

**R15****Code No: 724AH****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MBA IV Semester Examinations, April/May-2019****FINANCIAL DERIVATIVES****Time: 3 hours****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 dangers associated with derivatives? [5]
- b) Make a comparison between forward and future contracts. [5]
- c) Briefly explain the types of options. [5]
- d) What are the benefits in trading in commodity market derivatives? [5]
- e) What is a compounding swap? [5]

PART - B**5 × 10 marks = 50**

- 2.a) Bring out the differences among hedging, speculation and arbitrage.
- b) When first issued, a stock provides funds for a company. Is the same true of stock option? Discuss briefly. [6+4]

OR

- 3.a) Options and futures are zero-sum games. Discuss.
- b) A United States company expects to pay 1 million Canadian dollars in six months. Explain how the exchange rate risk can be hedged using i) a forward contract and ii) an option. [5+5]

- 4.a) What does a stop order to sell at \$2 means? When might it be ? What does a limit order to sell at \$2mean? When might it be ?
- b) What are the most important aspects of the design of a new futures contract? [5+5]

OR

- 5.a) On July 2017, a Japanese company enters into forward contract to buy \$1million on Jan 1st 2018. On Sep 1, 2017, it enters into forward contract to sell \$1 million on Jan 1st 2018. Describe the profit or loss the company will make in yen as a function of the forward exchange rates on July 1, 2017 and Sep 1, 2017.

- b) Explain how margins protect investors against the possibility of default. [5+5]

- 6.a) Explain the difference between writing a put option and buying a call option.
- b) A United States investor writes five naked call option contracts. The option price is \$3.50, the strike price is \$60.00 and the stock price is \$57.00. What is the initial margin requirement? [5+5]

OR



7.a) A stock price is currently Rs. 70. It is known that at the end of 2 months it will be either Rs.60 or Rs.80. If the risk free interest is 15% per annum with continuous compounding, what is the value of a 6-month European call option with a strike price of Rs.68.

b) Explain briefly the principle of risk-neutral valuation. [6+4]

8.a) What are commodity swaps? Explain them briefly.

b) A farmer expects to have 120,000 kilograms of rice to sell in 3 months. The rice futures contract for delivery of 10,000 kilograms is available on the NCDEX. How can the farmer use the contract for the hedging? From the farmer's point of view what are the pros and cons of hedging? [5+5]

OR

9. Suppose that you enter into a short futures contract to sell July silver for Rs. 18,550 per kilogram on the MCX. The size of the contract is 5 kilograms. The initial margin is Rs. 20,000. What change in the future price will lead to a margin call? What happens if you do not meet the margin call? Explain. [10]

10.a) Why is the expected loss from a default on a swap less than the expected loss from the default of a loan with the same principal?

b) A corporate treasurer tells you that he has just negotiated a 5 year loan at a competitive fixed rate of interest of 5.2%. The treasurer explains that he achieved the 5.2% rate by borrowing at 6-month LIBOR plus 150 basis points and swapping LIBOR for 3.7%. He goes on to say that this was possible because his company has a comparative advantage in the floating rate market. What has the treasurer overlooked? [5+5]

OR

11.a) Explain what a swap rate is?

b) A financial institution has entered into an interest rate swap with company X. Under the terms of swap, it receives 10% per annum and pays 6-month LIBOR on a principal of \$ 10 million for 5 years. Payments are made every 6 months. Suppose that company X defaults on the sixth payment date (at the end of year 3) when the interest (with semiannual compounding) is 8% per annum for all maturities. What is the loss to the financial institution? Assume that 6-month LIBOR was 9% per annum halfway through year 3. [6+4]

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