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12MBAFM427

Fourth Semester MBA Degree Examination, June/July 2016
Risk Management

Time: 3 hrs. Max. Marks:100

Note: 1. ***Answer any THREE questions from Q.No. 1 to Q.No. 6.***
2. Question No.7 and 8 are compulsory.
3. Use of e^x, normal distribution tables are permitted.

1 a. What is Risk Management? **(03 Marks)**
b. Compare and contrast the motives of Ledgers and speculators in a derivatives market. **(07 Marks)**
c. What is a Forward Rate Agreement? State the significant characteristics of FRA. **(10 Marks)**

2 a. Bring out the differences between market risk and credit risk. **(03 Marks)**
b. Explain briefly the economic functions of commodity derivative markets. **(07 Marks)**
c. On September 25th, the cash price of quintal of pepper is Rs 10,010. Full carry cost of Pepper till Dec. 28th is Rs 10,288/Q. A 3-month futures contract maturing in December end is now trading at Rs 10,355/q. Can the merchant holding the stock of Pepper exploit any arbitrage opportunity? Assume risk – free rate of interest with continuous compounding as 7%. Calculate the arbitrage profit. **(10 Marks)**

3 a. Explain Value – at risk. **(03 Marks)**
b. Suppose that on Jan. 1 price of Puppy shares is Rs 450 and the 2 parties enter into a forward contract for delivery of 1000 shares of Puppy on 15th April at a price of Rs 460. Find out the profit / loss profile of seller on April 15 if the prices turn out to be Rs 470 or Rs 400. **(07 Marks)**
c. A investor holds a portfolio worth Rs 11,75,000 that almost tracks the Nifty Index. Currently the Nifty futures is quoting at 6500, the investor expects markets to decline. Show how stock futures can help the investor to cover the losses in spot market. How many contracts should he sell? Assume contract multipler = fifity. If his portfolio has a beta of 1.25, how many futures should he trade? (Assume that portfolio should be aggressive). If the market declines by 5%, beta of portfolio is one, futures drop by 5% what is loss/gain. **(10 Marks)**

4 a. How do option contracts differ from future contracts? **(05 Marks)**
b. Discuss the factors affecting option prices. **(05 Marks)**
c. Mehra is interested in purchasing a cal option on Ponds Ltd with an exercise price of Rs 100 and hold for 2 years until expiry. Ponds Ltd is currently trading at Rs 100 per share and the annual variance of its continuously compounded rate of return is 0.04 or 4%. The T – Bill that matures in 2 years has an interest rate at continuous compounding of 5% per annum. Using Black and Scholar Model, calculate the price of call option? What does Put – call parity imply about the price of put. **(10 Marks)**

5 a. Explain the structure of credit default swap. What are its advantages? **(05 Marks)**
b. What is back testing, how is it different from stress testing? **(05 Marks)**

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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c. Assume that ABC wants a floating rate investment, LMN desires a fixed rate investment. There is an intermediary who arranges the deals for ABC and LMN and derives 50 basis points as it fees. Design a swap deal for ABC and LMN in such a way that it benefits both companies. **(10 Marks)**

	Fixed rate	Floating rate
ABC	10%	MIBOR + 25 bP
LMN	12%	MIBOR + 75 bP

6 a. Compute the delta of a at – the – money call and put European options with a volatility of 35% and interest rate of 7% p.a with 90 days to maturity. Provide a brief interpretation of delta. **(10 Marks)**

b. Tata Power is trading in the spot market at Rs 70. The continuously compounded risk free rate is 8% per annum. Calculate the fair value of a 3 – month futures contract for each of the following scenarios : i) When stock pays no dividend ii) When stock pays a dividend of 5% iii) When stock pays a dividend of Rs 1.50 in one month's time. **(10 Marks)**

Skill based questions (Compulsory)

7 a. Explain how companies planning new bond issues can hedge their interest rate risk through future market. **(05 Marks)**

b. Briefly explain when Straddle and Strangle are appropriate hedging strategies. **(05 Marks)**

c. Mr. Naveen own 300 shares of an Engineering company. To hedge against fall in short - term volatile markets, which type of derivative contracts can he trade? He wants to sell the shares in a month or two. **(05 Marks)**

d. Mr. Krishna owns a cashew processing unit at Karwar. What major types of pure risks does he need to manage? **(05 Marks)**

<u>**CASE STUDY (compulsory)**</u> :

8 The FTSE – 100 is currently at 6800 points. Call options with a strike price of 6750 points are priced at 50 index points. The option contracts are based on £ 10 per index points and are cash settled.

a. What is the maximum loss to the buyer of the option? **(05 Marks)**

b. What is Break – even indeed? **(05 Marks)**

c. Is there a maximum profit? **(05 Marks)**

d. If the option will be exercised at an index level of 6850, what transaction would occur? **(05 Marks)**

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