

Seat No: \_\_\_\_\_

Enrollment No: \_\_\_\_\_

**PARUL UNIVERSITY**  
**FACULTY OF MANAGEMENT**  
**MBA, Winter 2017 - 18 Examination**

**Semester: 4**

**Subject Code: 06201251**

**Subject Name: Financial Derivatives**

**Date: 11/01/2018**

**Time: 10:30am to 1:00pm**

**Total Marks: 60**

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**Instructions**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Do as Directed.**

**A) Multiple choice type questions/Fill in the blanks. (Each of 1 mark) (05)**

1. Type of option that can be exercised on any date is classified as
  - a) Canadian option
  - b) European option
  - c) Australian option
  - d) American option
2. Up-front fee which must be paid by buyer to seller is called
  - a) call premium
  - b) strike premium
  - c) discount premium
  - d) exercise premium
3. The derivative contract in which buyer is having right
  - a) Future
  - b) Forward
  - c) Option
  - d) Swap
4. Markets in which derivatives are traded are classified as
  - a) assets backed market
  - b) mortgage backed markets
  - c) cash flow backed markets
  - d) derivative securities markets
5. OTC stands for
  - a) Over the client
  - b) Over the counter
  - c) Over the customer
  - d) None of these

**B) Define the following. (Each of 1 mark) (05)**

1. Underlying Asset
2. Moneyness of the Option
3. Cost of Carry Model
4. Non-deliverable Forwards
5. Partial Hedge

**C) Direct questions. (Each of 1 mark) (05)**

1. Intrinsic Value vs. Time Value
2. Hedging vs. Speculation
3. Index Future vs. Stock Future
4. Exchange Traded vs. OTC
5. Call Option vs. Put Option

**Q.2 Answer the following questions.**

- A) On January 1, put and call options are available on the BOI with expiry on January 30. (07)**  
The exercise price of the put and call option is 150 and 160 respectively. On January 1, the BOI is at 140. At what value of BOI would the put and call option be in-the –money, out-of-money and at-the-money for Buyer and Writer?

- B)** Hyundai Motors exports cars to Germany, and every three months, it receives EUR 500,000 from car shipments. On March 1, the exchange rate between the Indian Rupee and Euro is EUR 1 = INR 70.7242. The Euro interest rate is 6% per annum, while the interest rate in India is 9% per annum. Tata wants to hedge its Euro receipt through forward contracts for the next 6 months. The 180 day forward rate is EUR 1 = INR 71.5642. (08)
- (i) Calculate the 180 day theoretical forward rate.
  - (ii) Identify whether there is any arbitrage opportunity.
  - (iii) If there is an arbitrage opportunity, calculate the arbitrage profit for EUR 500,000.

**Q.3 Answer the following questions.**

- A)** Assume that Reliance stock is currently selling for INR 50. There is a call option on Reliance with a maturity of 90 days and an exercise price of INR 40. The volatility in the stock price is estimated to be 30%. The risk free rate is 10%. What will be the price of a call option that has a maturity of 90 days? Find out the Intrinsic Value and Time Value of the call. (07)
- B)** Nitin, a Cotton merchant, wants to **sell five** cotton contracts on March 5 at Rs. 5,600 each. The initial margin for Nitin is 5.5 % of the contract value. The futures price is for each carton, and the contract size is 50 cartons. Nitin closes out his position on March 16. The futures prices from March 6 to March 16 are shown below. The variation margin is Rs. 50,000. Prepare a margin account for Nitin. March 5 is a Monday, and trading takes place only on weekdays. (08)

Date	Futures Price	Date	Futures Price
March 5	5600	March 12	5520
March 6	5650	March 13	5400
March 7	5675	March 14	5480
March 8	5610	March 15	5570
March 9	5570	March 16	5650

**Q.4 Attempt any two questions. (Each of 7.5 mark)**

(15)

1. Differentiate Forward vs. Future vs. Option Contracts
2. What are the factors affecting the Option Price?
3. What is Forward Rate Agreement? Explain its uses with suitable example.
4. Recommendations of L.C.Gupta Committee for derivative trading.