Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA – SEMESTER –IV-EXAMINATION – WINTER-2022

Subject Code: 3549222 **Date: 15/12/2022**
Subject Name: Risk Management
Time:10:30 AM to 01:30 PM **Total Marks: 70**

Instructions:

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

Q.1 **Define the following:** **14**

(a) In the money option
(b) Swap
(c) Open Interest
(d) Over the counter market
(e) Cost of Carry
(f) Vega
(g) Margin call

Q.2 **(a)** What are derivatives? Explain major types of equity derivative contracts. **07**

(b) Explain carefully the difference between hedging, speculation and arbitrage in light of derivative **07**

OR

(b) Briefly explain the order matching rules in derivatives market **07**

Q.3 **(a)** Discuss the differences between a long forward position and a short forward position by giving examples. **07**

(b) Shri Jewellers, a manufacturer of Gold Jewellery, requires 1000 grams of gold on July 01. On April 01, the price of gold is Rs. 12000 per gram. It plans to enter into a forward contract to buy gold, with the delivery date of July 01. It has estimated the storage cost of Rs. 80,000 and that it can invest funds at 8% elsewhere. Calculate the forward price of gold on April 01 for delivery on July 01. **07**

OR

Q.3 **(a)** What are advantages of and problems with forward contracts? Discuss. **07**

(b) Bajaj futures contract has a lot size of 1,000 shares. Assume that you take a short position on 10 Bajaj futures contracts at INR 271.25 at 11 a.m. on October 6. Assume that the initial margin is 10% of the initial contract value and the maintenance margin is 8% of the initial margin. The following table shows the settlement prices on the days of trading between October 6 and October 10. You close out your short position on October 10. Prepare a table showing the daily margin balances in your account. **07**

Date	Settlement Values (INR)
October 6	271.25
October 7	273.80
October 8	276.90
October 9	272.50
October 10	272.10

Q.4 **(a)** Write a short note on put call parity. **07**

(b) A State Bank share is selling for INR 2,500 on January 1. It has a call option with maturity on March 31 with an exercise price of INR 2,700. This option is selling for INR 85. Prepare table showing the terminal value of this option as well as the gains from buying this option for possible stock prices of INR 2,300, 2400, 2500, 2700, 2800, 2900 and 3,000 **07**

OR

Q.4 **(a)** Write a short note on Black-Scholes options pricing model. **07**

(b) A State Bank share is selling at INR 2,500 on January 1. It has a call and a put option with maturity on March 31 with an exercise price of INR 2,700. The call is priced at INR 85 and the put is priced at INR 160. **07**

If you believe that the price of the State Bank share would be INR 2,750 on March 31, what action would you take?

Q.5 **CASE STUDY:**

On September 1, gold is trading at INR 13,500 per 10 grams. Lalitha Jewellers requires 3,000 grams of gold on January 1 for preparing new jewellery for the marriage season next year. The gold price has been highly volatile in the past 3 months, and experts differ in their opinion as to whether the gold price would increase or decrease in the future. Lalitha Jewellers would like to hedge against the price risk and is looking at the gold futures contract. There is a futures contract available with expiry on December 20, and the futures price is INR 14,100.

(a) Explain how Lalitha Jewellers can use the gold futures to hedge. **07**

(b) On December 20, the gold price in the spot market is INR 14,600. On January 1, the gold price is INR 14,900. Lalitha Jewellers would buy the required gold on January 1. What would be the effective price per 10 grams for Lalitha Jewellers? **07**

OR

Q.5 **(a)** What is Bullish money spread? When would you enter into Bullish money spread using calls and puts? **07**

(b) An exporter from the USA would be receiving USD 20 million in 60 days from an Indian importer. The current spot exchange rate between the U.S. dollar and the Indian rupee is USD 1 = INR 45.3462. The interest rate in the USA is 4%, and the interest rate in India is 7%. How can the Indian importer hedge the currency risk using the USD–INR futures? **07**

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