additional margin deposits based on the maintenance margin.

11. An investor has Portfolio consisting of seven securities as shown below :

Security	No. of shares	Share price on 18-4-2022	Beta
ABN Co	4000	1030	0.59
Cipla	5200	209	1.32
ICIC Ltd.	6600	62	0.87
Infosys	2400	3958	0.35
Tata	5600	309	1.16
Hind lever	1500	128	1.24
Zee Telefilm	4000	168	1.05

The cost of capital for the investor is given to be 20% P.a. The investor fears a fall in the prices of the shares in the near future. Accordingly, he approaches you for advice. You are require to :

1) Calculate the beta of his portfolio.

2) The May future of BSE sensex is quoted @3444.60 Assuming the market lot to be 100, calculate the number of contracts. The investor should short for hedging his portfolio against falling markets.

SECTION – D

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

12. CKS Corporation's stock is currently trading at ₹120. A European call option with a strike price of ₹ 130 is available and will expire in 6 months. The risk-free interest rate is 5% per annum, and the volatility (standard deviation of the stock's return) is 25% per annum. The stock does not pay any dividends.

    a) Calculate the call option price using the Black-Scholes model. Show all necessary steps, including the calculation of d1, d2 and the final option price.

    b) Interpret the result : Explain what the calculated call option price represents.

    c) If the same option were a European put option, what would its price be using the Put-Call Parity relationship ?

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