Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER–IV • EXAMINATION – SUMMER 2013

Subject Code: 2840202 **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 is Basis Risk? What causes basis risk in Hedging?	**07**
	(b)	Define and Differentiae forwards and futures.	**07**
Q.2	**(a)**	Explain various Greek letters in Options.	**07**
	(b)	Discuss the Stop loss order in Buy and Sell with illustrations? How it helps in risk management?	**07**
		OR	
	(b)	What is SWAP? Discuss different types of swaps.	**07**
Q.3	**(a)**	What is Options contract? Explain the factors affecting options pricing.	**07**
	(b)	An investor holds shares of Suzlon worth Rs 20 lacs which has standard deviation of returns at 25% with beta of 1.5. The standard deviation of market returns is 16%. Index futures on NIFTY is price at 4,000 with contract size of 50. If investor hedges with the futures find out what position he must take in NIFTY futures. Also find what risk the investor would face in the hedged portfolio.	**07**
		OR	
Q.3	**(a)**	Discuss the factors affecting option premium. How these factors contribute the change in premium? Give answers with hypothetical prices.	**07**
	(b)	As an exporter you expect to receive 3 months from now US $ 20,000. The spot price of US $ is Rs 50.00 while 3-m futures at NSE is trading at Rs 49.30 indicating depreciation of US dollar. Under what circumstances would you like to hedge? What would be the hedging strategy?	**07**
Q.4	**(a)**	Write a short note on historical simulation for calculating VaR.	**07**
	(b)	An industrial firm uses tin as raw material and has a requirement of 400 kgs of tin to be procured 6 months from now. The prices of tin are expected to rise substantially. The firm needs to hedge against the price rise. There are no derivative contracts available on tin but futures contract on aluminium are popular. The prices of aluminium and tin are strongly correlated. A study has revealed that standard deviations of prices of tin and aluminium are 21% and 20% of their current prices of Rs 720 per Kg and Rs 90 per Kg respectively. The coefficient of correlation is placed at 0.95. One futures contract on aluminium is for 1,000 Kg. How can the firm hedge?	**07**
		OR	
Q.4	**(a)**	Explain the concept of moneyness in options. How it affects the options premium?	**07**
Q.4	**(b)**	A trader in gold hold stock of 1 Kg valued at Rs 15 lacs at the spot price of Rs 15,000 per 10 gms. The 3-m futures contract for size of 100 gms on gold is Rs 15,400 per 10 gms. In order to protect against the fall in value of the gold the trader decides to sell 10 contracts in gold for 3-m delivery.	**07**

However after one month the trader is required to sell the stock of gold at Rs 14,500 and therefore also cancels his position in futures at Rs 14,700. Find out the price the trader realised.

Q.5	**(a)**	Explain the cost of carry model for futures pricing.	**07**
	(b)	Which model is currently used in market for option pricing? Discuss its assumptions, formula and implications.	**07**

OR

Q.5	Stock of Hindalco is trading at Rs 90. A 6-m European call with strike of Rs 80 is available. a) What would be the minimum price of the call if risk free rate is 10% p.a.? b) If the call is actually selling for Rs 12.00 what minimum profit can you make? Demonstrate how would you derive such profit.	**14**

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