

GUJARAT TECHNOLOGICAL UNIVERSITY**MBA PART TIME - SEMESTER-V EXAMINATION – WINTER 2020****Subject Code:4559921****Date:04/01/2021****Subject Name:Specialization-Finance_Financial Derivatives (FD)****Time:10:30 AM TO 12.30 PM****Total Marks: 47****Instructions:**

1. Attempt any two questions from Q1 to Q4.
2. Q5 & Q6 are compulsory.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

- Q.1 The ITC stock is selling at Rs 4000. Mr DP has negative view about stock. He decides to go through option route to take advantage of situation. He buys an option from Mr. A which will entitle him to sell 100 shares on or before 30th December at Rs 3500 per share for which he has to pay Rs 200 per share today. You are required to identify 12
1. Type of option (American or European)
 2. Exercise prices
 3. Expiry date
 4. Option premium
 5. Buyer and writer of option
 6. Underlying Asset
 7. Current Market Price (2 Marks Each)
- Q.2 (a) Distinguish between Exchange Traded and Over the Counter (OTC) derivatives. 06
- (b) Following data provided by Anand Ltd's share price 06
Current Price per share Rs 1800, 6 Month's Future price Rs 1950. It is possible to borrow money in market for transactions in securities at 12% p.a. You are required to compute theoretical future price and Analyze arbitrage opportunity.
- Q.3 (a) What is Forward Rate Agreement or Interest Rate Forward? 06
- (b) A company is to invest Euro 1 Million for period of 3 months after 24 months from today. It enters into 24*27 FRA with agreed interest rate of 5%. After 24 months, the 3-month interest is 5.5%. Explain execution of FRA and compute settlement amount. 06
- Q.4 (a) Shares of Company currently traded at Rs 103. A call option at strike price of Rs 105 is available at Premium of Rs 5. Find out net payoff position of call option holder if market price on expiration date is Rs 100,105,110,115,120. Also Compute Net pays off position of call option writer. 06
- (b) Mr. Modi had entered into Call Option with different securities, the particulars of which are given below, along with their exercise price and actual market price on the date of exercise. Fill the blank below. 06

Security	Spot Price (MP)	Strike Price (SP) (i.e. Exercise price)	ITM/ATM /OTM	Exercise/Lapse/ No Action

A	476	470	?	?
B	544	550	?	?
C	2700	2790	?	?
D	240	235	?	?
E	1053	1053	?	?

- Q.5 (a) 1. Write short note on PUT-CALL Relationship 06
2. Factors affecting option premium.
(b) The current market price is Rs 19 and call option and put option at strike price of Rs 20 are available for Rs 3 for period of 3 months. If the risk-free rate is 10%, Compute value of put. (Apply put call parity.) 05

OR

- Q.5 (a) Equity share of Bright India ltd are being traded currently sold for Rs 90 per share. Both the call and put option for 3-month period are available for strike price of Rs 97 at premium of Rs 3 per share and Rs 2 per share respectively. An investor wants to create straddle position in this share. Find out his net pay off at expiry of option period, if share price happens to be Rs 90 or Rs 105. 06
(b) Write brief note on tools of Options Derivatives or Option premium sensitivities or Greek Parameters 05

- Q.6 The MODISHAH system was trading at Rs 134 on April 3, 2017 and a call option exercisable in three months' time has a strike price of Rs 130. Followings are the other parameters: The annualized standard deviation in stock price over the previous year was 60%. And The annualized T-Bill rate corresponding to this option life is 8% 12

You are required to answer the followings

1. Assumptions in Black-Scholes model
2. Value of call option using BSM
3. Value of Put option using BSM
4. If call option is priced at Rs 15, what investment strategy would you adopt? (i.e. Underpriced or Overpriced)
5. If put option is priced at Rs 14, what investment strategy would you adopt? (i.e. Underpriced or Overpriced)

OR

- Q.5 On 1st July, ONGC shares are selling at Rs 1185. There are call option and put options are available with exercise date of September 30 and strike price of Rs 1260 with contract size of 225. It is estimated that stock price could be either Rs 1300 or Rs 1100 on expiry date of September 30. The risk-free rate is 8%. You are required to answer: 12
1. Compute Hedge ratio (i.e. to form risk less hedge)
 2. Value of Call using Binomial Model.
 3. Interpret the result
