Seat No.: ________ Enrolment No.___________

GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER–IV • EXAMINATION – SUMMER 2013

Subject Code: 840203 **Date: 14-05-2013**

Subject Name: Risk Management

Time: 14:30pm – 17:30pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** What do you mean by derivative? Explain the difference between a forward and future contract. **07**

(b) Explain the various types of orders used in Indian Derivatives Exchanges. **07**

Q.2 **(a)** K P Jewellers , a gold jewellery manufacturer , requires 1000 grams of Gold on July 1. On April 1, The price of gold is INR 12000 per gram. It plans to enter into a forward contract to buy gold, with the delivery date of July 1.It has estimated that the storage of this gold will cost INR 80000 and that it can invest its funds at 8% elsewhere . Calculate the forward price of Gold on April 1 for delivery on July 1. **07**

(b) The price of crude oil is highly volatile and on September 1, the price of Brent Crude Oil is INR 3,278 per barrel. There is a possibility that there will be a cut down in the supply of crude oil followed by a meeting in OPEC in December 5 . So there may be a rise in the crude price on September 6 so one may want to speculate on crude futures. Currently crude futures are available with expiry in October, and the contract delivery unit is 50,000 barrels. The future price is at INR 3295 per barrel on September 1. **07**

Your are required to find how one can use futures to speculate on the price of crude oil.

If the crude oil spot price on September 5 is INR 3400 per barrel and the October future price on September 5 is INR 3468 per barrel what will be his gain from the speculation?

If the crude oil spot price on September 5 is INR 2860 per barrel and October futures price on September 5 is INR 2904 per barrel what will be his gain from the speculation.

OR

(b) Explain what do you mean by long hedges and short hedges with example. Discuss in detail what do you understand by hedge ratio and hedging effectiveness. **3+4**

Q.3 **(a)** The current price of an index is Rs.1380 and the annualized dividend yield on the index is 4.8%.A six month future contract on the index can be purchased for a price of Rs.1434. the risk free rate of interest is 12%. Assume that 50% of the stocks included in the index will pay dividends during the next six months. You are required to show how the arbitrage can earn an abnormal profit irrespective of the outcome on the expiration date. (Ignore margin requirements , transaction costs and taxes) **07**

(b) “Derivative contracts are used as a tool of hedging in financial market” . Explain the different types of risk that occur in a financial market. **07**

OR

Q.3 **(a)** Clearing house is the 'de facto' guarantor for all the transactions in futures. Describe briefly the functions of a clearing house. **07**

(b) The settlement price of Reliance share on a particular day on BSE was 900. The multiple associated with the contract is 200. **07**

The initial margin for the contract is Rs.10000 and the maintenance margin is set at Rs.7500. the settlement prices on the following 5 days were as follows.

Day	1	2	3	4	5
Settlement Price	860	895	920	880	845

You are required to calculate the mark to market cash flows, the daily closing balance and net profit (or loss) in the account of an investor who has gone long at 900 and short at 900.

Q.4 **(a)** " Time Spread is another name of Horizontal Spread" – Explain in detail the Horizontal Spread of Option with suitable example. **07**

(b) The current spot rate of dollar is 43.50-43.70 Rs./$ **07**

A speculator found the following options traded in the market .

Strike Price	Call premium	Put premium
43.30	0.90	0.40
43.50	0.50	0.60
43.70	0.30	1.00

He is of the opinion that the spot rate is likely to experience wide variation though the direction is not clear. Suggest an appropriate strategy for the speculator and work out the pay off profile over a range of spot price from Rs.43 to Rs.44.

Q.4 **(a)** "Spread strategies involves only the use of options" . Enumerate the bullish and bearish vertical spreads used in buying and selling options. **07**

(b) Four month options on a stock whose current market price is Rs.30 are being traded at an exercise price of Rs.29. The volatility of the stock price is 25% per annum. A dividend of Rs.0.50 is expected from the stock in two months from now. The risk free rate of interest is 10% p.a. What is the price of the option if it is an European Call? **07**

Q.5 **(a)** Explain the assumptions made in Black Scholes Model and also mention the determinants of option prices through this model. **5+2**

(b) Explain the concept of Purchasing Power Parity and Covered Interest Arbitrage with suitable examples. **07**

OR

Q.5 **(a)** What do you mean by SWAPs? Explain the different type of Swaps in detail that are used to hedge different risks. **07**

(b) Companies X and Y have been offered the following rate per annum on a $5 million 10 year investment. **07**

Company	Fixed rate	Floating rate
X	8.0%	Libor
Y	8.8%	Libor

Company X requires a fixed rate investment and company Y requires a floating rate investment. Design a Swap that will net a bank , acting as intermediary 0.2% per annum and will appear equally attractive to X and Y.

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