R15

Code No: 724AH

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MBA IV Semester Examinations, December - 2018
FINANCIAL DERIVATIVES

Time: 3hours **Max.Marks:75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A **5 × 5 marks = 25**

1.a) What are the types of traders in derivative market? [5]
b) What is cross hedging? [5]
c) Explain briefly the issues in option trading in India. [5]
d) How do commodity market derivatives contribute to economy? [5]
e) What are differential swaps? [5]

PART - B **5 × 10 marks = 50**

2.a) Explain the difference between long forward position and short forward position.
b) A trader writes December put option with a strike price of $30. The price of the option is $4. Under what circumstances does the trader make a gain? [5+5]

OR

3.a) The current price of a stock is $94, and a 3-month European call options with a strike price of $95 currently sell for 4.70. An investor who feels that the price of the stock will increase is trying to decide between buying 100 shares and buying 2000 call options (=20 contracts). Both strategies involve a investment of $ 9,400. What advice would you give? How high does the stock price have to rise for the option strategy to be more profitable?
b) Explain why a forward contract can be fo r either speculation or hedging. [6+4]

4.a) "For an asset where future prices are usually less than spot prices, long hedges are likely to be attractive". Discuss the implication of the statement.
b) A company has Rs. 2 million portfolio with a beta of 1.2. It would like to use futures contracts on the Nifty 50 to hedge its risk. The index is currently standing at 4200 and each contract is for delivery of Rs. 200 times the index. What is the hedge that minimizes risk? What should the company do if it wants to reduce the beta of the portfolio to 0.6? [5+5]

OR

5.a) A deposit account pays 12% per annum with continuous compounding, but interest is actually paid quarterly. How much interest will be paid each quarter on a 10,000 deposit?
b) The price of 90-day Treasury bill is quoted as 10.00. What continuously compounded return (on actual/365 basis) does an investor earn on the Treasury bill for the 90-day period? [4+6]

6.a) What is the difference between a strangle and a straddle?

b) A call option with a strike price of Rs. 100 costs Rs. 5. A put option with a strike price of Rs. 98 costs. Rs. 4. Explain how a strangle can be created from these two options. What is the pattern of profit from the strangle? [5+5]

OR

7.a) What are the factors that affect stock option prices?

b) Consider a 5 year employee stock option on a non-dividend paying stock. The option can be exercised at any time after the end of the first year. Unlike a regular exchange traded call option, the employee stock option cannot be sold. What is the likely impact of this restriction on the early-exercise decision? [5+5]

8.a) Explain briefly the features of commodity markets.

b) An investor enters into one long July futures contracts on orange juice. Each contract is for the delivery of 1500 litres. The current futures price is Rs.35 per litre, the initial margin is Rs.10,000 per contract, and the maintenance margin is Rs. 8000. What price change would lead to a margin call? Under what circumstances could Rs.2000 be withdrawn from the margin account? [5+5]

OR

9.a) A company enters into a short futures contract to sell 5000 bushels of wheat for 450 cent per bushel. The initial margin is $3000 and the maintenance margin is $ 2000. What price change would lead to a margin call? Under what circumstances could $1500 would be withdrawn from the margin account?

b) Briefly touch upon the commodity futures market in India. [5+5]

10.a) Explain the difference between the credit risk and the market risk in a financial market.

b) A currency swap has a remaining life of 15 months. It involves exchanging interest at 10% on £ 20 million for interest at 6% on $ 30 million once a year. The term structures of interest rates in both the United Kingdom and the United States is currently flat and it the swap were negotiated today the interest rates exchanged would be 4% on dollars and 7% in sterling. All interest rates are quoted with annual compounding. The current exchange rate (dollars per pound sterling) is 1.8500. What is the value of the swap to the party paying sterling? What is the value of the swap to the party paying dollars? [4+6]

OR

11.a) Explain why a bank is subject to credit risk when it enters into two offsetting swap contracts.

b) The 1 year LIBOR rate is 10%. A bank trades swaps where a fixed rate of interest is exchanged for a 12 month LIBOR with payment being exchanged annually. The 2- and 3- year swap rates (expressed with annual compounding) are 11% and 12% per annum. Estimate the 2-and 3-year LIBOR zero rates. [5+5]

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