**JAIPURIA INSTITUTE OF MANAGEMENT, INDORE**

**PGDM**

**FIFTH TRIMESTER (Batch 2019-21)**

**END TERM IMPROVEMENT EXAMINATION, FEB-2021**

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| Course Name | **Financial Derivatives & Risk Management** | Course Code | **FIN 501** |
| Max. Time | **2 hours** | Max. Marks | **40** |

**INSTRUCTIONS:**

All the questions are compulsory.

**Section A**

**Q1.** You are very bullish optimistic on stock EFG, much more so than the rest of the market. In each question, choose the portfolio strategy that will give you the biggest profit if your bullish forecast turns out to be correct. Explain your answer.

(i). Choice A: Rs.10,000 invested in calls with exercise price = Rs.50

Choice B: Rs.10,000 invested in EFG stock

(ii). Choice A: 10 call options contracts (for 100 shares each), with exercise price= Rs.50

Choice B: 1000 shares of EFG stock **(10 Marks)**

**Q2.** You manage a Rs.13.5 million portfolio, currently all invested in equities, and believe that the market is on the verge of a big but short-lived downturn. You would move your portfolio into T-bills, but you do not want to incur the transaction costs of liquidating and reestablishing your equity position. Instead you, decide to temporarily hedge your equity holdings with Nifty index futures contracts.

a. Should you be long or short the futures contracts? Why?

b. If your equity holdings are invested in a market linked index funds, into how many contracts should you enter? The Nify index is now at 6800 and the contract multiplier is 250?

c. How does your answer to (b) change if the beta of your portfolio is 0.60.

**(8 Marks)**

**Q3**. A.Company P wants a loan of Rs.10 million. Its bankers have told the company that a fixed interest loan can be sanctioned at 10% interest, while a floating interest rate can be sanctioned at the LIBOR + 1 %. Another company Q is also looking for a Rs.10 million loan. Its bankers have given it a quote of 11 % for a fixed interest loan and LIBOR + 3 % for a floating interest loan. Explain how the swap can be arranged through financial intermediary which charges 20 basis points.  **(6 Marks)**

**Q4.** Raghav is an active trader in the stock and derivatives markets. In order to safeguard his portfolio against a temporary fall in market prices, Raghav has shorted futures at Rs.2105 when the spot prices were Rs.2086. These futures are to expire in 3 month’s time. After two months, Raghav feels that he does not need the protection from the futures anymore. So he decides to square up the future contract. The spot price then was Rs. 1995 and the future price Rs.2020. Discuss the extent to which his portfolio was protected? How was Raghav affected by the change in basis. **(6 Marks)**

Q5. Josh Finance has just purchase a stock index fund, currently selling at $400 per share. To protect against losses, Josh also purchases an at-the-money European put option on the fund for $20 with exercise price $400, and 3-month time to expiration. Susan Calm, Josh’s financial adviser, points out that Josh is spending a lot of money on the put. She notes that 3-month put with strike price of $390 cost only $15, and suggest that Josh use the cheaper put.

a. Analyze Josh’s and Susan’s strategies by drawing the payoff/profit tables and diagrams for stock-plus-put positions for various values of the stock fund in 3 months.

b. When does Susan’s strategy do better? When does it do worse? Which of the two strategies entails greater systematic risk? (10 Marks)