Registration No :

Total Number of Pages : 02 **MBA**

18MBA302B

3rd Semester Regular Examination 2019-20

FINANCIAL DERIVATIVES

BRANCH : MBA

Max Marks : 100

Time : 3 Hours

Q.CODE : HR763

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 **Only Short Answer Type Questions (Answer All-10)** **(2 x 10)**

- **a)** What are the common types of derivatives?
- **b)** What are the motives of a forward contract?
- **c)** Define a swap by giving an example.
- **d)** What is cost of carry?
- **e)** Who are the traders in a derivative market?
- **f)** Calculate the fair price of a forward contract if the current price is Rs 5,00,000, the risk free rate of interest is 10% and time to expiration is 1year?
- **g)** Explain a bear spread with call by way of an example.
- **h)** Explain Bull spread with call by way of an example.
- **i)** What is a straddle? Explain with an example.
- **j)** What is a short strangle? Show with an example.

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

- **a)** What are the different ways to manage risk?
- **b)** Explain the three most important types of business risk?
- **c)** Describe the four important features of Financial Derivatives.
- **d)** Describe the classification of derivatives based on Underlying Asset and Trading mechanisms.
- **e)** Explain how a Forward contract is settled?
- **f)** Distinguish between a future contract from an Option contract.
- **g)** Mr DD is bullish about the shares of TCS. He expects the price may rise to Rs 350 from the cmp of Rs 200 within 3 months. He wants to buy shares but fears a fall. He approaches you. You advise him to buy a call option which trades as follows:
  TCS (1000), Rs 230 June, CA, Rs 15
  Suppose the spot price on a day is Rs 320 or Rs190. Discuss the payoff and net gain or loss in either of the situations.
- **h)** Explain the Payoffs of call option buyer and call option seller at expiration form the following data:
  Exercise Price is Rs 150, Option Premium is Rs 5 and the Spot Prices are Rs 130,140,150,160,170,180,190,200
  Also show it in the form of graphs.
- **i)** An investor has a portfolio worth Rs 11,75,000 Current NIFTY Future quotes at Rs 1950/-. The investor fears a fall of market by 5%. He wants to sell Stock Index Future to hedge his portfolio. Find out the gain or loss if he really goes for Futures. Assume that the price per index point is Rs 200.

j) An investor buys one December gold futures of contract size 100gms on 1st November at Rs 400 per gram with an initial margin of 10% and maintenance margin of 75% of initial margin. Set up a Buyer's Margin account and Seller's Margin Account on daily basis if the the prices for first 10 days are as follows:
Rs 400, 403, 398, 390, 392, 387, 394, 401, 405, 410.

k) What are the uses of options?

l) Set up a butterfly spread with imaginary figures. Draw a graph to show this.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 Discuss who benefit out of derivative contracts and the objectives for entering into such contracts **(16)**

Q4 A 2 month call option on the Infosys with strike price of Rs 2100 is selling for Rs 140/- when the share is trading at Rs 2200/- Find the following: **(16)**

a. What is the intrinsic value?
b. Why should one buy the call for a price in excess of intrinsic value?
c. Under what circumstances the option holder would exercise his call?
d. At what price of the asset the call option holder would breakeven?
e. If the price becomes Rs 2150/-, should the option holder exercise?
f. What is the net payoff of the holder and writer if price is either Rs 2000,2250,2500 on the date of expiry of the option?

Q5 A stock sells at Rs 100/-. Price after one year may rise by 25% or decline by 20%. The risk free rate of interest is 6%. Find out the Present value of the option in following cases: **(16)**

a. A as an Optimistic Investor expects the probability of rise to be 90%
b. B as a realistic investor sees equal probability at 50%
c. C as a pessimistic investor sees the probability of decline to be 90%.

Q6 **Write short notes on any TWO :** **(16)**

a) Black-Scholes model of Option pricing
b) Put-Call Parity
c) Plain Vanilla swap