

Financial Risk Management
Ph.D. Term I
End term Examination - 40 Marks
Time- 2.5 Hours.

Institute of Management, JK Lakshmi Pat University, Jaipur

Answer any 4 questions from given below of 10 marks each.

Q1.

(a) An Indian exporter has sold handicraft items to an American business house. The exporter will be receiving US dollar 1 lakh in 90 days. Premium for a dollar put option with a strike price of Rs. 71.00 and a 90 days settlement is Rs. 1. The exporter anticipates the spot rate after 90 days to be Rs. 69.50.

(i) Should the exporter hedge its account receivable in the options market?

(ii) If the exporter is anticipating a spot rate to be Rs. 70.50 or Rs. 71.50 after 90 days, how would it affect the exporter's decision?

(B) A company operating in USA has on 1st September 2018 invoiced sales in \$ to an Indian company, the payment being due on 1st December 2018. The invoice amount is \$ 13,750. At spot rate on 1/9/2018 it is equivalent to Rs. 10,18,875. The 3 months' forward rate is presently quoted at \$ 0.01340 per rupee. The importer wants to hedge half his exposure by a forward contract. Explain the hedging transaction by forward contract that he will enter into and calculate the pay outs and the net gain or loss due to hedging if the spot rates are as follows on 1st December 2018.

(i) \$ 0.01338

(ii) \$ 0.01352

Present your calculation using Rs./\$ upto two decimal places. Ignore transaction cost.

Q2.

(a) The spot price of a share of Bevel Ltd. is Rs. 356 with a face value of Rs. 10 per share. The 3 months' futures contract is Rs. 386 per share. Other features of the contract and the related information are as follows:

(i) Time to expiration of the contract is 3 months (ii) Annual dividend of the stock of 30% is payable after 3 months (iii) Borrowing rate is 20% p.a. continuously compounded. Based on the above information, as an investor, you are required to calculate the theoretical forward price for Bevel share. Also explain whether any arbitrage opportunity exists or not.

(b) M is a person who has studied the trends and analyzed the equity market. He feels that he is certain to gain due to increasing prices, but does not have the required money to invest and hold shares. He would like to benefit from the purchase of 10,000 shares of A Ltd. which is trading on BSE at Rs. 205 per share. According to his estimate, it will fetch him at least Rs. 215 per share within a month. He can spare only Rs. 3,00,000 for a month. Advise him on whether and how he can or cannot fulfill his desire, assuming that he will not borrow and invest, but is willing to trade in the equity market and assuming that his prediction comes true.

Q3.

(a) An investor had purchased a 4-month call option on the equity shares of N Ltd. of Rs. 10 of which the current market price is Rs. 132 and the exercise price is Rs. 150. You expect the price to range between Rs. 120 to Rs. 190. The expected share price of N Ltd. And related probability is given below:

Expected Price (Rs.) 120 140 160 180 190

Probability 0.05 0.20 0.50 0.10 0.15

You are required to compute the following:

(i) Expected share price at the end of 4 months

(ii) Value of call option at the end of 4 months, if the expected price prevails.

(iii) In case the option is held to its maturity, what will be the expected value of the call option?

(b) Best of Luck Ltd. London will have to make payment of \$364897 in six months' time. It is currently 1st October. The company considering the various choices it has in order to hedge its transaction exposure.

Exchange Rates-

Spot rate- \$1.5617-1.5773

Six-month forward rate- \$1.5455- 1.5609

Money Market Rate-

US- 6% / 4.5%

UK- 7% / 5.5%

By Making the appropriate calculations decide which of the following hedging alternatives is the most attractive to Best of Luck Ltd.

a. Forward Market

b. Cash(Money) Market

Q4. Following information relates to options on stock of Manvi Mehra Limited(MML)

Exercise price	Premium for call option	Premium for put option
100	20	16
110	15	19
120	12	25

Aayushi expects prices of GAL to change, but not significantly in either direction, She wants to cash in on the opportunity and make some profit – Advise her on which position she will take of the below-

1. Long call Butterfly spread

2. Long put butterfly spread

Take a price expected market price ranging from 80 to 140 and show the calculations on above four strategies and advise her the best.

Q5. On September 13, 2019 a trader buys one Nifty Index Futures contract at 1870. The initial margin requirement for the contract is Rs. 10,000 while the maintenance margin is 75% of initial margin. Lot size is 200. Its settlement prices for the next 8 trading days are as follows.

Date	Settlement price
September 13	1865
September 14	1858
15	1853
16	1847
17	1849
20	1855
21	1872
22	1879

On September, 23 the investor closes his position when futures prices were 1883.

Required-

- Prepare the margin account showing all the cash flows (assume no amount is withdrawn from the margin account)
- Calculate Profit/Loss.